

**The Boeing Company
SSFL NPDES
2011 1st Quarter
Discharge Monitoring Report
Appendix G**

NPDES Permit # CA0001309

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APPENDIX G

FIRST QUARTER 2011 ANALYTICAL LABORATORY REPORTS,
CHAIN-OF-CUSTODY, AND VALIDATION REPORTS

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Section 1

Outfall 001 – March 20 & 21, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC2181

Prepared by

MEC^x, LP
12269 East Vassar Drive
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I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: IUC2181
 Project Manager: B. Kelly
 Matrix: Water
 QC Level: IV
 No. of Samples: 1
 No. of Reanalyses/Dilutions: 0
 Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 001	IUC2181-01	N/A	Water	3/21/2011 10:30	120.1
Outfall 001	IUC2181-03	G1C230570-001, S103141-01, 994231	Water	3/20/2011 21:59	180.1, 200.7, 200.7 (diss), 245.1, 245.1 (Diss), 314.0, 625, 1613B, 8315M, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, ASTM 5174, SM2340B, SM2340B (diss), SM2540D, SM5310B

II. Sample Management

No anomalies were observed regarding sample management. The samples were received above the temperature limit at Eberline and Truesdail; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the samples were couriered to the remaining laboratories, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: April 11, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0)*, *USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review (8/02)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
 - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
 - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
 - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had a detect between the EDL and the reporting limit for OCDD; however, the method blank concentration was insufficient to qualify the associated sample result for OCDD.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries in the sample were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. Individual isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Totals including EMPCs were qualified as estimated, "J." Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHOD 8315M—Hydrazines

Reviewed By: P. Meeks

Date Reviewed: April 12, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Method 8315M*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Extraction and analytical holding times were met. The hydrazine sample was derivitized within 28 days of collection and was analyzed within three days of derivitization.
- Calibration: Calibration criteria were met. The initial calibration r^2 values were ≥ 0.995 . The ICV, CCV and QCS recoveries were within 85-115%.
- Blanks: Hydrazines were not detected in the method blank.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy and precision were evaluated based on LCS/LCSD results.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Compound Identification: Compound identification was verified. Review of the sample, LCS, and LCSD chromatograms and retention times indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibrations and the laboratory MDLs. Any results reported between the MDL and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

C. EPA METHODS 200.7 and 245.1—Metals and Mercury

Reviewed By: P. Meeks

Date Reviewed: April 12, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.7, 245.1, SM2340B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times, six months for ICP metals and 28 days for mercury, were met.
- Tuning: Not applicable to these analyses.
- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP metals and 85-115% for mercury. CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Arsenic was detected in a bracketing CCB at 7.8 µg/L; therefore, total arsenic was qualified as nondetected, “U,” at the reporting limit. Method blanks and CCBs had no other detects.
- Interference Check Samples: Recoveries were within 80-120%.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable to these analyses.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

Boron was detected at a nominally higher concentration in the dissolved fraction than in the total fraction.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinse samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

D. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: April 18, 2011

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174, and the National Functional Guidelines for Inorganic Data Review (10/04)*.

- **Holding Times:** The tritium sample was analyzed within 180 days of collection. The remaining aliquots were prepared within the five-day analytical holding time for unpreserved samples.
- **Calibration:** The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, gross alpha detected in the sample was qualified as estimated, "J." The remaining detector efficiencies were $\geq 20\%$.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis.

- **Blanks:** There were no analytes detected in the method blanks.
- **Blank Spikes and Laboratory Control Samples:** The strontium recovery was nominally above the control limit; however, strontium was not detected in the sample. The remaining recoveries were within laboratory-established control limits.
- **Laboratory Duplicates:** Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. The RPDs were within the laboratory-established control limits.
- **Matrix Spike/Matrix Spike Duplicate:** No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- **Sample Result Verification:** An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

A notation in the preparation logs indicated that a portion of the aliquots for this sample were filtered and that the filtrate was dissolved and added to the sample aliquot.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

E. EPA METHOD 625—Semivolatile Organic Compounds (SVOCs)

Reviewed By: L. Calvin

Date Reviewed: April 12, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0)*, *EPA Method 625*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.
- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.
- Calibration: Calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥ 0.05 for all target compounds. The initial calibration %RSDs were $\leq 35\%$, or r^2 values ≥ 0.995 . The second source ICV had a %D $> 20\%$ for 1,2-diphenylhydrazine/azobenzene, and the CCV had a %D $> 20\%$ for hexachlorocyclopentadiene; therefore, the nondetected results for both compounds were qualified as estimated, "UJ," in the sample. The remaining ICV and CCV %Ds were $\leq 20\%$.
- Blanks: Butylbenzyl phthalate was detected in the method blank between the MDL and the reporting limit; therefore, the result for butyl benzyl phthalate in the associated sample was qualified as nondetected, "U," at the reporting limit. The method blank had no other target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Benzidine was not recovered in the LCS or LCSD; therefore, the nondetected result for benzidine was rejected, "R," in the associated sample. Remaining recoveries and all RPDs were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample in this SDG. Method accuracy and precision was evaluated based on LCS/LCSD results.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: This SDG had no identified field duplicate samples.
- Internal Standards Performance: The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ± 30 seconds for retention times.
- Compound Identification: Compound identification was verified. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.
- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.
- System Performance: Review of the raw data indicated no problems with system performance.

F. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 12, 2011

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the MEC^X *Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Methods 120.1, 180.1, 314.0, SM2540D, and SM5310B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times were met.
- Calibration: Calibration criteria were met. Initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110%. The perchlorate IPC-MA and ICCS were recovered within 80-120% and 75-125%, respectively. Balance calibration logs were acceptable.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG for TSS. The RPD was within the laboratory-established control limit.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated on LCS results.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

Turbidity was analyzed at a 5× dilution in order to report the analyte within the linear range of the calibration.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms IUC2181

Analysis Method 900

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	3.09	3	0.307	pCi/L		J	C
Gross Beta	12587472	6.03	4	0.819	pCi/L			

Analysis Method 901.1

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.46	pCi/L	U	U	
Potassium-40	13966002	ND	25	23.5	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.05	1	0.657	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.041	1	0.497	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.071	2	0.744	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-59.7	500	166	pCi/L	U	U	

Analysis Method ASTM 5174-91

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.438	1	0.02	pCi/L	Jb	J	DNQ

Analysis Method EPA 120.1

Sample Name Outfall 001 (Grab) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2181-01 **Sample Date:** 3/21/2011 10:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	NA	110	1.0	1.0	umhos/c			

Analysis Method EPA 180.1

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	140	5.0	0.20	NTU			

Analysis Method EPA 200.7

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440-38-2	ND	10	7.0	ug/l	J	U	B
Barium	7440-39-3	0.043	0.010	0.0060	mg/l			
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	0.048	0.050	0.020	mg/l	J	J	DNQ
Calcium	7440-70-2	9.6	0.10	0.050	mg/l			
Chromium	7440-47-3	8.3	5.0	2.0	ug/l			
Cobalt	7440-48-4	2.7	10	2.0	ug/l	J	J	DNQ
Iron	7439-89-6	5.7	0.040	0.015	mg/l			
Magnesium	7439-95-4	3.9	0.020	0.012	mg/l			
Manganese	7439-96-5	81	20	7.0	ug/l			
Nickel	7440-02-0	6.5	10	2.0	ug/l	J	J	DNQ
Vanadium	7440-62-2	12	10	3.0	ug/l			
Zinc	7440-66-6	27.0	20.0	6.00	ug/l			

Analysis Method EPA 200.7-Diss

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440-38-2	ND	10	7.0	ug/l		U	
Barium	7440-39-3	0.019	0.010	0.0060	mg/l			
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	0.052	0.050	0.020	mg/l			
Calcium	7440-70-2	8.5	0.10	0.050	mg/l			
Chromium	7440-47-3	2.3	5.0	2.0	ug/l	J	J	DNQ
Cobalt	7440-48-4	ND	10	2.0	ug/l		U	
Iron	7439-89-6	0.088	0.040	0.015	mg/l			
Magnesium	7439-95-4	2.2	0.020	0.012	mg/l			
Manganese	7439-96-5	ND	20	7.0	ug/l		U	
Nickel	7440-02-0	2.5	10	2.0	ug/l	J	J	DNQ
Vanadium	7440-62-2	ND	10	3.0	ug/l		U	
Zinc	7440-66-6	ND	20.0	6.00	ug/l		U	

Analysis Method *EPA 245.1*

Sample Name	Outfall 001 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUC2181-03	Sample Date:	3/20/2011 9:59:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method *EPA 245.1-Diss*

Sample Name	Outfall 001 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUC2181-03	Sample Date:	3/20/2011 9:59:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method *EPA 314.0*

Sample Name	Outfall 001 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUC2181-03	Sample Date:	3/20/2011 9:59:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	ND	1.0	0.90	ug/l		U	

Analysis Method EPA 625

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	120-82-1	ND	0.943	0.0943	ug/l		U	
1,2-Dichlorobenzene	95-50-1	ND	0.472	0.0943	ug/l		U	
1,2-Diphenylhydrazine/Azobenzene	103-33-3	ND	0.943	0.0943	ug/l	C	UJ	C
1,3-Dichlorobenzene	541-73-1	ND	0.472	0.0943	ug/l		U	
1,4-Dichlorobenzene	106-46-7	ND	0.472	0.189	ug/l		U	
2,4,6-Trichlorophenol	88-06-2	ND	0.943	0.0943	ug/l		U	
2,4-Dichlorophenol	120-83-2	ND	1.89	0.189	ug/l		U	
2,4-Dimethylphenol	105-67-9	ND	1.89	0.283	ug/l		U	
2,4-Dinitrophenol	51-28-5	ND	4.72	0.849	ug/l		U	
2,4-Dinitrotoluene	121-14-2	ND	4.72	0.189	ug/l		U	
2,6-Dinitrotoluene	606-20-2	ND	4.72	0.0943	ug/l		U	
2-Chloronaphthalene	91-58-7	ND	0.472	0.0943	ug/l		U	
2-Chlorophenol	95-57-8	ND	0.943	0.189	ug/l		U	
2-Nitrophenol	88-75-5	ND	1.89	0.0943	ug/l		U	
3,3'-Dichlorobenzidine	91-94-1	ND	4.72	4.72	ug/l		U	
4,6-Dinitro-2-methylphenol	534-52-1	ND	4.72	0.189	ug/l		U	
4-Bromophenyl phenyl ether	101-55-3	ND	0.943	0.0943	ug/l		U	
4-Chloro-3-methylphenol	59-50-7	ND	1.89	0.189	ug/l		U	
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.472	0.0943	ug/l		U	
4-Nitrophenol	100-02-7	ND	4.72	2.36	ug/l		U	
Acenaphthene	83-32-9	ND	0.472	0.0943	ug/l		U	
Acenaphthylene	208-96-8	ND	0.472	0.0943	ug/l		U	
Anthracene	120-12-7	ND	0.472	0.0943	ug/l		U	
Benzidine	92-87-5	ND	4.72	4.72	ug/l	L6	R	L
Benzo(a)anthracene	56-55-3	ND	4.72	0.0943	ug/l		U	
Benzo(a)pyrene	50-32-8	ND	1.89	0.0943	ug/l		U	
Benzo(b)fluoranthene	205-99-2	ND	1.89	0.0943	ug/l		U	
Benzo(g,h,i)perylene	191-24-2	ND	4.72	0.0943	ug/l		U	
Benzo(k)fluoranthene	207-08-9	ND	0.472	0.0943	ug/l		U	
Bis(2-chloroethoxy)methane	111-91-1	ND	0.472	0.0943	ug/l		U	
Bis(2-chloroethyl)ether	111-44-4	ND	0.472	0.0943	ug/l		U	
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.472	0.0943	ug/l		U	
Bis(2-ethylhexyl)phthalate	117-81-7	ND	4.72	1.60	ug/l		U	
Butyl benzyl phthalate	85-68-7	ND	4.72	0.660	ug/l	B, J	U	B
Chrysene	218-01-9	ND	0.472	0.0943	ug/l		U	

Analysis Method *EPA 625*

Dibenz(a,h)anthracene	53-70-3	ND	0.472	0.0943	ug/l		U	
Diethyl phthalate	84-66-2	0.226	0.943	0.0943	ug/l	J	J	DNQ
Dimethyl phthalate	131-11-3	ND	0.472	0.0943	ug/l		U	
Di-n-butyl phthalate	84-74-2	0.396	1.89	0.189	ug/l	J	J	DNQ
Di-n-octyl phthalate	117-84-0	ND	4.72	0.0943	ug/l		U	
Fluoranthene	206-44-0	ND	0.472	0.0943	ug/l		U	
Fluorene	86-73-7	ND	0.472	0.0943	ug/l		U	
Hexachlorobenzene	118-74-1	ND	0.943	0.0943	ug/l		U	
Hexachlorobutadiene	87-68-3	ND	1.89	0.189	ug/l		U	
Hexachlorocyclopentadiene	77-47-4	ND	4.72	0.0943	ug/l		UJ	C
Hexachloroethane	67-72-1	ND	2.83	0.189	ug/l		U	
Indeno(1,2,3-cd)pyrene	193-39-5	ND	1.89	0.0943	ug/l		U	
Isophorone	78-59-1	ND	0.943	0.0943	ug/l		U	
Naphthalene	91-20-3	ND	0.943	0.0943	ug/l		U	
Nitrobenzene	98-95-3	ND	0.943	0.0943	ug/l		U	
N-Nitrosodimethylamine	62-75-9	ND	1.89	0.0943	ug/l		U	
N-Nitroso-di-n-propylamine	621-64-7	ND	1.89	0.0943	ug/l		U	
N-Nitrosodiphenylamine	86-30-6	ND	0.943	0.0943	ug/l		U	
Pentachlorophenol	87-86-5	ND	1.89	0.0943	ug/l		U	
Phenanthrene	85-01-8	ND	0.472	0.0943	ug/l		U	
Phenol	108-95-2	ND	0.943	0.283	ug/l		U	
Pyrene	129-00-0	ND	0.472	0.0943	ug/l		U	

Analysis Method EPA-5 1613B

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	6.4e-005	0.00005	0.0000057	ug/L			
1,2,3,4,6,7,8-HpCDF	67562-39-4	1.8e-005	0.00005	0.0000038	ug/L	J	J	DNQ
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000056	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000018	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000016	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000017	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000013	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000015	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000017	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000013	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000014	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000013	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000014	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000011	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000014	ug/L		U	
OCDD	3268-87-9	0.00072	0.0001	0.0000079	ug/L	Ba		
OCDF	39001-02-0	4.4e-005	0.0001	0.0000032	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	0.00014	0.00005	0.0000057	ug/L			
Total HpCDF	38998-75-3	7.3e-005	0.00005	0.0000038	ug/L	J	J	DNQ
Total HxCDD	34465-46-8	1.5e-005	0.00005	0.0000015	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	1.4e-005	0.00005	0.0000013	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000013	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000014	ug/L		U	
Total TCDD	41903-57-5	3.1e-006	0.00001	0.0000011	ug/L	J, Q	J	DNQ, *III
Total TCDF	55722-27-5	ND	0.00001	0.0000014	ug/L		U	

Analysis Method SM 2540D

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	57	10	1.0	mg/l			

Analysis Method SM2340B

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness (as CaCO3)	NA	40	0.33	0.17	mg/l			

Analysis Method SM2340B-Diss

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness as CaCO3	NA	30	0.33	0.17	mg/l			

Analysis Method SM5310B

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUC2181-03 **Sample Date:** 3/20/2011 9:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Organic Carbon	TOC	11	1.0	0.50	mg/l			

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Client: Test America - Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5817

REPORT

Laboratory No: 994231
Report Date: March 25, 2011
Sampling Date: March 20, 2011
Receiving Date: March 22, 2011
Extraction Date: March 22, 2011
Analysis Date: March 23, 2011
Units: µg/L
Reported By: JS

Attention: Debby Wilson
Sample: Water / 1 Sample
Project Name: IUC2181
Project Number: IUC2181
Method Number: EPA 8315 (Modified)
Investigation: Hydrazines

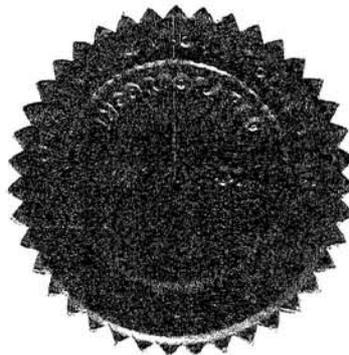
outfall 001

Analytical Results

Sample ID	Sample Description	Sample Amount (mL)	Dilution Factor	Monomethyl Hydrazine	u-Dimethyl Hydrazine	Hydrazine	Qualifier Codes
709338-MB	Method Blank	100	1	ND	ND	ND	None
994231	IUC2181-03	100	1	ND U	ND U	ND U	None
MDL				1.77	1.13	0.439	
PQL				5.0	5.0	1.00	
Sample Reporting Limits				5.0	5.0	1.00	

Note: Results based on detector #1 (UV=365nm) data.

LEVEL IV



Jeff Lee, Project Manager
Analytical Services, Truesdail Laboratories, Inc.

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

APPENDIX G

Section 2

Outfall 001 – March 20 & 21, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project: Annual Outfall 001
Annual Outfall 001

Sampled: 03/20/11-03/21/11
Received: 03/21/11
Issued: 04/28/11 16:04

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.*

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 6°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements. The composite sample for Chromium VI was received at the lab after the holding time had expired.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: Results that fall between the MDL and RL are 'J' flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: WATER, 1613B, Dioxins/Furans with Totals
Some analytes in this sample have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.
Revised report to include trichlorofluoromethane per client request.

LABORATORY ID	CLIENT ID	MATRIX
IUC2181-01	Outfall 001 (Grab)	Water
IUC2181-02	Trip Blanks	Water
IUC2181-03	Outfall 001 (Composite)	Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:

TestAmerica Irvine

Debby Wilson
Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water)					Sampled: 03/21/11				
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	11C2911	0.025	0.10	ND	1	FB	03/22/11	
<i>Surrogate: 4-BFB (FID) (65-140%)</i>					97 %				

TestAmerica Irvine

Debby Wilson
Project Manager

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

EXTRACTABLE FUEL HYDROCARBONS (EPA 3510C/EPA 8015B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water) - cont.					Sampled: 03/21/11				
Reporting Units: mg/l									
DRO (C13 - C28)	EPA 8015B	11C3080	0.094	0.47	ND	0.943	CP	03/23/11	
<i>Surrogate: n-Octacosane (45-120%)</i>					77 %				

TestAmerica Irvine

Debby Wilson
Project Manager

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water) - cont.					Sampled: 03/21/11				
Reporting Units: ug/l									
Benzene	EPA 624	11C3698	0.28	0.50	ND	1	SS	03/29/11	
Bromodichloromethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
Bromoform	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
Bromomethane	EPA 624	11C3698	0.42	1.0	ND	1	SS	03/29/11	
Carbon tetrachloride	EPA 624	11C3698	0.28	0.50	ND	1	SS	03/29/11	
Chlorobenzene	EPA 624	11C3698	0.36	0.50	ND	1	SS	03/29/11	
Chloroethane	EPA 624	11C3698	0.40	1.0	ND	1	SS	03/29/11	
Chloroform	EPA 624	11C3698	0.33	0.50	ND	1	SS	03/29/11	
Chloromethane	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
Dibromochloromethane	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
1,2-Dichlorobenzene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	
1,3-Dichlorobenzene	EPA 624	11C3698	0.35	0.50	ND	1	SS	03/29/11	
1,4-Dichlorobenzene	EPA 624	11C3698	0.37	0.50	ND	1	SS	03/29/11	
1,1-Dichloroethane	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
1,2-Dichloroethane	EPA 624	11C3698	0.28	0.50	ND	1	SS	03/29/11	
1,1-Dichloroethene	EPA 624	11C3698	0.42	0.50	ND	1	SS	03/29/11	
cis-1,2-Dichloroethene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	
trans-1,2-Dichloroethene	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
1,2-Dichloropropane	EPA 624	11C3698	0.35	0.50	ND	1	SS	03/29/11	
cis-1,3-Dichloropropene	EPA 624	11C3698	0.22	0.50	ND	1	SS	03/29/11	
trans-1,3-Dichloropropene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	L
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624	11C3698	1.1	2.0	ND	1	SS	03/29/11	
Ethylbenzene	EPA 624	11C3698	0.25	0.50	ND	1	SS	03/29/11	
Methylene chloride	EPA 624	11C3698	0.95	1.0	ND	1	SS	03/29/11	
1,1,2,2-Tetrachloroethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
Tetrachloroethene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	
Toluene	EPA 624	11C3698	0.36	0.50	ND	1	SS	03/29/11	
1,1,1-Trichloroethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
1,1,2-Trichloroethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
Trichloroethene	EPA 624	11C3698	0.26	0.50	ND	1	SS	03/29/11	
Trichlorofluoromethane	EPA 624	11C3698	0.34	0.50	ND	1	SS	03/29/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11C3698	0.50	5.0	ND	1	SS	03/29/11	
Vinyl chloride	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
Xylenes, Total	EPA 624	11C3698	0.90	1.5	ND	1	SS	03/29/11	
Cyclohexane	EPA 624	11C3698	0.40	1.0	ND	1	SS	03/29/11	
Surrogate: 4-Bromofluorobenzene (80-120%)					93 %				
Surrogate: Dibromofluoromethane (80-120%)					98 %				
Surrogate: Toluene-d8 (80-120%)					100 %				

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Project Manager

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-02 (Trip Blanks - Water)					Sampled: 03/21/11				
Reporting Units: ug/l									
Benzene	EPA 624	11C3698	0.28	0.50	ND	1	SS	03/29/11	
Bromodichloromethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
Bromoform	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
Bromomethane	EPA 624	11C3698	0.42	1.0	ND	1	SS	03/29/11	
Carbon tetrachloride	EPA 624	11C3698	0.28	0.50	ND	1	SS	03/29/11	
Chlorobenzene	EPA 624	11C3698	0.36	0.50	ND	1	SS	03/29/11	
Chloroethane	EPA 624	11C3698	0.40	1.0	ND	1	SS	03/29/11	
Chloroform	EPA 624	11C3698	0.33	0.50	ND	1	SS	03/29/11	
Chloromethane	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
Dibromochloromethane	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
1,2-Dichlorobenzene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	
1,3-Dichlorobenzene	EPA 624	11C3698	0.35	0.50	ND	1	SS	03/29/11	
1,4-Dichlorobenzene	EPA 624	11C3698	0.37	0.50	ND	1	SS	03/29/11	
1,1-Dichloroethane	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
1,2-Dichloroethane	EPA 624	11C3698	0.28	0.50	ND	1	SS	03/29/11	
1,1-Dichloroethene	EPA 624	11C3698	0.42	0.50	ND	1	SS	03/29/11	
cis-1,2-Dichloroethene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	
trans-1,2-Dichloroethene	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
1,2-Dichloropropane	EPA 624	11C3698	0.35	0.50	ND	1	SS	03/29/11	
cis-1,3-Dichloropropene	EPA 624	11C3698	0.22	0.50	ND	1	SS	03/29/11	
trans-1,3-Dichloropropene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	L
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624	11C3698	1.1	2.0	ND	1	SS	03/29/11	
Ethylbenzene	EPA 624	11C3698	0.25	0.50	ND	1	SS	03/29/11	
Methylene chloride	EPA 624	11C3698	0.95	1.0	ND	1	SS	03/29/11	
1,1,2,2-Tetrachloroethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
Tetrachloroethene	EPA 624	11C3698	0.32	0.50	ND	1	SS	03/29/11	
Toluene	EPA 624	11C3698	0.36	0.50	ND	1	SS	03/29/11	
1,1,1-Trichloroethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
1,1,2-Trichloroethane	EPA 624	11C3698	0.30	0.50	ND	1	SS	03/29/11	
Trichloroethene	EPA 624	11C3698	0.26	0.50	ND	1	SS	03/29/11	
Trichlorofluoromethane	EPA 624	11C3698	0.34	0.50	ND	1	SS	03/29/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11C3698	0.50	5.0	ND	1	SS	03/29/11	
Vinyl chloride	EPA 624	11C3698	0.40	0.50	ND	1	SS	03/29/11	
Xylenes, Total	EPA 624	11C3698	0.90	1.5	ND	1	SS	03/29/11	
Cyclohexane	EPA 624	11C3698	0.40	1.0	ND	1	SS	03/29/11	
Surrogate: 4-Bromofluorobenzene (80-120%)					89 %				
Surrogate: Dibromofluoromethane (80-120%)					98 %				
Surrogate: Toluene-d8 (80-120%)					97 %				

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Project Manager

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MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
 Annual Outfall 001
 Report Number: IUC2181

Sampled: 03/20/11-03/21/11
 Received: 03/21/11

PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water)					Sampled: 03/21/11				
Reporting Units: ug/l									
Acrolein	EPA 624	11C2844	4.0	5.0	ND	1	SS	03/22/11	
Acrylonitrile	EPA 624	11C2844	1.2	2.0	ND	1	SS	03/22/11	
2-Chloroethyl vinyl ether	EPA 624	11C2844	1.8	5.0	ND	1	SS	03/22/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					99 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					104 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					101 %				
Sample ID: IUC2181-02 (Trip Blanks - Water)					Sampled: 03/21/11				
Reporting Units: ug/l									
Acrolein	EPA 624	11C2844	4.0	5.0	ND	1	SS	03/22/11	
Acrylonitrile	EPA 624	11C2844	1.2	2.0	ND	1	SS	03/22/11	
2-Chloroethyl vinyl ether	EPA 624	11C2844	1.8	5.0	ND	1	SS	03/22/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					97 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					104 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					102 %				

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

1,4-DIOXANE BY GCMS - SINGLE ION MONITORING (SIM)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water)					Sampled: 03/20/11				
Reporting Units: ug/l									
1,4-Dioxane	EPA 8260B-SIM	11C3016	1.0	2.0	ND	1	GMK	03/23/11	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					93 %				

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: ug/l									
Acenaphthene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Acenaphthylene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Anthracene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Benzidine	EPA 625	11C3070	4.72	4.72	ND	0.943	LB	03/25/11	L6
Benzo(a)anthracene	EPA 625	11C3070	0.0943	4.72	ND	0.943	LB	03/25/11	
Benzo(a)pyrene	EPA 625	11C3070	0.0943	1.89	ND	0.943	LB	03/25/11	
Benzo(b)fluoranthene	EPA 625	11C3070	0.0943	1.89	ND	0.943	LB	03/25/11	
Benzo(g,h,i)perylene	EPA 625	11C3070	0.0943	4.72	ND	0.943	LB	03/25/11	
Benzo(k)fluoranthene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
4-Bromophenyl phenyl ether	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
Butyl benzyl phthalate	EPA 625	11C3070	0.660	4.72	0.849	0.943	LB	03/25/11	B, J
4-Chloro-3-methylphenol	EPA 625	11C3070	0.189	1.89	ND	0.943	LB	03/25/11	
Bis(2-chloroethoxy)methane	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Bis(2-chloroethyl)ether	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Bis(2-chloroisopropyl)ether	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Bis(2-ethylhexyl)phthalate	EPA 625	11C3070	1.60	4.72	ND	0.943	LB	03/25/11	
2-Chloronaphthalene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
2-Chlorophenol	EPA 625	11C3070	0.189	0.943	ND	0.943	LB	03/25/11	
4-Chlorophenyl phenyl ether	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Chrysene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Dibenz(a,h)anthracene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Di-n-butyl phthalate	EPA 625	11C3070	0.189	1.89	0.396	0.943	LB	03/25/11	J
1,2-Dichlorobenzene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
1,3-Dichlorobenzene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
1,4-Dichlorobenzene	EPA 625	11C3070	0.189	0.472	ND	0.943	LB	03/25/11	
3,3'-Dichlorobenzidine	EPA 625	11C3070	4.72	4.72	ND	0.943	LB	03/25/11	
2,4-Dichlorophenol	EPA 625	11C3070	0.189	1.89	ND	0.943	LB	03/25/11	
Diethyl phthalate	EPA 625	11C3070	0.0943	0.943	0.226	0.943	LB	03/25/11	J
2,4-Dimethylphenol	EPA 625	11C3070	0.283	1.89	ND	0.943	LB	03/25/11	
Dimethyl phthalate	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
4,6-Dinitro-2-methylphenol	EPA 625	11C3070	0.189	4.72	ND	0.943	LB	03/25/11	
2,4-Dinitrophenol	EPA 625	11C3070	0.849	4.72	ND	0.943	LB	03/25/11	
2,4-Dinitrotoluene	EPA 625	11C3070	0.189	4.72	ND	0.943	LB	03/25/11	
2,6-Dinitrotoluene	EPA 625	11C3070	0.0943	4.72	ND	0.943	LB	03/25/11	
Di-n-octyl phthalate	EPA 625	11C3070	0.0943	4.72	ND	0.943	LB	03/25/11	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	C
Fluoranthene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Fluorene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Hexachlorobenzene	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
Hexachlorobutadiene	EPA 625	11C3070	0.189	1.89	ND	0.943	LB	03/25/11	
Hexachlorocyclopentadiene	EPA 625	11C3070	0.0943	4.72	ND	0.943	LB	03/25/11	

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Project Manager

MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
 Annual Outfall 001
 Report Number: IUC2181

Sampled: 03/20/11-03/21/11
 Received: 03/21/11

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: ug/l									
Hexachloroethane	EPA 625	11C3070	0.189	2.83	ND	0.943	LB	03/25/11	
Indeno(1,2,3-cd)pyrene	EPA 625	11C3070	0.0943	1.89	ND	0.943	LB	03/25/11	
Isophorone	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
Naphthalene	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
Nitrobenzene	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
2-Nitrophenol	EPA 625	11C3070	0.0943	1.89	ND	0.943	LB	03/25/11	
4-Nitrophenol	EPA 625	11C3070	2.36	4.72	ND	0.943	LB	03/25/11	
N-Nitroso-di-n-propylamine	EPA 625	11C3070	0.0943	1.89	ND	0.943	LB	03/25/11	
N-Nitrosodimethylamine	EPA 625	11C3070	0.0943	1.89	ND	0.943	LB	03/25/11	
N-Nitrosodiphenylamine	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
Pentachlorophenol	EPA 625	11C3070	0.0943	1.89	ND	0.943	LB	03/25/11	
Phenanthrene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
Phenol	EPA 625	11C3070	0.283	0.943	ND	0.943	LB	03/25/11	
Pyrene	EPA 625	11C3070	0.0943	0.472	ND	0.943	LB	03/25/11	
1,2,4-Trichlorobenzene	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
2,4,6-Trichlorophenol	EPA 625	11C3070	0.0943	0.943	ND	0.943	LB	03/25/11	
Surrogate: 2,4,6-Tribromophenol (40-120%)					85 %				
Surrogate: 2-Fluorobiphenyl (50-120%)					76 %				
Surrogate: 2-Fluorophenol (30-120%)					68 %				
Surrogate: Nitrobenzene-d5 (45-120%)					77 %				
Surrogate: Phenol-d6 (35-120%)					71 %				
Surrogate: Terphenyl-d14 (50-125%)					78 %				

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 Project Manager

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: ug/l									
4,4'-DDD	EPA 608	11C2988	0.0038	0.0047	ND	0.943	CN	03/23/11	C
4,4'-DDE	EPA 608	11C2988	0.0028	0.0047	ND	0.943	CN	03/23/11	C
4,4'-DDT	EPA 608	11C2988	0.0038	0.0094	ND	0.943	CN	03/23/11	
Aldrin	EPA 608	11C2988	0.0014	0.0047	ND	0.943	CN	03/23/11	C
alpha-BHC	EPA 608	11C2988	0.0024	0.0047	ND	0.943	CN	03/23/11	C
beta-BHC	EPA 608	11C2988	0.0038	0.0094	ND	0.943	CN	03/23/11	
delta-BHC	EPA 608	11C2988	0.0033	0.0047	ND	0.943	CN	03/23/11	C
Dieldrin	EPA 608	11C2988	0.0019	0.0047	ND	0.943	CN	03/23/11	C
Endosulfan I	EPA 608	11C2988	0.0019	0.0047	ND	0.943	CN	03/23/11	
Endosulfan II	EPA 608	11C2988	0.0028	0.0047	ND	0.943	CN	03/23/11	
Endosulfan sulfate	EPA 608	11C2988	0.0028	0.0094	ND	0.943	CN	03/23/11	C
Endrin	EPA 608	11C2988	0.0019	0.0047	ND	0.943	CN	03/23/11	C
Endrin aldehyde	EPA 608	11C2988	0.0019	0.0094	ND	0.943	CN	03/23/11	
gamma-BHC (Lindane)	EPA 608	11C2988	0.0028	0.019	ND	0.943	CN	03/23/11	C
Heptachlor	EPA 608	11C2988	0.0028	0.0094	ND	0.943	CN	03/23/11	C
Heptachlor epoxide	EPA 608	11C2988	0.0024	0.0047	ND	0.943	CN	03/23/11	
Chlordane	EPA 608	11C2988	0.075	0.094	ND	0.943	CN	03/23/11	
Toxaphene	EPA 608	11C2988	0.24	0.47	ND	0.943	CN	03/23/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					84 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					75 %				

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Project Manager

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 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
 Annual Outfall 001
 Report Number: IUC2181

Sampled: 03/20/11-03/21/11
 Received: 03/21/11

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: ug/l									
Aroclor 1016	EPA 608	11C2988	0.24	0.47	ND	0.943	JSM	03/23/11	
Aroclor 1221	EPA 608	11C2988	0.24	0.47	ND	0.943	JSM	03/23/11	
Aroclor 1232	EPA 608	11C2988	0.24	0.47	ND	0.943	JSM	03/23/11	
Aroclor 1242	EPA 608	11C2988	0.24	0.47	ND	0.943	JSM	03/23/11	
Aroclor 1248	EPA 608	11C2988	0.24	0.47	ND	0.943	JSM	03/23/11	
Aroclor 1254	EPA 608	11C2988	0.24	0.47	ND	0.943	JSM	03/23/11	
Aroclor 1260	EPA 608	11C2988	0.24	0.47	ND	0.943	JSM	03/23/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					<i>91 %</i>				

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MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water)					Sampled: 03/21/11				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C3681	1.3	4.8	ND	1	DA	03/29/11	

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Sampled: 03/20/11-03/21/11
 Received: 03/21/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water)					Sampled: 03/20/11				
Reporting Units: mg/l									
Hardness (as CaCO3)	SM2340B	[CALC]		0.33	40	1	LL	03/29/11	
Barium	EPA 200.7	11C3239	0.0060	0.010	0.043	1	DP	03/24/11	
Boron	EPA 200.7	11C3239	0.020	0.050	0.048	1	DP	03/24/11	J
Calcium	EPA 200.7	11C3239	0.050	0.10	9.6	1	DP	03/24/11	
Iron	EPA 200.7	11C3239	0.015	0.040	5.7	1	DP	03/24/11	
Magnesium	EPA 200.7	11C3239	0.012	0.020	3.9	1	LL	03/29/11	
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water)					Sampled: 03/20/11				
Reporting Units: ug/l									
Mercury	EPA 245.1	11C3102	0.10	0.20	ND	1	DB	03/23/11	
Arsenic	EPA 200.7	11C3239	7.0	10	7.1	1	DP	03/24/11	J
Antimony	EPA 200.8	11C3768	0.30	2.0	0.45	1	kb1	03/29/11	J
Beryllium	EPA 200.7	11C3239	0.90	2.0	ND	1	DP	03/24/11	
Chromium	EPA 200.7	11C3239	2.0	5.0	8.3	1	DP	03/24/11	
Cobalt	EPA 200.7	11C3239	2.0	10	2.7	1	DP	03/24/11	J
Manganese	EPA 200.7	11C3239	7.0	20	81	1	DP	03/24/11	
Nickel	EPA 200.7	11C3239	2.0	10	6.5	1	DP	03/24/11	J
Cadmium	EPA 200.8	11C3768	0.10	1.0	0.10	1	kb1	03/29/11	J
Vanadium	EPA 200.7	11C3239	3.0	10	12	1	DP	03/24/11	
Zinc	EPA 200.7	11C3239	6.00	20.0	27.0	1	DP	03/24/11	
Copper	EPA 200.8	11C3768	0.500	2.00	5.31	1	kb1	03/29/11	
Lead	EPA 200.8	11C3768	0.20	1.0	4.1	1	kb1	03/29/11	
Selenium	EPA 200.8	11C3768	0.50	2.0	ND	1	kb1	03/29/11	
Silver	EPA 200.8	11C3768	0.10	1.0	ND	1	kb1	03/29/11	
Thallium	EPA 200.8	11C3768	0.20	1.0	ND	1	kb1	03/29/11	

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Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]		0.33	30	1	DP	03/29/11	
Barium	EPA 200.7-Diss	11C3776	0.0060	0.010	0.019	1	DP	03/29/11	
Boron	EPA 200.7-Diss	11C3776	0.020	0.050	0.052	1	DP	03/29/11	
Calcium	EPA 200.7-Diss	11C3776	0.050	0.10	8.5	1	DP	03/29/11	
Iron	EPA 200.7-Diss	11C3776	0.015	0.040	0.088	1	DP	03/29/11	
Magnesium	EPA 200.7-Diss	11C3776	0.012	0.020	2.2	1	DP	03/29/11	
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water)					Sampled: 03/20/11				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11C3083	0.10	0.20	ND	1	DB	03/23/11	
Arsenic	EPA 200.7-Diss	11C3776	7.0	10	ND	1	DP	03/29/11	
Antimony	EPA 200.8-Diss	11C3506	0.30	2.0	0.32	1	RDC	03/28/11	J
Beryllium	EPA 200.7-Diss	11C3776	0.90	2.0	ND	1	DP	03/29/11	
Chromium	EPA 200.7-Diss	11C3776	2.0	5.0	2.3	1	DP	03/29/11	J
Cobalt	EPA 200.7-Diss	11C3776	2.0	10	ND	1	DP	03/29/11	
Manganese	EPA 200.7-Diss	11C3776	7.0	20	ND	1	DP	03/29/11	
Nickel	EPA 200.7-Diss	11C3776	2.0	10	2.5	1	DP	03/29/11	J
Cadmium	EPA 200.8-Diss	11C3506	0.10	1.0	ND	1	RDC	03/28/11	
Vanadium	EPA 200.7-Diss	11C3776	3.0	10	ND	1	DP	03/29/11	
Zinc	EPA 200.7-Diss	11C3776	6.00	20.0	ND	1	DP	03/29/11	
Copper	EPA 200.8-Diss	11C3506	0.500	2.00	2.20	1	RDC	03/28/11	
Lead	EPA 200.8-Diss	11C3506	0.20	1.0	0.29	1	RDC	03/28/11	J
Selenium	EPA 200.8-Diss	11C3506	0.50	2.0	ND	1	RDC	03/28/11	
Silver	EPA 200.8-Diss	11C3506	0.10	1.0	ND	1	kb1	03/29/11	
Thallium	EPA 200.8-Diss	11C3506	0.20	1.0	ND	1	RDC	03/28/11	

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Project ID: Annual Outfall 001
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Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

DISSOLVED INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: ug/l									
Chromium VI	EPA 218.6	11C2890	0.250	1.00	ND	1	MNS	03/22/11	H3

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Project ID: Annual Outfall 001
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Sampled: 03/20/11-03/21/11
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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	11C2967	0.500	0.500	ND	1	TMK	03/22/11	
Biochemical Oxygen Demand	SM5210B	11C2910	0.50	2.0	2.0	1	XL	03/27/11	
Chloride	EPA 300.0	11C2884	0.30	0.50	3.2	1	NN	03/22/11	
Fluoride	SM 4500-F-C	11C2986	0.020	0.10	0.22	1	FZ	03/23/11	
Nitrate-N	EPA 300.0	11C2884	0.060	0.11	0.45	1	NN	03/22/11	
Nitrite-N	EPA 300.0	11C2884	0.090	0.15	ND	1	NN	03/22/11	
Nitrate/Nitrite-N	EPA 300.0	11C2884	0.15	0.26	0.45	1	NN	03/22/11	
Sulfate	EPA 300.0	11C2884	0.30	0.50	4.2	1	NN	03/22/11	
Surfactants (MBAS)	SM5540-C	11C2931	0.050	0.10	ND	1	EL	03/22/11	
Total Dissolved Solids	SM2540C	11C2823	1.0	10	110	1	MC	03/22/11	
Total Organic Carbon	SM5310B	11C2985	0.50	1.0	11	1	FZ	03/23/11	
Total Suspended Solids	SM 2540D	11C2979	1.0	10	57	1	DC	03/22/11	

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 Report Number: IUC2181

Sampled: 03/20/11-03/21/11
 Received: 03/21/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water)					Sampled: 03/21/11				
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	11C2880	0.10	0.10	0.10	1	RRZ	03/22/11	
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water)					Sampled: 03/20/11				
Reporting Units: NTU									
Turbidity	EPA 180.1	11C2881	0.20	5.0	140	5	RRZ	03/22/11	
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water)					Sampled: 03/20/11				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11C2871	0.90	1.0	ND	1	mn	03/22/11	
Total Cyanide	SM4500CN-E	11C3806	2.2	5.0	ND	1	SLA	03/29/11	
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water)					Sampled: 03/21/11				
Reporting Units: umhos/cm @ 25C									
Specific Conductance	EPA 120.1	11C2825	1.0	1.0	110	1	MC	03/22/11	

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COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water) - cont.					Sampled: 03/21/11				
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11C2797	2.00	2.00	240	1	AK	03/24/11	
E. Coli	SM9221 A,B,C,E	11C2797	2.00	2.00	240	1	AK	03/24/11	

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Received: 03/21/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water)					Sampled: 03/20/11				
Reporting Units: pCi/L									
Gross Alpha	900	8679	0.307	3	3.09	1	LS	03/31/11	
Gross Beta	900	8679	0.819	4	6.03	1	LS	03/31/11	

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Sampled: 03/20/11-03/21/11
Received: 03/21/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8679	1.46	20	ND	1	LS	03/30/11	U
Potassium-40	901.1	8679	23.5	25	ND	1	LS	03/30/11	U

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Received: 03/21/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: pCi/L									
Radium-226	903.1	8679	0.657	1	0.05	1	TM	04/05/11	U

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Received: 03/21/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: pCi/L									
Radium-228	904	8679	0.497	1	-0.041	1	LD	04/07/11	U

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Received: 03/21/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: pCi/L									
Strontium-90	905	8679	0.744	2	-0.071	1	EMB	04/01/11	U

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Sampled: 03/20/11-03/21/11
Received: 03/21/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: pCi/L									
Tritium	906	8679	166	500	-59.7	1	WL	03/30/11	U

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Sampled: 03/20/11-03/21/11
Received: 03/21/11

ASTM-D5174

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: pCi/L									
Uranium, Total	D5174	8679	0.02	1	0.438	1	TAC	03/29/11	Jb

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Sampled: 03/20/11-03/21/11
Received: 03/21/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) - cont.					Sampled: 03/20/11				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1083190	0.0000057	0.00005	6.4e-005	0.97	MO	03/25/11	
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1083190	0.0000038	0.00005	1.8e-005	0.97	MO	03/25/11	J
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1083190	0.0000056	0.00005	ND	0.97	MO	03/25/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1083190	0.0000018	0.00005	ND	0.97	MO	03/25/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1083190	0.0000016	0.00005	ND	0.97	MO	03/25/11	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1083190	0.0000017	0.00005	2e-006	0.97	MO	03/25/11	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1083190	0.0000013	0.00005	ND	0.97	MO	03/25/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1083190	0.0000015	0.00005	1.8e-006	0.97	MO	03/25/11	J, Q
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1083190	0.0000017	0.00005	ND	0.97	MO	03/25/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1083190	0.0000013	0.00005	ND	0.97	MO	03/25/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1083190	0.0000014	0.00005	ND	0.97	MO	03/25/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1083190	0.0000013	0.00005	ND	0.97	MO	03/25/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1083190	0.0000014	0.00005	ND	0.97	MO	03/25/11	
2,3,7,8-TCDD	EPA-5 1613B	1083190	0.0000011	0.00001	ND	0.97	MO	03/25/11	
2,3,7,8-TCDF	EPA-5 1613B	1083190	0.0000014	0.00001	ND	0.97	MO	03/25/11	
OCDD	EPA-5 1613B	1083190	0.0000079	0.0001	0.00072	0.97	MO	03/25/11	Ba
OCDF	EPA-5 1613B	1083190	0.0000032	0.0001	4.4e-005	0.97	MO	03/25/11	J
Total HpCDD	EPA-5 1613B	1083190	0.0000057	0.00005	0.00014	0.97	MO	03/25/11	
Total HpCDF	EPA-5 1613B	1083190	0.0000038	0.00005	7.3e-005	0.97	MO	03/25/11	J
Total HxCDD	EPA-5 1613B	1083190	0.0000015	0.00005	1.5e-005	0.97	MO	03/25/11	J, Q
Total HxCDF	EPA-5 1613B	1083190	0.0000013	0.00005	1.4e-005	0.97	MO	03/25/11	J, Q
Total PeCDD	EPA-5 1613B	1083190	0.0000013	0.00005	ND	0.97	MO	03/25/11	
Total PeCDF	EPA-5 1613B	1083190	0.0000014	0.00005	ND	0.97	MO	03/25/11	
Total TCDD	EPA-5 1613B	1083190	0.0000011	0.00001	3.1e-006	0.97	MO	03/25/11	J, Q
Total TCDF	EPA-5 1613B	1083190	0.0000014	0.00001	ND	0.97	MO	03/25/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	40 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	40 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	36 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	42 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	42 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	43 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	47 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	45 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	45 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	39 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	47 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	41 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	42 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	43 %
Surrogate: 13C-OCDD (17-157%)	36 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	81 %

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MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
 Annual Outfall 001
 Report Number: IUC2181

Sampled: 03/20/11-03/21/11
 Received: 03/21/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 001 (Grab) (IUC2181-01) - Water					
EPA 624	3	03/21/2011 10:30	03/21/2011 14:32	03/22/2011 07:31	03/22/2011 11:22
SM2540F	2	03/21/2011 10:30	03/21/2011 14:32	03/22/2011 08:38	03/22/2011 08:38
SM9221 A,B,C,E	0	03/21/2011 10:30	03/21/2011 14:32	03/21/2011 15:06	03/24/2011 10:56
Sample ID: Trip Blanks (IUC2181-02) - Water					
EPA 624	3	03/21/2011 10:30	03/21/2011 14:32	03/22/2011 07:31	03/22/2011 11:51
Sample ID: Outfall 001 (Composite) (IUC2181-03) - Water					
EPA 180.1	2	03/20/2011 21:59	03/21/2011 14:32	03/22/2011 11:00	03/22/2011 11:00
EPA 218.6	1	03/20/2011 21:59	03/21/2011 14:32	03/22/2011 09:00	03/22/2011 10:18
EPA 300.0	2	03/20/2011 21:59	03/21/2011 14:32	03/22/2011 11:00	03/22/2011 12:21
Filtration	1	03/20/2011 21:59	03/21/2011 14:32	03/21/2011 23:30	03/21/2011 23:30
SM5210B	2	03/20/2011 21:59	03/21/2011 14:32	03/22/2011 11:00	03/27/2011 12:30
SM5540-C	2	03/20/2011 21:59	03/21/2011 14:32	03/22/2011 11:50	03/22/2011 12:59

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Sampled: 03/20/11-03/21/11
 Received: 03/21/11

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2911 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2911-BLK1)											
GRO (C4 - C12)	ND	0.10	0.025	mg/l							
Surrogate: 4-BFB (FID)	0.00939			mg/l	0.0100		94	65-140			
LCS Analyzed: 03/22/2011 (11C2911-BS1)											
GRO (C4 - C12)	0.810	0.10	0.025	mg/l	0.800		101	80-120			
Surrogate: 4-BFB (FID)	0.0227			mg/l	0.0100		227	65-140			Z2
Matrix Spike Analyzed: 03/22/2011 (11C2911-MS1)											
						Source: IUC1894-07					
GRO (C4 - C12)	0.270	0.10	0.025	mg/l	0.220	ND	123	65-140			
Surrogate: 4-BFB (FID)	0.0116			mg/l	0.0100		116	65-140			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2911-MSD1)											
						Source: IUC1894-07					
GRO (C4 - C12)	0.253	0.10	0.025	mg/l	0.220	ND	115	65-140	6	20	
Surrogate: 4-BFB (FID)	0.0106			mg/l	0.0100		106	65-140			

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METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (EPA 3510C/EPA 8015B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3080 Extracted: 03/23/11											
Blank Analyzed: 03/23/2011 (11C3080-BLK1)											
DRO (C13 - C28)	ND	0.50	0.10	mg/l							
EFH (C10 - C28)	0.00154	NA	N/A	mg/l							
Surrogate: n-Octacosane	0.166			mg/l	0.200		83	45-120			
LCS Analyzed: 03/23/2011 (11C3080-BS1)											
EFH (C10 - C28)	0.743	NA	N/A	mg/l	1.00		74	40-115			MNR1
Surrogate: n-Octacosane	0.172			mg/l	0.200		86	45-120			
LCS Dup Analyzed: 03/23/2011 (11C3080-BSD1)											
EFH (C10 - C28)	0.737	NA	N/A	mg/l	1.00		74	40-115	0.9	25	
Surrogate: n-Octacosane	0.173			mg/l	0.200		87	45-120			

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3698 Extracted: 03/29/11											
Blank Analyzed: 03/29/2011 (11C3698-BLK1)											
Benzene	ND	0.50	0.28	ug/l							
Bromodichloromethane	ND	0.50	0.30	ug/l							
Bromoform	ND	0.50	0.40	ug/l							
Bromomethane	ND	1.0	0.42	ug/l							
Carbon tetrachloride	ND	0.50	0.28	ug/l							
Chlorobenzene	ND	0.50	0.36	ug/l							
Chloroethane	ND	1.0	0.40	ug/l							
Chloroform	ND	0.50	0.33	ug/l							
Chloromethane	ND	0.50	0.40	ug/l							
Dibromochloromethane	ND	0.50	0.40	ug/l							
1,2-Dichlorobenzene	ND	0.50	0.32	ug/l							
1,3-Dichlorobenzene	ND	0.50	0.35	ug/l							
1,4-Dichlorobenzene	ND	0.50	0.37	ug/l							
1,1-Dichloroethane	ND	0.50	0.40	ug/l							
1,2-Dichloroethane	ND	0.50	0.28	ug/l							
1,1-Dichloroethene	ND	0.50	0.42	ug/l							
cis-1,2-Dichloroethene	ND	0.50	0.32	ug/l							
trans-1,2-Dichloroethene	ND	0.50	0.30	ug/l							
1,2-Dichloropropane	ND	0.50	0.35	ug/l							
cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l							
trans-1,3-Dichloropropene	ND	0.50	0.32	ug/l							
1,2-Dichloro-1,1,2-trifluoroethane	ND	2.0	1.1	ug/l							
Ethylbenzene	ND	0.50	0.25	ug/l							
Methylene chloride	ND	1.0	0.95	ug/l							
1,1,2,2-Tetrachloroethane	ND	0.50	0.30	ug/l							
Tetrachloroethene	ND	0.50	0.32	ug/l							
Toluene	ND	0.50	0.36	ug/l							
1,1,1-Trichloroethane	ND	0.50	0.30	ug/l							
1,1,2-Trichloroethane	ND	0.50	0.30	ug/l							
Trichloroethene	ND	0.50	0.26	ug/l							
Trichlorofluoromethane	ND	0.50	0.34	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	0.50	ug/l							
Vinyl chloride	ND	0.50	0.40	ug/l							
Xylenes, Total	ND	1.5	0.90	ug/l							
Cyclohexane	ND	1.0	0.40	ug/l							

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3698 Extracted: 03/29/11											
Blank Analyzed: 03/29/2011 (11C3698-BLK1)											
Surrogate: 4-Bromofluorobenzene	22.3			ug/l	25.0		89	80-120			
Surrogate: Dibromofluoromethane	23.6			ug/l	25.0		94	80-120			
Surrogate: Toluene-d8	24.7			ug/l	25.0		99	80-120			
LCS Analyzed: 03/29/2011 (11C3698-BS1)											
Benzene	27.1	0.50	0.28	ug/l	25.0		108	70-120			
Bromodichloromethane	29.5	0.50	0.30	ug/l	25.0		118	70-135			
Bromoform	23.5	0.50	0.40	ug/l	25.0		94	55-130			
Bromomethane	26.4	1.0	0.42	ug/l	25.0		105	65-140			
Carbon tetrachloride	25.5	0.50	0.28	ug/l	25.0		102	65-140			
Chlorobenzene	27.5	0.50	0.36	ug/l	25.0		110	75-120			
Chloroethane	28.1	1.0	0.40	ug/l	25.0		112	60-140			
Chloroform	27.5	0.50	0.33	ug/l	25.0		110	70-130			
Chloromethane	24.1	0.50	0.40	ug/l	25.0		96	50-140			
Dibromochloromethane	25.4	0.50	0.40	ug/l	25.0		102	70-140			
1,2-Dichlorobenzene	27.9	0.50	0.32	ug/l	25.0		112	75-120			
1,3-Dichlorobenzene	27.7	0.50	0.35	ug/l	25.0		111	75-120			
1,4-Dichlorobenzene	27.3	0.50	0.37	ug/l	25.0		109	75-120			
1,1-Dichloroethane	27.4	0.50	0.40	ug/l	25.0		109	70-125			
1,2-Dichloroethane	26.8	0.50	0.28	ug/l	25.0		107	60-140			
1,1-Dichloroethene	26.5	0.50	0.42	ug/l	25.0		106	70-125			
cis-1,2-Dichloroethene	28.8	0.50	0.32	ug/l	25.0		115	70-125			
trans-1,2-Dichloroethene	28.0	0.50	0.30	ug/l	25.0		112	70-125			
1,2-Dichloropropane	28.8	0.50	0.35	ug/l	25.0		115	70-125			
cis-1,3-Dichloropropene	30.4	0.50	0.22	ug/l	25.0		122	75-125			
trans-1,3-Dichloropropene	31.6	0.50	0.32	ug/l	25.0		126	70-125			L
Ethylbenzene	28.4	0.50	0.25	ug/l	25.0		114	75-125			
Methylene chloride	24.1	1.0	0.95	ug/l	25.0		96	55-130			
1,1,2,2-Tetrachloroethane	27.0	0.50	0.30	ug/l	25.0		108	55-130			
Tetrachloroethene	27.7	0.50	0.32	ug/l	25.0		111	70-125			
Toluene	28.5	0.50	0.36	ug/l	25.0		114	70-120			
1,1,1-Trichloroethane	26.5	0.50	0.30	ug/l	25.0		106	65-135			
1,1,2-Trichloroethane	29.0	0.50	0.30	ug/l	25.0		116	70-125			
Trichloroethene	27.8	0.50	0.26	ug/l	25.0		111	70-125			
Trichlorofluoromethane	26.8	0.50	0.34	ug/l	25.0		107	65-145			
Vinyl chloride	24.8	0.50	0.40	ug/l	25.0		99	55-135			

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Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3698 Extracted: 03/29/11											
LCS Analyzed: 03/29/2011 (11C3698-BS1)											
Xylenes, Total	88.2	1.5	0.90	ug/l	75.0		118	70-125			
Surrogate: 4-Bromofluorobenzene	24.4			ug/l	25.0		98	80-120			
Surrogate: Dibromofluoromethane	25.6			ug/l	25.0		103	80-120			
Surrogate: Toluene-d8	25.1			ug/l	25.0		100	80-120			
Matrix Spike Analyzed: 03/29/2011 (11C3698-MS1)											
Source: IUC2446-02											
Benzene	22.8	0.50	0.28	ug/l	25.0	ND	91	65-125			
Bromodichloromethane	26.4	0.50	0.30	ug/l	25.0	ND	106	70-135			
Bromoform	19.2	0.50	0.40	ug/l	25.0	ND	77	55-135			
Bromomethane	22.1	1.0	0.42	ug/l	25.0	ND	89	55-145			
Carbon tetrachloride	21.3	0.50	0.28	ug/l	25.0	ND	85	65-140			
Chlorobenzene	21.9	0.50	0.36	ug/l	25.0	ND	88	75-125			
Chloroethane	23.8	1.0	0.40	ug/l	25.0	ND	95	55-140			
Chloroform	24.0	0.50	0.33	ug/l	25.0	ND	96	65-135			
Chloromethane	20.2	0.50	0.40	ug/l	25.0	ND	81	45-145			
Dibromochloromethane	21.3	0.50	0.40	ug/l	25.0	ND	85	65-140			
1,2-Dichlorobenzene	23.4	0.50	0.32	ug/l	25.0	ND	94	75-125			
1,3-Dichlorobenzene	23.2	0.50	0.35	ug/l	25.0	ND	93	75-125			
1,4-Dichlorobenzene	22.7	0.50	0.37	ug/l	25.0	ND	91	75-125			
1,1-Dichloroethane	23.1	0.50	0.40	ug/l	25.0	ND	92	65-130			
1,2-Dichloroethane	23.5	0.50	0.28	ug/l	25.0	ND	94	60-140			
1,1-Dichloroethene	22.2	0.50	0.42	ug/l	25.0	2.19	80	60-130			
cis-1,2-Dichloroethene	26.4	0.50	0.32	ug/l	25.0	0.660	103	65-130			
trans-1,2-Dichloroethene	21.4	0.50	0.30	ug/l	25.0	ND	85	65-130			
1,2-Dichloropropane	24.7	0.50	0.35	ug/l	25.0	ND	99	65-130			
cis-1,3-Dichloropropene	24.8	0.50	0.22	ug/l	25.0	ND	99	70-130			
trans-1,3-Dichloropropene	26.4	0.50	0.32	ug/l	25.0	ND	106	65-135			
Ethylbenzene	22.9	0.50	0.25	ug/l	25.0	ND	91	65-130			
Methylene chloride	20.3	1.0	0.95	ug/l	25.0	ND	81	50-135			
1,1,2,2-Tetrachloroethane	21.9	0.50	0.30	ug/l	25.0	ND	88	55-135			
Tetrachloroethene	58.3	0.50	0.32	ug/l	25.0	38.1	81	65-130			
Toluene	23.9	0.50	0.36	ug/l	25.0	ND	96	70-125			
1,1,1-Trichloroethane	23.2	0.50	0.30	ug/l	25.0	ND	93	65-140			
1,1,2-Trichloroethane	24.9	0.50	0.30	ug/l	25.0	ND	100	65-130			
Trichloroethene	93.4	0.50	0.26	ug/l	25.0	75.1	73	65-125			
Trichlorofluoromethane	22.0	0.50	0.34	ug/l	25.0	ND	88	60-145			

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3698 Extracted: 03/29/11											
Matrix Spike Analyzed: 03/29/2011 (11C3698-MS1)						Source: IUC2446-02					
Vinyl chloride	22.1	0.50	0.40	ug/l	25.0	ND	88	45-140			
Xylenes, Total	67.2	1.5	0.90	ug/l	75.0	ND	90	60-130			
Surrogate: 4-Bromofluorobenzene	24.0			ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	26.4			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	25.0			ug/l	25.0		100	80-120			
Matrix Spike Dup Analyzed: 03/29/2011 (11C3698-MSD1)						Source: IUC2446-02					
Benzene	22.3	0.50	0.28	ug/l	25.0	ND	89	65-125	2	20	
Bromodichloromethane	26.6	0.50	0.30	ug/l	25.0	ND	106	70-135	0.6	20	
Bromoform	18.6	0.50	0.40	ug/l	25.0	ND	74	55-135	3	25	
Bromomethane	22.9	1.0	0.42	ug/l	25.0	ND	92	55-145	4	25	
Carbon tetrachloride	21.4	0.50	0.28	ug/l	25.0	ND	86	65-140	0.6	25	
Chlorobenzene	22.6	0.50	0.36	ug/l	25.0	ND	91	75-125	3	20	
Chloroethane	24.3	1.0	0.40	ug/l	25.0	ND	97	55-140	2	25	
Chloroform	25.2	0.50	0.33	ug/l	25.0	ND	101	65-135	5	20	
Chloromethane	21.6	0.50	0.40	ug/l	25.0	ND	86	45-145	7	25	
Dibromochloromethane	20.7	0.50	0.40	ug/l	25.0	ND	83	65-140	3	25	
1,2-Dichlorobenzene	23.8	0.50	0.32	ug/l	25.0	ND	95	75-125	2	20	
1,3-Dichlorobenzene	23.7	0.50	0.35	ug/l	25.0	ND	95	75-125	2	20	
1,4-Dichlorobenzene	23.2	0.50	0.37	ug/l	25.0	ND	93	75-125	2	20	
1,1-Dichloroethane	24.2	0.50	0.40	ug/l	25.0	ND	97	65-130	5	20	
1,2-Dichloroethane	22.7	0.50	0.28	ug/l	25.0	ND	91	60-140	3	20	
1,1-Dichloroethene	22.1	0.50	0.42	ug/l	25.0	2.19	79	60-130	0.5	20	
cis-1,2-Dichloroethene	27.6	0.50	0.32	ug/l	25.0	0.660	108	65-130	4	20	
trans-1,2-Dichloroethene	23.2	0.50	0.30	ug/l	25.0	ND	93	65-130	8	20	
1,2-Dichloropropane	24.4	0.50	0.35	ug/l	25.0	ND	97	65-130	1	20	
cis-1,3-Dichloropropene	24.9	0.50	0.22	ug/l	25.0	ND	100	70-130	0.2	20	
trans-1,3-Dichloropropene	25.4	0.50	0.32	ug/l	25.0	ND	102	65-135	4	25	
Ethylbenzene	22.6	0.50	0.25	ug/l	25.0	ND	90	65-130	1	20	
Methylene chloride	21.1	1.0	0.95	ug/l	25.0	ND	84	50-135	4	20	
1,1,2,2-Tetrachloroethane	21.3	0.50	0.30	ug/l	25.0	ND	85	55-135	3	30	
Tetrachloroethene	55.9	0.50	0.32	ug/l	25.0	38.1	71	65-130	4	20	
Toluene	23.6	0.50	0.36	ug/l	25.0	ND	94	70-125	2	20	
1,1,1-Trichloroethane	23.7	0.50	0.30	ug/l	25.0	ND	95	65-140	2	20	
1,1,2-Trichloroethane	23.5	0.50	0.30	ug/l	25.0	ND	94	65-130	6	25	
Trichloroethene	90.9	0.50	0.26	ug/l	25.0	75.1	63	65-125	3	20	M2

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Project Manager

MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
 Annual Outfall 001
 Report Number: IUC2181

Sampled: 03/20/11-03/21/11
 Received: 03/21/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3698 Extracted: 03/29/11											
Matrix Spike Dup Analyzed: 03/29/2011 (11C3698-MSD1)						Source: IUC2446-02					
Trichlorofluoromethane	22.9	0.50	0.34	ug/l	25.0	ND	91	60-145	4	25	
Vinyl chloride	22.7	0.50	0.40	ug/l	25.0	ND	91	45-140	3	30	
Xylenes, Total	65.5	1.5	0.90	ug/l	75.0	ND	87	60-130	3	20	
Surrogate: 4-Bromofluorobenzene	22.9			ug/l	25.0		92	80-120			
Surrogate: Dibromofluoromethane	27.3			ug/l	25.0		109	80-120			
Surrogate: Toluene-d8	24.4			ug/l	25.0		98	80-120			

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PURGEABLES-- GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2844 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2844-BLK1)											
Acrolein	ND	5.0	4.0	ug/l							
Acrylonitrile	ND	2.0	1.2	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l							
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		99	80-120			
Surrogate: Dibromofluoromethane	24.9			ug/l	25.0		100	80-120			
Surrogate: Toluene-d8	25.6			ug/l	25.0		102	80-120			
LCS Analyzed: 03/22/2011 (11C2844-BS1)											
2-Chloroethyl vinyl ether	24.7	5.0	1.8	ug/l	25.0		99	25-170			
Surrogate: 4-Bromofluorobenzene	23.7			ug/l	25.0		95	80-120			
Surrogate: Dibromofluoromethane	25.6			ug/l	25.0		103	80-120			
Surrogate: Toluene-d8	25.6			ug/l	25.0		102	80-120			
Matrix Spike Analyzed: 03/22/2011 (11C2844-MS1)											
						Source: IUC1722-03					
2-Chloroethyl vinyl ether	2.10	5.0	1.8	ug/l	25.0	ND	8	25-170			MI3, J
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			
Surrogate: Dibromofluoromethane	26.1			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	25.4			ug/l	25.0		102	80-120			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2844-MSD1)											
						Source: IUC1722-03					
2-Chloroethyl vinyl ether	2.17	5.0	1.8	ug/l	25.0	ND	9	25-170	3	25	MI3, J
Surrogate: 4-Bromofluorobenzene	25.6			ug/l	25.0		102	80-120			
Surrogate: Dibromofluoromethane	26.6			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	25.7			ug/l	25.0		103	80-120			

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METHOD BLANK/QC DATA

1,4-DIOXANE BY GCMS - SINGLE ION MONITORING (SIM)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3016 Extracted: 03/23/11											
Blank Analyzed: 03/23/2011 (11C3016-BLK1)											
1,4-Dioxane	ND	2.0	1.0	ug/l							
Surrogate: Dibromofluoromethane	0.860			ug/l	1.00		86	80-120			
LCS Analyzed: 03/23/2011 (11C3016-BS1)											
1,4-Dioxane	9.39	2.0	1.0	ug/l	10.0		94	70-125			
Surrogate: Dibromofluoromethane	0.870			ug/l	1.00		87	80-120			
Matrix Spike Analyzed: 03/23/2011 (11C3016-MS1)						Source: IUC2241-01					
1,4-Dioxane	9.35	2.0	1.0	ug/l	10.0	ND	94	70-130			
Surrogate: Dibromofluoromethane	0.890			ug/l	1.00		89	80-120			
Matrix Spike Dup Analyzed: 03/23/2011 (11C3016-MSD1)						Source: IUC2241-01					
1,4-Dioxane	9.73	2.0	1.0	ug/l	10.0	ND	97	70-130	4	30	
Surrogate: Dibromofluoromethane	0.900			ug/l	1.00		90	80-120			

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METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11C3070 Extracted: 03/23/11											
Blank Analyzed: 03/25/2011 (11C3070-BLK1)											
Acenaphthene	ND	0.500	0.100	ug/l							
Acenaphthylene	ND	0.500	0.100	ug/l							
Anthracene	ND	0.500	0.100	ug/l							
Benzidine	ND	5.00	5.00	ug/l							
Benzo(a)anthracene	ND	5.00	0.100	ug/l							
Benzo(a)pyrene	ND	2.00	0.100	ug/l							
Benzo(b)fluoranthene	ND	2.00	0.100	ug/l							
Benzo(g,h,i)perylene	ND	5.00	0.100	ug/l							
Benzo(k)fluoranthene	ND	0.500	0.100	ug/l							
4-Bromophenyl phenyl ether	ND	1.00	0.100	ug/l							
Butyl benzyl phthalate	0.740	5.00	0.700	ug/l							J
4-Chloro-3-methylphenol	ND	2.00	0.200	ug/l							
Bis(2-chloroethoxy)methane	ND	0.500	0.100	ug/l							
Bis(2-chloroethyl)ether	ND	0.500	0.100	ug/l							
Bis(2-chloroisopropyl)ether	ND	0.500	0.100	ug/l							
Bis(2-ethylhexyl)phthalate	ND	5.00	1.70	ug/l							
2-Chloronaphthalene	ND	0.500	0.100	ug/l							
2-Chlorophenol	ND	1.00	0.200	ug/l							
4-Chlorophenyl phenyl ether	ND	0.500	0.100	ug/l							
Chrysene	ND	0.500	0.100	ug/l							
Dibenz(a,h)anthracene	ND	0.500	0.100	ug/l							
Di-n-butyl phthalate	ND	2.00	0.200	ug/l							
1,2-Dichlorobenzene	ND	0.500	0.100	ug/l							
1,3-Dichlorobenzene	ND	0.500	0.100	ug/l							
1,4-Dichlorobenzene	ND	0.500	0.200	ug/l							
3,3'-Dichlorobenzidine	ND	5.00	5.00	ug/l							
2,4-Dichlorophenol	ND	2.00	0.200	ug/l							
Diethyl phthalate	ND	1.00	0.100	ug/l							
2,4-Dimethylphenol	ND	2.00	0.300	ug/l							
Dimethyl phthalate	ND	0.500	0.100	ug/l							
4,6-Dinitro-2-methylphenol	ND	5.00	0.200	ug/l							
2,4-Dinitrophenol	ND	5.00	0.900	ug/l							
2,4-Dinitrotoluene	ND	5.00	0.200	ug/l							
2,6-Dinitrotoluene	ND	5.00	0.100	ug/l							
Di-n-octyl phthalate	ND	5.00	0.100	ug/l							

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3070 Extracted: 03/23/11											
Blank Analyzed: 03/25/2011 (11C3070-BLK1)											
1,2-Diphenylhydrazine/Azobenzene	ND	1.00	0.100	ug/l							
Fluoranthene	ND	0.500	0.100	ug/l							
Fluorene	ND	0.500	0.100	ug/l							
Hexachlorobenzene	ND	1.00	0.100	ug/l							
Hexachlorobutadiene	ND	2.00	0.200	ug/l							
Hexachlorocyclopentadiene	ND	5.00	0.100	ug/l							
Hexachloroethane	ND	3.00	0.200	ug/l							
Indeno(1,2,3-cd)pyrene	ND	2.00	0.100	ug/l							
Isophorone	ND	1.00	0.100	ug/l							
Naphthalene	ND	1.00	0.100	ug/l							
Nitrobenzene	ND	1.00	0.100	ug/l							
2-Nitrophenol	ND	2.00	0.100	ug/l							
4-Nitrophenol	ND	5.00	2.50	ug/l							
N-Nitroso-di-n-propylamine	ND	2.00	0.100	ug/l							
N-Nitrosodimethylamine	ND	2.00	0.100	ug/l							
N-Nitrosodiphenylamine	ND	1.00	0.100	ug/l							
Pentachlorophenol	ND	2.00	0.100	ug/l							
Phenanthrene	ND	0.500	0.100	ug/l							
Phenol	ND	1.00	0.300	ug/l							
Pyrene	ND	0.500	0.100	ug/l							
1,2,4-Trichlorobenzene	ND	1.00	0.100	ug/l							
2,4,6-Trichlorophenol	ND	1.00	0.100	ug/l							
Surrogate: 2,4,6-Tribromophenol	15.1			ug/l	20.0		75	40-120			
Surrogate: 2-Fluorobiphenyl	7.92			ug/l	10.0		79	50-120			
Surrogate: 2-Fluorophenol	15.1			ug/l	20.0		76	30-120			
Surrogate: Nitrobenzene-d5	8.22			ug/l	10.0		82	45-120			
Surrogate: Phenol-d6	16.3			ug/l	20.0		81	35-120			
Surrogate: Terphenyl-d14	9.64			ug/l	10.0		96	50-125			

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ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3070 Extracted: 03/23/11											
LCS Analyzed: 03/25/2011 (11C3070-BS1)											
Acenaphthene	7.90	0.500	0.100	ug/l	10.0		79	60-120			MNR1
Acenaphthylene	8.66	0.500	0.100	ug/l	10.0		87	60-120			
Anthracene	8.20	0.500	0.100	ug/l	10.0		82	65-120			
Benzdine	ND	5.00	5.00	ug/l	10.0			30-160			L6
Benzo(a)anthracene	8.82	5.00	0.100	ug/l	10.0		88	65-120			
Benzo(a)pyrene	8.38	2.00	0.100	ug/l	10.0		84	55-130			
Benzo(b)fluoranthene	8.94	2.00	0.100	ug/l	10.0		89	55-125			
Benzo(g,h,i)perylene	10.1	5.00	0.100	ug/l	10.0		101	45-135			
Benzo(k)fluoranthene	8.94	0.500	0.100	ug/l	10.0		89	50-125			
4-Bromophenyl phenyl ether	8.52	1.00	0.100	ug/l	10.0		85	60-120			
Butyl benzyl phthalate	10.3	5.00	0.700	ug/l	10.0		103	55-130			
4-Chloro-3-methylphenol	7.48	2.00	0.200	ug/l	10.0		75	60-120			
Bis(2-chloroethoxy)methane	7.72	0.500	0.100	ug/l	10.0		77	55-120			
Bis(2-chloroethyl)ether	7.44	0.500	0.100	ug/l	10.0		74	50-120			
Bis(2-chloroisopropyl)ether	7.34	0.500	0.100	ug/l	10.0		73	45-120			
Bis(2-ethylhexyl)phthalate	8.60	5.00	1.70	ug/l	10.0		86	65-130			
2-Chloronaphthalene	8.06	0.500	0.100	ug/l	10.0		81	60-120			
2-Chlorophenol	6.86	1.00	0.200	ug/l	10.0		69	45-120			
4-Chlorophenyl phenyl ether	8.86	0.500	0.100	ug/l	10.0		89	65-120			
Chrysene	8.18	0.500	0.100	ug/l	10.0		82	65-120			
Dibenz(a,h)anthracene	9.42	0.500	0.100	ug/l	10.0		94	50-135			
Di-n-butyl phthalate	8.26	2.00	0.200	ug/l	10.0		83	60-125			
1,2-Dichlorobenzene	6.36	0.500	0.100	ug/l	10.0		64	40-120			
1,3-Dichlorobenzene	6.12	0.500	0.100	ug/l	10.0		61	35-120			
1,4-Dichlorobenzene	6.34	0.500	0.200	ug/l	10.0		63	35-120			
3,3'-Dichlorobenzidine	6.34	5.00	5.00	ug/l	10.0		63	45-135			
2,4-Dichlorophenol	6.54	2.00	0.200	ug/l	10.0		65	55-120			
Diethyl phthalate	8.90	1.00	0.100	ug/l	10.0		89	55-120			
2,4-Dimethylphenol	6.44	2.00	0.300	ug/l	10.0		64	40-120			
Dimethyl phthalate	8.64	0.500	0.100	ug/l	10.0		86	30-120			
4,6-Dinitro-2-methylphenol	7.90	5.00	0.200	ug/l	10.0		79	45-120			
2,4-Dinitrophenol	7.32	5.00	0.900	ug/l	10.0		73	40-120			
2,4-Dinitrotoluene	8.64	5.00	0.200	ug/l	10.0		86	65-120			
2,6-Dinitrotoluene	8.98	5.00	0.100	ug/l	10.0		90	65-120			
Di-n-octyl phthalate	8.20	5.00	0.100	ug/l	10.0		82	65-135			

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ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3070 Extracted: 03/23/11											
LCS Analyzed: 03/25/2011 (11C3070-BS1)											MNR1
1,2-Diphenylhydrazine/Azobenzene	7.62	1.00	0.100	ug/l	10.0		76	60-120			
Fluoranthene	8.80	0.500	0.100	ug/l	10.0		88	60-120			
Fluorene	8.98	0.500	0.100	ug/l	10.0		90	65-120			
Hexachlorobenzene	8.12	1.00	0.100	ug/l	10.0		81	60-120			
Hexachlorobutadiene	5.52	2.00	0.200	ug/l	10.0		55	40-120			
Hexachlorocyclopentadiene	5.14	5.00	0.100	ug/l	10.0		51	25-120			
Hexachloroethane	5.42	3.00	0.200	ug/l	10.0		54	35-120			
Indeno(1,2,3-cd)pyrene	9.90	2.00	0.100	ug/l	10.0		99	45-135			
Isophorone	8.34	1.00	0.100	ug/l	10.0		83	50-120			
Naphthalene	7.14	1.00	0.100	ug/l	10.0		71	55-120			
Nitrobenzene	7.02	1.00	0.100	ug/l	10.0		70	55-120			
2-Nitrophenol	7.02	2.00	0.100	ug/l	10.0		70	50-120			
4-Nitrophenol	7.44	5.00	2.50	ug/l	10.0		74	45-120			
N-Nitroso-di-n-propylamine	7.54	2.00	0.100	ug/l	10.0		75	45-120			
N-Nitrosodimethylamine	7.72	2.00	0.100	ug/l	10.0		77	45-120			
N-Nitrosodiphenylamine	8.72	1.00	0.100	ug/l	10.0		87	60-120			
Pentachlorophenol	6.24	2.00	0.100	ug/l	10.0		62	24-121			
Phenanthrene	8.28	0.500	0.100	ug/l	10.0		83	65-120			
Phenol	7.00	1.00	0.300	ug/l	10.0		70	40-120			
Pyrene	8.82	0.500	0.100	ug/l	10.0		88	55-125			
1,2,4-Trichlorobenzene	6.56	1.00	0.100	ug/l	10.0		66	45-120			
2,4,6-Trichlorophenol	8.04	1.00	0.100	ug/l	10.0		80	55-120			
Surrogate: 2,4,6-Tribromophenol	16.7			ug/l	20.0		84	40-120			
Surrogate: 2-Fluorobiphenyl	7.78			ug/l	10.0		78	50-120			
Surrogate: 2-Fluorophenol	13.0			ug/l	20.0		65	30-120			
Surrogate: Nitrobenzene-d5	7.26			ug/l	10.0		73	45-120			
Surrogate: Phenol-d6	14.5			ug/l	20.0		73	35-120			
Surrogate: Terphenyl-d14	8.72			ug/l	10.0		87	50-125			

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3070 Extracted: 03/23/11											
LCS Dup Analyzed: 03/25/2011 (11C3070-BSD1)											
Acenaphthene	8.00	0.500	0.100	ug/l	10.0		80	60-120	1	20	
Acenaphthylene	8.78	0.500	0.100	ug/l	10.0		88	60-120	1	20	
Anthracene	8.34	0.500	0.100	ug/l	10.0		83	65-120	2	20	
Benidine	ND	5.00	5.00	ug/l	10.0			30-160		35	L6
Benzo(a)anthracene	9.04	5.00	0.100	ug/l	10.0		90	65-120	2	20	
Benzo(a)pyrene	8.42	2.00	0.100	ug/l	10.0		84	55-130	0.5	25	
Benzo(b)fluoranthene	8.80	2.00	0.100	ug/l	10.0		88	55-125	2	25	
Benzo(g,h,i)perylene	8.56	5.00	0.100	ug/l	10.0		86	45-135	16	25	
Benzo(k)fluoranthene	8.94	0.500	0.100	ug/l	10.0		89	50-125	0	20	
4-Bromophenyl phenyl ether	8.64	1.00	0.100	ug/l	10.0		86	60-120	1	25	
Butyl benzyl phthalate	8.50	5.00	0.700	ug/l	10.0		85	55-130	20	20	
4-Chloro-3-methylphenol	7.34	2.00	0.200	ug/l	10.0		73	60-120	2	25	
Bis(2-chloroethoxy)methane	7.96	0.500	0.100	ug/l	10.0		80	55-120	3	20	
Bis(2-chloroethyl)ether	7.42	0.500	0.100	ug/l	10.0		74	50-120	0.3	20	
Bis(2-chloroisopropyl)ether	7.36	0.500	0.100	ug/l	10.0		74	45-120	0.3	20	
Bis(2-ethylhexyl)phthalate	8.74	5.00	1.70	ug/l	10.0		87	65-130	2	20	
2-Chloronaphthalene	8.26	0.500	0.100	ug/l	10.0		83	60-120	2	20	
2-Chlorophenol	7.20	1.00	0.200	ug/l	10.0		72	45-120	5	25	
4-Chlorophenyl phenyl ether	9.54	0.500	0.100	ug/l	10.0		95	65-120	7	20	
Chrysene	8.10	0.500	0.100	ug/l	10.0		81	65-120	1	20	
Dibenz(a,h)anthracene	8.46	0.500	0.100	ug/l	10.0		85	50-135	11	25	
Di-n-butyl phthalate	8.38	2.00	0.200	ug/l	10.0		84	60-125	1	20	
1,2-Dichlorobenzene	6.74	0.500	0.100	ug/l	10.0		67	40-120	6	25	
1,3-Dichlorobenzene	6.54	0.500	0.100	ug/l	10.0		65	35-120	7	25	
1,4-Dichlorobenzene	6.62	0.500	0.200	ug/l	10.0		66	35-120	4	25	
3,3'-Dichlorobenzidine	7.28	5.00	5.00	ug/l	10.0		73	45-135	14	25	
2,4-Dichlorophenol	7.40	2.00	0.200	ug/l	10.0		74	55-120	12	20	
Diethyl phthalate	8.98	1.00	0.100	ug/l	10.0		90	55-120	0.9	30	
2,4-Dimethylphenol	7.14	2.00	0.300	ug/l	10.0		71	40-120	10	25	
Dimethyl phthalate	8.98	0.500	0.100	ug/l	10.0		90	30-120	4	30	
4,6-Dinitro-2-methylphenol	7.60	5.00	0.200	ug/l	10.0		76	45-120	4	25	
2,4-Dinitrophenol	7.50	5.00	0.900	ug/l	10.0		75	40-120	2	25	
2,4-Dinitrotoluene	9.02	5.00	0.200	ug/l	10.0		90	65-120	4	20	
2,6-Dinitrotoluene	9.70	5.00	0.100	ug/l	10.0		97	65-120	8	20	
Di-n-octyl phthalate	8.00	5.00	0.100	ug/l	10.0		80	65-135	2	20	

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METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3070 Extracted: 03/23/11											
LCS Dup Analyzed: 03/25/2011 (11C3070-BSD1)											
1,2-Diphenylhydrazine/Azobenzene	7.96	1.00	0.100	ug/l	10.0		80	60-120	4	25	
Fluoranthene	8.86	0.500	0.100	ug/l	10.0		89	60-120	0.7	20	
Fluorene	9.44	0.500	0.100	ug/l	10.0		94	65-120	5	20	
Hexachlorobenzene	8.18	1.00	0.100	ug/l	10.0		82	60-120	0.7	20	
Hexachlorobutadiene	6.24	2.00	0.200	ug/l	10.0		62	40-120	12	25	
Hexachlorocyclopentadiene	6.60	5.00	0.100	ug/l	10.0		66	25-120	25	30	
Hexachloroethane	6.04	3.00	0.200	ug/l	10.0		60	35-120	11	25	
Indeno(1,2,3-cd)pyrene	9.14	2.00	0.100	ug/l	10.0		91	45-135	8	25	
Isophorone	8.28	1.00	0.100	ug/l	10.0		83	50-120	0.7	20	
Naphthalene	7.38	1.00	0.100	ug/l	10.0		74	55-120	3	20	
Nitrobenzene	7.44	1.00	0.100	ug/l	10.0		74	55-120	6	25	
2-Nitrophenol	7.22	2.00	0.100	ug/l	10.0		72	50-120	3	25	
4-Nitrophenol	8.12	5.00	2.50	ug/l	10.0		81	45-120	9	30	
N-Nitroso-di-n-propylamine	7.64	2.00	0.100	ug/l	10.0		76	45-120	1	20	
N-Nitrosodimethylamine	7.70	2.00	0.100	ug/l	10.0		77	45-120	0.3	20	
N-Nitrosodiphenylamine	8.92	1.00	0.100	ug/l	10.0		89	60-120	2	20	
Pentachlorophenol	6.20	2.00	0.100	ug/l	10.0		62	24-121	0.6	25	
Phenanthrene	8.14	0.500	0.100	ug/l	10.0		81	65-120	2	20	
Phenol	7.26	1.00	0.300	ug/l	10.0		73	40-120	4	25	
Pyrene	8.84	0.500	0.100	ug/l	10.0		88	55-125	0.2	25	
1,2,4-Trichlorobenzene	7.04	1.00	0.100	ug/l	10.0		70	45-120	7	20	
2,4,6-Trichlorophenol	8.02	1.00	0.100	ug/l	10.0		80	55-120	0.2	30	
Surrogate: 2,4,6-Tribromophenol	16.9			ug/l	20.0		84	40-120			
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79	50-120			
Surrogate: 2-Fluorophenol	13.1			ug/l	20.0		66	30-120			
Surrogate: Nitrobenzene-d5	7.72			ug/l	10.0		77	45-120			
Surrogate: Phenol-d6	15.4			ug/l	20.0		77	35-120			
Surrogate: Terphenyl-d14	8.78			ug/l	10.0		88	50-125			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2988 Extracted: 03/23/11											
Blank Analyzed: 03/23/2011 (11C2988-BLK1)											
4,4'-DDD	ND	0.0050	0.0040	ug/l							
4,4'-DDE	ND	0.0050	0.0030	ug/l							
4,4'-DDT	ND	0.010	0.0040	ug/l							
Aldrin	ND	0.0050	0.0015	ug/l							
alpha-BHC	ND	0.0050	0.0025	ug/l							
beta-BHC	ND	0.010	0.0040	ug/l							
delta-BHC	ND	0.0050	0.0035	ug/l							
Dieldrin	ND	0.0050	0.0020	ug/l							
Endosulfan I	ND	0.0050	0.0020	ug/l							
Endosulfan II	ND	0.0050	0.0030	ug/l							
Endosulfan sulfate	ND	0.010	0.0030	ug/l							
Endrin	ND	0.0050	0.0020	ug/l							
Endrin aldehyde	ND	0.010	0.0020	ug/l							
gamma-BHC (Lindane)	ND	0.020	0.0030	ug/l							
Heptachlor	ND	0.010	0.0030	ug/l							
Heptachlor epoxide	ND	0.0050	0.0025	ug/l							
Chlordane	ND	0.10	0.080	ug/l							
Toxaphene	ND	0.50	0.25	ug/l							
Surrogate: Decachlorobiphenyl	0.433			ug/l	0.500		87	45-120			
Surrogate: Tetrachloro-m-xylene	0.371			ug/l	0.500		74	35-115			
LCS Analyzed: 03/23/2011 (11C2988-BS1)											
4,4'-DDD	0.442	0.0050	0.0040	ug/l	0.500		88	55-120			
4,4'-DDE	0.423	0.0050	0.0030	ug/l	0.500		85	50-120			
4,4'-DDT	0.467	0.010	0.0040	ug/l	0.500		93	55-120			
Aldrin	0.386	0.0050	0.0015	ug/l	0.500		77	40-115			
alpha-BHC	0.398	0.0050	0.0025	ug/l	0.500		80	45-115			
beta-BHC	0.387	0.010	0.0040	ug/l	0.500		77	55-115			
delta-BHC	0.420	0.0050	0.0035	ug/l	0.500		84	55-115			
Dieldrin	0.438	0.0050	0.0020	ug/l	0.500		88	55-115			
Endosulfan I	0.396	0.0050	0.0020	ug/l	0.500		79	55-115			
Endosulfan II	0.435	0.0050	0.0030	ug/l	0.500		87	55-120			
Endosulfan sulfate	0.439	0.010	0.0030	ug/l	0.500		88	60-120			
Endrin	0.412	0.0050	0.0020	ug/l	0.500		82	55-115			
Endrin aldehyde	0.441	0.010	0.0020	ug/l	0.500		88	50-120			
gamma-BHC (Lindane)	0.391	0.020	0.0030	ug/l	0.500		78	45-115			

MNR1

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2988 Extracted: 03/23/11											
LCS Analyzed: 03/23/2011 (11C2988-BS1)											MNR1
Heptachlor	0.380	0.010	0.0030	ug/l	0.500		76	45-115			
Heptachlor epoxide	0.385	0.0050	0.0025	ug/l	0.500		77	55-115			
Surrogate: Decachlorobiphenyl	0.446			ug/l	0.500		89	45-120			
Surrogate: Tetrachloro-m-xylene	0.383			ug/l	0.500		77	35-115			
LCS Dup Analyzed: 03/23/2011 (11C2988-BSD1)											
4,4'-DDD	0.435	0.0050	0.0040	ug/l	0.500		87	55-120	2	30	
4,4'-DDE	0.418	0.0050	0.0030	ug/l	0.500		84	50-120	1	30	
4,4'-DDT	0.461	0.010	0.0040	ug/l	0.500		92	55-120	1	30	
Aldrin	0.385	0.0050	0.0015	ug/l	0.500		77	40-115	0.2	30	
alpha-BHC	0.398	0.0050	0.0025	ug/l	0.500		80	45-115	0.1	30	
beta-BHC	0.382	0.010	0.0040	ug/l	0.500		76	55-115	1	30	
delta-BHC	0.417	0.0050	0.0035	ug/l	0.500		83	55-115	0.8	30	
Dieldrin	0.433	0.0050	0.0020	ug/l	0.500		87	55-115	1	30	
Endosulfan I	0.392	0.0050	0.0020	ug/l	0.500		78	55-115	1	30	
Endosulfan II	0.429	0.0050	0.0030	ug/l	0.500		86	55-120	2	30	
Endosulfan sulfate	0.430	0.010	0.0030	ug/l	0.500		86	60-120	2	30	
Endrin	0.407	0.0050	0.0020	ug/l	0.500		81	55-115	1	30	
Endrin aldehyde	0.434	0.010	0.0020	ug/l	0.500		87	50-120	1	30	
gamma-BHC (Lindane)	0.390	0.020	0.0030	ug/l	0.500		78	45-115	0.3	30	
Heptachlor	0.380	0.010	0.0030	ug/l	0.500		76	45-115	0.2	30	
Heptachlor epoxide	0.379	0.0050	0.0025	ug/l	0.500		76	55-115	1	30	
Surrogate: Decachlorobiphenyl	0.441			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.384			ug/l	0.500		77	35-115			

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METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2988 Extracted: 03/23/11											
Blank Analyzed: 03/23/2011 (11C2988-BLK1)											
Aroclor 1016	ND	0.50	0.25	ug/l							
Aroclor 1221	ND	0.50	0.25	ug/l							
Aroclor 1232	ND	0.50	0.25	ug/l							
Aroclor 1242	ND	0.50	0.25	ug/l							
Aroclor 1248	ND	0.50	0.25	ug/l							
Aroclor 1254	ND	0.50	0.25	ug/l							
Aroclor 1260	ND	0.50	0.25	ug/l							
Surrogate: Decachlorobiphenyl	0.470			ug/l	0.500		94	45-120			
LCS Analyzed: 03/23/2011 (11C2988-BS2)											
Aroclor 1016	3.49	0.50	0.25	ug/l	4.00		87	50-115			MNR1
Aroclor 1260	3.42	0.50	0.25	ug/l	4.00		85	60-120			
Surrogate: Decachlorobiphenyl	0.509			ug/l	0.500		102	45-120			
LCS Dup Analyzed: 03/23/2011 (11C2988-BSD2)											
Aroclor 1016	3.46	0.50	0.25	ug/l	4.00		87	50-115	0.7	30	
Aroclor 1260	3.38	0.50	0.25	ug/l	4.00		84	60-120	1	25	
Surrogate: Decachlorobiphenyl	0.499			ug/l	0.500		100	45-120			

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3681 Extracted: 03/29/11											
Blank Analyzed: 03/29/2011 (11C3681-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 03/29/2011 (11C3681-BS1)											
Hexane Extractable Material (Oil & Grease)	18.7	5.0	1.4	mg/l	20.0		94	78-114			MNR1
LCS Dup Analyzed: 03/29/2011 (11C3681-BSD1)											
Hexane Extractable Material (Oil & Grease)	18.5	5.0	1.4	mg/l	20.0		92	78-114	1	11	

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C3102 Extracted: 03/23/11</u>											
Blank Analyzed: 03/23/2011 (11C3102-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/23/2011 (11C3102-BS1)											
Mercury	8.13	0.20	0.10	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 03/23/2011 (11C3102-MS1)											
						Source: IUC2145-01					
Mercury	8.13	0.20	0.10	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 03/23/2011 (11C3102-MSD1)											
						Source: IUC2145-01					
Mercury	8.00	0.20	0.10	ug/l	8.00	ND	100	70-130	2	20	
<u>Batch: 11C3239 Extracted: 03/24/11</u>											
Blank Analyzed: 03/24/2011-03/25/2011 (11C3239-BLK1)											
Arsenic	ND	10	7.0	ug/l							
Barium	ND	0.010	0.0060	mg/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.020	mg/l							
Calcium	ND	0.10	0.050	mg/l							
Chromium	ND	5.0	2.0	ug/l							
Cobalt	ND	10	2.0	ug/l							
Iron	ND	0.040	0.015	mg/l							
Magnesium	ND	0.020	0.012	mg/l							
Manganese	ND	20	7.0	ug/l							
Nickel	ND	10	2.0	ug/l							
Vanadium	ND	10	3.0	ug/l							
Zinc	ND	20.0	6.00	ug/l							

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3239 Extracted: 03/24/11											
LCS Analyzed: 03/24/2011-03/25/2011 (11C3239-BS1)											
Arsenic	544	10	7.0	ug/l	500		109	85-115			
Barium	0.538	0.010	0.0060	mg/l	0.500		108	85-115			
Beryllium	516	2.0	0.90	ug/l	500		103	85-115			
Boron	0.540	0.050	0.020	mg/l	0.500		108	85-115			
Calcium	2.71	0.10	0.050	mg/l	2.50		108	85-115			
Chromium	545	5.0	2.0	ug/l	500		109	85-115			
Cobalt	524	10	2.0	ug/l	500		105	85-115			
Iron	0.532	0.040	0.015	mg/l	0.500		106	85-115			
Magnesium	2.48	0.020	0.012	mg/l	2.50		99	85-115			
Manganese	530	20	7.0	ug/l	500		106	85-115			
Nickel	544	10	2.0	ug/l	500		109	85-115			
Vanadium	516	10	3.0	ug/l	500		103	85-115			
Zinc	541	20.0	6.00	ug/l	500		108	85-115			

Matrix Spike Analyzed: 03/24/2011-03/25/2011 (11C3239-MS1)

Source: IUC2091-01

Arsenic	544	10	7.0	ug/l	500	ND	109	70-130			
Barium	0.560	0.010	0.0060	mg/l	0.500	0.0272	106	70-130			
Beryllium	522	2.0	0.90	ug/l	500	ND	104	70-130			
Boron	0.668	0.050	0.020	mg/l	0.500	0.124	109	70-130			
Calcium	19.5	0.10	0.050	mg/l	2.50	17.2	91	70-130			MHA
Chromium	536	5.0	2.0	ug/l	500	ND	107	70-130			
Cobalt	513	10	2.0	ug/l	500	ND	103	70-130			
Iron	0.604	0.040	0.015	mg/l	0.500	0.0782	105	70-130			
Magnesium	10.0	0.020	0.012	mg/l	2.50	7.60	96	70-130			
Manganese	546	20	7.0	ug/l	500	18.7	106	70-130			
Nickel	527	10	2.0	ug/l	500	2.10	105	70-130			
Vanadium	516	10	3.0	ug/l	500	ND	103	70-130			
Zinc	538	20.0	6.00	ug/l	500	ND	108	70-130			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3239 Extracted: 03/24/11											
Matrix Spike Analyzed: 03/24/2011 (11C3239-MS2)						Source: IUC2091-02					
Arsenic	539	10	7.0	ug/l	500	ND	108	70-130			
Barium	0.532	0.010	0.0060	mg/l	0.500	ND	106	70-130			
Beryllium	514	2.0	0.90	ug/l	500	ND	103	70-130			
Boron	0.643	0.050	0.020	mg/l	0.500	0.113	106	70-130			
Calcium	3.15	0.10	0.050	mg/l	2.50	0.476	107	70-130			
Chromium	546	5.0	2.0	ug/l	500	ND	109	70-130			
Cobalt	515	10	2.0	ug/l	500	ND	103	70-130			
Iron	0.529	0.040	0.015	mg/l	0.500	ND	106	70-130			
Magnesium	3.16	0.020	0.012	mg/l	2.50	0.265	116	70-130			
Manganese	534	20	7.0	ug/l	500	ND	107	70-130			
Nickel	525	10	2.0	ug/l	500	ND	105	70-130			
Vanadium	513	10	3.0	ug/l	500	ND	103	70-130			
Zinc	528	20.0	6.00	ug/l	500	ND	106	70-130			
Matrix Spike Dup Analyzed: 03/24/2011-03/25/2011 (11C3239-MSD1)						Source: IUC2091-01					
Arsenic	547	10	7.0	ug/l	500	ND	109	70-130	0.5	20	
Barium	0.555	0.010	0.0060	mg/l	0.500	0.0272	106	70-130	0.9	20	
Beryllium	523	2.0	0.90	ug/l	500	ND	105	70-130	0.3	20	
Boron	0.661	0.050	0.020	mg/l	0.500	0.124	107	70-130	1	20	
Calcium	19.3	0.10	0.050	mg/l	2.50	17.2	83	70-130	1	20	MHA
Chromium	537	5.0	2.0	ug/l	500	ND	107	70-130	0.2	20	
Cobalt	515	10	2.0	ug/l	500	ND	103	70-130	0.4	20	
Iron	0.604	0.040	0.015	mg/l	0.500	0.0782	105	70-130	0.007	20	
Magnesium	9.74	0.020	0.012	mg/l	2.50	7.60	86	70-130	3	20	
Manganese	546	20	7.0	ug/l	500	18.7	105	70-130	0.03	20	
Nickel	522	10	2.0	ug/l	500	2.10	104	70-130	0.9	20	
Vanadium	517	10	3.0	ug/l	500	ND	103	70-130	0.2	20	
Zinc	537	20.0	6.00	ug/l	500	ND	107	70-130	0.2	20	

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 Received: 03/21/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 11C3768 Extracted: 03/29/11											
Blank Analyzed: 03/29/2011 (11C3768-BLK1)											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.00	0.500	ug/l							
Lead	ND	1.0	0.20	ug/l							
Selenium	ND	2.0	0.50	ug/l							
Silver	ND	1.0	0.10	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/29/2011 (11C3768-BS1)											
Antimony	81.0	2.0	0.30	ug/l	80.0		101	85-115			
Cadmium	82.1	1.0	0.10	ug/l	80.0		103	85-115			
Copper	83.4	2.00	0.500	ug/l	80.0		104	85-115			
Lead	84.2	1.0	0.20	ug/l	80.0		105	85-115			
Selenium	82.7	2.0	0.50	ug/l	80.0		103	85-115			
Silver	82.6	1.0	0.10	ug/l	80.0		103	85-115			
Thallium	83.4	1.0	0.20	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 03/29/2011 (11C3768-MS1) Source: IUC2664-05											
Antimony	83.6	2.0	0.30	ug/l	80.0	1.30	103	70-130			
Cadmium	78.1	1.0	0.10	ug/l	80.0	0.109	97	70-130			
Copper	77.0	2.00	0.500	ug/l	80.0	5.33	90	70-130			
Lead	80.2	1.0	0.20	ug/l	80.0	1.17	99	70-130			
Selenium	120	2.0	0.50	ug/l	80.0	42.6	96	70-130			
Silver	79.8	1.0	0.10	ug/l	80.0	ND	100	70-130			
Thallium	79.0	1.0	0.20	ug/l	80.0	ND	99	70-130			
Matrix Spike Analyzed: 03/29/2011 (11C3768-MS2) Source: IUC2664-06											
Antimony	84.4	2.0	0.30	ug/l	80.0	1.45	104	70-130			
Cadmium	77.3	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	79.4	2.00	0.500	ug/l	80.0	29.1	63	70-130			M2
Lead	79.5	1.0	0.20	ug/l	80.0	1.02	98	70-130			
Selenium	105	2.0	0.50	ug/l	80.0	29.5	94	70-130			
Silver	79.5	1.0	0.10	ug/l	80.0	ND	99	70-130			
Thallium	78.8	1.0	0.20	ug/l	80.0	ND	98	70-130			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3768 Extracted: 03/29/11											
Matrix Spike Dup Analyzed: 03/29/2011 (11C3768-MSD1)						Source: IUC2664-05					
Antimony	84.2	2.0	0.30	ug/l	80.0	1.30	104	70-130	0.7	20	
Cadmium	77.6	1.0	0.10	ug/l	80.0	0.109	97	70-130	0.7	20	
Copper	77.9	2.00	0.500	ug/l	80.0	5.33	91	70-130	1	20	
Lead	80.5	1.0	0.20	ug/l	80.0	1.17	99	70-130	0.3	20	
Selenium	118	2.0	0.50	ug/l	80.0	42.6	94	70-130	2	20	
Silver	79.8	1.0	0.10	ug/l	80.0	ND	100	70-130	0.02	20	
Thallium	78.6	1.0	0.20	ug/l	80.0	ND	98	70-130	0.5	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C3083 Extracted: 03/23/11</u>											
Blank Analyzed: 03/23/2011 (11C3083-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/23/2011 (11C3083-BS1)											
Mercury	7.87	0.20	0.10	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/23/2011 (11C3083-MS1)											
						Source: IUC2139-03					
Mercury	7.77	0.20	0.10	ug/l	8.00	ND	97	70-130			
Matrix Spike Dup Analyzed: 03/23/2011 (11C3083-MSD1)											
						Source: IUC2139-03					
Mercury	7.76	0.20	0.10	ug/l	8.00	ND	97	70-130	0.2	20	
<u>Batch: 11C3506 Extracted: 03/26/11</u>											
Blank Analyzed: 03/28/2011-03/29/2011 (11C3506-BLK1)											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.00	0.500	ug/l							
Lead	ND	1.0	0.20	ug/l							
Selenium	ND	2.0	0.50	ug/l							
Silver	ND	1.0	0.10	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/28/2011-03/29/2011 (11C3506-BS1)											
Antimony	80.1	2.0	0.30	ug/l	80.0		100	85-115			
Cadmium	79.3	1.0	0.10	ug/l	80.0		99	85-115			
Copper	84.1	2.00	0.500	ug/l	80.0		105	85-115			
Lead	78.6	1.0	0.20	ug/l	80.0		98	85-115			
Selenium	79.7	2.0	0.50	ug/l	80.0		100	85-115			
Silver	79.5	1.0	0.10	ug/l	80.0		99	85-115			
Thallium	78.5	1.0	0.20	ug/l	80.0		98	85-115			

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3506 Extracted: 03/26/11											
Matrix Spike Analyzed: 03/28/2011-03/29/2011 (11C3506-MS1)						Source: IUC2142-02					
Antimony	78.6	2.0	0.30	ug/l	80.0	0.723	97	70-130			
Cadmium	77.2	1.0	0.10	ug/l	80.0	ND	96	70-130			
Copper	83.9	2.00	0.500	ug/l	80.0	1.96	102	70-130			
Lead	76.8	1.0	0.20	ug/l	80.0	0.555	95	70-130			
Selenium	74.2	2.0	0.50	ug/l	80.0	ND	93	70-130			
Silver	77.7	1.0	0.10	ug/l	80.0	ND	97	70-130			
Thallium	74.8	1.0	0.20	ug/l	80.0	ND	94	70-130			
Matrix Spike Analyzed: 03/28/2011-03/29/2011 (11C3506-MS2)						Source: IUC2141-02					
Antimony	78.7	2.0	0.30	ug/l	80.0	ND	98	70-130			
Cadmium	77.0	1.0	0.10	ug/l	80.0	ND	96	70-130			
Copper	83.9	2.00	0.500	ug/l	80.0	2.04	102	70-130			
Lead	76.2	1.0	0.20	ug/l	80.0	ND	95	70-130			
Selenium	73.3	2.0	0.50	ug/l	80.0	ND	92	70-130			
Silver	79.0	1.0	0.10	ug/l	80.0	ND	99	70-130			
Thallium	75.5	1.0	0.20	ug/l	80.0	ND	94	70-130			
Matrix Spike Dup Analyzed: 03/28/2011-03/29/2011 (11C3506-MSD1)						Source: IUC2142-02					
Antimony	79.8	2.0	0.30	ug/l	80.0	0.723	99	70-130	2	20	
Cadmium	78.2	1.0	0.10	ug/l	80.0	ND	98	70-130	1	20	
Copper	84.8	2.00	0.500	ug/l	80.0	1.96	104	70-130	1	20	
Lead	76.6	1.0	0.20	ug/l	80.0	0.555	95	70-130	0.3	20	
Selenium	73.5	2.0	0.50	ug/l	80.0	ND	92	70-130	1	20	
Silver	78.1	1.0	0.10	ug/l	80.0	ND	98	70-130	0.6	20	
Thallium	75.2	1.0	0.20	ug/l	80.0	ND	94	70-130	0.5	20	

Batch: 11C3776 Extracted: 03/29/11

Blank Analyzed: 03/29/2011 (11C3776-BLK1)

Arsenic	ND	10	7.0	ug/l							
Barium	ND	0.010	0.0060	mg/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.020	mg/l							
Calcium	ND	0.10	0.050	mg/l							
Chromium	ND	5.0	2.0	ug/l							
Cobalt	ND	10	2.0	ug/l							
Iron	ND	0.040	0.015	mg/l							

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3776 Extracted: 03/29/11											
Blank Analyzed: 03/29/2011 (11C3776-BLK1)											
Magnesium	ND	0.020	0.012	mg/l							
Manganese	ND	20	7.0	ug/l							
Nickel	ND	10	2.0	ug/l							
Vanadium	ND	10	3.0	ug/l							
Zinc	ND	20.0	6.00	ug/l							
LCS Analyzed: 03/29/2011 (11C3776-BS1)											
Arsenic	529	10	7.0	ug/l	500		106	85-115			
Barium	0.509	0.010	0.0060	mg/l	0.500		102	85-115			
Beryllium	504	2.0	0.90	ug/l	500		101	85-115			
Boron	0.517	0.050	0.020	mg/l	0.500		103	85-115			
Calcium	2.58	0.10	0.050	mg/l	2.50		103	85-115			
Chromium	540	5.0	2.0	ug/l	500		108	85-115			
Cobalt	477	10	2.0	ug/l	500		95	85-115			
Iron	0.504	0.040	0.015	mg/l	0.500		101	85-115			
Magnesium	2.58	0.020	0.012	mg/l	2.50		103	85-115			
Manganese	518	20	7.0	ug/l	500		104	85-115			
Nickel	503	10	2.0	ug/l	500		101	85-115			
Vanadium	498	10	3.0	ug/l	500		100	85-115			
Zinc	514	20.0	6.00	ug/l	500		103	85-115			
Matrix Spike Analyzed: 03/29/2011 (11C3776-MS1)											
						Source: IUC2464-02					
Arsenic	533	10	7.0	ug/l	500	7.60	105	70-130			
Barium	0.587	0.010	0.0060	mg/l	0.500	0.0778	102	70-130			
Beryllium	509	2.0	0.90	ug/l	500	ND	102	70-130			
Boron	0.565	0.050	0.020	mg/l	0.500	0.0421	105	70-130			
Calcium	34.8	0.10	0.050	mg/l	2.50	32.3	102	70-130			MHA
Chromium	538	5.0	2.0	ug/l	500	7.12	106	70-130			
Cobalt	474	10	2.0	ug/l	500	ND	95	70-130			
Iron	0.505	0.040	0.015	mg/l	0.500	ND	101	70-130			
Magnesium	24.0	0.020	0.012	mg/l	2.50	21.0	120	70-130			MHA
Manganese	515	20	7.0	ug/l	500	ND	103	70-130			
Nickel	502	10	2.0	ug/l	500	2.22	100	70-130			
Vanadium	511	10	3.0	ug/l	500	10.6	100	70-130			
Zinc	518	20.0	6.00	ug/l	500	ND	104	70-130			

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3776 Extracted: 03/29/11											
Matrix Spike Dup Analyzed: 03/29/2011 (11C3776-MSD1)						Source: IUC2464-02					
Arsenic	540	10	7.0	ug/l	500	7.60	106	70-130	1	20	
Barium	0.594	0.010	0.0060	mg/l	0.500	0.0778	103	70-130	1	20	
Beryllium	517	2.0	0.90	ug/l	500	ND	103	70-130	1	20	
Boron	0.573	0.050	0.020	mg/l	0.500	0.0421	106	70-130	1	20	
Calcium	35.4	0.10	0.050	mg/l	2.50	32.3	124	70-130	2	20	MHA
Chromium	550	5.0	2.0	ug/l	500	7.12	109	70-130	2	20	
Cobalt	481	10	2.0	ug/l	500	ND	96	70-130	1	20	
Iron	0.511	0.040	0.015	mg/l	0.500	ND	102	70-130	1	20	
Magnesium	23.5	0.020	0.012	mg/l	2.50	21.0	99	70-130	2	20	MHA
Manganese	522	20	7.0	ug/l	500	ND	104	70-130	1	20	
Nickel	503	10	2.0	ug/l	500	2.22	100	70-130	0.3	20	
Vanadium	518	10	3.0	ug/l	500	10.6	102	70-130	1	20	
Zinc	527	20.0	6.00	ug/l	500	ND	105	70-130	2	20	

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DISSOLVED INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2890 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2890-BLK1)											
Chromium VI	ND	1.00	0.250	ug/l							
LCS Analyzed: 03/22/2011 (11C2890-BS1)											
Chromium VI	48.0	1.00	0.250	ug/l	50.0		96	90-110			
Matrix Spike Analyzed: 03/22/2011 (11C2890-MS1)											
						Source: IUC2187-01					
Chromium VI	47.9	1.00	0.250	ug/l	50.0	ND	96	90-110			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2890-MSD1)											
						Source: IUC2187-01					
Chromium VI	48.1	1.00	0.250	ug/l	50.0	ND	96	90-110	0.4	10	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C2823 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2823-BLK1)											
Total Dissolved Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/22/2011 (11C2823-BS1)											
Total Dissolved Solids	998	10	1.0	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/22/2011 (11C2823-DUP1)											
						Source: IUC2198-02					
Total Dissolved Solids	509	10	1.0	mg/l		513			0.8	10	
<u>Batch: 11C2825 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2825-BLK1)											
Specific Conductance	ND	1.0	1.0	hos/cm @ 2							
LCS Analyzed: 03/22/2011 (11C2825-BS1)											
Specific Conductance	1390	1.0	1.0	hos/cm @ 2	1410		99	90-110			
Duplicate Analyzed: 03/22/2011 (11C2825-DUP1)											
						Source: IUC2205-01					
Specific Conductance	49.4	1.0	1.0	hos/cm @ 2		49.0			0.8	5	
<u>Batch: 11C2871 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2871-BLK1)											
Perchlorate	ND	1.0	0.90	ug/l							
LCS Analyzed: 03/22/2011 (11C2871-BS1)											
Perchlorate	26.0	1.0	0.90	ug/l	25.0		104	85-115			

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C2871 Extracted: 03/22/11</u>											
Matrix Spike Analyzed: 03/22/2011 (11C2871-MS1)						Source: IUC2009-01					
Perchlorate	26.1	1.0	0.90	ug/l	25.0	ND	104	80-120			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2871-MSD1)						Source: IUC2009-01					
Perchlorate	26.3	1.0	0.90	ug/l	25.0	ND	105	80-120	0.6	20	
<u>Batch: 11C2881 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2881-BLK1)											
Turbidity	ND	1.0	0.040	NTU							
Duplicate Analyzed: 03/22/2011 (11C2881-DUP1)						Source: IUC2139-03					
Turbidity	29.9	1.0	0.040	NTU		29.9			0	20	
Duplicate Analyzed: 03/22/2011 (11C2881-DUP2)						Source: IUC2220-12					
Turbidity	0.280	1.0	0.040	NTU		0.270			4	20	J
<u>Batch: 11C2884 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2884-BLK1)											
Chloride	ND	0.50	0.30	mg/l							
Nitrate-N	ND	0.11	0.060	mg/l							
Nitrite-N	ND	0.15	0.090	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/22/2011 (11C2884-BS1)											
Chloride	4.94	0.50	0.30	mg/l	5.00		99	90-110			M-3
Nitrate-N	1.12	0.11	0.060	mg/l	1.13		99	90-110			
Nitrite-N	1.43	0.15	0.090	mg/l	1.52		94	90-110			
Sulfate	9.96	0.50	0.30	mg/l	10.0		100	90-110			

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2884 Extracted: 03/22/11											
Matrix Spike Analyzed: 03/22/2011 (11C2884-MS1)						Source: IUC2181-03					
Chloride	7.84	0.50	0.30	mg/l	5.00	3.16	94	80-120			
Nitrate-N	1.55	0.11	0.060	mg/l	1.13	0.453	97	80-120			
Nitrite-N	1.41	0.15	0.090	mg/l	1.52	ND	93	80-120			
Sulfate	13.8	0.50	0.30	mg/l	10.0	4.18	96	80-120			
Matrix Spike Analyzed: 03/22/2011 (11C2884-MS2)						Source: IUC2320-01					
Nitrate-N	3.76	0.22	0.12	mg/l	1.13	2.81	84	80-120			
Nitrite-N	1.67	0.30	0.18	mg/l	1.52	ND	110	80-120			
Sulfate	48.2	1.0	0.60	mg/l	10.0	38.8	95	80-120			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2884-MSD1)						Source: IUC2181-03					
Chloride	8.21	0.50	0.30	mg/l	5.00	3.16	101	80-120	5	20	
Nitrate-N	1.59	0.11	0.060	mg/l	1.13	0.453	101	80-120	3	20	
Nitrite-N	1.50	0.15	0.090	mg/l	1.52	ND	99	80-120	6	20	
Sulfate	14.3	0.50	0.30	mg/l	10.0	4.18	101	80-120	4	20	
Batch: 11C2910 Extracted: 03/22/11											
Blank Analyzed: 03/27/2011 (11C2910-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.50	mg/l							
LCS Analyzed: 03/27/2011 (11C2910-BS1)											
Biochemical Oxygen Demand	198	100	25	mg/l	198		100	85-115			
LCS Dup Analyzed: 03/27/2011 (11C2910-BSD1)											
Biochemical Oxygen Demand	206	100	25	mg/l	198		104	85-115	3	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C2931 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2931-BLK1)											
Surfactants (MBAS)	ND	0.10	0.050	mg/l							
LCS Analyzed: 03/22/2011 (11C2931-BS1)											
Surfactants (MBAS)	0.250	0.10	0.050	mg/l	0.250		100	90-110			
Matrix Spike Analyzed: 03/22/2011 (11C2931-MS1)											
						Source: IUC2139-03					
Surfactants (MBAS)	0.244	0.10	0.050	mg/l	0.250	ND	98	50-125			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2931-MSD1)											
						Source: IUC2139-03					
Surfactants (MBAS)	0.262	0.10	0.050	mg/l	0.250	ND	105	50-125	7	20	
<u>Batch: 11C2967 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2967-BLK1)											
Ammonia-N (Distilled)	ND	0.500	0.500	mg/l							
LCS Analyzed: 03/22/2011 (11C2967-BS1)											
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0		98	80-115			
Matrix Spike Analyzed: 03/22/2011 (11C2967-MS1)											
						Source: IUC2139-03					
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0	ND	98	70-120			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2967-MSD1)											
						Source: IUC2139-03					
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0	ND	98	70-120	0	15	
<u>Batch: 11C2979 Extracted: 03/22/11</u>											
Blank Analyzed: 03/22/2011 (11C2979-BLK1)											
Total Suspended Solids	ND	10	1.0	mg/l							

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C2979 Extracted: 03/22/11</u>											
LCS Analyzed: 03/22/2011 (11C2979-BS1)											
Total Suspended Solids	1060	10	1.0	mg/l	1000		106	85-115			
Duplicate Analyzed: 03/22/2011 (11C2979-DUP1)											
						Source: IUC2181-03					
Total Suspended Solids	57.0	10	1.0	mg/l		57.0			0	10	
<u>Batch: 11C2985 Extracted: 03/23/11</u>											
Blank Analyzed: 03/23/2011 (11C2985-BLK1)											
Total Organic Carbon	ND	1.0	0.50	mg/l							
LCS Analyzed: 03/23/2011 (11C2985-BS1)											
Total Organic Carbon	10.4	1.0	0.50	mg/l	10.0		104	90-110			
Matrix Spike Analyzed: 03/23/2011 (11C2985-MS1)											
						Source: IUC2188-02					
Total Organic Carbon	11.1	1.0	0.50	mg/l	5.00	6.08	100	80-120			
Matrix Spike Dup Analyzed: 03/23/2011 (11C2985-MSD1)											
						Source: IUC2188-02					
Total Organic Carbon	11.3	1.0	0.50	mg/l	5.00	6.08	105	80-120	2	20	
<u>Batch: 11C2986 Extracted: 03/23/11</u>											
Blank Analyzed: 03/23/2011 (11C2986-BLK1)											
Fluoride	ND	0.10	0.020	mg/l							
LCS Analyzed: 03/23/2011 (11C2986-BS1)											
Fluoride	1.07	0.10	0.020	mg/l	1.00		107	90-110			

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C2986 Extracted: 03/23/11</u>											
Matrix Spike Analyzed: 03/23/2011 (11C2986-MS1)						Source: IUC2105-01					
Fluoride	1.29	0.10	0.020	mg/l	1.00	0.336	95	80-120			
Matrix Spike Dup Analyzed: 03/23/2011 (11C2986-MSD1)						Source: IUC2105-01					
Fluoride	1.33	0.10	0.020	mg/l	1.00	0.336	99	80-120	3	20	
<u>Batch: 11C3806 Extracted: 03/29/11</u>											
Blank Analyzed: 03/29/2011 (11C3806-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/29/2011 (11C3806-BS1)											
Total Cyanide	202	5.0	2.2	ug/l	196		103	90-110			
Matrix Spike Analyzed: 03/29/2011 (11C3806-MS1)						Source: IUC2181-03					
Total Cyanide	206	5.0	2.2	ug/l	196	ND	105	70-115			
Matrix Spike Dup Analyzed: 03/29/2011 (11C3806-MSD1)						Source: IUC2181-03					
Total Cyanide	207	5.0	2.2	ug/l	196	ND	106	70-115	0.9	15	

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900

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8679 Extracted: 03/31/11											
LCS Analyzed: 03/31/2011 (S103143-02)											
Gross Alpha	122	3	1.21	pCi/L	101		121	70-130			
Gross Beta	83.8	4	3.06	pCi/L	87.1		96	70-130			
Blank Analyzed: 03/31/2011 (S103143-03)											
Gross Alpha	0.261	3	1.85	pCi/L				-			U
Gross Beta	-0.333	4	2.4	pCi/L				-			U
Duplicate Analyzed: 03/31/2011 (S103143-04)											
Gross Alpha	1.94	3	0.434	pCi/L				-	15		Jb
Gross Beta	6.74	4	0.831	pCi/L				-	8		

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8679 Extracted: 03/24/11											
LCS Analyzed: 03/31/2011 (S103143-02)											
Cobalt-60	123	10	2.5	pCi/L	124		99	80-120			
Cesium-137	118	20	3.18	pCi/L	110		107	80-120			
Blank Analyzed: 03/31/2011 (S103143-03)											
Cesium-137	ND	20	2.34	pCi/L				-			U
Potassium-40	ND	25	47.4	pCi/L				-			U
Duplicate Analyzed: 03/31/2011 (S103143-04)											
Cesium-134	ND	20	3.68	pCi/L				-	0		U
Cesium-137	ND	20	1.17	pCi/L				-	0		U
Potassium-40	ND	25	15.8	pCi/L				-	0		U

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METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8679 Extracted: 04/05/11											
LCS Analyzed: 04/05/2011 (S103143-02)											
Radium-226	49	1	0.859	pCi/L	55.7		88	80-120			
Blank Analyzed: 04/05/2011 (S103143-03)											
Radium-226	0.031	1	0.8	pCi/L				-			U
Duplicate Analyzed: 04/05/2011 (S103143-04)											
Radium-226	0.283	1	0.711	pCi/L				-	0		U

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METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8679 Extracted: 04/07/11											
LCS Analyzed: 04/07/2011 (S103143-02)											
Radium-228	3.92	1	0.432	pCi/L	5.01		78	60-140			
Blank Analyzed: 04/07/2011 (S103143-03)											
Radium-228	-0.153	1	0.434	pCi/L				-			U
Duplicate Analyzed: 04/07/2011 (S103143-04)											
Radium-228	0.235	1	0.402	pCi/L				-	0		U

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905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8679 Extracted: 04/01/11											
LCS Analyzed: 04/01/2011 (S103143-02)											
Strontium-90	19.7	2	0.576	pCi/L	17.4		113	80-120			
Blank Analyzed: 04/01/2011 (S103143-03)											
Strontium-90	0.045	2	0.468	pCi/L				-			U
Duplicate Analyzed: 04/01/2011 (S103143-04)											
Strontium-90	0.078	2	0.717	pCi/L				-	0		U

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906

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8679 Extracted: 03/30/11											
LCS Analyzed: 03/30/2011 (S103143-02)											
Tritium	2150	500	166	pCi/L	2350		91	80-120			
Blank Analyzed: 03/30/2011 (S103143-03)											
Tritium	-30.1	500	163	pCi/L				-			U
Duplicate Analyzed: 03/30/2011 (S103143-04)											
Tritium	-10.9	500	168	pCi/L				-	0		U

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ASTM-D5174

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8679 Extracted: 03/29/11											
LCS Analyzed: 03/29/2011 (S103143-02)											
Uranium, Total	55.3	1	0.205	pCi/L	56.5		98	80-120			
Blank Analyzed: 03/29/2011 (S103143-03)											
Uranium, Total	ND	1	0.02	pCi/L				-			U
Duplicate Analyzed: 03/29/2011 (S103143-04)											
Uranium, Total	0.292	1	0.02	pCi/L				-	9		Jb

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1083190 Extracted: 03/24/11											
Blank Analyzed: 03/25/2011 (G1C240000190B)						Source:					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	0.0000013	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	0.00000066	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.00000096	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	0.00000068	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	0.00000062	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	0.00000065	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	0.00000033	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	0.00000058	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.00000043	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.00000091	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.00000087	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.00000032	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000009	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.00000052	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.00000012	ug/L				-			
OCDD	2.2e-006	0.0001	0.00000019	ug/L				-			J
OCDF	ND	0.0001	0.00000021	ug/L				-			
Total HpCDD	ND	0.00005	0.00000013	ug/L				-			
Total HpCDF	ND	0.00005	0.00000066	ug/L				-			
Total HxCDD	ND	0.00005	0.00000058	ug/L				-			
Total HxCDF	ND	0.00005	0.00000032	ug/L				-			
Total PeCDD	ND	0.00005	0.00000091	ug/L				-			
Total PeCDF	ND	0.00005	0.00000087	ug/L				-			
Total TCDD	ND	0.00001	0.00000052	ug/L				-			
Total TCDF	ND	0.00001	0.00000012	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0012			ug/L	0.002		61	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0011			ug/L	0.002		57	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.001			ug/L	0.002		52	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0011			ug/L	0.002		55	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0011			ug/L	0.002		55	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0013			ug/L	0.002		64	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0013			ug/L	0.002		65	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0012			ug/L	0.002		61	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0013			ug/L	0.002		65	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0011			ug/L	0.002		53	24-185			

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EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1083190 Extracted: 03/24/11											
Blank Analyzed: 03/25/2011 (G1C240000190B)						Source:					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0013			ug/L	0.002		65	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0011			ug/L	0.002		56	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0011			ug/L	0.002		53	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0012			ug/L	0.002		58	24-169			
Surrogate: 13C-OCDD	0.0024			ug/L	0.004		61	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00066			ug/L	0.0008		82	35-197			
LCS Analyzed: 03/25/2011 (G1C240000190C)						Source:					
1,2,3,4,6,7,8-HpCDD	0.00107	0.00005	0.0000086	ug/L	0.001		107	70-140			
1,2,3,4,6,7,8-HpCDF	0.00109	0.00005	0.0000018	ug/L	0.001		109	82-122			
1,2,3,4,7,8,9-HpCDF	0.00114	0.00005	0.0000027	ug/L	0.001		114	78-138			
1,2,3,4,7,8-HxCDD	0.00109	0.00005	0.00000078	ug/L	0.001		109	70-164			
1,2,3,4,7,8-HxCDF	0.00107	0.00005	0.0000053	ug/L	0.001		107	72-134			
1,2,3,6,7,8-HxCDD	0.0011	0.00005	0.00000071	ug/L	0.001		110	76-134			
1,2,3,6,7,8-HxCDF	0.0011	0.00005	0.0000048	ug/L	0.001		110	84-130			
1,2,3,7,8,9-HxCDD	0.00121	0.00005	0.00000065	ug/L	0.001		121	64-162			
1,2,3,7,8,9-HxCDF	0.00111	0.00005	0.0000064	ug/L	0.001		111	78-130			
1,2,3,7,8-PeCDD	0.000988	0.00005	0.0000025	ug/L	0.001		99	70-142			
1,2,3,7,8-PeCDF	0.00112	0.00005	0.0000034	ug/L	0.001		112	80-134			
2,3,4,6,7,8-HxCDF	0.0011	0.00005	0.0000047	ug/L	0.001		110	70-156			
2,3,4,7,8-PeCDF	0.00109	0.00005	0.0000036	ug/L	0.001		109	68-160			
2,3,7,8-TCDD	0.000219	0.00001	0.0000014	ug/L	0.0002		110	67-158			
2,3,7,8-TCDF	0.000263	0.00001	0.0000015	ug/L	0.0002		132	75-158			
OCDD	0.00207	0.0001	0.000014	ug/L	0.002		103	78-144			Ba
OCDF	0.00204	0.0001	0.000011	ug/L	0.002		102	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.000957			ug/L	0.002		48	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.000967			ug/L	0.002		48	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.000872			ug/L	0.002		44	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.000944			ug/L	0.002		47	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00102			ug/L	0.002		51	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00111			ug/L	0.002		56	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00109			ug/L	0.002		55	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00104			ug/L	0.002		52	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00111			ug/L	0.002		56	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00095			ug/L	0.002		48	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0011			ug/L	0.002		55	22-176			

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 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
 Annual Outfall 001
 Report Number: IUC2181

Sampled: 03/20/11-03/21/11
 Received: 03/21/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1083190 Extracted: 03/24/11											
LCS Analyzed: 03/25/2011 (G1C240000190C)											
Surrogate: 13C-2,3,4,7,8-PeCDF	0.000997			ug/L	0.002		50	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.000983			ug/L	0.002		49	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00103			ug/L	0.002		51	22-152			
Surrogate: 13C-OCDD	0.00197			ug/L	0.004		49	13-199			
Surrogate: 37C14-2,3,7,8-TCDD	0.000667			ug/L	0.0008		83	31-191			

TestAmerica Irvine

Debby Wilson
 Project Manager

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MWH-Pasadena/Boeing
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Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC2181-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.8	15
IUC2181-01	624-Reg-X-2+c12DCE, LOW	1,1-Dichloroethene	ug/l	0	0.50	6
IUC2181-01	624-Reg-X-2+c12DCE, LOW	1,2-Dichloroethane	ug/l	0	0.50	0.5
IUC2181-01	624-Reg-X-2+c12DCE, LOW	Trichloroethene	ug/l	0	0.50	5
IUC2181-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0.100	0.10	0.3

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC2181-02	624-Reg-X-2+c12DCE, LOW	1,1-Dichloroethene	ug/l	0	0.50	6
IUC2181-02	624-Reg-X-2+c12DCE, LOW	1,2-Dichloroethane	ug/l	0	0.50	0.5
IUC2181-02	624-Reg-X-2+c12DCE, LOW	Trichloroethene	ug/l	0	0.50	5

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC2181-03	608-Pesticides (LL)	alpha-BHC	ug/l	0.0013	0.0047	0.03
IUC2181-03	625+NDMA, LL	2,4,6-Trichlorophenol	ug/l	0	0.943	13
IUC2181-03	625+NDMA, LL	2,4-Dinitrotoluene	ug/l	0	4.72	18
IUC2181-03	625+NDMA, LL	Bis(2-ethylhexyl)phthalate	ug/l	0.30	4.72	4
IUC2181-03	625+NDMA, LL	N-Nitrosodimethylamine	ug/l	0	1.89	16
IUC2181-03	625+NDMA, LL	Pentachlorophenol	ug/l	0	1.89	16.5
IUC2181-03	Ammonia-N, Titr 4500NH3-C (w/di	Ammonia-N (Distilled)	mg/l	0	0.500	10.1
IUC2181-03	Antimony-200.8	Antimony	ug/l	0.45	2.0	6
IUC2181-03	Arsenic-200.7	Arsenic	ug/l	7.14	10	10
IUC2181-03	Barium-200.7	Barium	mg/l	0.043	0.010	1
IUC2181-03	Beryllium-200.7	Beryllium	ug/l	0.46	2.0	4
IUC2181-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	1.95	2.0	30
IUC2181-03	Cadmium-200.8	Cadmium	ug/l	0.10	1.0	3.1
IUC2181-03	Chloride - 300.0	Chloride	mg/l	3.16	0.50	150
IUC2181-03	Chromium VI-218.6	Chromium VI	ug/l	0	1.00	16
IUC2181-03	Copper-200.8	Copper	ug/l	5.31	2.00	14
IUC2181-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-1	5.0	8.5

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IUC2181-03	Fluoride SM4500F,C	Fluoride	mg/l	0.22	0.10	1.6
IUC2181-03	Iron-200.7	Iron	mg/l	5.69	0.040	0.3
IUC2181-03	Lead-200.8	Lead	ug/l	4.10	1.0	5.2
IUC2181-03	Manganese-200.7	Manganese	ug/l	81	20	50
IUC2181-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.025	0.10	0.5
IUC2181-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1
IUC2181-03	Nickel-200.7	Nickel	ug/l	6.53	10	96
IUC2181-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.45	0.11	8
IUC2181-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
IUC2181-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.45	0.26	8
IUC2181-03	Perchlorate 314.0 (1ppb_IC6)	Perchlorate	ug/l	0	1.0	6
IUC2181-03	Selenium-200.8	Selenium	ug/l	0.30	2.0	5
IUC2181-03	Silver-200.8	Silver	ug/l	0.051	1.0	4.1
IUC2181-03	Sulfate-300.0	Sulfate	mg/l	4.18	0.50	300
IUC2181-03	TDS - SM2540C	Total Dissolved Solids	mg/l	110	10	950
IUC2181-03	Thallium-200.8	Thallium	ug/l	0.047	1.0	2
IUC2181-03	TSS - SM2540D	Total Suspended Solids	mg/l	57	10	45
IUC2181-03	Zinc-200.7	Zinc	ug/l	27	20.0	119

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Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
Ba	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
H3	Sample was received and analyzed past holding time.
J	Estimated result. Result is less than the reporting limit.
Jb	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
L6	Per the EPA methods, benzidine is known to be subject to oxidative losses during solvent concentration.
M13	The sample spiked had a pH of less than 2. 2-Chloroethylvinylether degrades under acidic conditions.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M-3	Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
Q	Estimated maximum possible concentration (EMPC).
U	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
Z2	Surrogate recovery was above the acceptance limits. Data not impacted.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

For GRO (C4-C12):

GRO (C4-C12) is quantitated against a gasoline standard. Quantitation begins immediately following the methanol peak.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

TestAmerica Irvine

Debby Wilson
Project Manager

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Sampled: 03/20/11-03/21/11
Received: 03/21/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 120.1	Water	X	X
EPA 1664A	Water	X	X
EPA 180.1	Water	X	N/A
EPA 200.7-Diss	Water	X	N/A
EPA 200.7	Water	X	N/A
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 218.6	Water	X	X
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
EPA 314.0	Water	X	N/A
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
EPA 8015 Mod.	Water	X	X
EPA 8015B	Water	X	X
EPA 8260B-SIM	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM 4500-F-C	Water	X	N/A
SM2340B-Diss	Water		
SM2340B	Water	X	N/A
SM2540C	Water	X	N/A
SM2540F	Water	X	X
SM4500CN-E	Water	X	N/A
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5310B	Water	X	X
SM5540-C	Water	X	N/A
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

TestAmerica Irvine

Debby Wilson
Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-Acute 96hr
Samples: IUC2181-01

Analysis Performed: Level 4 Data Package
Samples: IUC2181-01

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC2181 <Page 78 of 80>

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
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Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUC2181-03

Analysis Performed: Gross Alpha
Samples: IUC2181-03

Analysis Performed: Gross Beta
Samples: IUC2181-03

Analysis Performed: Level 4 Data Package
Samples: IUC2181-03

Analysis Performed: Radium, Combined
Samples: IUC2181-03

Analysis Performed: Strontium 90
Samples: IUC2181-03

Analysis Performed: Tritium
Samples: IUC2181-03

Analysis Performed: Uranium, Combined
Samples: IUC2181-03

Method Performed: 900
Samples: IUC2181-03

Method Performed: 901.1
Samples: IUC2181-03

Method Performed: 903.1
Samples: IUC2181-03

Method Performed: 904
Samples: IUC2181-03

Method Performed: 905
Samples: IUC2181-03

Method Performed: 906
Samples: IUC2181-03

Method Performed: D5174
Samples: IUC2181-03

TestAmerica Irvine

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Project Manager

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Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2181

Sampled: 03/20/11-03/21/11
Received: 03/21/11

TestAmerica West Sacramento *NELAC Cert #1119CA, Nevada Cert #CA44*

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUC2181-03

Truesdail Laboratories-SUB *California Cert #1237*

14201 Franklin Avenue - Tustin, CA 92680

Analysis Performed: Hydrazine
Samples: IUC2181-03

TestAmerica Irvine

Debby Wilson
Project Manager

LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: March 27, 2011
Client: Test America – Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

Laboratory No.: A-11032206-001
Sample ID.: IUC2181-01

Sample Control: The sample was received by ATL in a chilled state, within the recommended hold time and with the chain of custody record attached.

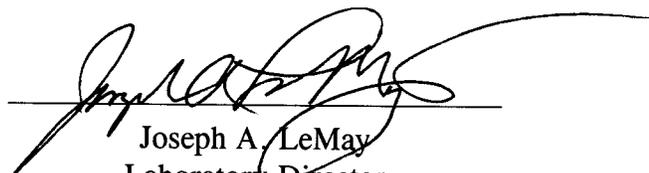
Date Sampled: 03/21/11
Date Received: 03/22/11
Temp. Received: 2.5°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 03/22/11 to 03/26/11

Sample Analysis: The following analyses were performed on your sample:
Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).
Attached are the test data generated from the analysis of your sample.

Result Summary:

<u>Sample ID.</u>	<u>Results</u>
IUC2181-01	100% Survival (TU _a = 0.0)

Quality Control: Reviewed and approved by:



Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0



Lab No.: A-11032206-001

Client/ID: TestAmerica IUC2181-01

Start Date: 03/22/2011

TEST SUMMARY

Species: *Pimephales promelas*.

Age: 14 (1-14) days.

Regulations: NPDES.

Test solution volume: 250 ml.

Feeding: prior to renewal at 48 hrs.

Number of replicates: 2.

Control water: Moderately hard reconstituted water.

Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.

Test type: Static-Renewal.

Test Protocol: EPA-821-R-02-012.

Endpoints: Percent Survival at 96 hrs.

Test chamber: 600 ml beakers.

Temperature: 20 +/- 1°C.

Number of fish per chamber: 10.

QA/QC No.: RT-110301.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.2	9.1	8.0	0	0	R 1100
	100%	20.2	9.8	7.2	0	0	
24 Hr	Control	20.3	8.4	7.9	0	0	R 1100
	100%	20.1	8.5	7.6	0	0	
48 Hr	Control	19.8	8.2	7.8	0	0	R 1030
	100%	19.7	8.9	7.5	0	0	
Renewal	Control	20.1	8.7	7.9	0	0	R 103
	100%	19.9	9.5	7.5	0	0	
72 Hr	Control	20.0	8.7	7.8	0	0	R 1130
	100%	19.9	7.9	7.3	0	0	
96 Hr	Control	20.7	7.9	7.7	0	0	R 1130
	100%	20.7	7.7	7.3	0	0	

Comments:

Sample as received: Chlorine: 0.0 mg/l; pH: 7.2; Conductivity: 110 umho; Temp: 2.5°C;

DO: 9.8 mg/l; Alkalinity: 38 mg/l; Hardness: 48 mg/l; NH₃-N: 0.2 mg/l.

Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / (No)

Control: Alkalinity: 68 mg/l; Hardness: 96 mg/l; Conductivity: 339 umho.

Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / (No)

Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.

Dissolved Oxygen (DO) readings in mg/l O₂.

RESULTS

Percent Survival In: Control: 100 % 100% Sample: 100 %

Subcontract Order - TestAmerica Irvine (IUC2181)

SENDING LABORATORY:

TestAmerica Irvine
 17461 Derian Avenue. Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 260-3297
 Project Manager: Debby Wilson

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
 4350 Transport Street, Unit 107
 Ventura, CA 93003
 Phone : (805) 650-0546
 Fax: (805) 650-0756
 Project Location: California
 Receipt Temperature: 2-5 °C Ice: (Y) / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

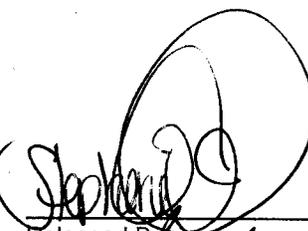
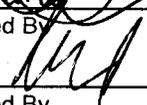
Analysis	Units	Expires	Comments
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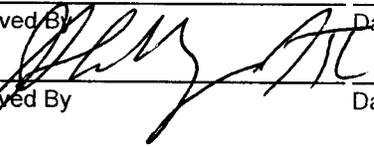
Sample ID: IUC2181-01 (Outfall 001 (Grab) - Water)

Sampled: 03/21/11 10:30

Bioassay-Acute 96hr	% Survival	03/22/11 22:30	FH minnow, EPA/821-R02-012, Sub to AqTox Labs
Level 4 Data Package - Out	N/A	04/18/11 10:30	

Containers Supplied:
 1 gal Poly (U)


 Released By _____ Date/Time 3-22-11 7:00

 Released By _____ Date/Time 3-22-11 10:55


 Received By _____ Date/Time 3-22-11 7:00

 Received By _____ Date/Time 3-22-11 10:55



***REFERENCE
TOXICANT
DATA***

**FATHEAD MINNOW ACUTE
Method 2000.0
Reference Toxicant - SDS**



QA/QC Batch No.: RT-110301

TEST SUMMARY

Species: *Pimephales promelas*.
Age: 10 days old.
Regulations: NPDES.
Test chamber volume: 250 ml.
Feeding: Prior to renewal at 48 hrs.
Temperature: 20 +/- 1°C.
Number of replicates: 2.
Dilution water: MHSF.

Source: In-lab culture.
Test type: Static-Renewal.
Test Protocol: EPA-821-R-02-012.
Endpoints: LC50 at 96 hrs.
Test chamber: 600 ml beakers.
Aeration: None.
Number of organisms per chamber: 10.
Photoperiod: 16/8 hrs light/dark.

TEST DATA

Date/Time: Analyst:	INITIAL			24 Hr					48 Hr				
	<u>3-1-11 1000</u>			<u>3-2-11 0930</u>					<u>3-3-11 1000</u>				
	<u>[Signature]</u>			<u>[Signature]</u>					<u>[Signature]</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	20.2	9.1	8.1	20.1	8.3	7.9	0	0	20.3	8.3	7.9	0	0
1.0 mg/l	20.2	9.2	8.1	20.1	8.1	7.9	0	0	20.4	7.8	7.8	0	0
2.0 mg/l	20.2	9.3	8.0	20.0	8.4	7.9	0	0	20.4	7.9	7.8	0	0
4.0 mg/l	20.2	9.2	8.1	19.9	8.3	7.9	2	0	20.4	7.7	7.7	0	3
8.0 mg/l	20.2	9.2	8.1	19.9	8.2	7.8	10	10	—	—	—	—	—

Date/Time: Analyst:	RENEWAL			72 Hr					96 Hr				
	<u>3-3-11 1000</u>			<u>3-4-11 1000</u>					<u>3-5-11 1030</u>				
	<u>[Signature]</u>			<u>[Signature]</u>					<u>[Signature]</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	20.5	8.3	8.0	20.6	8.0	7.8	0	0	20.4	7.6	7.8	0	0
1.0 mg/l	20.5	8.4	8.0	20.5	8.1	7.8	0	0	20.3	8.3	7.9	0	0
2.0 mg/l	20.5	8.6	8.0	20.4	8.1	7.8	0	0	20.3	8.4	7.9	0	0
4.0 mg/l	20.5	8.7	8.0	20.4	8.1	7.8	0	0	20.3	8.4	7.9	0	1
8.0 mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—

Comments: Control: Alkalinity: 70 mg/l; Hardness: 92 mg/l; Conductivity: 349 umho.
SDS: Alkalinity: 71 mg/l; Hardness: 92 mg/l; Conductivity: 340 umho.

Concentration-response relationship acceptable? (see attached computer analysis):

Yes (response curve normal)

No (dose interrupted indicated or non-normal)

Acute Fish Test-96 Hr Survival

Start Date: 3/1/2011 10:00 Test ID: RT110301 Sample ID: REF-Ref Toxicant
 End Date: 3/5/2011 10:30 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SDS-Sodium dodecyl sulfate
 Sample Date: 3/1/2011 Protocol: ACUTE-EPA-821-R-02-012 Test Species: PP-Pimephales promelas

Comments:

Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.8000	0.6000
8	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
4	0.7000	0.7000	0.9966	0.8861	1.1071	15.685	2	6	20
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

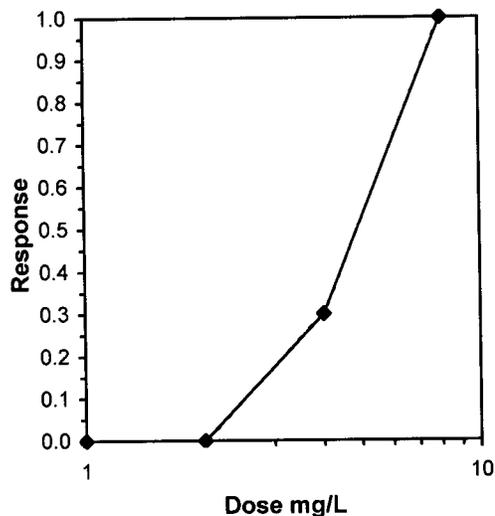
Auxiliary Tests

Normality of the data set cannot be confirmed
 Equality of variance cannot be confirmed

Statistic Critical Skew Kurt

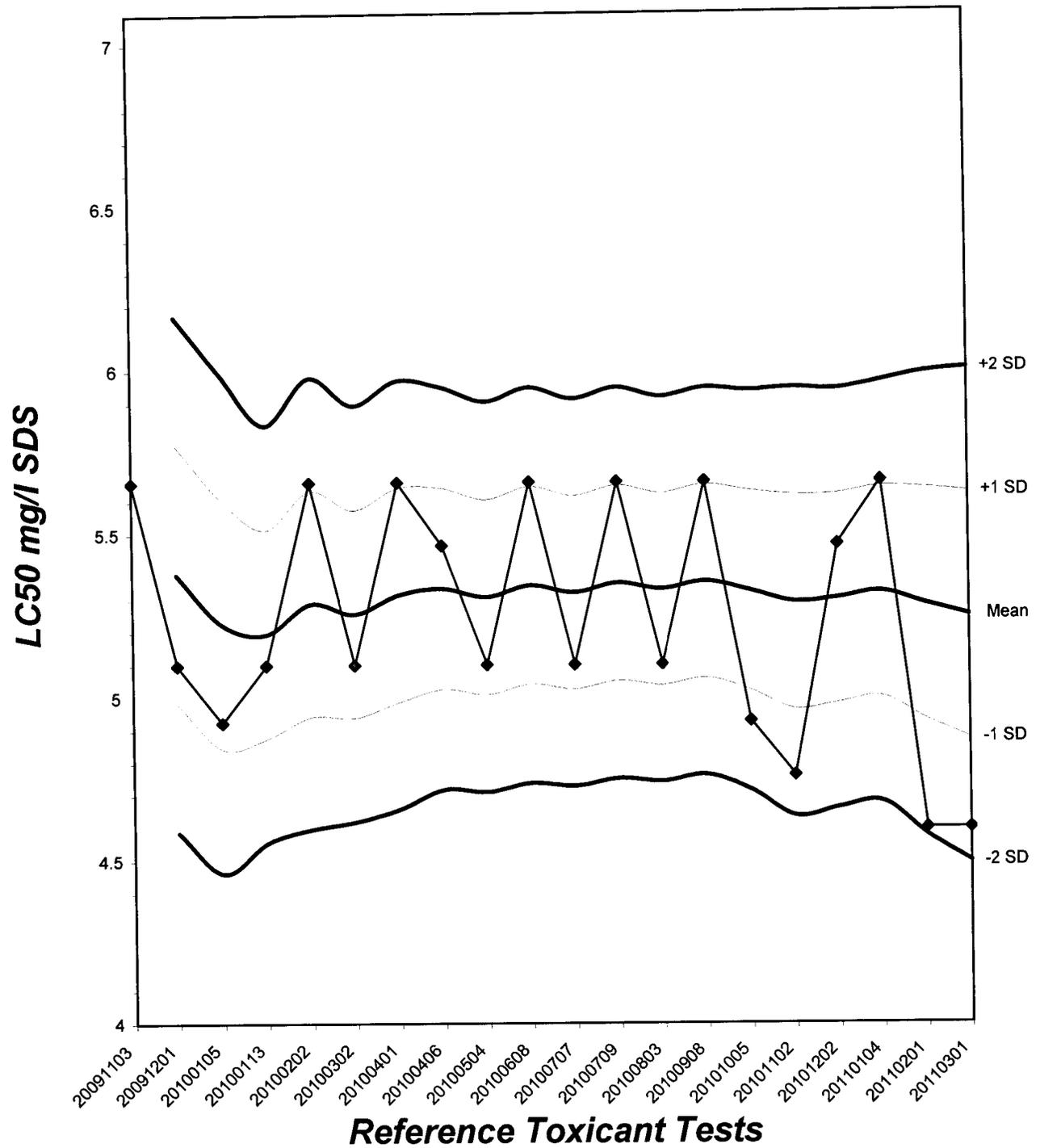
Trimmed Spearman-Kärber

Trim Level	EC50	95% CL	
0.0%	4.5948	3.9863	5.2961
5.0%	4.6576	3.9704	5.4637
10.0%	4.7177	3.9185	5.6800
20.0%	4.8227	3.6460	6.3792
Auto-0.0%	4.5948	3.9863	5.2961



Fathead Minnow Acute Laboratory Control Chart

CV% = 7.19



TEST ORGANISM LOG



FATHEAD MINNOW - LARVAL (*Pimephales promelas*)

QA/QC BATCH NO.: RT110301

SOURCE: In-Lab Culture

DATE HATCHED: 2-19-11

APPROXIMATE QUANTITY: 300

GENERAL APPEARANCE: good

MORTALITIES 48 HOURS PRIOR TO
TO USE IN TESTING: 0

DATE USED IN LAB: 3/1/11

AVERAGE FISH WEIGHT: 0.006 gm

LOADING LIMITS: 0.65 gm/liter @ 20°C, 0.40 gm/liter @ 25°C

Approximately 1000 fish per 10 liters limit if held overnight for acclimation without filtration @ 20°C for fish with a mean weight of 0.006 gm.

Approximately 650 fish per 10 liters limit if held overnight for acclimation without filtration @ 25°C for fish with a mean weight of 0.006 gm.

200 ml test solution volume = 0.013 gm mean fish weight limit @ 20°C; 0.008 @ 25°C

250 ml test solution volume = 0.016 gm mean fish weight limit @ 20°C; 0.010 @ 25°C

ACCLIMATION WATER QUALITY:

Temp.: 20.2 °C

pH: 8.1

Ammonia: 0.1 mg/l NH₃-N

DO: 9.1 mg/l

Alkalinity: 20 mg/l

Hardness: 92 mg/l

READINGS RECORDED BY: [Signature]

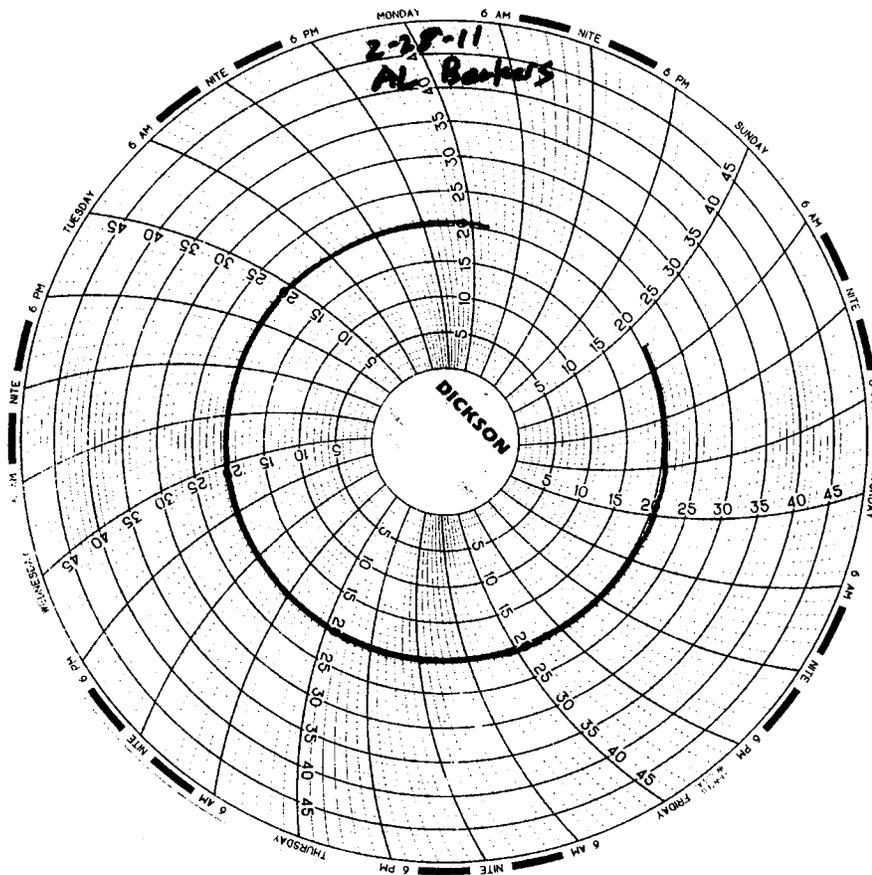
DATE: 3-2-11

Test Temperature Chart

Test No: RT-110301

Date Tested: 03/01/11 to 03/05/11

Acceptable Range: $20 \pm 1^{\circ}\text{C}$





EBERLINE

SERVICES

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Richmond, California 94804-3849
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www.eberlineservices.com

April 13, 2011

Ms. Debby Wilson
Test America Irvine
17461 Derian Ave., Ste. 100
Irvine, CA 92614

**Reference: Test America-Irvine IUC2181
Eberline Analytical Report S103141-8679
Sample Delivery Group 8679**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. IUC2181. The sample was received on March 23, 2011.

Please call me, if you have any questions concerning the enclosed report.

Sincerely,

N. Joseph Verville
Client Services Manager

NJV/ljb

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8679 consists of the analytical results and supporting documentation for one water sample. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the sample as received i.e. the sample was not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volumes.

2.0 Quality Control

Sample IUC2181-03 was analyzed in a common prep batch with other outfall samples from this project. The QC samples from that common prep batch were assigned to SDG 8681 and are also reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

3.0 Method Errors

The error for each result is an estimate of the significant random uncertainties incurred in the measurement process. These are propagated to each final result. They include the counting (Poisson) uncertainty, as well as those intrinsic errors due to carrier or tracer standardization, aliquoting, counter efficiencies, weights, or volumes. The following method errors were propagated to the count error to calculate the 2σ error (Total):

Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

4.0 Analysis Notes

- 4.1 **Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 **Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 **Strontium-90 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

5.0 Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



N. Joseph Verville
Client Services Manager

4/13/11

Date

EBERLINE ANALYTICAL
SDG 8679

SDG 8679
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2181

S U M M A R Y D A T A S E C T I O N

T A B L E O F C O N T E N T S

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Lab Control Samples	9
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End of Section	34

UV

Prepared by

n. j. verville

Reviewed by

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

SDG 8679
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2181

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DUPLICATES

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
Version Ver 1.0
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EBERLINE ANALYTICAL

SDG 8679

SDG 8679
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC2181

ABOUT THE DATA SUMMARY SECTION

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
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EBERLINE ANALYTICAL

SDG 8679

LAB SAMPLE SUMMARY

SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

LAB	CLIENT	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
SAMPLE ID	SAMPLE ID						
S103141-01	IUC2181-03	Boeing - SSFL	WATER			IUC2181	03/20/11 21:59
S103143-02	Lab Control Sample		WATER				
S103143-03	Method Blank		WATER				
S103143-04	Duplicate (S103143-01)	Boeing - SSFL	WATER				03/20/11 21:35

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LS
 Version 3.06
 Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

QC SUMMARY

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL SAMPLE ID	DEPARTMENT SAMPLE ID
8679	IUC2181	IUC2181-03	WATER		10.0 L		03/23/11 3	S103141-01	8679-001
8681		Method Blank	WATER					S103143-03	8681-003
		Lab Control Sample	WATER					S103143-02	8681-002
		Duplicate (S103143-01)	WATER		10.0 L		03/23/11 3	S103143-04	8681-004

QC SUMMARY

Page 1

SUMMARY DATA SECTION

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 Protocol TA
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

SDG 8679
 Contact N. Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
 Contract IUC2181

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI-
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS	
Beta Counting									
AC	WATER	Radium-228 in Water	7281-071	10.4	1		1	1	1/0/1
SR	WATER	Strontium-90 in Water	7281-071	10.4	1		1	1	1/0/1
Gas Proportional Counting									
80A	WATER	Gross Alpha in Water	7281-071	20.6	1		1	1	1/0/1
80B	WATER	Gross Beta in Water	7281-071	11.0	1		1	1	1/0/1
Gamma Spectroscopy									
GAM	WATER	Gamma Emitters in Water	7281-071	7.0	1		1	1	1/0/1
Kinetic Phosphorimetry, ug									
U_T	WATER	Uranium, Total	7281-071		1		1	1	1/0/1
Liquid Scintillation Counting									
H	WATER	Tritium in Water	7281-071	10.0	1		1	1	1/0/1
Radon Counting									
RA	WATER	Radium-226 in Water	7281-071	16.4	1		1	1	1/0/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.
 In counts like 'a/b/c', 'a' = QC planchets, 'b' = Originals in this SDG, 'c' = Originals in other SDGs.

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-PBS
 Version 3.06
 Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

LAB WORK SUMMARY

SDG 8679

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUC2181

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX			SUF-					
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S103141-01	IUC2181-03		8679-001	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
03/20/11	Boeing - SSFL	WATER	8679-001	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
03/23/11	IUC2181		8679-001	AC		04/07/11	04/11/11	BW	Radium-228 in Water	
			8679-001	GAM		03/30/11	04/04/11	MWT	Gamma Emitters in Water	
			8679-001	H		03/30/11	04/04/11	BW	Tritium in Water	
			8679-001	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8679-001	SR		04/01/11	04/08/11	KWP	Strontium-90 in Water	
			8679-001	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-02	Lab Control Sample		8681-002	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
		WATER	8681-002	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
			8681-002	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-002	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-002	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-002	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-002	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-002	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-03	Method Blank		8681-003	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
		WATER	8681-003	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
			8681-003	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-003	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-003	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-003	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-003	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-003	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-04	Duplicate (S103143-01)		8681-004	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
03/20/11	Boeing - SSFL	WATER	8681-004	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
03/23/11			8681-004	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-004	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-004	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-004	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-004	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-004	U_T		03/29/11	03/29/11	BW	Uranium, Total	

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LWS

Version 3.06

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EBERLINE ANALYTICAL

SDG 8679

SDG 8679

Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.

Contract IUC2181

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	1			1	1	1	4
80B/80		Gross Beta in Water	900.0	1			1	1	1	4
AC		Radium-228 in Water	904.0	1			1	1	1	4
GAM		Gamma Emitters in Water	901.1	1			1	1	1	4
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	1			1	1	1	4
SR		Strontium-90 in Water	905.0	1			1	1	1	4
U_T		Uranium, Total	D5174	1			1	1	1	4
TOTALS				8			8	8	8	32

WORK SUMMARY

Page 2

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LWS

Version 3.06

Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

8681-003

Method Blank

METHOD BLANK

SDG <u>8679</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUC2181</u>
Lab sample id <u>S103143-03</u>	Client sample id <u>Method Blank</u>
Dept sample id <u>8681-003</u>	Material/Matrix <u>WATER</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.261	0.90	1.85	3.00	U	80A
Gross Beta	12587472	-0.333	1.4	2.40	4.00	U	80B
Tritium	10028178	-30.1	95	163	500	U	H
Radium-226	13982633	0.031	0.43	0.800	1.00	U	RA
Radium-228	15262201	-0.153	0.16	0.434	1.00	U	AC
Strontium-90	10098972	0.045	0.24	0.468	2.00	U	SR
Uranium, Total		0	0.009	0.020	1.00	U	U_T
Potassium-40	13966002	U		<u>47.4</u>	25.0	U	GAM
Cesium-137	10045973	U		2.34	20.0	U	GAM

QC-BLANK #77925

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>04/12/11</u>

EBERLINE ANALYTICAL

SDG 8679

8681-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8679</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUC2181</u>
Lab sample id <u>S103143-02</u>	Client sample id <u>Lab Control Sample</u>
Dept sample id <u>8681-002</u>	Material/Matrix <u>WATER</u>

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMDS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	122	6.6	1.21	3.00	80A	101	4.0	121	74-126	70-130
Gross Beta	83.8	3.7	3.06	4.00	80B	87.1	3.5	96	88-112	70-130
Tritium	2150	150	166	500	H	2350	94	91	88-112	80-120
Radium-226	49.0	2.5	0.859	1.00	RA	55.7	2.2	88	84-116	80-120
Radium-228	3.92	0.34	0.432	1.00	AC	5.01	0.20	78	89-111	60-140
Strontium-90	19.7	1.4	0.576	2.00	SR	17.4	0.70	113	85-115	80-120
Uranium, Total	55.3	6.6	0.205	1.00	U_T	56.5	2.3	98	88-112	80-120
Cobalt-60	123	5.2	2.50	10.0	GAM	124	5.0	99	91-109	80-120
Cesium-137	118	4.8	3.18	20.0	GAM	110	4.4	107	90-110	80-120

QC-LCS #77924

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>04/12/11</u>

EBERLINE ANALYTICAL

SDG 8679

8681-004

IUC2187-03

DUPLICATE

SDG <u>8679</u> Contact <u>N. Joseph Verville</u> DUPLICATE Lab sample id <u>S103143-04</u> Dept sample id <u>8681-004</u>	ORIGINAL Lab sample id <u>S103143-01</u> Dept sample id <u>8681-001</u> Received <u>03/23/11</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2181</u> Client sample id <u>IUC2187-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>03/20/11 21:35</u> <u>10.0 L</u> Chain of custody id <u>IUC2187</u>
--	---	--

ANALYTE	DUPLICATE		MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL		MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	DER σ
	pCi/L	2σ ERR (COUNT)					pCi/L	2σ ERR (COUNT)					
Gross Alpha	1.94	0.48	0.434	3.00	J	80A	2.26	0.46	0.276	J	15	65	0.7
Gross Beta	6.74	0.70	0.831	4.00		80B	6.22	0.70	0.866		8	33	0.7
Tritium	-10.9	99	168	500	U	H	-77.2	96	167	U	-		1.0
Radium-226	0.283	0.42	0.711	1.00	U	RA	0.350	0.34	0.544	U	-		0.2
Radium-228	0.235	0.38	0.402	1.00	U	AC	0.229	0.32	0.420	U	-		0
Strontium-90	0.078	0.32	0.717	2.00	U	SR	-0.018	0.26	0.625	U	-		0.5
Uranium, Total	0.292	0.034	0.020	1.00	J	U_T	0.321	0.18	0.020	J	9	90	0.3
Potassium-40	U		15.8	25.0	U	GAM	U		58.4	U	-		1.4
Cesium-134	U		3.68	20.0	U	GAM	U			J	0	213	0
Cesium-137	U		1.17	20.0	U	GAM	U		3.25	U	-		1.2

QC-DUP#1 77926

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>04/12/11</u>

EBERLINE ANALYTICAL

SDG 8679

8679-001

IUC2181-03

DATA SHEET

SDG <u>8679</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2181</u>
Lab sample id <u>S103141-01</u> Dept sample id <u>8679-001</u> Received <u>03/23/11</u>	Client sample id <u>IUC2181-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>03/20/11 21:59</u> <u>10.0 L</u> Chain of custody id <u>IUC2181</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	3.09	0.55	0.307	3.00		80A
Gross Beta	12587472	6.03	0.68	0.819	4.00		80B
Tritium	10028178	-59.7	96	166	500	U	H
Radium-226	13982633	0.050	0.35	0.657	1.00	U	RA
Radium-228	15262201	-0.041	<u>0.68</u>	0.497	1.00	U	AC
Strontium-90	10098972	-0.071	0.31	0.744	2.00	U	SR
Uranium, Total		0.438	0.051	0.020	1.00	J	U_T
Potassium-40	13966002	U		23.5	25.0	U	GAM
Cesium-137	10045973	U		1.46	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>04/12/11</u>

EBERLINE ANALYTICAL

SDG 8679

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
 SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

RESULTS

LAB RAW SUP-
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Radium-228

Preparation batch 7281-071

S103141-01	8679-001	IUC2181-03	U
S103143-02	8681-002	Lab Control Sample	ok
S103143-03	8681-003	Method Blank	U
S103143-04	8681-004	Duplicate (S103143-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB RAW SUP- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7281-071 2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg. 71

S103141-01	IUC2181-03	0.497	1.80	92	150	18	04/07/11	04/07	GRB-223
S103143-02	Lab Control Sample	0.432	1.80	80	150		04/07/11	04/07	GRB-230
S103143-03	Method Blank	0.434	1.80	89	150		04/07/11	04/07	GRB-231
S103143-04	Duplicate (S103143-01)	0.402	1.80	88	150	18	04/07/11	04/07	GRB-232

Nominal values and limits from method 1.00 1.80 30-105 50 180

PROCEDURES REFERENCE 904.0
 DWP-894 Sequential Separation of Actinium-228 and Radium-226 in Drinking Water (>1 Liter Aliquot), rev 5

AVERAGES ± 2 SD MDA 0.441 ± 0.080
 FOR 4 SAMPLES YIELD 87 ± 10

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
 SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90

Preparation batch 7281-071

S103141-01	8679-001	IUC2181-03	U
S103143-02	8681-002	Lab Control Sample	ok
S103143-03	8681-003	Method Blank	U
S103143-04	8681-004	Duplicate (S103143-01)	- U

Nominal values and limits from method RDLs (pCi/L) 2.00

METHOD PERFORMANCE

LAB	RAW	SUF-		MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID		pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR

Preparation batch 7281-071 2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg. 71

S103141-01	IUC2181-03	0.744	0.500	82	50	12	04/01/11	04/01	GRB-227
S103143-02	Lab Control Sample	0.576	0.500	94	50		04/01/11	04/01	GRB-232
S103143-03	Method Blank	0.468	0.500	85	100		04/01/11	04/01	GRB-231
S103143-04	Duplicate (S103143-01)	0.717	0.500	83	50	12	04/01/11	04/01	GRB-204

Nominal values and limits from method 2.00 0.500 30-105 50 180

PROCEDURES REFERENCE 905.0
 DWP-380 Strontium in Drinking Water, rev 8

AVERAGES ± 2 SD MDA 0.626 ± 0.257
 FOR 4 SAMPLES YIELD 86 ± 11

METHOD SUMMARIES

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Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
 SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha

Preparation batch 7281-071

S103141-01	80	8679-001	IUC2181-03	3.09
S103143-02	80	8681-002	Lab Control Sample	ok
S103143-03	80	8681-003	Method Blank	U
S103143-04	80	8681-004	Duplicate (S103143-01)	ok J

Nominal values and limits from method RDLs (pCi/L) 3.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR

Preparation batch 7281-071 2σ prep error 20.6 % Reference Lab Notebook No. 7281 pg. 71

S103141-01	80	IUC2181-03	0.307	0.300			32	400			11	03/31/11	03/31	GRB-111
S103143-02	80	Lab Control Sample	1.21	0.100			60	400				03/31/11	03/31	GRB-103
S103143-03	80	Method Blank	1.85	0.100			60	400				03/31/11	03/31	GRB-104
S103143-04	80	Duplicate (S103143-01)	0.434	0.300			26	400			11	03/31/11	03/31	GRB-109

Nominal values and limits from method 3.00 0.100 0-200 100 180

PROCEDURES REFERENCE 900.0
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,
 rev 10

AVERAGES ± 2 SD MDA 0.950 ± 1.44
 FOR 4 SAMPLES RESIDUE 44 ± 36

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
 SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 7281-071				
S103141-01	80	8679-001	IUC2181-03	6.03
S103143-02	80	8681-002	Lab Control Sample	ok
S103143-03	80	8681-003	Method Blank	U
S103143-04	80	8681-004	Duplicate (S103143-01)	ok

Nominal values and limits from method RDLs (pCi/L) 4.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR
Preparation batch 7281-071 2σ prep error 11.0 % Reference Lab Notebook No. 7281 pg. 71														
S103141-01	80	IUC2181-03	0.819	0.300			32	400				11 03/31/11	03/31	GRB-111
S103143-02	80	Lab Control Sample	3.06	0.100			60	400				03/31/11	03/31	GRB-103
S103143-03	80	Method Blank	2.40	0.100			60	400				03/31/11	03/31	GRB-104
S103143-04	80	Duplicate (S103143-01)	0.831	0.300			26	400				11 03/31/11	03/31	GRB-109

Nominal values and limits from method 4.00 0.100 0-200 100 180

PROCEDURES REFERENCE 900.0
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,
 rev 10

AVERAGES ± 2 SD MDA 1.78 ± 2.26
 FOR 4 SAMPLES RESIDUE 44 ± 36

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 04/12/11

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SDG 8679

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER
GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8679
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2181

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137

Preparation batch 7281-071

S103141-01	8679-001	IUC2181-03		U	
S103143-02	8681-002	Lab Control Sample	ok	ok	
S103143-03	8681-003	Method Blank		U	
S103143-04	8681-004	Duplicate (S103143-01)		-	U

Nominal values and limits from method	RDLs (pCi/L)	10.0	20.0
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METHOD PERFORMANCE

LAB	RAW	SUF-		MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR

Preparation batch 7281-071 2σ prep error 7.0 % Reference Lab Notebook No. 7281 pg. 71

S103141-01	IUC2181-03		2.00							535		10	03/24/11	03/30	01,04,00
S103143-02	Lab Control Sample		2.00							401			03/24/11	03/31	MB,08,00
S103143-03	Method Blank		2.00							621			03/24/11	03/31	MB,05,00
S103143-04	Duplicate (S103143-01)		2.00							596		11	03/24/11	03/31	MB,08,00

Nominal values and limits from method	6.00	2.00	400	180
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PROCEDURES REFERENCE 901.1
DWP-100 Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
 SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

RESULTS

LAB	RAW	SUF-		Uranium,	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7281-071					
S103141-01			8679-001	IUC2181-03	0.438 J
S103143-02			8681-002	Lab Control Sample	ok
S103143-03			8681-003	Method Blank	U
S103143-04			8681-004	Duplicate (S103143-01)	ok J

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR
Preparation batch 7281-071			2σ prep error		Reference Lab Notebook No. 7281 pg. 71										
S103141-01			IUC2181-03	0.020	0.0200								9 03/29/11	03/29	KPA-001
S103143-02			Lab Control Sample	0.205	0.0200								03/29/11	03/29	KPA-001
S103143-03			Method Blank	0.020	0.0200								03/29/11	03/29	KPA-001
S103143-04			Duplicate (S103143-01)	0.020	0.0200								9 03/29/11	03/29	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.066 ± 0.185
 FOR 4 SAMPLES YIELD _____ ± _____

Lab id EAS
 Protocol TA
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LAB METHOD SUMMARY

RADIUM-226 IN WATER
RADON COUNTING

Test RA Matrix WATER
SDG 8679
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2181

RESULTS

LAB RAW SUF-
SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Radium-226

Preparation batch 7281-071

S103141-01	8679-001	IUC2181-03	U
S103143-02	8681-002	Lab Control Sample	ok
S103143-03	8681-003	Method Blank	U
S103143-04	8681-004	Duplicate (S103143-01)	- U

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR

Preparation batch 7281-071 2σ prep error 16.4 % Reference Lab Notebook No. 7281 pg. 71

S103141-01	IUC2181-03	0.657	0.100	100	<u>90</u>	16	04/05/11	04/05	RN-012
S103143-02	Lab Control Sample	0.859	0.100	100	<u>90</u>		04/05/11	04/05	RN-009
S103143-03	Method Blank	0.800	0.100	100	<u>90</u>		04/05/11	04/05	RN-010
S103143-04	Duplicate (S103143-01)	0.711	0.100	100	<u>90</u>	16	04/05/11	04/05	RN-015

Nominal values and limits from method 1.00 0.100 100 180

PROCEDURES REFERENCE 903.1
DWP-881A Ra-226 Screening in Drinking Water, rev 6

AVERAGES ± 2 SD MDA 0.757 ± 0.180
FOR 4 SAMPLES YIELD 100 ± 0

METHOD SUMMARIES

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Client Test America, Inc.

SDG 8679
Contact N. Joseph Verville

REPORT GUIDE

Contract IUC2181

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- * LAB SAMPLE ID is the lab's primary identification for a sample.
- * DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- * CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- * QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- * All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

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SDG 8679
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
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PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- * The preparation batches are shown in the same order as the Method Summary Reports are printed.
- * Only analyses of planchets relevant to the SDG are included.
- * Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- * The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

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Contact N. Joseph Verville

Client Test America, Inc.
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REPORT GUIDE

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- * TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- * SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- * The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- * PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- * For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- * The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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REPORT GUIDE

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DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- * TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- * The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- * ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- * A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- * When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.

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GUIDE, cont.

DATA SHEET

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- * An MDA is underlined if it is bigger than its RDL.
- * An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA

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Client Test America, Inc.
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DATA SHEET

may not be a good estimate of the 'real' minimum detectable activity.

- * A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- * When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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REPORT GUIDE

Client Test America, Inc.
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LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- * An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- * The first, computed limits for the recovery reflect:
 1. The error of RESULT, including that introduced by rounding the result prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
 2. The error of ADDED.
 3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- * The second limits are protocol defined upper and lower QC limits for the recovery.
- * The recovery is underlined if it is outside either of these ranges.

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Version Ver 1.0
Form DVD-RG
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SDG 8679
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
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DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- * The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:
 1. A fixed percentage specified in the protocol.

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Contact N. Joseph Verville

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Client Test America, Inc.
Contract IUC2181

DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- * The RPD is underlined if it is greater than either limit.
- * If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- * The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

REPORT GUIDES

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SUMMARY DATA SECTION

Page 28

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

SDG 8679
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2181

MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- * The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- * The second limits are protocol defined upper and lower QC limits for the recovery.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/12/11

REPORT GUIDES

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SUMMARY DATA SECTION

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EBERLINE ANALYTICAL

SDG 8679

SDG 8679
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2181

GUIDE, cont.

MATRIX SPIKE

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

* The recovery is underlined (out of spec) if it is outside either of these ranges.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/12/11

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SDG 8679
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2181

REPORT GUIDE

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- * Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- * The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- * If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- * Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
- * Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

SDG 8679
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2181

GUIDE, cont.

METHOD SUMMARY

correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

- * Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
- * If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

- * Aliquots are underlined if less than the nominal value specified for the method.
- * Preparation factors are underlined if greater than the nominal value specified for the method.
- * Dilution factors are underlined if greater than the nominal value specified for the method.
- * Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.
- * Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.
- * Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.
- * Count times are underlined if less than the nominal value

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 04/12/11

REPORT GUIDES

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SUMMARY DATA SECTION

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EBERLINE ANALYTICAL

SDG 8679

SDG 8679
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2181

GUIDE, cont.

METHOD SUMMARY

specified for the method.

- * Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- * Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- * Days Held are underlined if greater than the holding time specified in the protocol.
- * Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/12/11

EBERLINE ANALYTICAL

SDG 8679

SDG 8679
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC2181

METHOD SUMMARY

No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

REPORT GUIDES

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SUMMARY DATA SECTION

Page 34

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/12/11

Subcontract Order - TestAmerica Irvine (IUC2181)

8679

SENDING LABORATORY:

TestAmerica Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 260-3297
 Project Manager: Debby Wilson

RECEIVING LABORATORY:

Eberline Services
 2030 Wright Avenue
 Richmond, CA 94804
 Phone : (510) 235-2633
 Fax: (510) 235-0438
 Project Location: California
 Receipt Temperature: _____ °C

Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
----------	-------	---------	----------

Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) Sampled: 03/20/11 21:59

Gamma Spec-O	pCi/L	03/19/12 21:59	Out eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	09/16/11 21:59	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	09/16/11 21:59	Out eberline, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	04/17/11 21:59	
Radium, Combined-O	pCi/L	03/19/12 21:59	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/19/12 21:59	Out eberline Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/19/12 21:59	Out eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/19/12 21:59	Out eberline, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (V) 500 mL Amber (W)

	3/22/11 17:00	FedEx	3/22/11 17:00
Released By	Date/Time	Received By	Date/Time
	03/23/11		09:30
Released By	Date/Time	Received By	Date/Time



EBERLINE SERVICE

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State _____

Date/Time received 03/23/11 0930 CoC No. UC 2181

Container I.D. No. ICE 0001 Requested TAT (Days) STD P.O. Received Yes [] No []

INSPECTION

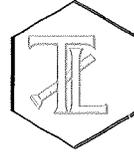
1. Custody seals on shipping container intact? Yes No [] N/A []
2. Custody seals on shipping container dated & signed? Yes No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A
5. Packing material is: Wet [] Dry
6. Number of samples in shipping container: 1 Sample Matrix W
7. Number of containers per sample: 2 (Or see CoC _____)
8. Samples are in correct container Yes No []
9. Paperwork agrees with samples? Yes No []
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels
11. Samples are: In good condition Leaking [] Broken Container [] Missing []
12. Samples are: Preserved Not preserved pH 2.2 / N/A Preservative HNO3
13. Describe any anomalies: _____

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____

15. Inspected by [Signature] Date: 03/23/11 Time: 1030

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>UC 2181</u>	<u>60</u>						

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. 100482 Calibration date 24 SEP 10

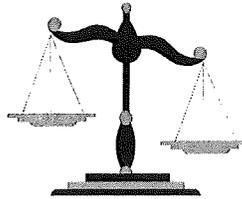


Test America

Laboratory Number: 994231

Hydrazines by EPA 8315M

Project Name: IUC2181-03 (Outfall 011 (Composite) - Water)
Project Number: IUC2181-03 (Outfall 011 (Composite) - Water)



Prepared for:

Debby Wilson
Test America
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Prepared by:

Truesdail Laboratories, Inc.
Tustin, CA 92780

March 31, 2011

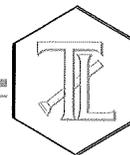


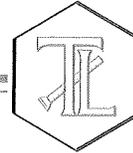
Table of Contents

TLI Laboratory Level IV Data Package

Laboratory Number: 994231

Project Name: IUC2181-03 (Outfall 011 (Composite) - Water)

<u>ITEM</u>	<u>SECTION</u>
REPORTS	1.0
Samples Cross Reference	
Case Narrative	
Results Summary	
Sample Analytical Results	
QA/QC reports	
Qualifier Codes and Definitions	
SAMPLE CHECK-IN RECORDS	2.0
Chain of Custody	
Sample Integrity and Analysis Discrepancy Form	
Internal Chain of Custody	
DATA PACKAGE	3.0
QC Batch 909338	



Section 1.0

REPORTS

Samples Cross Reference

Case Narrative

Results Summary

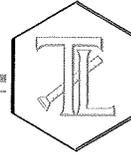
Sample Analytical Results

QA/QC reports

Qualifier Codes and Definitions

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

March 31, 2011

Client: Test America
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Attention: Debby Wilson

Project Name: IUC2181-03 (Outfall 011 (Composite) - Water)

Date Received: 3/22/2011

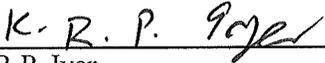
Project Number: IUC2181-03 (Outfall 011 (Composite) - Water)

Truesdail Project: 994231

Samples Cross-reference

<u>Truesdail ID</u>	<u>Client ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Time Sampled</u>	<u>Analysis Requested</u>
994231-01	IUC2181-03 (Outfall 011 (Composite) - Water)	Water	03/20/11	21:59	Hydrazines by EPA 8315M

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.



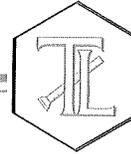
K.R.P. Iyer
Quality Control/Quality Assurance Manager



Jeff Lee
Project Manager

TRUESDAIL LABORATORIES, INC.

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14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

March 31, 2011

Client: Test America
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attention: Debby Wilson

Project Name: IUC2181-03 (Outfall 011 (Composite) - Water) **Date Received:** 03/22/11
Project Number: IUC2181-03 (Outfall 011 (Composite) - Water) **Truesdail Project:** 994231

Case Narrative

Sample Receipt The samples were received at 5.0 °C and in good condition. They were kept in a refrigerator until analysis. Thereafter, they are being kept in ambient storage for an additional 2 months before disposal. Any anomalies would be noted in the "Comments" section.

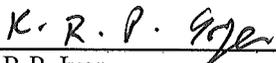
Analysis The analysis was performed as requested on the chain-of-custody.

Quality Control The analytical results for each batch of samples performed include one set of laboratory control sample/laboratory control sample duplicate (LCS/LCSD), one set of matrix spike/matrix spike duplicate (MS/MSD), and a reagent blank (Method blank). Any exceptions or problems would be noted in the "Comments" section.

Comments Matrix spike and matrix spike duplicate were done on 994231-1 as the method requirement per batch of 20 samples.

All quality assurance requirements set forth by the method specification and all quality control recoveries were within the laboratory acceptance limits. No anomalies or nonconformance events occurred during the course of analysis.

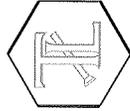
Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.



K.R.P. Iyer
Quality Control/Quality Assurance Manager



Jeff Lee
Project Manager



Client: Test America - Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5817

Attention: Debby Wilson
Sample: Water / 1 Sample
Project Name: IUC2181
Project Number: IUC2181
Method Number: EPA 8315 (Modified)
Investigation: Hydrazines

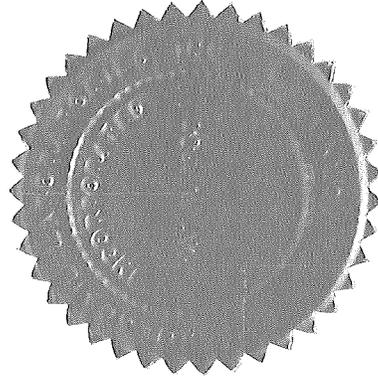
REPORT

Laboratory No: 994231
Report Date: March 25, 2011
Sampling Date: March 20, 2011
Receiving Date: March 22, 2011
Extraction Date: March 22, 2011
Analysis Date: March 23, 2011
Units: µg/L
Reported By: JS

Analytical Results

Sample ID	Sample Description	Sample Amount (mL)	Dilution Factor	Monomethyl Hydrazine	u-Dimethyl Hydrazine	Hydrazine	Qualifier Codes
709338-MB	Method Blank	100	1	ND	ND	ND	None
994231	IUC2181-03	100	1	ND	ND	ND	None
MDL				1.77	1.13	0.439	
PQL				5.0	5.0	1.00	
Sample Reporting Limits				5.0	5.0	1.00	

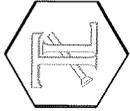
Note: Results based on detector #1 (UV=365nm) data.



Jeff Lee, Project Manager
Analytical Services, Truesdail Laboratories, Inc.

TRUESDAIL LABORATORIES, INC.

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Established 1931

Client: Test America - Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614-5817

14201 FRANKLIN AVENUE · TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

Client Contact: Debby Wilson
Sample: Water / 1 Sample
Project Number: IUC2181
Method Number: EPA 8315 (Modified)
Investigation: Hydrazines
Run Batch No.: Extraction: 5494; Analysis: 699

QC Lab. No.: 709338
Project Lab. No.: 994231
Spiked Sample ID: 994230
Report Date: March 25, 2011
Sampling Date: March 20, 2011
Receiving Date: March 22, 2011
Extraction Date: March 22, 2011
Analysis Date: March 23, 2011
Reported By: JS

Quality Control/Quality Assurance Calibration Report

QCS

Parameter	Theoretical Value (ug/L)	Measured Value (ug/L)	Percent Recovery	Control Limits	Flag
Monomethyl Hydrazine	25.0	24.0	96.2	85-115	PASS
u-Dimethyl Hydrazine	25.0	24.0	95.8	85-115	PASS
Hydrazine	5.0	4.57	91.4	85-115	PASS

Parameter	Theoretical Value (ug/L)	Measured Value (ug/L)	Percent Recovery	Control Limits	Flag
Monomethyl Hydrazine	50.0	50.3	101	85-115	PASS
u-Dimethyl Hydrazine	50.0	50.1	100	85-115	PASS
Hydrazine	10.0	10.4	104	85-115	PASS

Quality Control/Quality Assurance Spikes Report

LCS/LCSD

Parameter	Spiked Conc. ug/L	Recovered Concentration LCS	Percent Recovery (%) LCS	Control Limits %D	Flag
Monomethyl Hydrazine	50.0	49.9	99.8	97.3	2.55% PASS
u-Dimethyl Hydrazine	50.0	50.7	101	102	0.28% PASS
Hydrazine	10.0	10.1	101	97.7	2.86% PASS

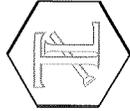
MS/MSD

Parameter	Recovered Concentration MS	Percent Recovery (%) MS	Control Limits %D	Flag	Accuracy % Rec	
						MSD
Monomethyl Hydrazine	34.3	38.7	0.00	68.6	77.5	12.2% PASS
u-Dimethyl Hydrazine	41.8	45.4	0.00	83.6	90.8	8.30% PASS
Hydrazine	8.34	9.27	0.00	83.4	92.7	10.5% PASS

Note: Results based on detector #1 (UV=365nm) data.

Jeff Lee, Project Manager
Analytical Services, Truesdail Laboratories, Inc.

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.



Client: Test America
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Attention: Debby Wilson

Project Name: IUC2181-03 (Outfall 011 (Composite) - Water)

Method Number: 8315 (Modified)

Investigation: Hydrazines

Laboratory No: 994231

Report Date: March 31, 2011

Sampling Date: March 20, 2011

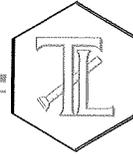
Receiving Date: March 22, 2011

Analysis Date: March 23, 2011

Reported By: JS

Qualifier Codes and Definitions

<u>Code</u>	<u>Definition</u>
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
ND	Not Detected: Analyte is not detected at or above the method detection limit.
N/A	Not Applicable
ICV	Initial Calibration Verification: First source calibration standard run at a mid-level spike prior to samples.
QCS	Quality Control Standard: Second source calibration standard run at a mid-level spike after all samples.
MB	Method Blank: Reagent water extracted and run with each batch of 20 samples to demonstrate that all analytes are not detected from the extraction process.
LCS (D)	Laboratory Control Spike: Second source standard spiked into blank matrix and extracted and run with each batch of 20 samples (run in duplicate).
MS (D)	Matrix Spike: Second source standard spiked into sample matrix and extracted and run with each batch of 20 samples (run in duplicate).
RPD	Relative Percent Difference: A calculated value of the deviation between the spikes and spike duplicates to measure precision.
J	J-flags: Any result found between the MDL and the PQL will be reported with a "J" attached.
Flag	Pass if within Control Limits; otherwise "Fail"



Section 2.0

SAMPLE CHECK-IN RECORDS

Chain of Custody

Sample Integrity and Analysis Discrepancy Form

Internal Chain of Custody

Subcontract Order - TestAmerica Irvine (IUC2181)

994 231

SENDING LABORATORY:

TestAmerica Irvine
17461 Derian Avenue, Suite 101
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Debby Wilson

Rec'd 03/21/11
s5d 994231

RECEIVING LABORATORY:

Truesdail Laboratories
14201 Franklin Avenue
Tustin, CA 92680
Phone : (714) 730-6239
Fax: (714) 730-6462
Project Location: California
Receipt Temperature: _____ °C Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
----------	-------	---------	----------

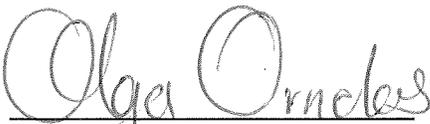
Sample ID: IUC2181-03 (Outfall 001 (Composite) - Water) Sampled: 03/20/11 21:59

Hydrazine-OUT	ug/l	03/23/11 21:59	Sub Truesdail for Monomethylhydrazine, J flags
---------------	------	----------------	--

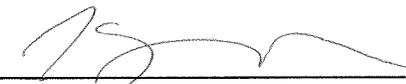
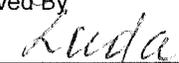
Containers Supplied:

1 L Amber (AA) 1 L Amber (Z)

For Sample Conditions
See Form Attached


 Released By _____ Date/Time 3.22.11 755

 Released By _____ Date/Time 3.22.11 815


 Received By _____ Date/Time 3.22.11 755

 Received By _____ Date/Time 3/22/11 8:15



Sample Integrity & Analysis Discrepancy Form

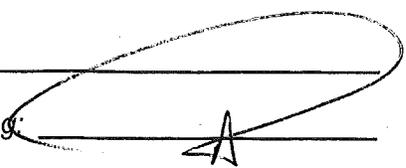
Client: Test America

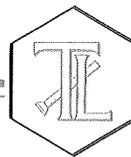
Lab # 994231

Date Delivered: 03/22/11 Time: 8:15 By: Mail Field Service Client

1. Was a Chain of Custody received and signed? Yes No N/A
2. Does Customer require an acknowledgement of the COC? Yes No N/A
3. Are there any special requirements or notes on the COC? Yes No N/A
4. If a letter was sent with the COC, does it match the COC? Yes No N/A
5. Were all requested analyses understood and acceptable? Yes No N/A
6. Were samples received in a chilled condition? Yes No N/A
Temperature (if yes)? 8.1°C
7. Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)? Yes No N/A
8. Were sample custody seals intact? Yes No N/A
9. Does the number of samples received agree with COC? Yes No N/A
10. Did sample labels correspond with the client ID's? Yes No N/A
11. Did sample labels indicate proper preservation? Yes No N/A
Preserved by: Truesdail Lab Client
12. Were samples pH checked? pH = _____ Yes No N/A
13. Were all analyses within holding time at time of receipt? Yes No N/A
If not, notify the Project Manager.
14. Have Project due dates been checked and accepted? Yes No N/A
Turn Around Time (TAT): RUSH Std
15. **Sample Matrix:** Liquid Drinking Water Ground Water Waste Water
 Sludge Soil Wipe Paint Solid Other water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: _____ 



Section 3.0

Data Package

QC Batch 909338

Pages: 001-065

Cross Reference Table
Calibration Data Retention Time Window
Sample Raw Data
Extraction Chronicle
Extraction Sample Log
Organic Standard Preparation Logbook
Daily Sample Log
Sample Queue
Peak Responses
Multipoint Calibration
Samples and QC chromatograms

Truesdall Laboratories, Inc.

Client: Test America - Irvine
 Laboratory Number: 994230
 Batch QA/QC Number: 709338
 Instrument Batch #: 699
 Extraction Batch #: 5494

Cross-Reference of field sample number to laboratory sample number & Sample queue description

#	Name	Description	File Name	DF
1	MP BLANK 1	Mobile Phase blank consisting of 50:50 water:acetonitrile	MR112301	1
2	709338-Std 1	Hydrazine standard #1 with a spike amount of MMH:UDMH:Hydrazine=5:5:1ug/L	MR112302	1
3	709338-Std 2	Hydrazine standard #2 with a spike amount of MMH:UDMH:Hydrazine=10:10:2ug/L	MR112303	1
4	709338-Std 3	Hydrazine standard #3 with a spike amount of MMH:UDMH:Hydrazine=25:25:5ug/L	MR112304	1
5	709338-Std 4	Hydrazine standard #4 with a spike amount of MMH:UDMH:Hydrazine=50:50:10ug/L	MR112305	1
6	709338-Std 5	Hydrazine standard #5 with a spike amount of MMH:UDMH:Hydrazine=100:100:20ug/L	MR112306	1
7	ICV @ 25ppb	Initial Calibration verification using the Hydrazines standard #3	MR112307	1
8	709338-LCS	Lab control spike with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	MR112308	1
9	709338-LCSD	Lab control spike duplicate with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	MR112309	1
10	709338-MB	Method blank of the extraction batch # 5494	MR112310	1
11	994230	IUC2187	MR112311	1
12	994231	IUC2181	MR112312	1
13	994230 MS	IUC2187-03 with a spike amount of MMH:UDMH:Hydrazine=50:50:10ug/L	MR112313	1
14	994230 MSD	IUC2187-03 with a spike amount of MMH:UDMH:Hydrazine=50:50:10ug/L	MR112314	1
15	709338 QCS	QCS 2nd source with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	MR112315	1
16	MP BLANK 2	Mobile Phase blank consisting of 50:50 water:acetonitrile	MR112316	1

QC Report No. 709338
 Laboratory No. 994230
 Extrl. Batch No.: 5494
 Intr. Batch No.: 699
 Matrix: Water

Date Prepared: March 22, 2011
 Date Extracted: March 22, 2011
 Date Analyzed: March 23, 2011
 Date Reported: March 25, 2011
 Analyst JS

Calibration Data

Standard Preparation Information

Lab ID: WO11032201 Exp. Date: 3/29/2011		Concentration, ug/L				
Analytes	Conc. (ug/mL)	Std #1	Std #2	Std #3	Std #4	Std #5
Monomethyl Hydrazine	100	5.00	10.0	25.0	50.0	100
Unsymmetrical Dimethyl Hydrazine	100	5.00	10.0	25.0	50.0	100
Hydrazine	20.0	1.00	2.00	5.00	10.0	20.0

Calibration Curve Information

Analytes	R ²	RF % RSD	Response, Area				
			Std #1	Std #2	Std #3	Std #4	Std #5
Monomethyl Hydrazine	0.9992	18.7%	17123	23558	53007	107472	203465
Unsymmetrical Dimethyl Hydrazine	0.9987	19.0%	11800	17863	36512	76666	142688
Hydrazine	0.9990	17.8%	7353	10493	22990	48106	90900

Acceptance Limit: >0.995 <20%

Retention Time Windows (min)

Detectors	Analytes	Std.# 1	Std.# 3	Std.# 5	ICV	LCS	LCSD	QCS	Avg. RT	Width
UV#1 365 nm	MMH	6.608	6.533	6.533	6.525	6.508	6.492	6.492	6.527	0.119
	UDMH	11.525	11.475	11.483	11.458	11.458	11.450	11.442	11.470	0.084
	Hydrazine	15.483	15.408	15.442	15.375	15.375	15.375	15.383	15.406	0.126
UV#2 322 nm	MMH	6.700	6.608	6.542	6.592	6.567	6.550	6.558	6.588	0.164
	UDMH	11.592	11.533	11.542	11.517	11.517	11.508	11.500	11.530	0.093
	Hydrazine	15.567	15.475	15.500	15.450	15.442	15.425	15.442	15.472	0.147

Retention Time Windows

Parameter	MMH		UDMH		Hydrazine	
	UV #1	UV #2	UV #1	UV #2	UV #1	UV #2
Upper	6.646	6.752	11.554	11.622	15.532	15.618
Lower	6.408	6.424	11.386	11.437	15.280	15.325

ICV - Initial Calibration Verification

CCV - Continuous Calibration Verification

RT - Retention Time

%D - Percent Difference

Formulas:

$$RF \% RSD = 100\% * Stdev(Response Factor) / Average(Response Factor)$$

$$Response Factor = Concentration / Response$$

$$R^2 = (Covar(Concentration, Response) / (Stdevp(Concentration) * Stdevp(Response)))^2$$

Laboratory No.: 994230
 QC Report No: 709338
 Client: Test America - Irvine
 Extrf. Batch No: 5494
 Intr. Batch No.: 699
 Matrix/Samples: Water / 1 Sample

Date Sampled: March 20, 2011
 Date Received: March 22, 2011
 Date Extracted: March 22, 2011
 Date Analyzed: March 23, 2011
 Date Reported: March 25, 2011
 Analyst JS

Sample Information

Sample ID	Volume (mL)		DF	Date & Time Analyzed	Chromatography File ID
	Initial	Final			
709338-LCS	100	5	1	3/23/2011 12:10	MR112308
709338-LCSD	100	5	1	3/23/2011 12:36	MR112309
709338-MB	100	5	1	3/23/2011 13:01	MR112310
994230	100	5	1	3/23/2011 13:27	MR112311
994231	100	5	1	3/23/2011 13:52	MR112312
994230 MS	100	5	1	3/23/2011 14:17	MR112313
994230 MSD	100	5	1	3/23/2011 14:43	MR112314
709338 QCS	100	5	1	3/23/2011 15:08	MR112315

Retention Time

Sample ID	MMH		UDMH		Hydrazine	
	UV #1	UV #2	UV #1	UV #2	UV #1	UV #2
709338-LCS	6.508	6.567	11.458	11.517	15.375	15.442
709338-LCSD	6.492	6.550	11.450	11.508	15.375	15.425
709338-MB	ND	ND	ND	ND	ND	ND
994230	ND	ND	ND	ND	ND	ND
994231	ND	ND	ND	ND	ND	ND
994230 MS	6.508	6.567	11.433	11.492	15.383	15.442
994230 MSD	6.492	6.542	11.442	11.500	15.375	15.433
709338 QCS	6.492	6.558	11.442	11.500	15.383	15.442

DF = Dilution Factor
 RT = Retention Time
 ND = Not Detected

Truesdail Laboratories Inc.
EXTRACTION SAMPLE LOG

METHOD # 8315M

BATCH # 5494

Matrix (DW, WW, S, or other)*: LIQID

Start Date: 3-22-11

Finish Date: 3-23-11

HYDRAZINES

LAB. ID.#	CLIENT	INIT. VOL./WEIGHT	FINAL VOL.	SURROG.(V)	LCS/MS (V)
709338-MB	METHOD BLANK	100 ml	5 ml	MA	
709338-SDD1	BL - CAL.	↓	↓	↓	5 ml 1st
↓ 2	↓	↓	↓	↓	10
↓ 3	↓	↓	↓	↓	25
↓ 4	↓	↓	↓	↓	50
↓ 5	↓	↓	↓	↓	100
709338-LCS	BL	↓	↓	↓	50 ml 1st
↓ -LCS/D	↓	↓	↓	↓	↓
994230	TEST AMERICA - IRVINE	100 ml	5 ml	MA	
994231	↓	↓	↓	↓	50 ml 1st
994230 ALS	↓	↓	↓	↓	↓
↓ MSD	↓	↓	↓	↓	↓
709338-OES	BL	100 ml	5 ml	MA	50 ml 1st
3-22-11 JS					

EXTRACTION SOLVENTS.

CHECK WHAT APPLIES AND INDICATE MANUFACTURER/LOT ID.

MeCl₂ Manuf./Lot ID.: 49296

Acetone Manuf./Lot ID.:

Ethyl Acetate Manuf./Lot ID.:

Hexane Manuf./Lot ID.:

Ether Manuf./Lot ID.:

Other ACN
CM602

LIST SURROGATE(S) NAME (S), LCS/MS NAME, AND ID NUMBERS:

1ST SOURCE AROCLOR H. W011032201 @ 100 ug/ml EXP. 3-29-11

2ND SOURCE OTHER SOURCE W011032202 @ 100 ug/ml EXP. 3-29-11

*DW=Drinking Water; WW=Waste Water; S=Solid/Soil

EXTRACTION CHEMIST (PRINT NAME):

JEFFS

ORGANIC STANDARD PREPARATION LOGBOOK

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
E011012507	625 SUPROBATS	—	—	—	—	—
DATE PREP.: 1-25-11	B/W ACNO	0031950 0031949	5000 ^{ug/ml} 7500 ^{ug/ml}	1ml ↓	50ml ↓	100 ^{ug/ml} 150 ^{ug/ml}
ANALYST: JS.						
EXP. DATE: 7-25-11						
SOLVENT: MeOH						
SOLV. LOT ID:						
PESTERK						

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
S011020201	Hydrazines ^{IST}	—	—	—	—	—
DATE PREP.: 2-2-11	m m H u m H	0031151 0031152	0.8669 ^{ug/ml} 0.7919 ^{ug/ml}	46.2ul 50.6ul	8ml ↓	5000 ^{ug/ml} 5000 ↓
ANALYST: JS.	HYDRAZINE	0031150	1.021 ^{ug/ml}	7.84ul	↓	1000 ↓
EXP. DATE: 4-2-11						
SOLVENT: H ₂ O						
SOLV. LOT ID: NA						
IST SOURCE ANDREA						

TRUESDAIL LABORATORIES INC.

ORGANIC STANDARD PREPARATION LOGBOOK

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
S011020202	Hydrazines ^{2nd}	—	—	—	—	—
DATE PREP.: 2-2-11	MMH	0031158	0.8669/ul	46.2 ul	9ml	5000 10/ml
ANALYST: J-S	MMH	0031157	0.7919/ul	50.6 ul	↓	5000 ↓
EXP. DATE: 4-2-11	Hydrazines	0031156	1.019/ul	7.84 ul	↓	1000 ↓
SOLVENT: H ₂ O	2-2-11 JS					
SOLV. LOT ID: NA						
2 nd Sample Offensive						

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
W011020203	Hydrazines STD.	S011020201	5000 ug/ml 5000 1000	20ul	10ml	1000 ug/ml 1000 50
DATE PREP.: 2-2-11	2-2-11 JS					
ANALYST: JS						
EXP. DATE: 2-9-11						
SOLVENT: H ₂ O						
SOLV. LOT ID: NA						
1 st Sample Project						

ORGANIC STANDARD PREPARATION LOGBOOK

STANDARD ID.	COMPOUND	LAB. ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
W011032201	HYDRAZINES 1st		5000 $\mu\text{g/ml}$ 5000 1000	200ul	10ml	100 $\mu\text{g/ml}$ 100 20
DATE PREP.:						
3-22-11						
ANALYST:						
JB						
EXP. DATE:						
3-29-11						
SOLVENT:						
H ₂ O						
SOLV. LOT ID:						
MA						
Reagent						

STANDARD ID.	COMPOUND	LAB. ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
W011032202	HYDRAZINES 2nd		5000 $\mu\text{g/ml}$ 5000 1000	200ul	10ml	100 $\mu\text{g/ml}$ 100 20
DATE PREP.:						
3-22-11						
ANALYST:						
JB						
EXP. DATE:						
3-29-11						
SOLVENT:						
H ₂ O						
SOLV. LOT ID:						
MA						
Chem Service						

BASELINE 810 METHOD REPORT

Printed: 23-MAR-2011 16:07

EPA8315M, ODS COL, SHIMADZU LC/UV

Sample Queue

Queue Parameters

File Path: C:\MAX\DATA1\8315M Raw Sample Weight: 1.000
Starting Index: 1 Volume of Extract: 1.000

Stripchart Parameters

Scaling: Use x- and y-axis limits x-Axis limits: 0.0-12288
Peak Labels: Names, retention times y-Axis limits: 0.1037-0.001000
Regions: 2
Options: baselines, starts/ends, maxima

Sample Queue Table

#	Name	Type	Source	File Name	Index	Inj. Volume	Amount	Dilution
1	MP BLANK 1	UNKN	DISK	MR112301	1			
2	709338-Std 1	STND	DISK	MR112302	2			
3	709338-Std 2	STND	DISK	MR112303	3			
4	709338-Std 3	STND	DISK	MR112304	4			
5	709338-Std 4	STND	DISK	MR112305	5			
6	709338-Std 5	STND	DISK	MR112306	6			
7	ICV @ 25ppb	UNKN	DISK	MR112307	7			
8	709338-LCS	UNKN	DISK	MR112308	8			
9	709338-LCSD	UNKN	DISK	MR112309	9			
10	709338-MB	UNKN	DISK	MR112310	10			
11	994230	UNKN	DISK	MR112311	11			
12	994231	UNKN	DISK	MR112312	12			
13	994230 MS	UNKN	DISK	MR112313	13			
14	994230 MSD	UNKN	DISK	MR112314	14			
15	709338 QCS	UNKN	DISK	MR112315	15			
16	MP BLANK 2	UNKN	DISK	MR112316	16			

Standard Concentrations

Component	709338-Std 1	709338-Std 2	709338-Std 3	709338-Std 4	709338-Std 5
MNH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
*MNH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
UDMH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
*UDMH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
Hydrazine	1.000E+00	2.000E+00	5.000E+00	1.000E+01	2.000E+01
*Hydrazine	1.000E+00	2.000E+00	5.000E+00	1.000E+01	2.000E+01

MMH Calibration Report

Printed: 23-MAR-2011 16:08:12

Quant Basis: Area Rejection Tolerance: None Internal Standard: None
Curve Type: Linear Weighting: None Forced Through Origin: No
Y-axis Label: Concentration
Corr. Coef. (r): 0.9996185 Coef. of Determination (r²): 0.9992372

$$\text{Equation: Conc} = -2.665280\text{E}+00 + 5.025055\text{E}-04 * \text{R}$$

<u>Sample</u>	<u>File Name</u>	<u>Valid</u>	<u>Concentration</u>	<u>Response</u>	<u>Calc'd Concentration</u>	<u>% Deviation</u>	<u>Response Factor</u>
709338-Std 1	MR112302	Y	5.000000E+00	1.7122689E+04	5.938965E+00	-1.58E+01	2.920102E-04
709338-Std 2	MR112303	Y	1.000000E+01	2.3558314E+04	9.172902E+00	9.02E+00	4.244786E-04
709338-Std 3	MR112304	Y	2.500000E+01	5.3007031E+04	2.397104E+01	4.29E+00	4.716355E-04
709338-Std 4	MR112305	Y	5.000000E+01	1.0747237E+05	5.134017E+01	-2.61E+00	4.652358E-04
709338-Std 5	MR112306	Y	1.000000E+02	2.0346486E+05	9.957692E+01	4.25E-01	4.914854E-04

UDMH Calibration Report

Printed: 25-MAR-2011 12:41:33

Quant Basis: Area	Rejection Tolerance: None	Internal Standard: None
Curve Type: Linear	Weighting: None	Forced Through Origin: No
Y-axis Label: Concentration		
Corr. Coef. (r): 0.9993441	Coef. of Determination (r ²): 0.9986887	

Equation: Conc = -2.928306E+00 + 7.167084E-04 * R

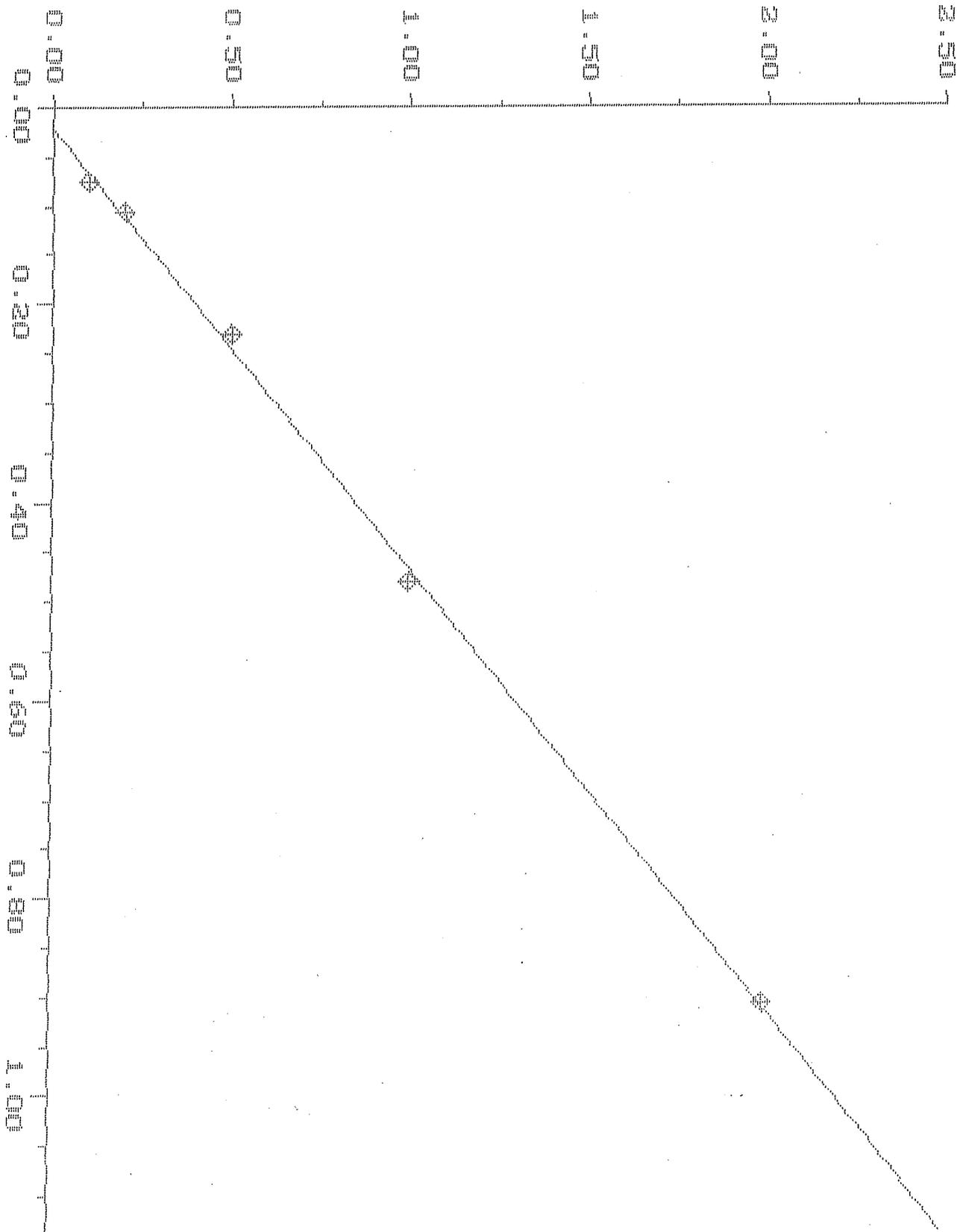
Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
709338-Std 1	MR112302	Y	5.000000E+00	1.1800112E+04	5.528934E+00	-9.57E+00	4.237248E-04
709338-Std 2	MR112303	Y	1.000000E+01	1.7862836E+04	9.874139E+00	1.27E+00	5.598215E-04
709338-Std 3	MR112304	Y	2.500000E+01	3.6512371E+04	2.324042E+01	7.57E+00	6.846994E-04
709338-Std 4	MR112305	Y	5.000000E+01	7.6666328E+04	5.201910E+01	-3.88E+00	6.521768E-04
709338-Std 5	MR112306	Y	1.000000E+02	1.4268803E+05	9.933741E+01	6.67E-01	7.008296E-04

Concentration

$\times 10^1$

Hydrazine Peak Response

$\times 10^3$



Hydrazine Calibration Report

Printed: 23-MAR-2011 16:08:28

Quant Basis: Area Rejection Tolerance: None Internal Standard: None
Curve Type: Linear Weighting: None Forced Through Origin: No
Y-axis Label: Concentration
Corr. Coef. (r): 0.9994765 Coef. of Determination (r²): 0.9989533

$$\text{Equation: Conc} = -4.576690\text{E-}01 + 2.240206\text{E-}04 * \text{R}$$

<u>Sample</u>	<u>File Name</u>	<u>Valid</u>	<u>Concentration</u>	<u>Response</u>	<u>Calc'd Concentration</u>	<u>% Deviation</u>	<u>Response Factor</u>
709338-Std 1	MR112302	Y	1.000000E+00	7.3526064E+03	1.189466E+00	-1.59E+01	1.360062E-04
709338-Std 2	MR112303	Y	2.000000E+00	1.0492535E+04	1.892875E+00	5.66E+00	1.906117E-04
709338-Std 3	MR112304	Y	5.000000E+00	2.2990490E+04	4.692675E+00	6.55E+00	2.174812E-04
709338-Std 4	MR112305	Y	1.000000E+01	4.8106031E+04	1.031907E+01	-3.09E+00	2.078741E-04
709338-Std 5	MR112306	Y	2.000000E+01	9.0900461E+04	1.990591E+01	4.73E-01	2.200209E-04

BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 16:57:08

SAMPLE: MP BLANK 1

#1 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
Acquired: 23-MAR-2011 9:11
Rate: 2.0 points/sec
Duration: 24.900 minutes
Operator: JS

Type: UNKN
Instrument: Shimadzu 6A
Filename: MRI12301
Index: 1

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			1.733	915	
2			5.367	651	
3			21.950	720	
TOTAL				2286	0.0000

DETECTOR: *UV #2 322

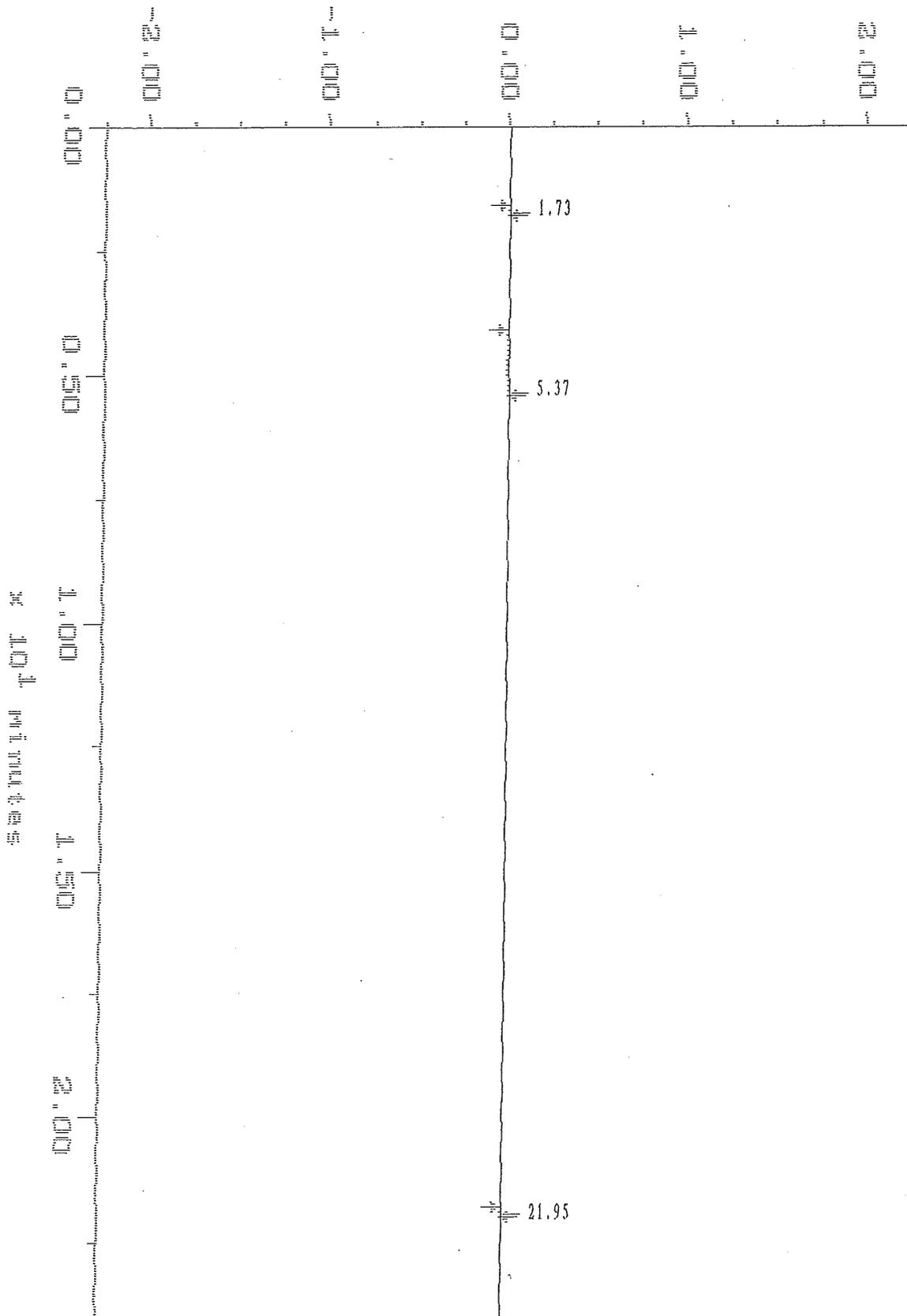
PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
TOTAL				0	0.0000

Sample: MP BLANK 1
Acquired: 23-MAR-11 9:11

Channel: UV #1 365
Method: C:\MAX\DATA1\HYD-699

Filename: MR112301
Operator: JS

5000000

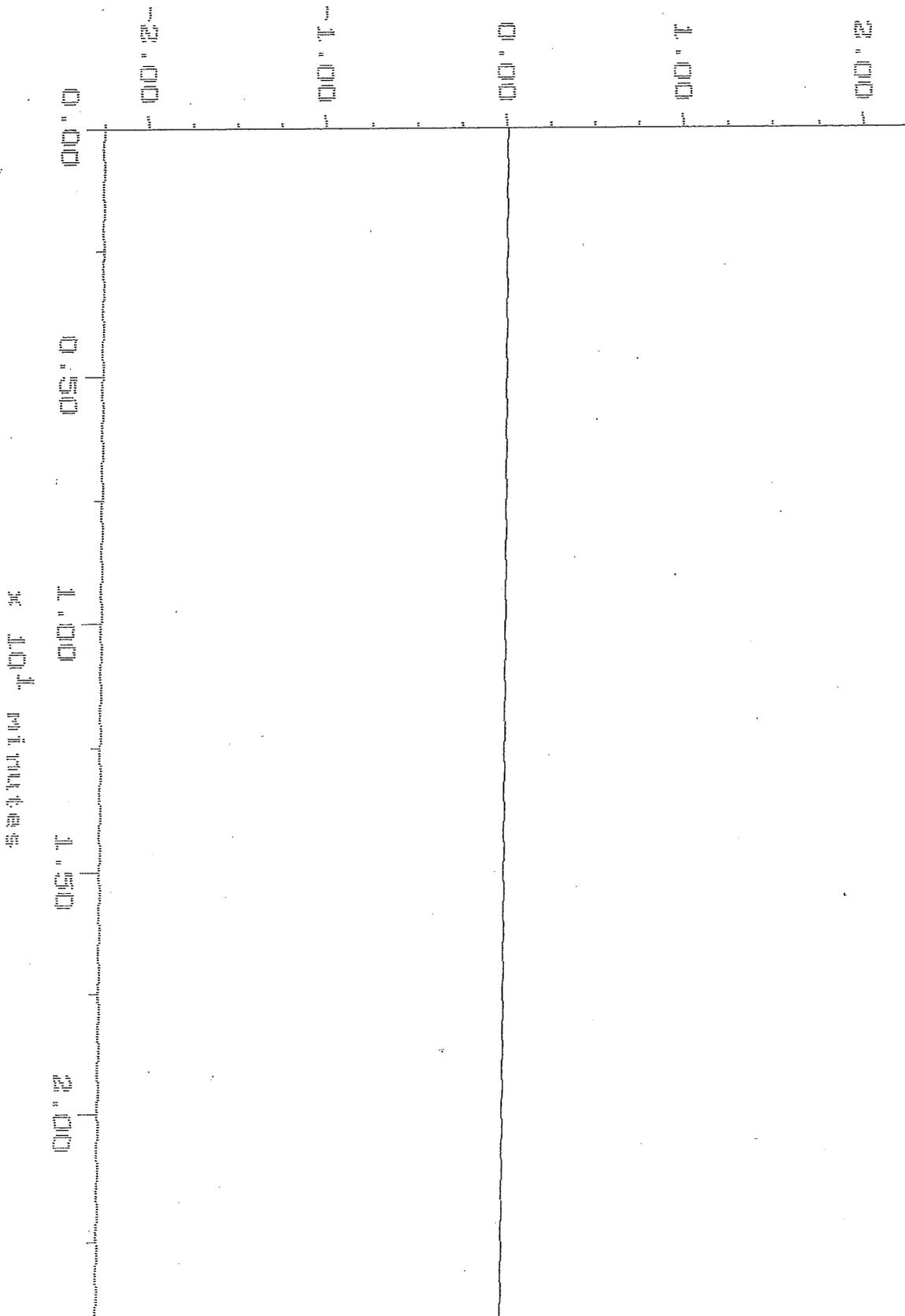


Sample: MP BLANK 1
Acquired: 23-MAR-111 9:11

Channel: #UV #2 322
Method: C:\MAX\DATA1\HYD-699

Filename: MR112301
Operator: JS

50000



BASELINE 810 CUSTOM REPORT

Printed: 25-MAR-2011 12:32:39

SAMPLE: 709338-Std 1

#2 in Method: EPA8315M,ODS COL,SHINADZU LC/UV

Acquired: 23-MAR-2011 9:37

Rate: 2.0 points/sec

Duration: 24.900 minutes

Operator: JS

Type: STND

Instrument: Shimadzu 6A

Filename: MR112302

Index: 2

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.642	605042	
2	1	MMH	6.608	17123	5.0000
3			9.492	1160	
4	3	UDMH	11.525	11800	5.0000
5			13.625	1678	
6	5	Hydrazine	15.483	7353	1.0000
7			20.350	1527	
TOTAL				645682	11.0000

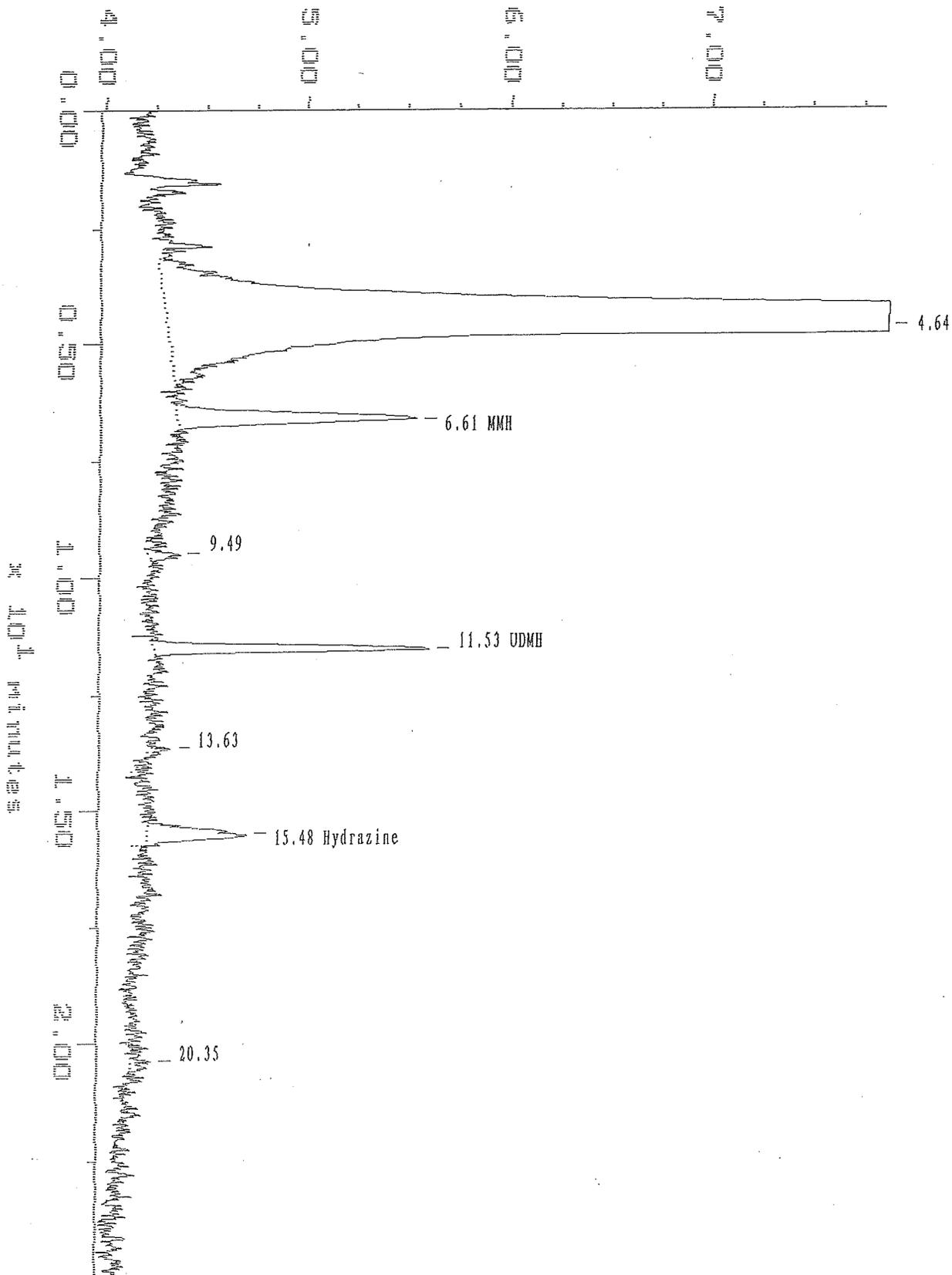
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.700	3984855	
2	2	*MMH	6.700	7619	5.0000
3			8.825	1143	
4			9.533	3026	
5	4	*UDMH	11.592	3601	5.0000
6	6	*Hydrazine	15.567	23155	1.0000
TOTAL				4023400	11.0000

Sample: 709338-Std 1 Channel: UV #1 365
Acquired: 23-MAR-11 9:37 Method: C:\MAX\DATA1\HYD-699

Filename: MR112302
Operator: JS

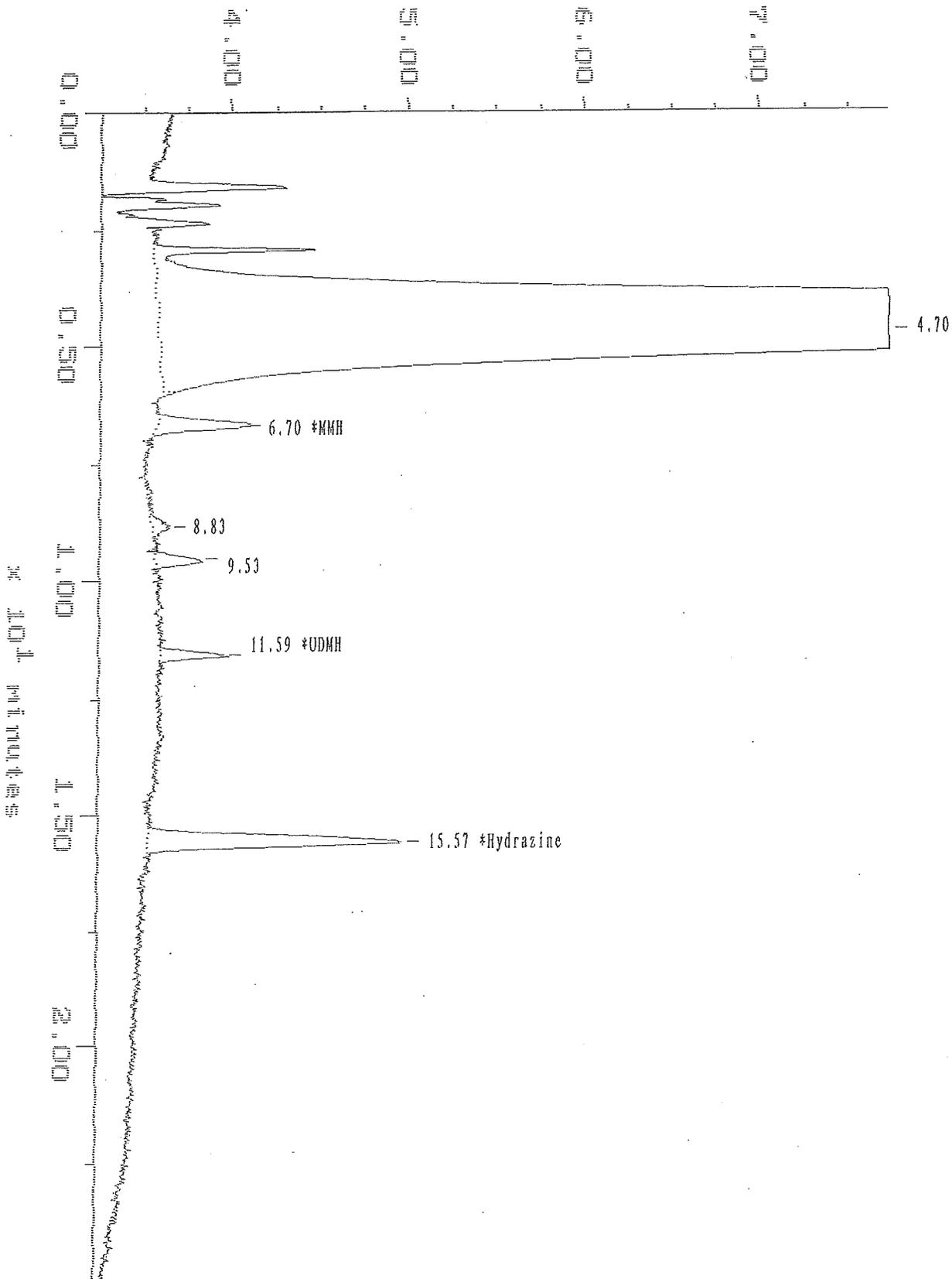
$\times 10^{-4}$ volts



Sample: 709338-Std 1 Channel: *UV #2 322
Acquired: 23-MAR-11 9:37 Method: C:\MAX\DATA1\HYD-699

Filename: MR112302
Operator: JS

$\times 10^{-3}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 16:58:40

SAMPLE: 709338-Std 2

#3 in Method: EPA8315M, ODS COL, SHIMADZU LC/UV
 Acquired: 23-MAR-2011 10:02
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: STND
 Instrument: Shimadzu 6A
 Filename: MR112303
 Index: 3

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.633	660287	
2	1	MMH	6.558	23558	10.0000
3			8.317	1380	
4	3	UDMH	11.492	17863	10.0000
5	5	Hydrazine	15.450	10493	2.0000
TOTAL				713580	22.0000

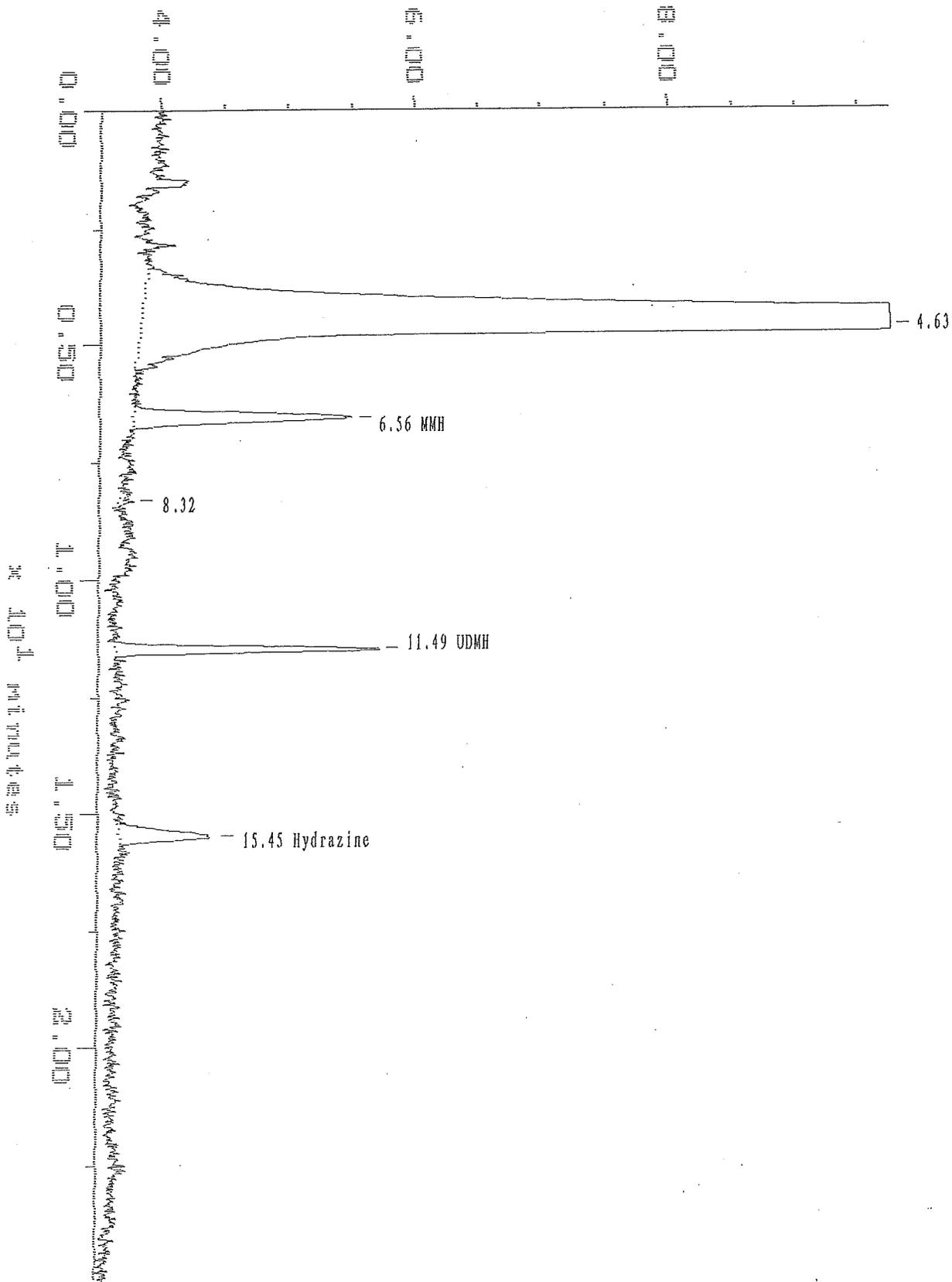
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.700	4425741	
2	2	*MMH	6.642	12655	10.0000
3			8.817	1212	
4			9.517	3473	
5	4	*UDMH	11.550	5707	10.0000
6	6	*Hydrazine	15.525	34296	2.0000
TOTAL				4483084	22.0000

Sample: 709338-Std 2 Channel: UV #1 365
Acquired: 23-MAR-11 10:02 Method: C:\MAX\DATA1\HYD-699

Filename: MR112303
Operator: JS

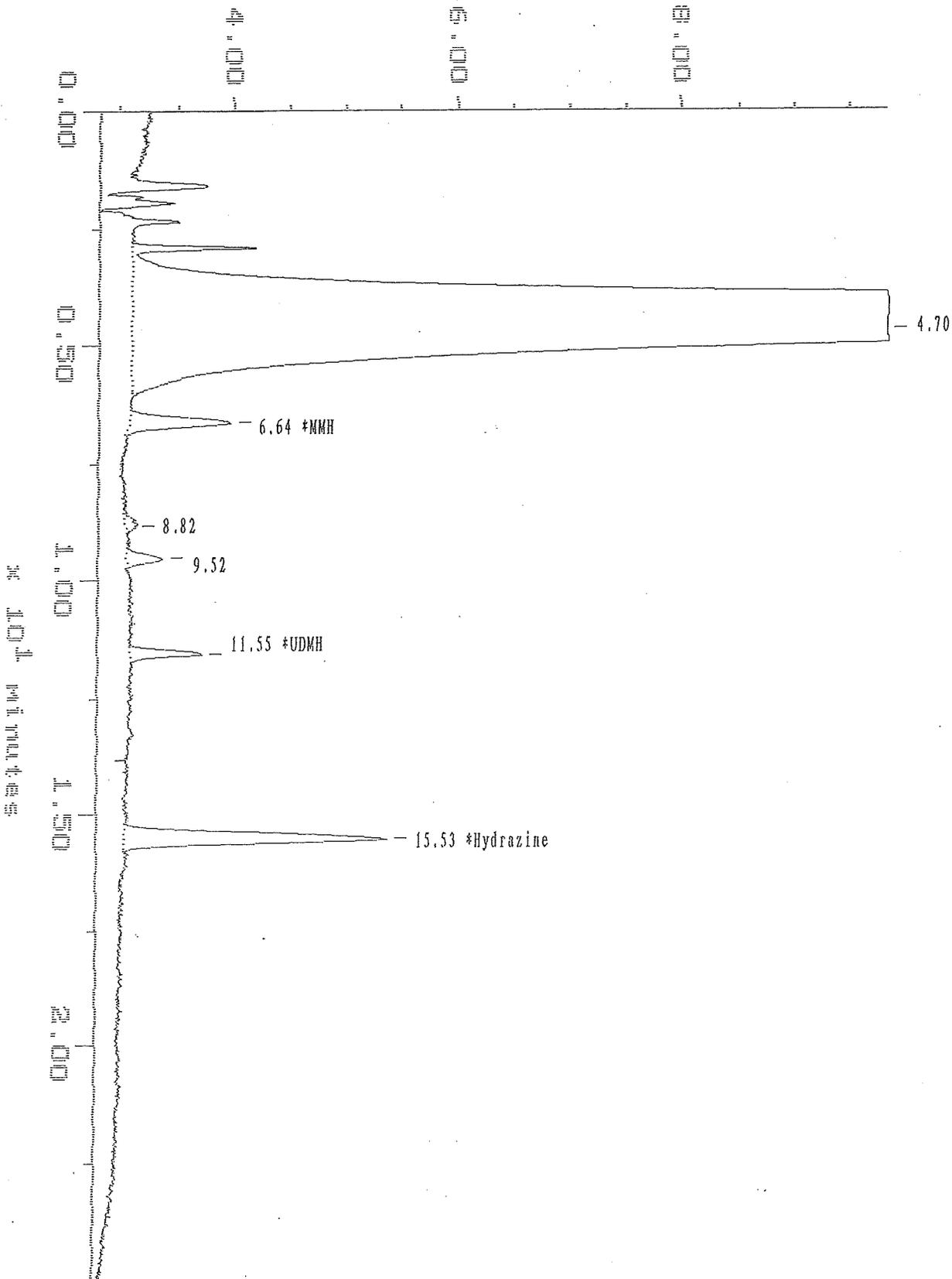
$\times 10^{-3}$ volts



Sample: 709338-Std 2 Channel: #UV #2 322
Acquired: 23-MAR-11 10:02 Method: C:\MAX\DATA1\HYD-699

Filename: MR112303
Operator: JS

$\times 10^{-6}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 16:59:26

SAMPLE: 709338-Std 3

#4 in Method: EPA8315M, ODS COL, SHIMADZU LC/UV

Acquired: 23-MAR-2011 10:28

Rate: 2.0 points/sec

Duration: 24.900 minutes

Operator: JS

Type: STND

Instrument: Shimadzu 6A

Filename: HK112304

Index: 4

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.642	598719	
2	1	MMH	6.533	53007	25.0000
3			9.533	1088	
4	3	UDMH	11.475	36512	25.0000
5	5	Hydrazine	15.408	22990	5.0000
TOTAL				712317	55.0000

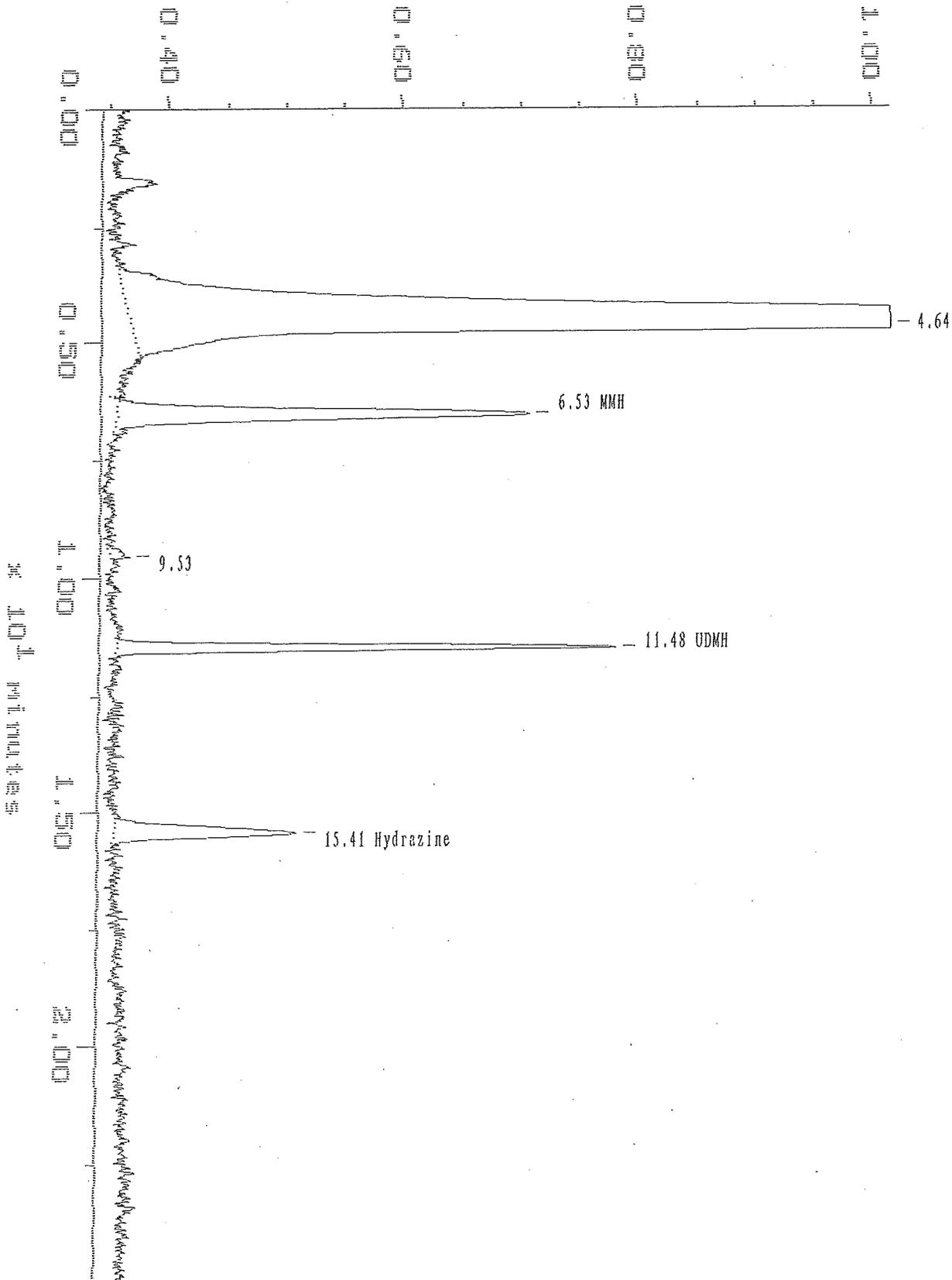
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.700	4040104	
2	2	*MMH	6.608	25942	25.0000
3			8.792	982	
4			9.525	3318	
5	4	*UDMH	11.533	11514	25.0000
6	6	*Hydrazine	15.475	70736	5.0000
TOTAL				4152596	55.0000

Sample: 709338-Std 3 Channel: UV #1 365
Acquired: 23-MAR-11 10:28 Method: C:\MAX\DATA1\HYD-699

Filename: MR112304
Operator: JS

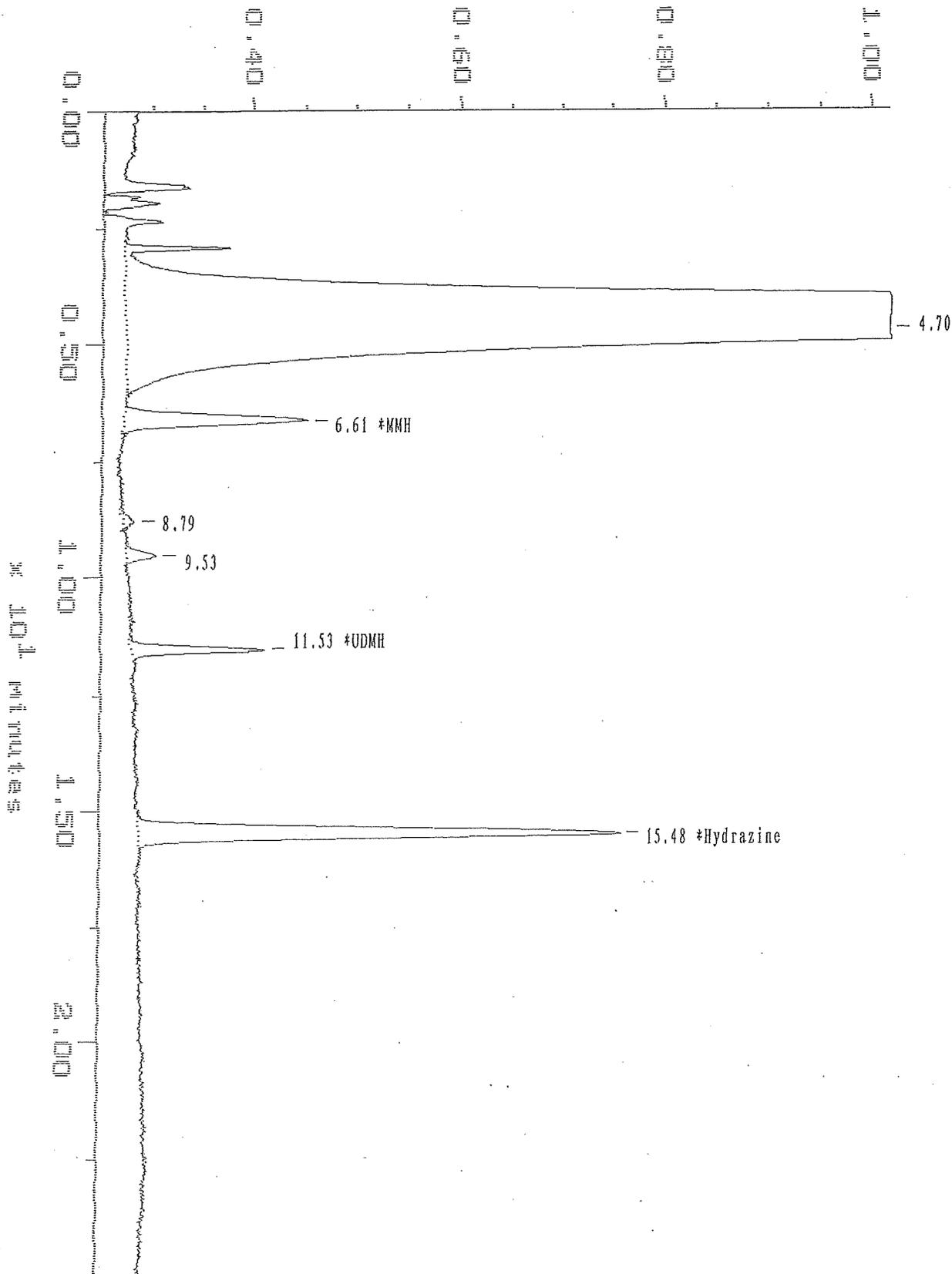
$\times 10^{-2}$ volts



Sample: 709338-Std 3 Channel: #UV #2 322
Acquired: 23-MAR-11 10:28 Method: C:\MAX\DATA1\HYD-699

Filename: MR112304
Operator: JS

$\times 10^{-2}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:00:11

SAMPLE: 709338-Std 4
 #5 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 10:53
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: STND
 Instrument: Shimadzu 6A
 Filename: MR112305
 Index: 5

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.592	688989	
2	1	MMH	6.567	107472	50.0000
3	3	UDMH	11.500	76666	50.0000
4	5	Hydrazine	15.467	48106	10.0000
TOTAL				921234	110.0000

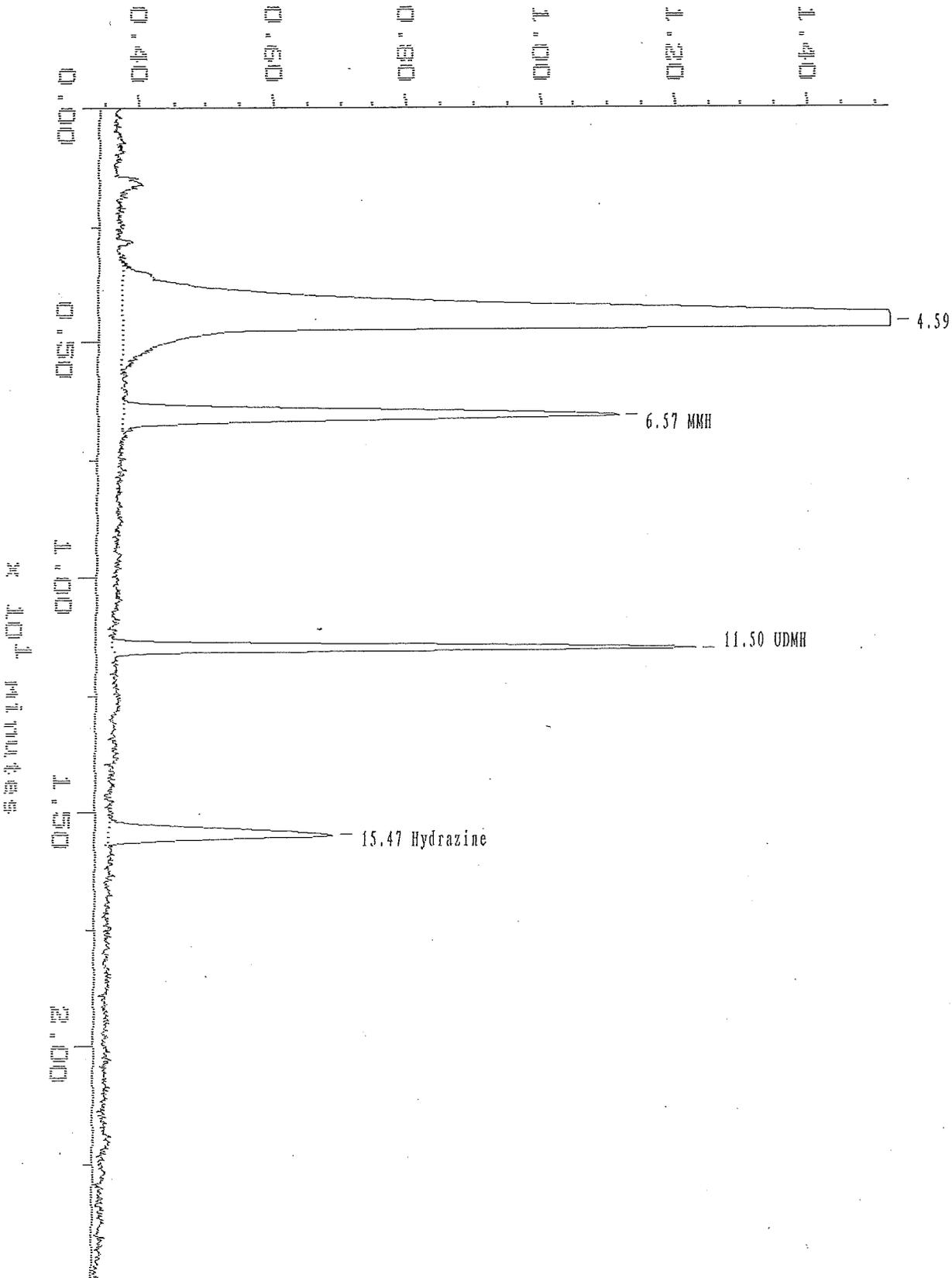
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.650	4600221	
2	2	*MMH	6.625	54594	50.0000
3			8.850	1823	
4			9.525	3820	
5	4	*UDMH	11.558	23600	50.0000
6			13.308	660	
7	6	*Hydrazine	15.525	151151	10.0000
TOTAL				4835871	110.0000

Sample: 709338-Std 4 Channel: UV #1 365
Acquired: 23-MAR-11 10:53 Method: C:\MAX\DATA1\HYD-699

Filename: MR112305
Operator: JS

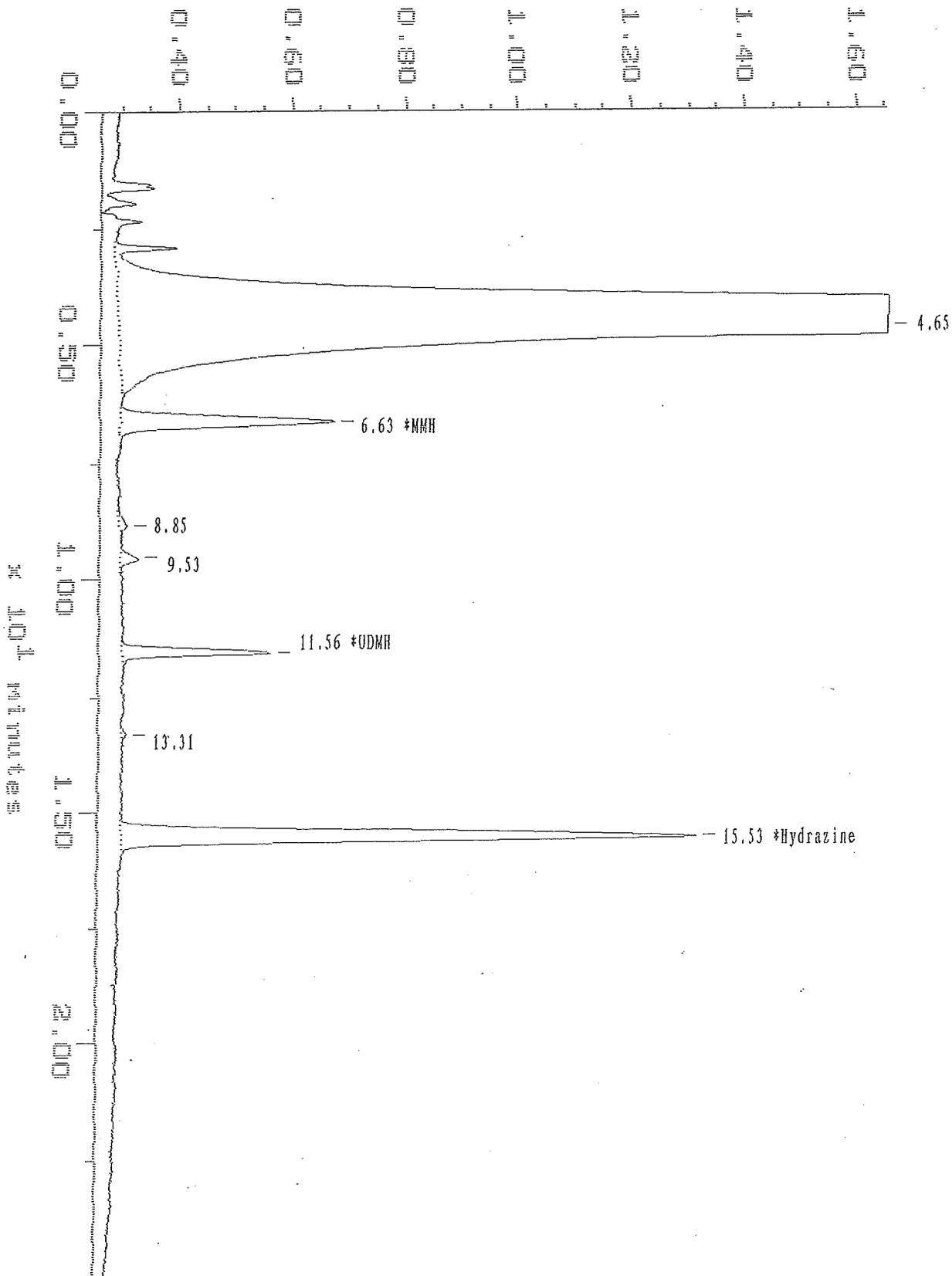
$\times 10^{-4}$ volts



Sample: 709338-Std 4 Channel: *UV #2 322
Acquired: 23-MAR-11 10:53 Method: C:\MAX\DATA1\HYD-699

Filename: MR112305
Operator: JS

$\times 10^{-2}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:00:57

SAMPLE: 709338-Std 5

#6 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 11:19
 Rate: 2.0 points/sec
 Duration: 24,900 minutes
 Operator: JS

Type: STND
 Instrument: Shimadzu 6A
 Filename: MR112306
 Index: 6

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.583	581429	
2	1	MMH	6.533	203465	100.0000
3	3	UDMH	11.483	142688	100.0000
4	5	Hydrazine	15.442	90900	20.0000
TOTAL				1018482	220.0000

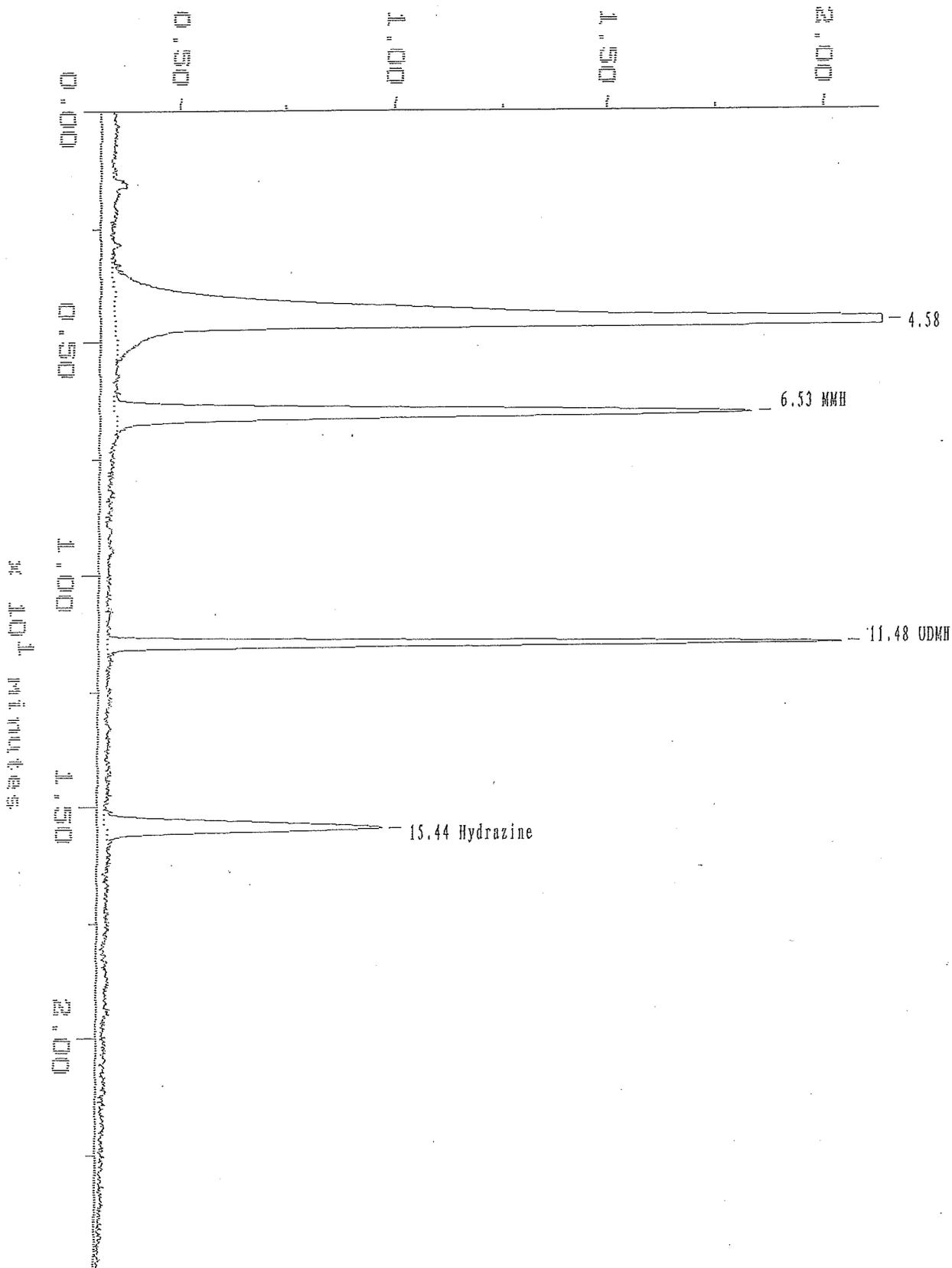
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.642	3870677	
2	2	*MMH	6.592	103391	100.0000
3			8.800	1282	
4			9.525	3178	
5	4	*UDMH	11.542	43521	100.0000
6	6	*Hydrazine	15.500	287125	20.0000
TOTAL				4309173	220.0000

Sample: 709338-Std 5 Channel: UV #1 365
Acquired: 23-MAR-11 11:19 Method: C:\MAX\DATA1\HYD-699

Filename: MR112306
Operator: JS

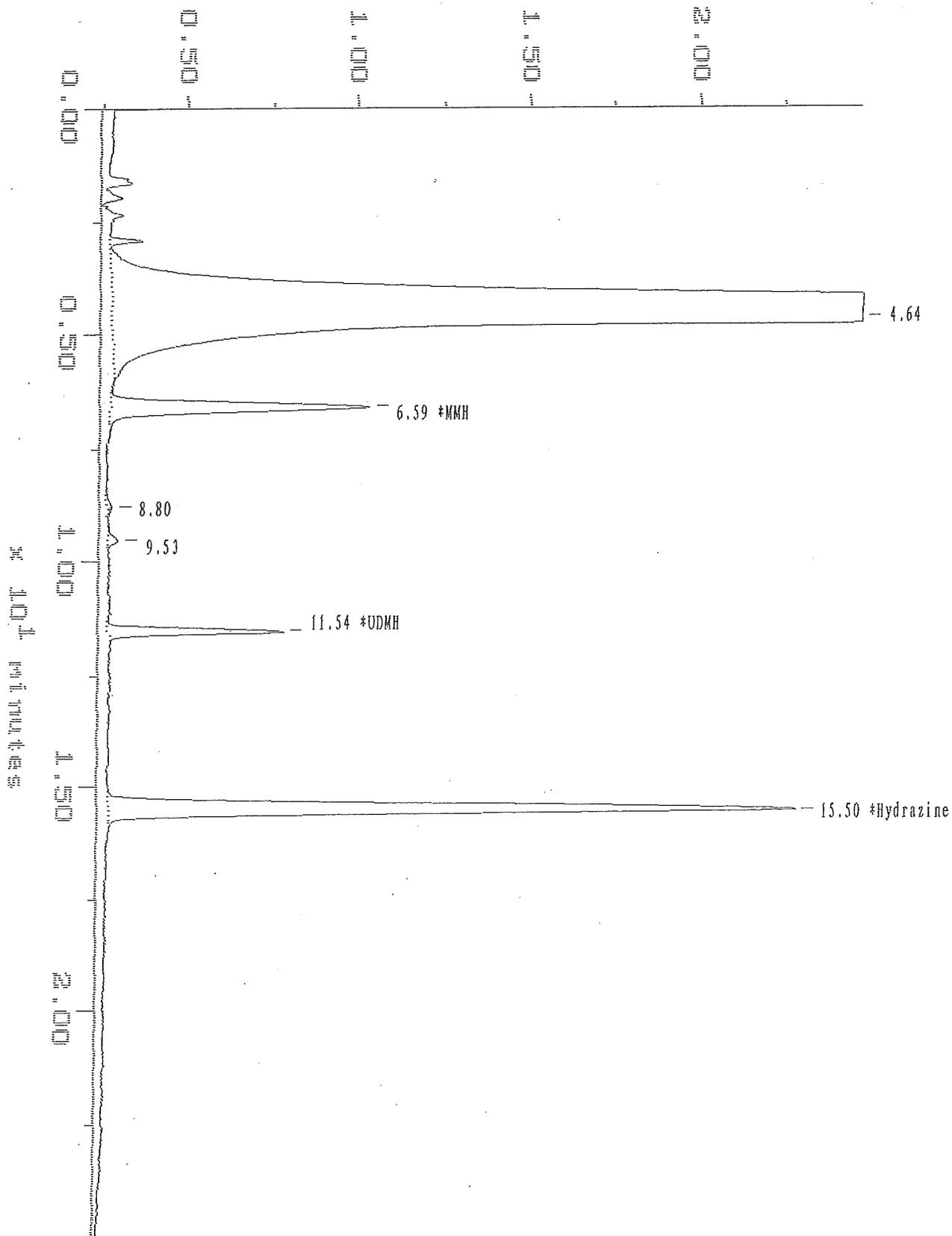
x 10⁻² volts



Sample: 709338-Std 5 Channel: #UV #2 322
Acquired: 23-MAR-11 11:19 Method: C:\MAX\DATA1\HYD-699

Filename: MR112306
Operator: JS

10⁴ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:01:44

SAMPLE: ICV @ 25ppb

#7 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 11:44
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MR112307
 Index: 7

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.625	615800	
2	1	MMH	6.525	53151	24.0432
3	3	UDMH	11.458	37714	23.9575
4	5	Hydrazine	15.375	22444	4.5703
5			21.058	3528	
TOTAL				732637	52.5710

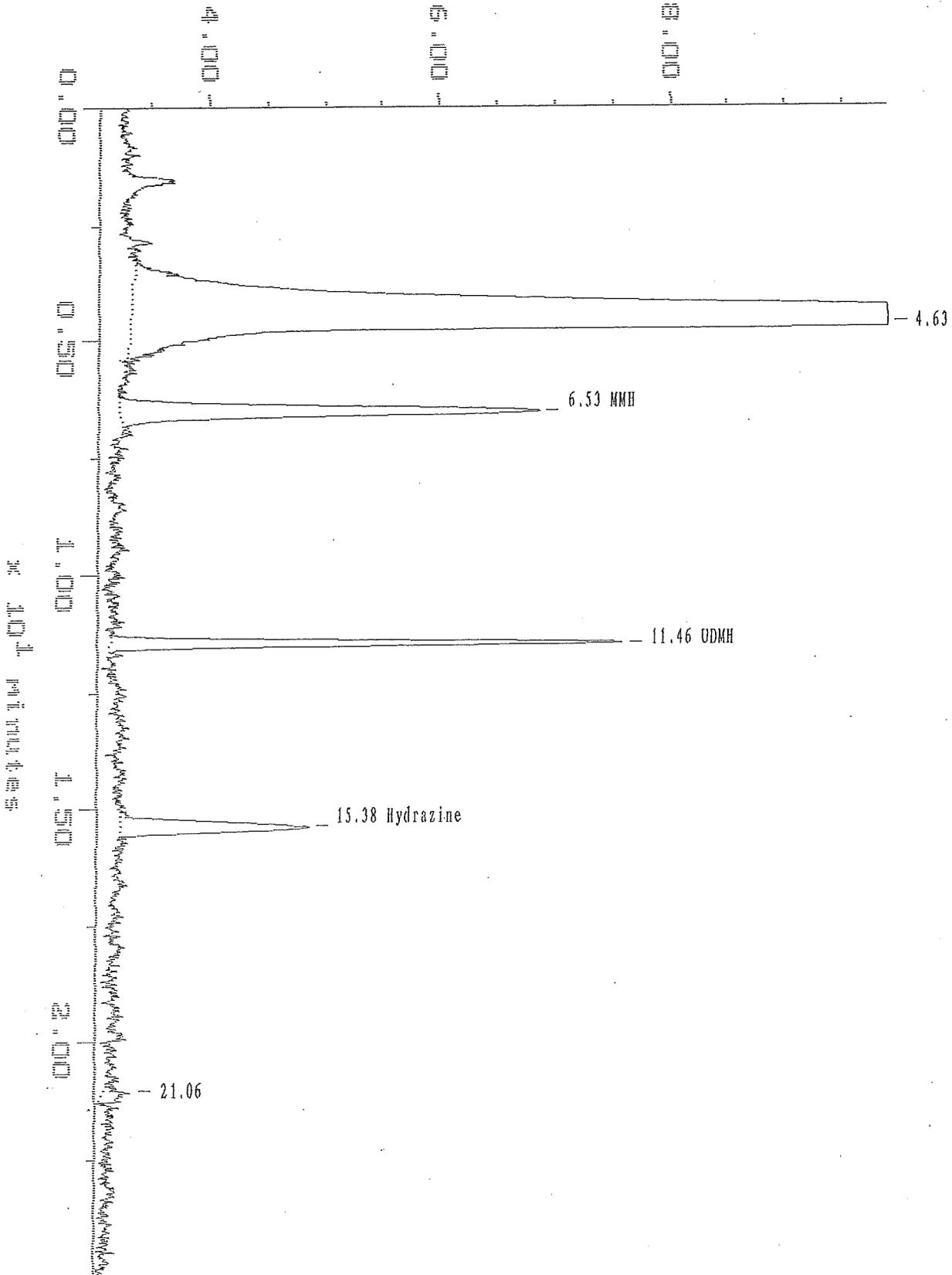
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.692	4076771	
2	2	*MMH	6.592	26258	23.6506
3			8.783	1252	
4			9.500	3136	
5	4	*UDMH	11.517	11648	23.9858
6	6	*Hydrazine	15.450	73319	4.7631
TOTAL				4192384	52.3995

Sample: ICV @ 25ppb Channel: UV #1 365
Acquired: 23-MAR-11 11:44 Method: C:\MAX\DATA1\HYD-699

Filename: MR112307
Operator: JS

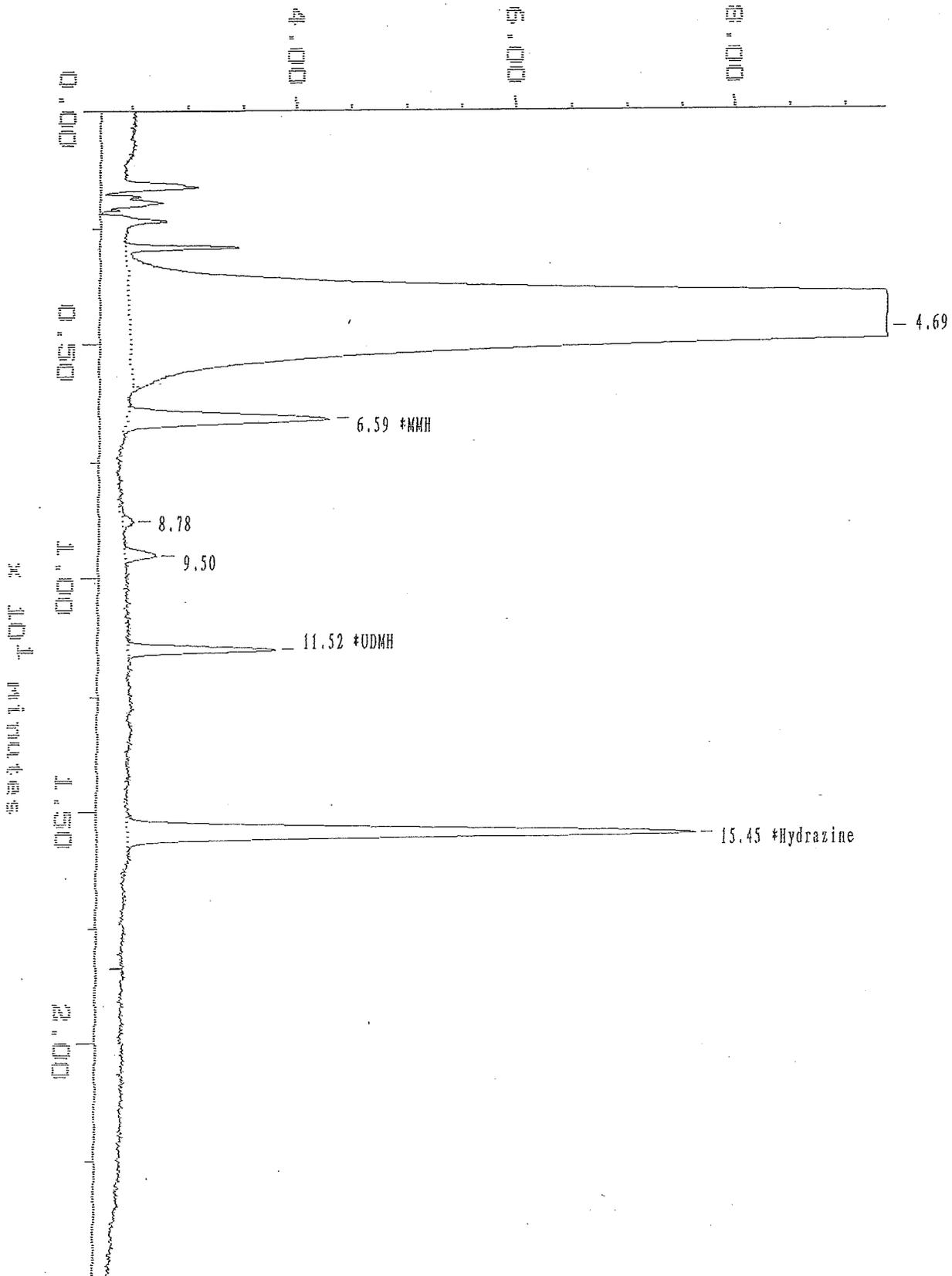
$\times 10^{-4}$ volts



Sample: ICV @ 25ppb Channel: *UV #2 322
Acquired: 23-MAR-11 11:44 Method: C:\MAX\DATA\HYD-699

Filename: MR112307
Operator: JS

$\times 10^{-4}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:02:30

SAMPLE: 709338-LCS

#8 in Method: EPA8315M, ODS COL, SHIMADZU LC/UV
 Acquired: 23-MAR-2011 12:10
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MRI12308
 Index: 8

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.583	684644	
2	1	MMH	6.508	104650	49.9218
3	3	UDMH	11.458	74878	50.6671
4	5	Hydrazine	15.375	46937	10.0572
TOTAL				911109	110.6461

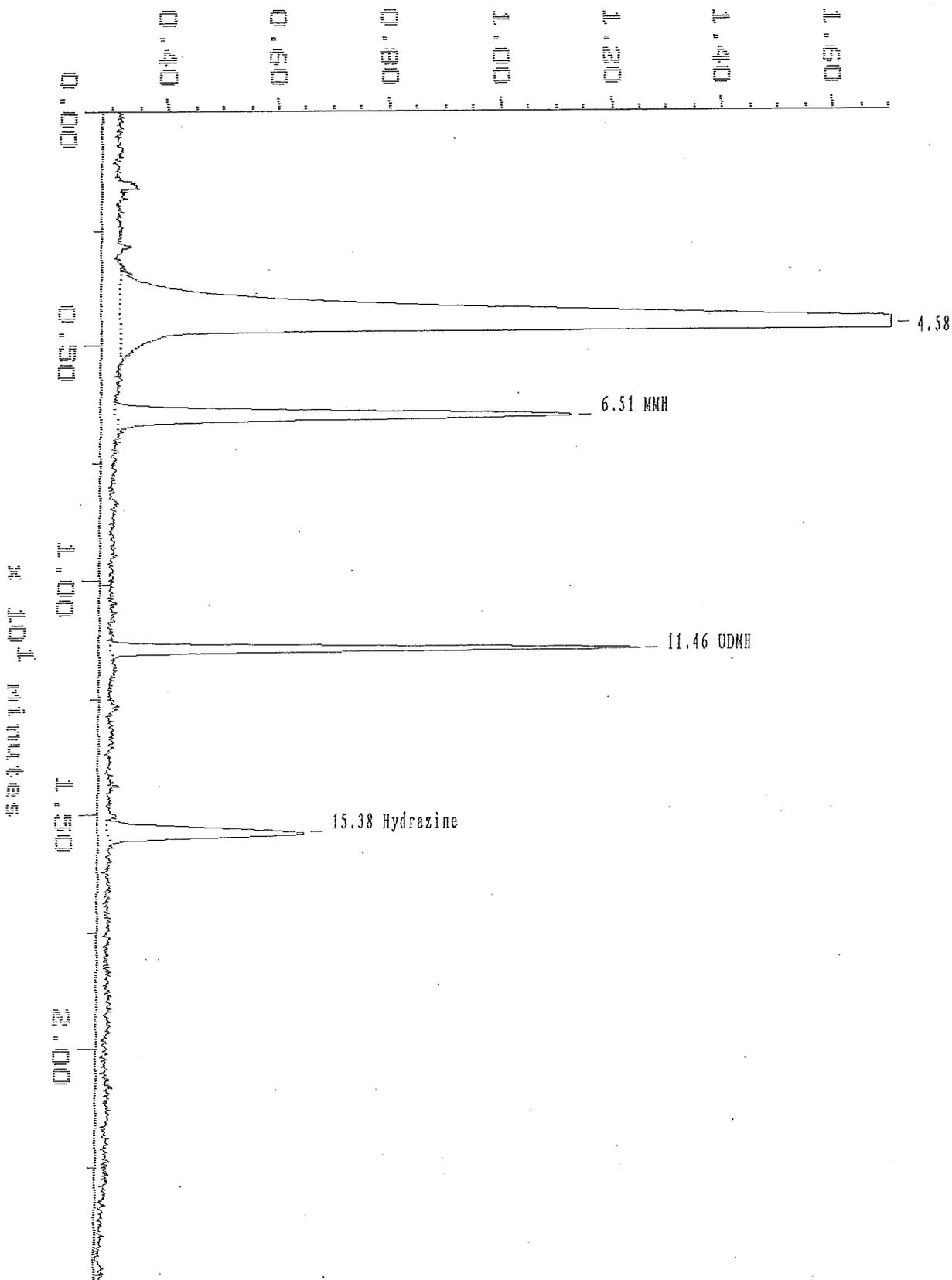
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.650	4525296	
2	2	*MMH	6.567	53228	50.1894
3			8.775	1404	
4			9.500	3709	
5	4	*UDMH	11.517	23011	50.7909
6			13.242	1306	
7	6	*Hydrazine	15.442	148147	10.0736
TOTAL				4756100	111.0539

Sample: 709338-LCS Channel: UV #1 365
Acquired: 23-MAR-11 12:10 Method: C:\MAX\DATA1\HYD-699

Filename: MR112308
Operator: JS

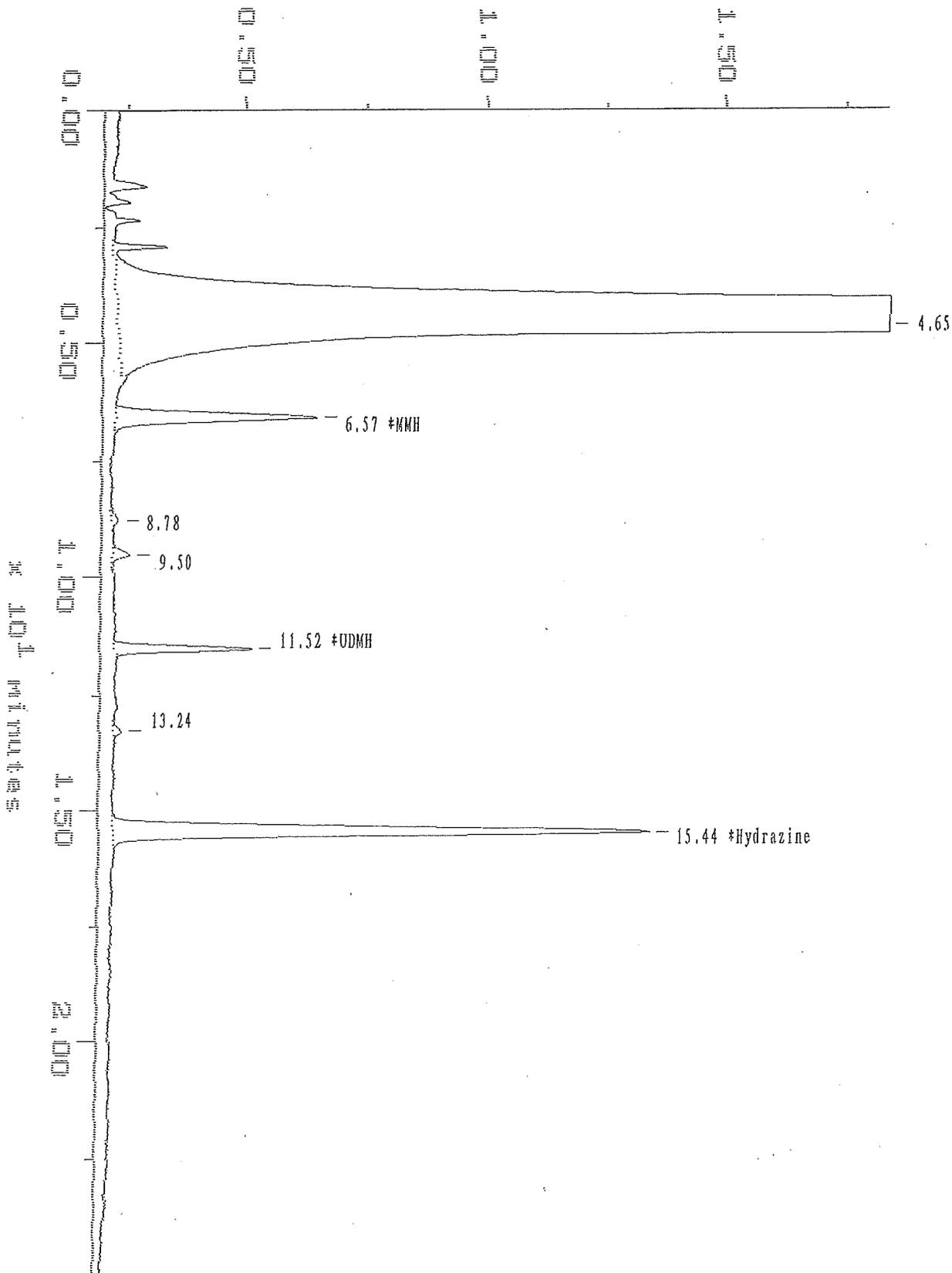
10⁻⁴ volts



Sample: 709338-LCS Channel: #OV #2 322
Acquired: 23-MAR-11 12:10 Method: C:\MAX\DATA1\HYD-699

Filename: MR112308
Operator: JS

$\times 10^{-4}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:03:16

SAMPLE: 709338-LCSD

#9 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 12:36
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MR112309
 Index: 9

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.575	661101	
2	1	MMH	6.492	102149	48.6650
3	3	UDMH	11.450	75078	50.8108
4	5	Hydrazine	15.375	45670	9.7733
TOTAL				883998	109.2491

DETECTOR: *UV #2 322

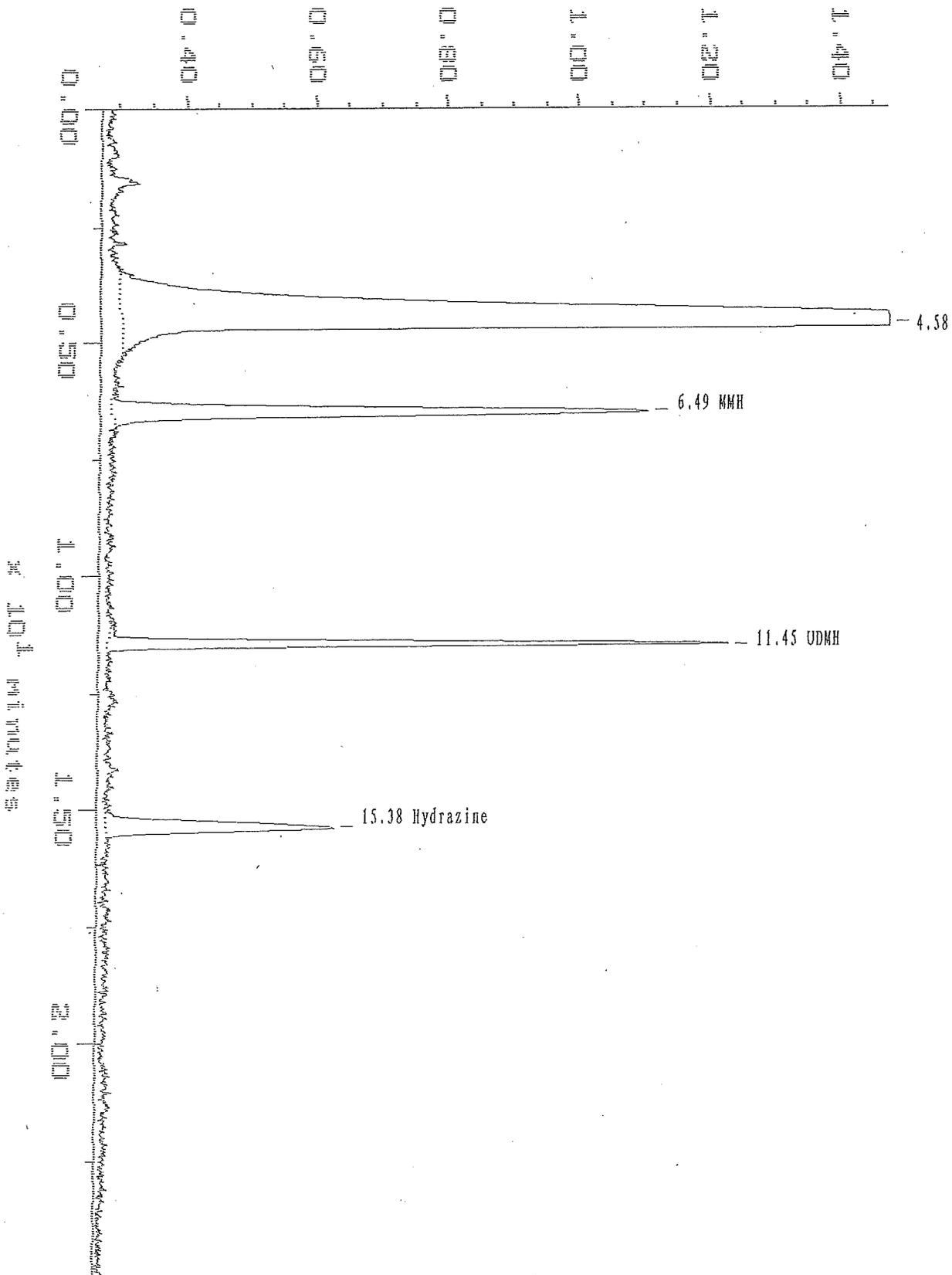
PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.633	4399814	
2	2	*MMH	6.550	51826	48.8097
3			8.717	1184	
4			9.458	3452	
5	4	*UDMH	11.508	22616	49.8594
6			12.742	620	
7			13.267	1629	
8	6	*Hydrazine	15.425	145146	9.8607
TOTAL				4626287	108.5297

Sample: 709338-LCSD
Acquired: 23-MAR-11 12:36

Channel: UV #1 365
Method: C:\MAX\DATA1\HYD-699

Filename: MR112309
Operator: JS

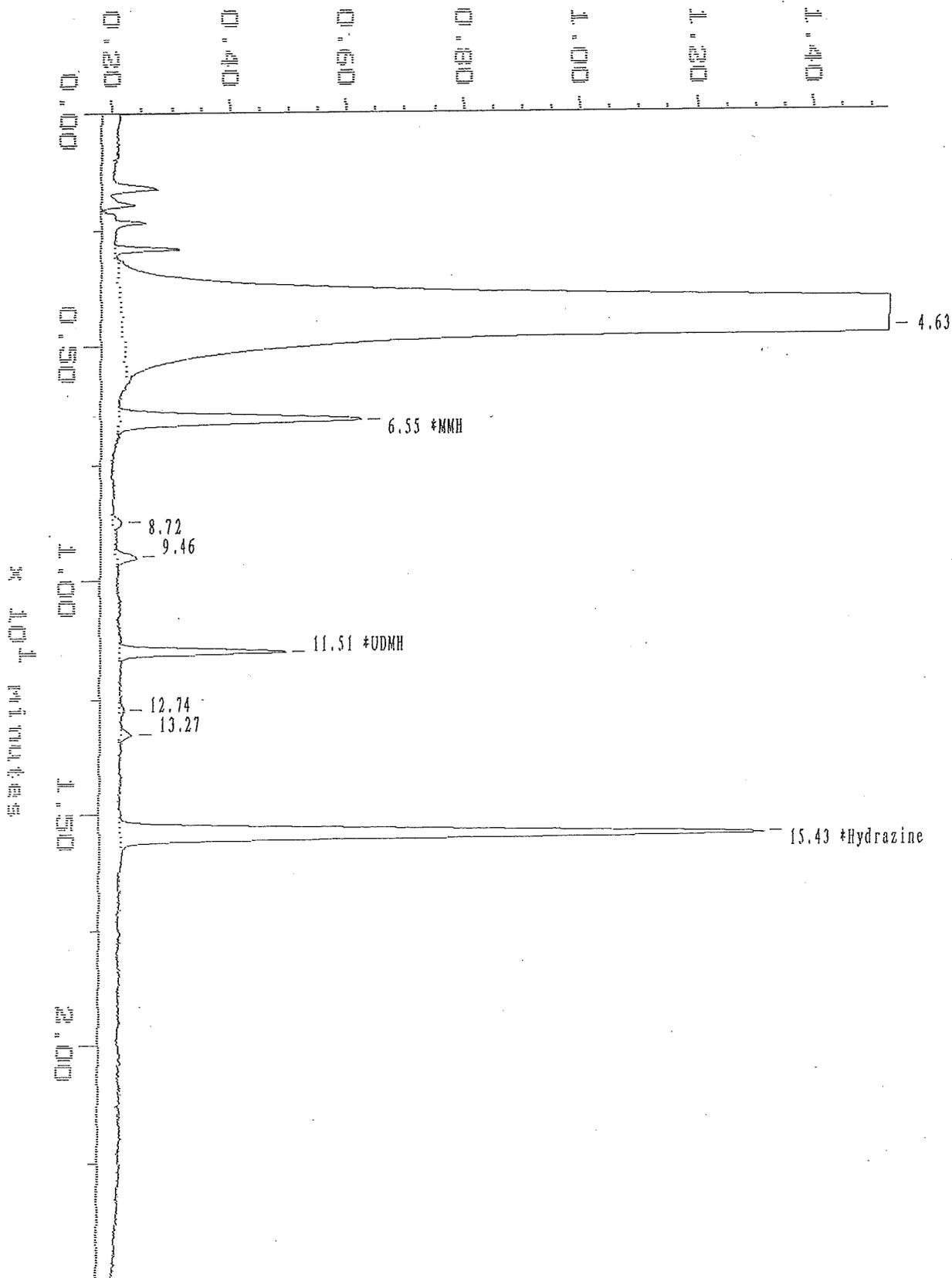
Hydrazine



Sample: 709338-LCSD Channel: #OV #2 322
Acquired: 23-MAR-11 12:36 Method: C:\MAX\DATA1\HYD-699

Filename: MR112309
Operator: JS

$\times 10^{-2}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:04:03

SAMPLE: 709338-MB

#10 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 13:01
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MR112310
 Index: 10

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.608	726135	
TOTAL				726135	0.0000

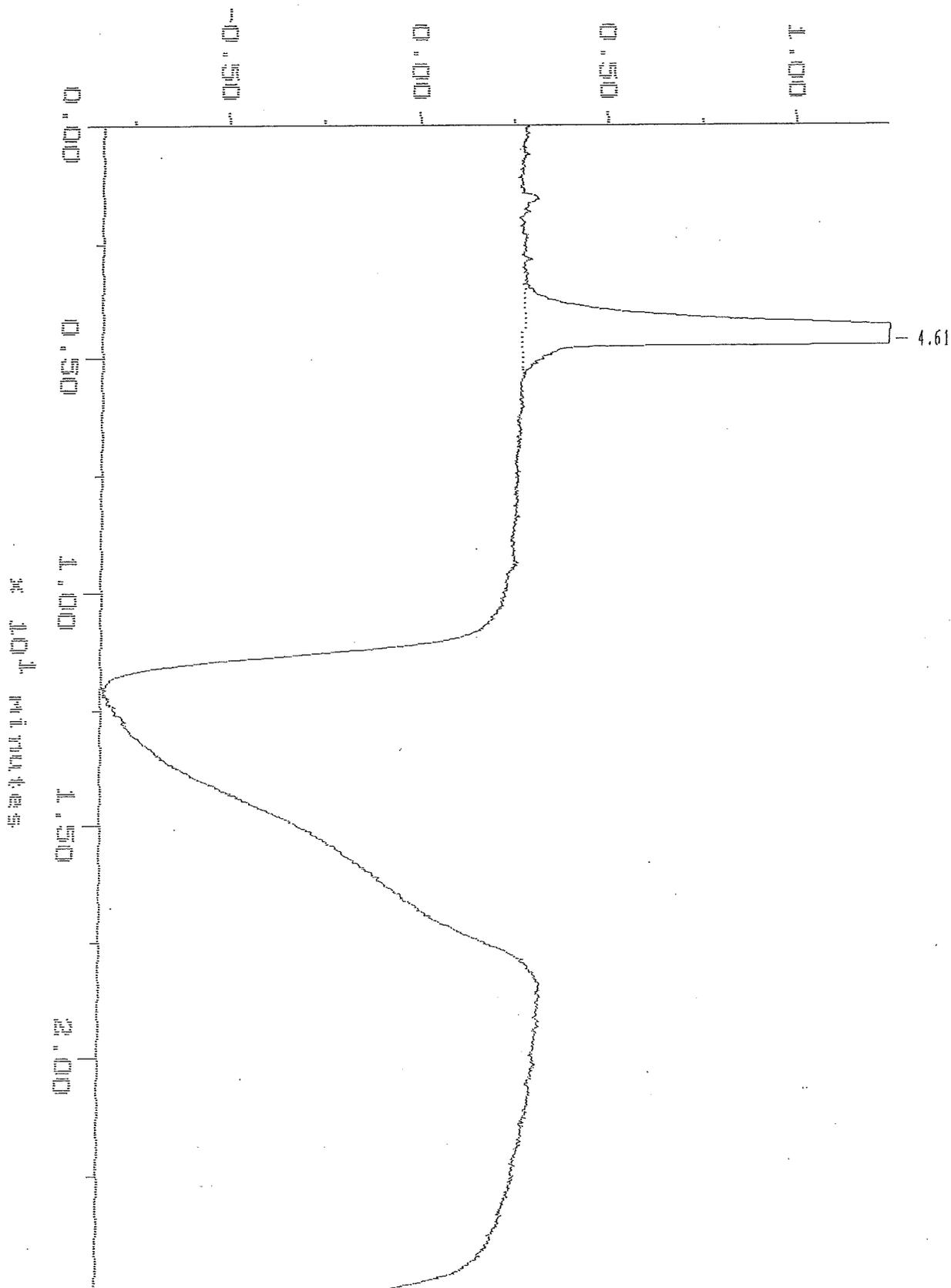
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.675	4772582	
2			8.775	1477	
3			9.483	3948	
4			13.225	1516	
TOTAL				4779524	0.0000

Sample: 709338-MB Channel: UV #1 365
Acquired: 23-MAR-11 13:01 Method: C:\MAX\DATA1\HYD-699

Filename: MR112310
Operator: JS

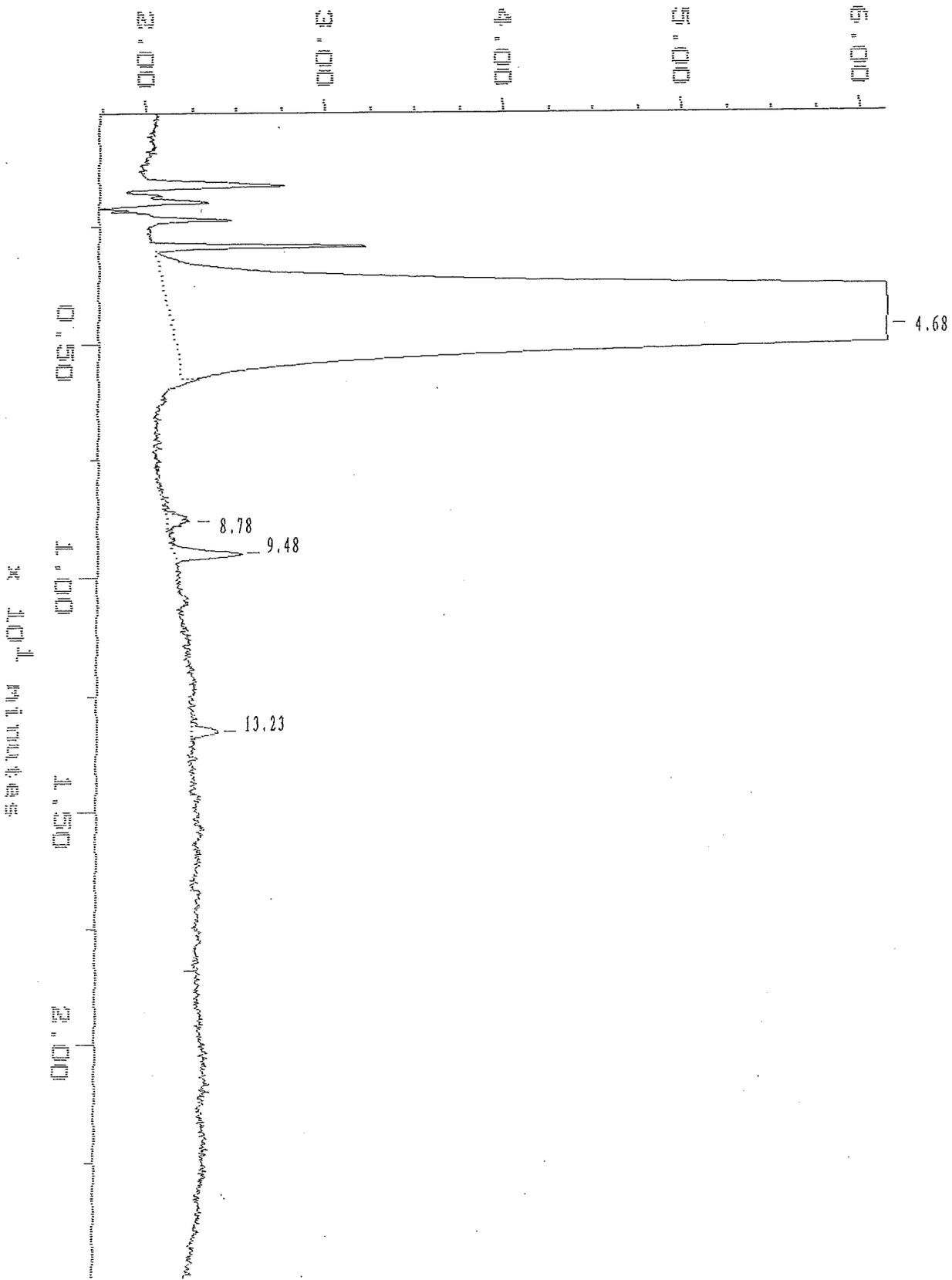
x 10⁻² volts



Sample: 709338-MB Channel: #UV #2 322
Acquired: 23-MAR-11 13:01 Method: C:\MAX\DATA1\HYD-699

Filename: MR112310
Operator: JS

UV-Vis Spectrum



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:04:49

SAMPLE: 994230

#11 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 13:27
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MR112311
 Index: 11

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.600	627561	
TOTAL				627561	0.0000

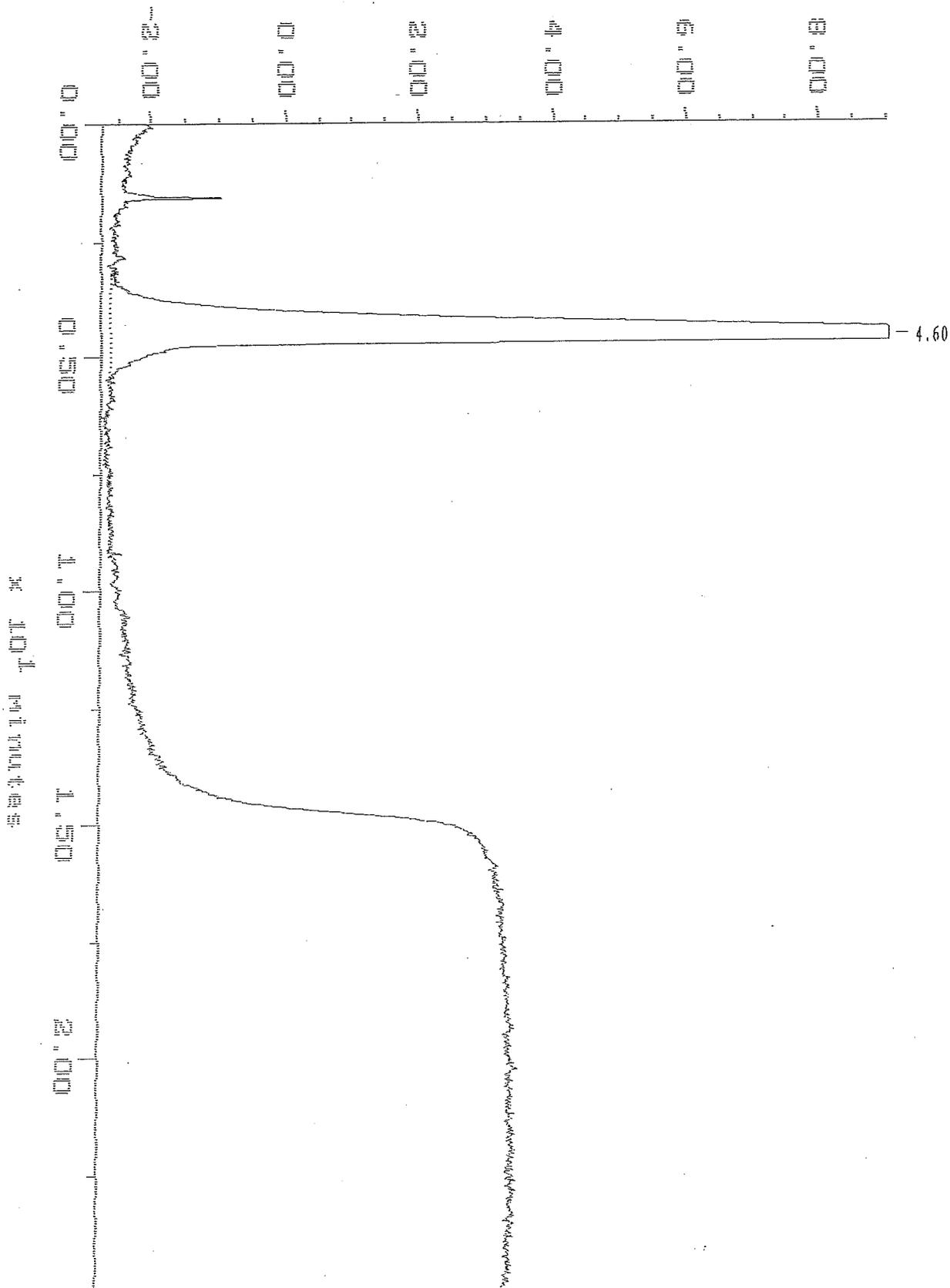
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.658	4077892	
2			8.733	1184	
3			9.508	2989	
4			13.233	5985	
TOTAL				4088050	0.0000

Sample: 994230 Channel: UV #1 365
Acquired: 23-MAR-11 13:27 Method: C:\MAX\DATA1\HYD-699

Filename: MR112311
Operator: JS

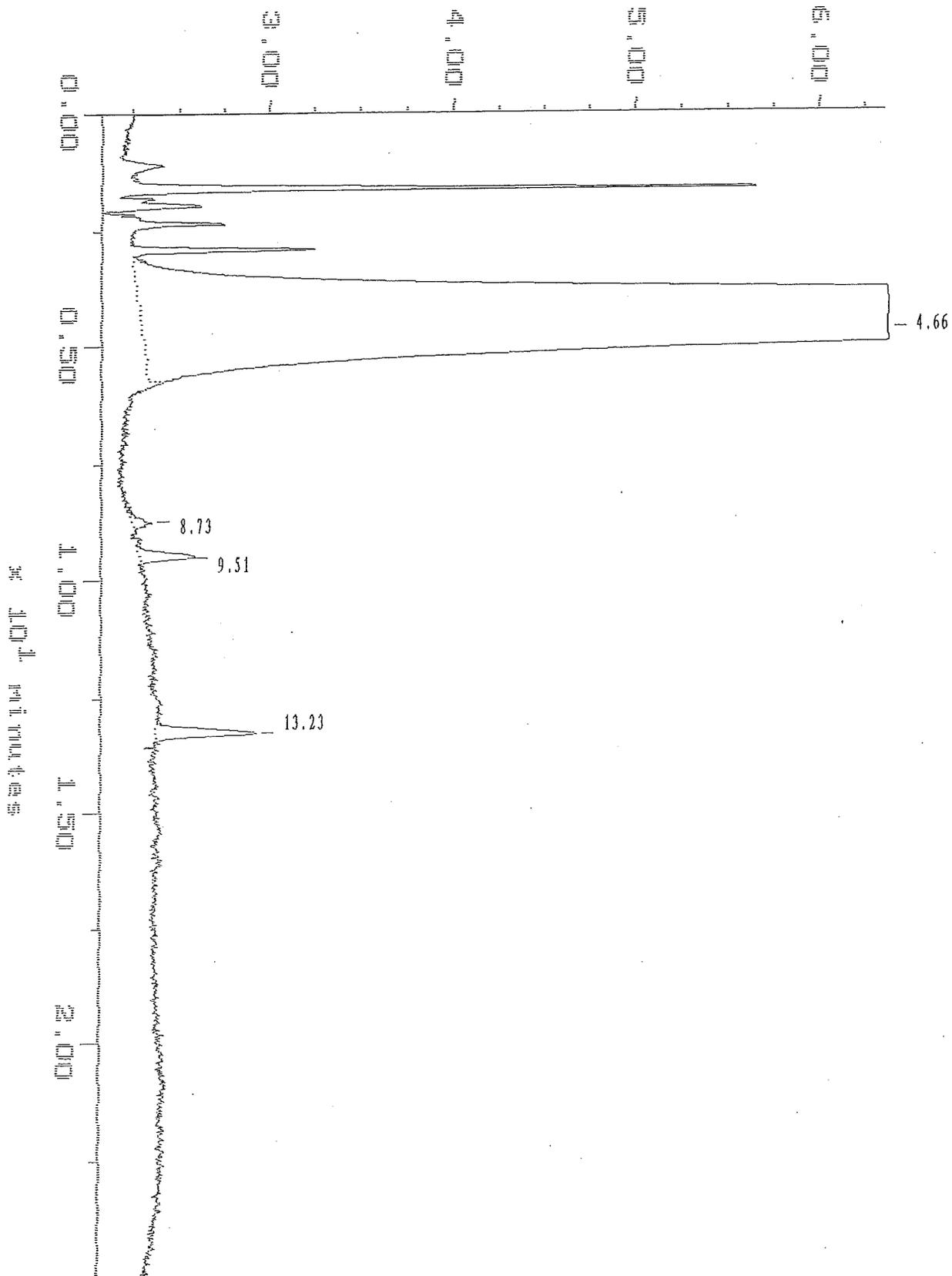
$\times 10^{-4}$ volts



Sample: 994230 Channel: *UV #2 322
Acquired: 23-MAR-11 13:27 Method: C:\MAX\DATA1\HYD-699

Filename: MR112311
Operator: JS

$\times 10^{-2}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:05:35

SAMPLE: 994231

#12 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 13:52
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MR112312
 Index: 12

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
---	---	-----	-----	-----	-----
1			4.600	635199	
TOTAL				635199	0.0000

DETECTOR: *UV #2 322

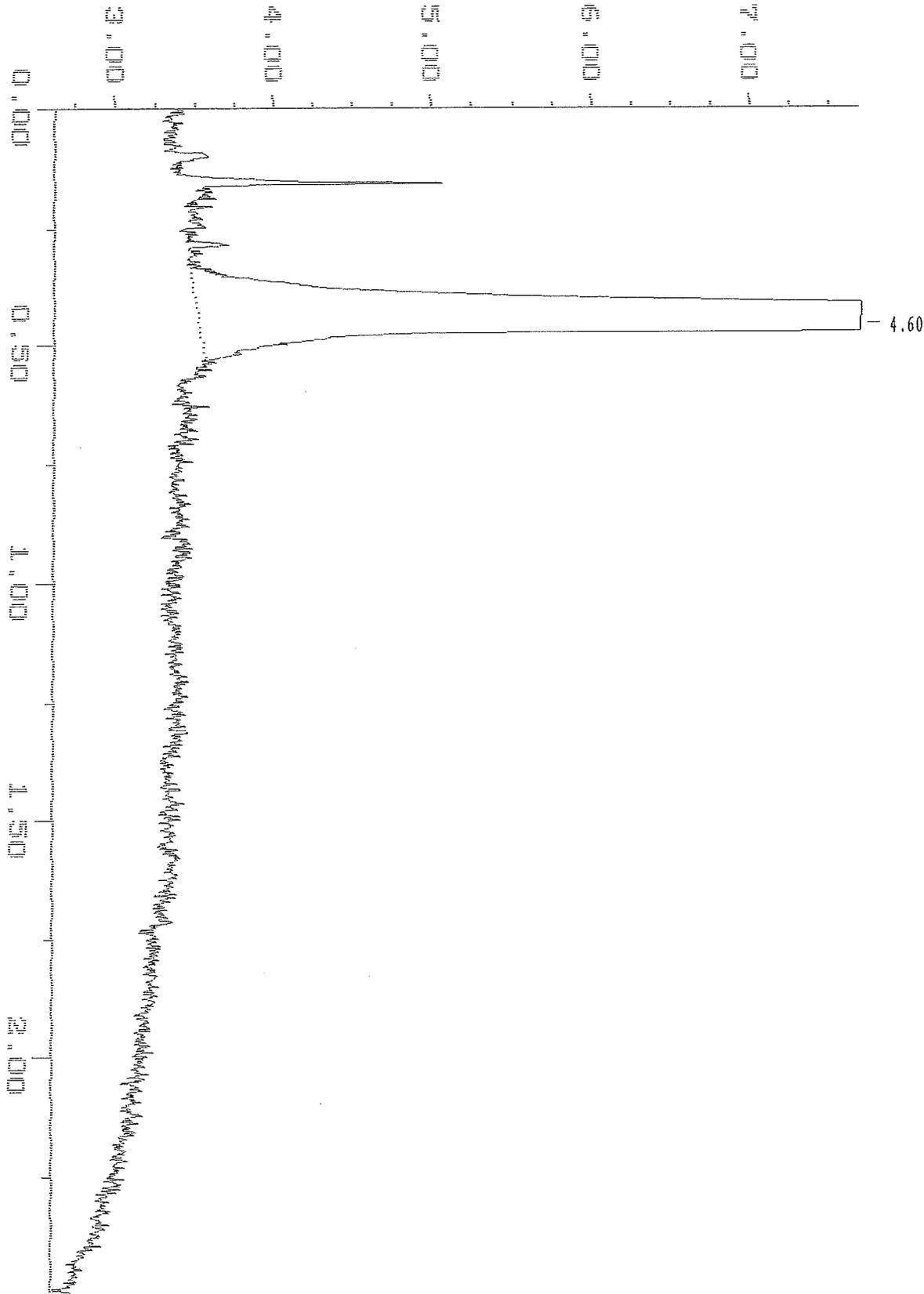
PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
---	---	-----	-----	-----	-----
1			4.658	4177374	
2			8.733	1152	
3			9.492	3497	
4			13.258	5540	
TOTAL				4187564	0.0000

Sample: 994231 Channel: UV #1 365
Acquired: 23-MAR-11 13:52 Method: C:\MAX\DATA1\HYD-699

Filename: MR112312
Operator: JS

4.60

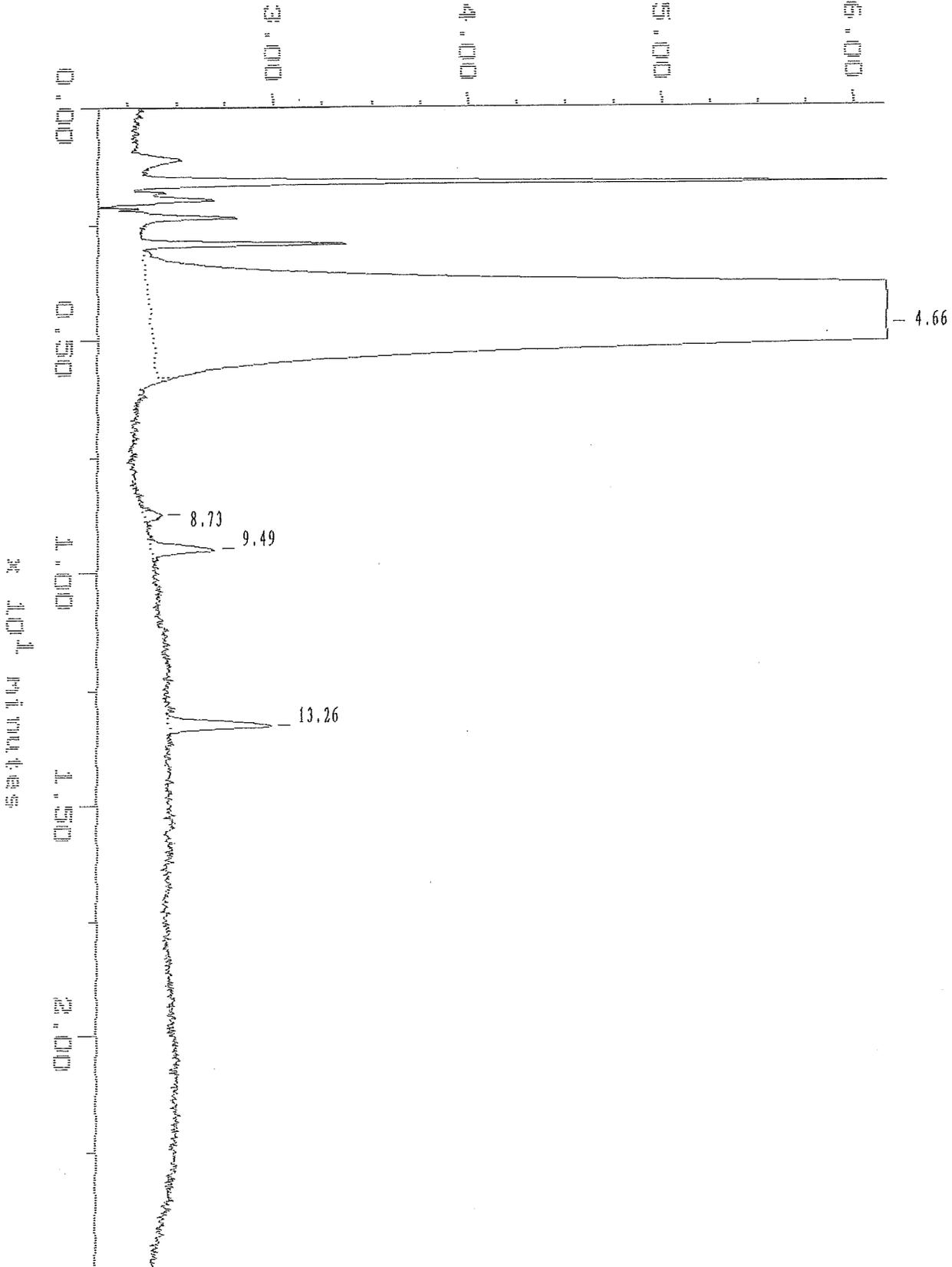
4.60



Sample: 994231 Channel: *UV #2 322
Acquired: 23-MAR-11 13:52 Method: C:\MAX\DATA1\HYD-699

Filename: MR112312
Operator: JS

4.66 8.73 9.49 13.26



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:06:21

SAMPLE: 994230 MS

#13 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
 Acquired: 23-MAR-2011 14:17
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MR112313
 Index: 13

DETECTOR: UV #1 365

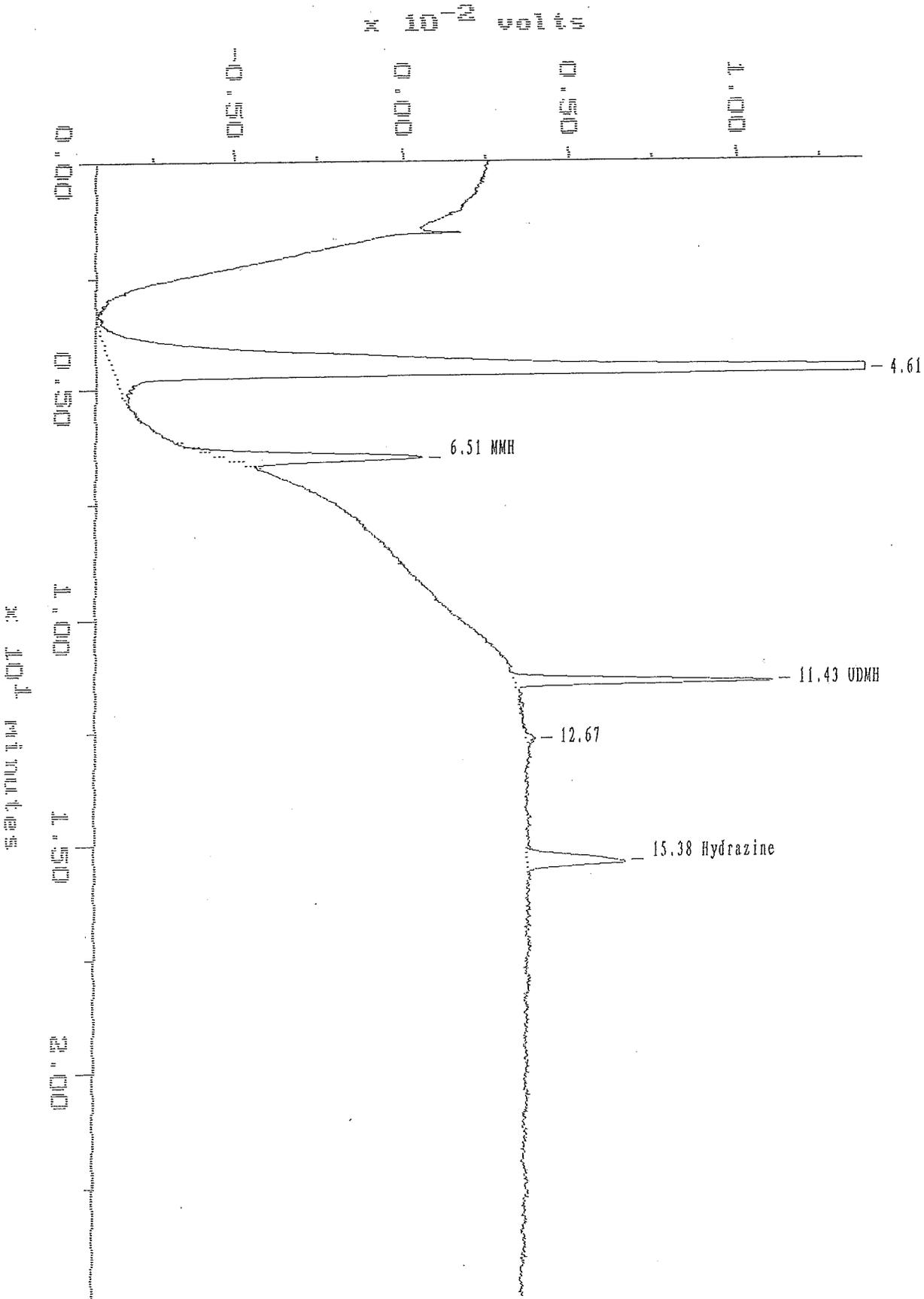
PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.608	629040	
2	1	MMH	6.508	73538	34.2877
3	3	UDMH	11.433	62511	41.7785
4			12.667	2143	
5	5	Hydrazine	15.383	39264	8.3383
TOTAL				806495	84.4046

DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.667	4266761	
2	2	*MMH	6.567	39420	36.6023
3			8.767	1523	
4			9.483	3257	
5	4	*UDMH	11.492	19711	43.0065
6			12.708	860	
7			13.267	4711	
8	6	*Hydrazine	15.442	127678	8.6209
TOTAL				4463921	88.2298

Sample: 994230 MS Channel: UV #1 365
Acquired: 23-MAR-11 14:17 Method: C:\MAX\DATA1\HYD-699

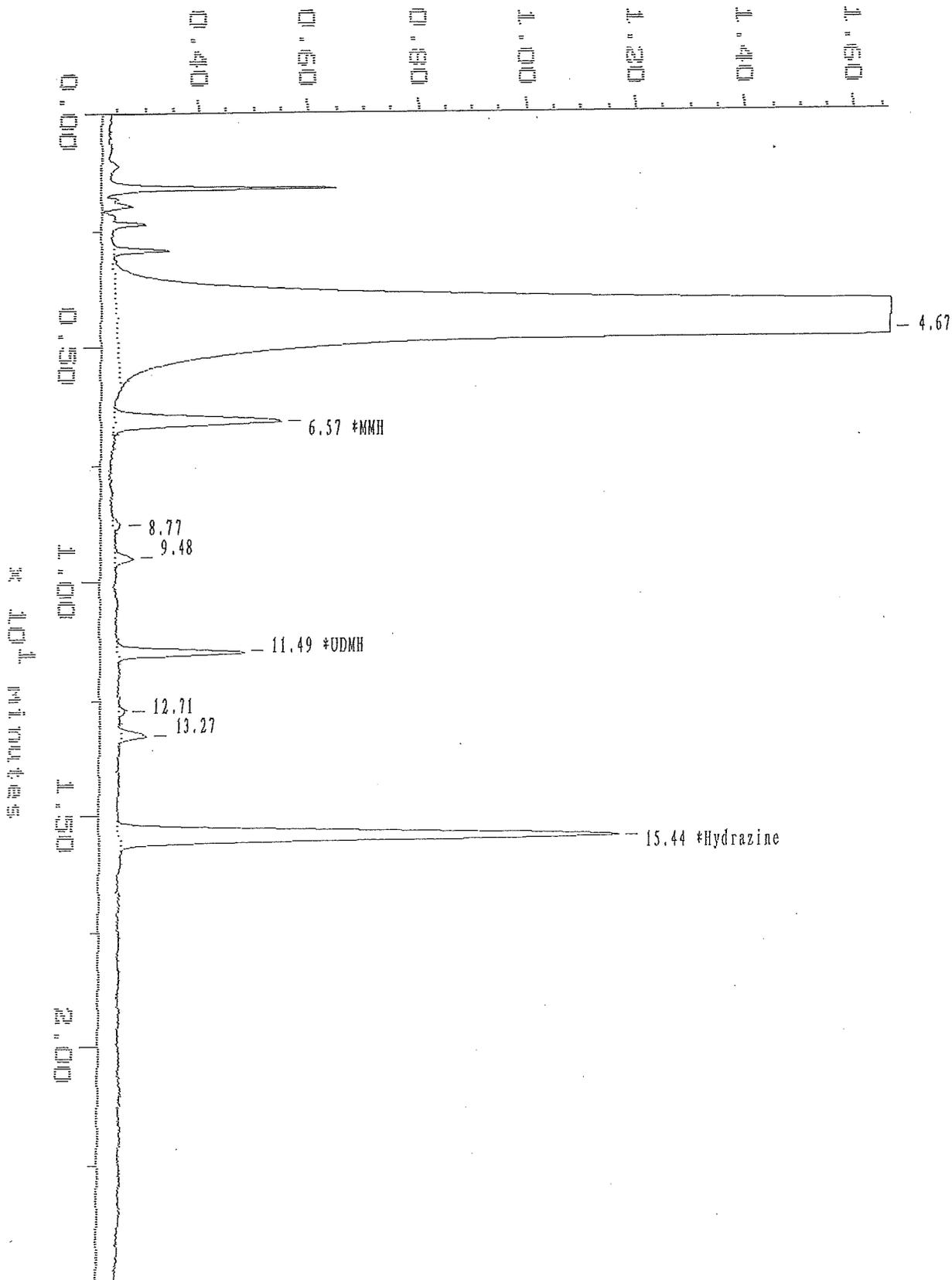
Filename: MR112313
Operator: JS



Sample: 994230 MS Channel: #OV #2 322
Acquired: 23-MAR-11 14:17 Method: C:\MAX\DATA1\HYD-699

Filename: MR112313
Operator: JS

$\times 10^{-2}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:07:08

SAMPLE: 994230 MSD

#14 in Method: EPA8315M, ODS COL, SHIMADZU LC/UV
 Acquired: 23-MAR-2011 14:43
 Rate: 2.0 points/sec
 Duration: 24.900 minutes
 Operator: JS

Type: UNKN
 Instrument: Shimadzu 6A
 Filename: MR112314
 Index: 14

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.600	689092	
2	1	MMH	6.492	82396	38.7390
3	3	UDMH	11.442	67545	45.3966
4			12.683	1027	
5			13.208	1273	
6			13.825	1040	
7	5	Hydrazine	15.375	43401	9.2651
TOTAL				885774	93.4007

DETECTOR: *UV #2 322

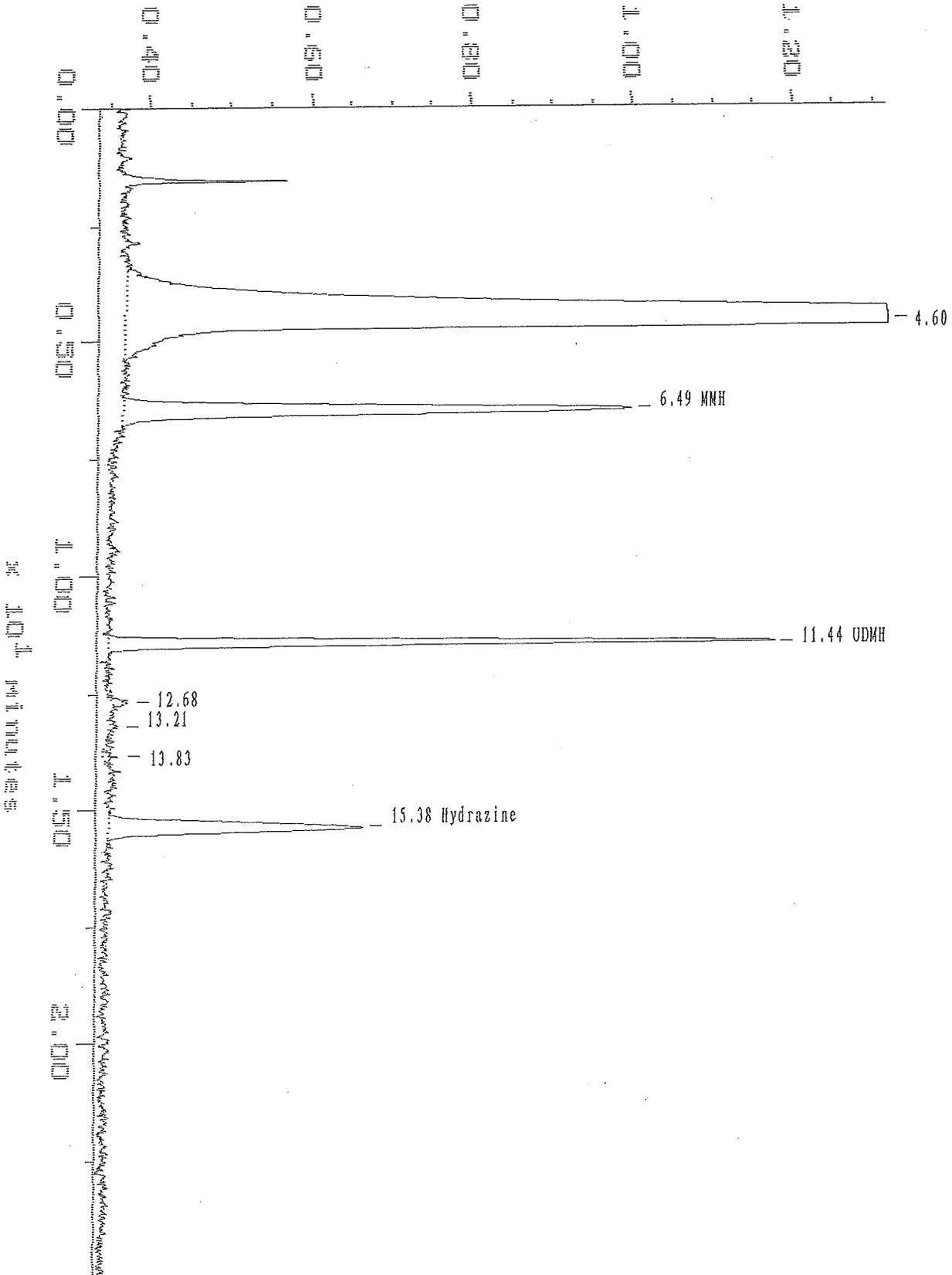
PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.658	4553400	
2	2	*MMH	6.542	41659	38.8056
3			8.750	1231	
4			8.758	36	
5			9.483	3607	
6	4	*UDMH	11.500	20898	45.8056
7			12.742	1196	
8			13.258	6126	
9	6	*Hydrazine	15.433	135793	9.1969
TOTAL				4763946	93.8082

Sample: 994230 MSD
Acquired: 23-MAR-11 14:43

Channel: UV #1 365
Method: C:\MAX\DATA1\HYD-699

Filename: MR112314
Operator: JS

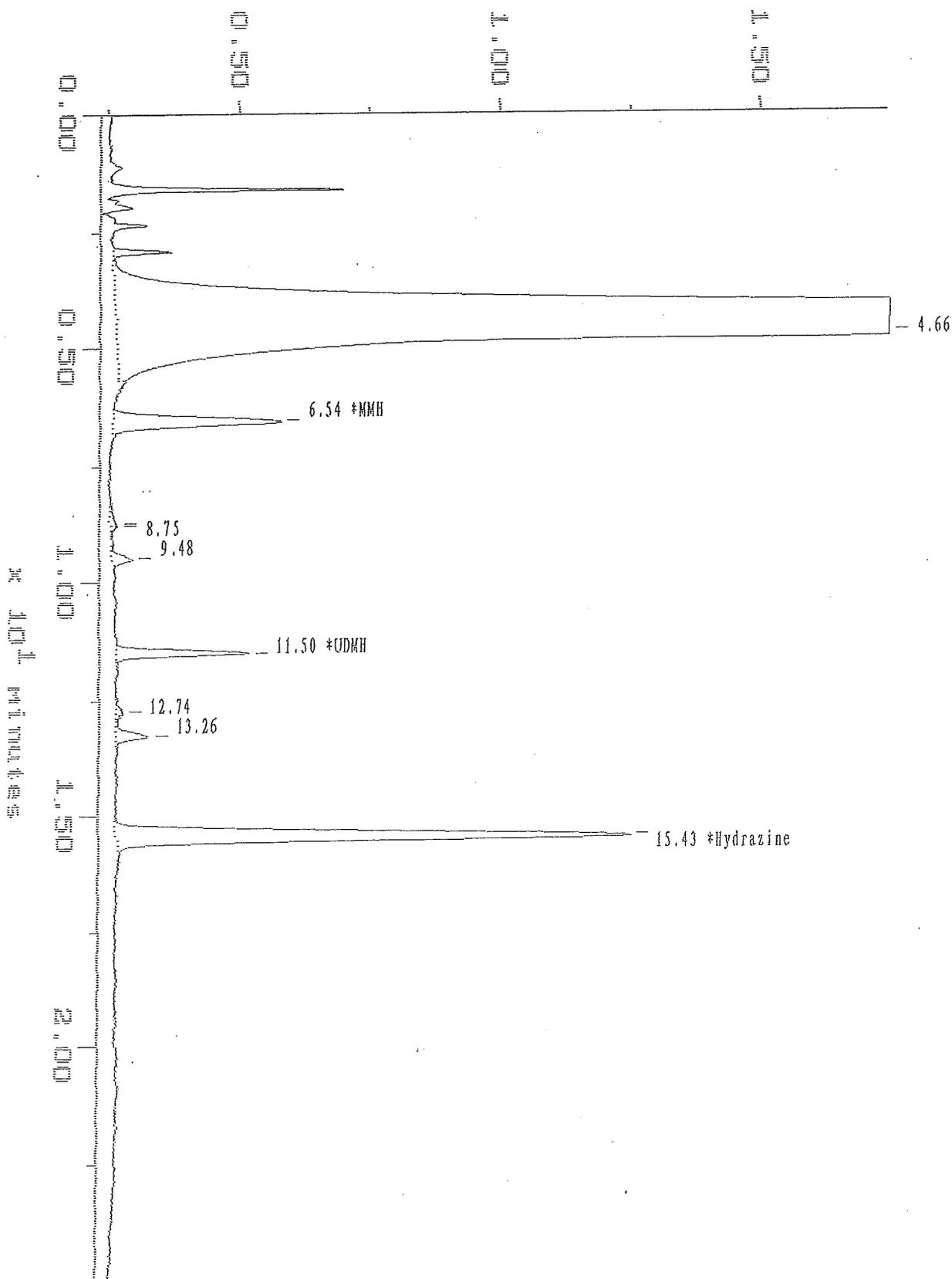
Hydrazine



Sample: 994230 MSD Channel: #UV #2 322
Acquired: 23-MAR-111 14:43 Method: C:\MAX\DATA1\HYD-699

Filename: MR112314
Operator: JS

$\times 10^{-2}$ volts



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:07:56

SAMPLE: 709338 QCS

#15 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV

Acquired: 23-MAR-2011 15:08

Rate: 2.0 points/sec

Duration: 24.900 minutes

Operator: JS

Type: UNKN

Instrument: Shimadzu 6A

Filename: MR112315

Index: 15

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.567	674393	
2	1	MMH	6.492	105488	50.3430
3	3	UDMH	11.442	74097	50.1054
4			12.650	1019	
5	5	Hydrazine	15.383	48538	10.4158
TOTAL				903535	110.8641

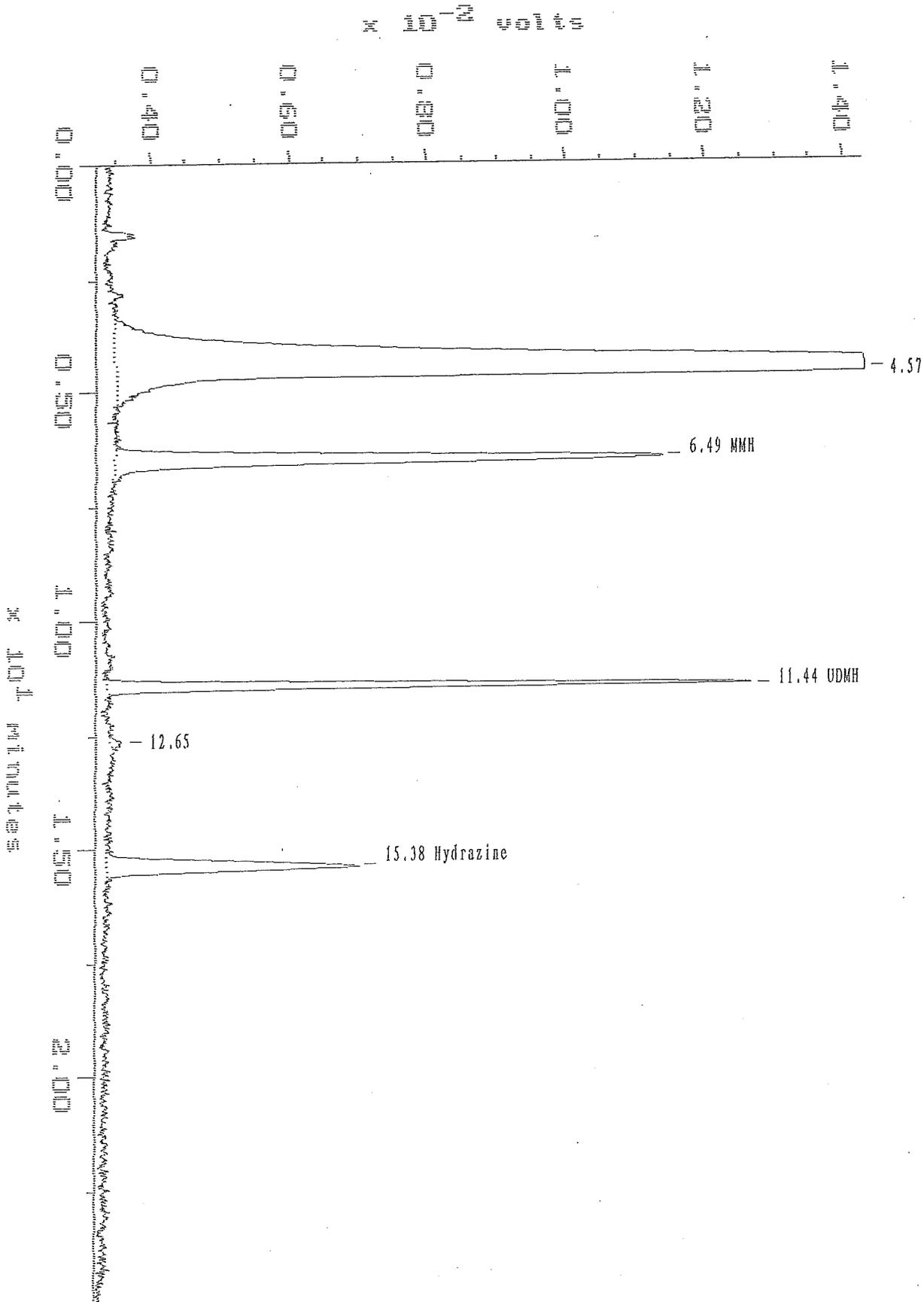
DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
1			4.625	4508487	
2	2	*MMH	6.558	53002	49.9671
3			8.742	1271	
4			9.508	3647	
5	4	*UDMH	11.500	23420	51.7555
6			12.717	793	
7			13.267	2004	
8	6	*Hydrazine	15.442	155382	10.5871
TOTAL				4748005	112.3097

Sample: 709338 QCS
Acquired: 23-MAR-11 15:08

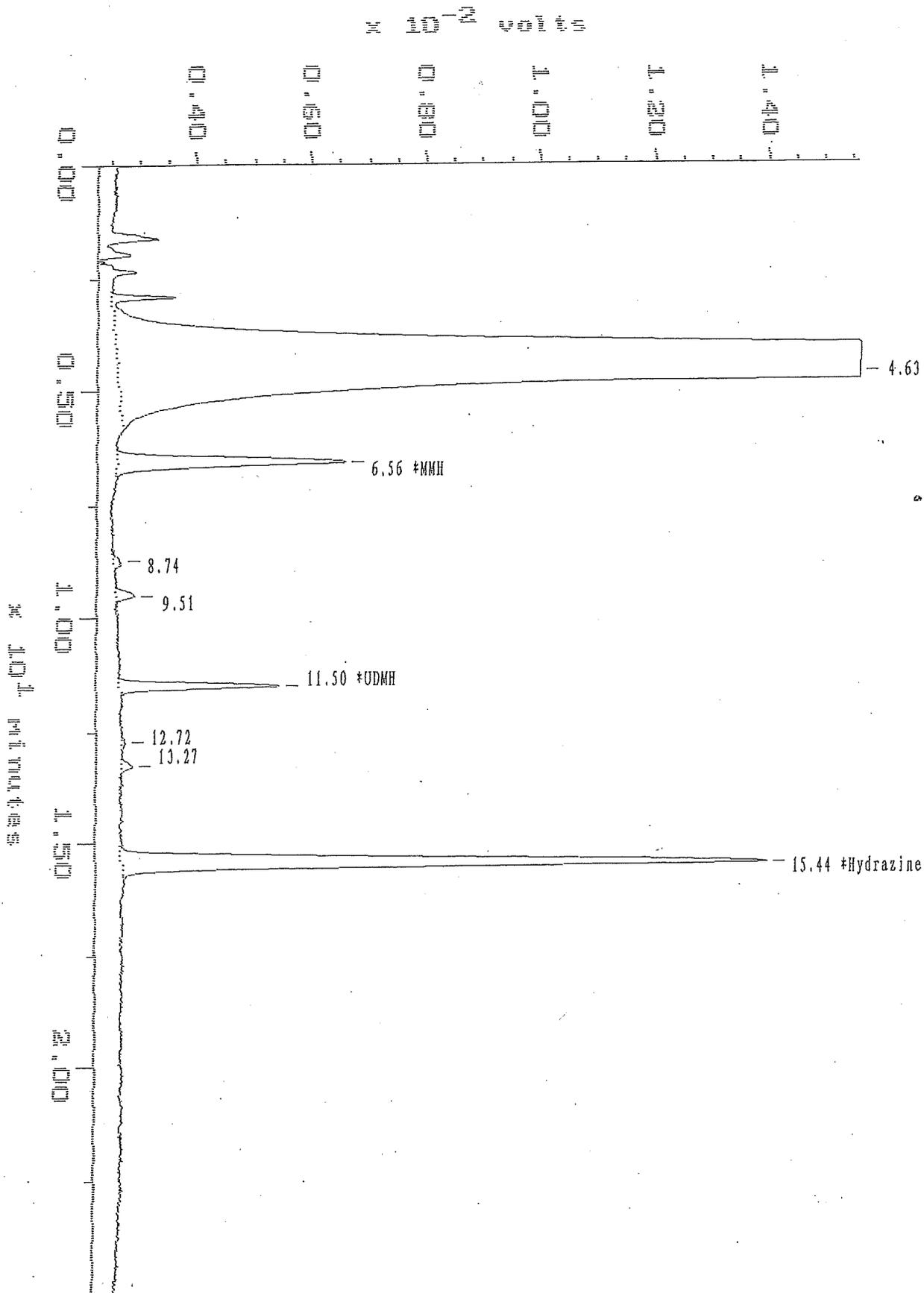
Channel: UV #1 365
Method: C:\MAX\DATA1\HYD-699

Filename: MR112315
Operator: JS



Sample: 709338 QCS Channel: #OV #2 322
Acquired: 23-MAR-11 15:08 Method: C:\MAX\DATA1\HYD-699

Filename: MR112315
Operator: JS



BASELINE 810 CUSTOM REPORT

Printed: 23-MAR-2011 17:08:42

SAMPLE: MP BLANK 2

#16 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV
Acquired: 23-MAR-2011 15:34
Rate: 2.0 points/sec
Duration: 24.900 minutes
Operator: JS

Type: UNKN
Instrument: Shimadzu 6A
Filename: MR112316
Index: 16

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
---	---	-----	-----	-----	-----
1			6.100	920	
2			24.808	683	
				-----	-----
TOTAL				1604	0.0000

DETECTOR: *UV #2 322

PK#	ID#	Component Name	Retention Time (minutes)	Peak Area	Sample Conc. (ug/L)
---	---	-----	-----	-----	-----
				0	0.0000
TOTAL					

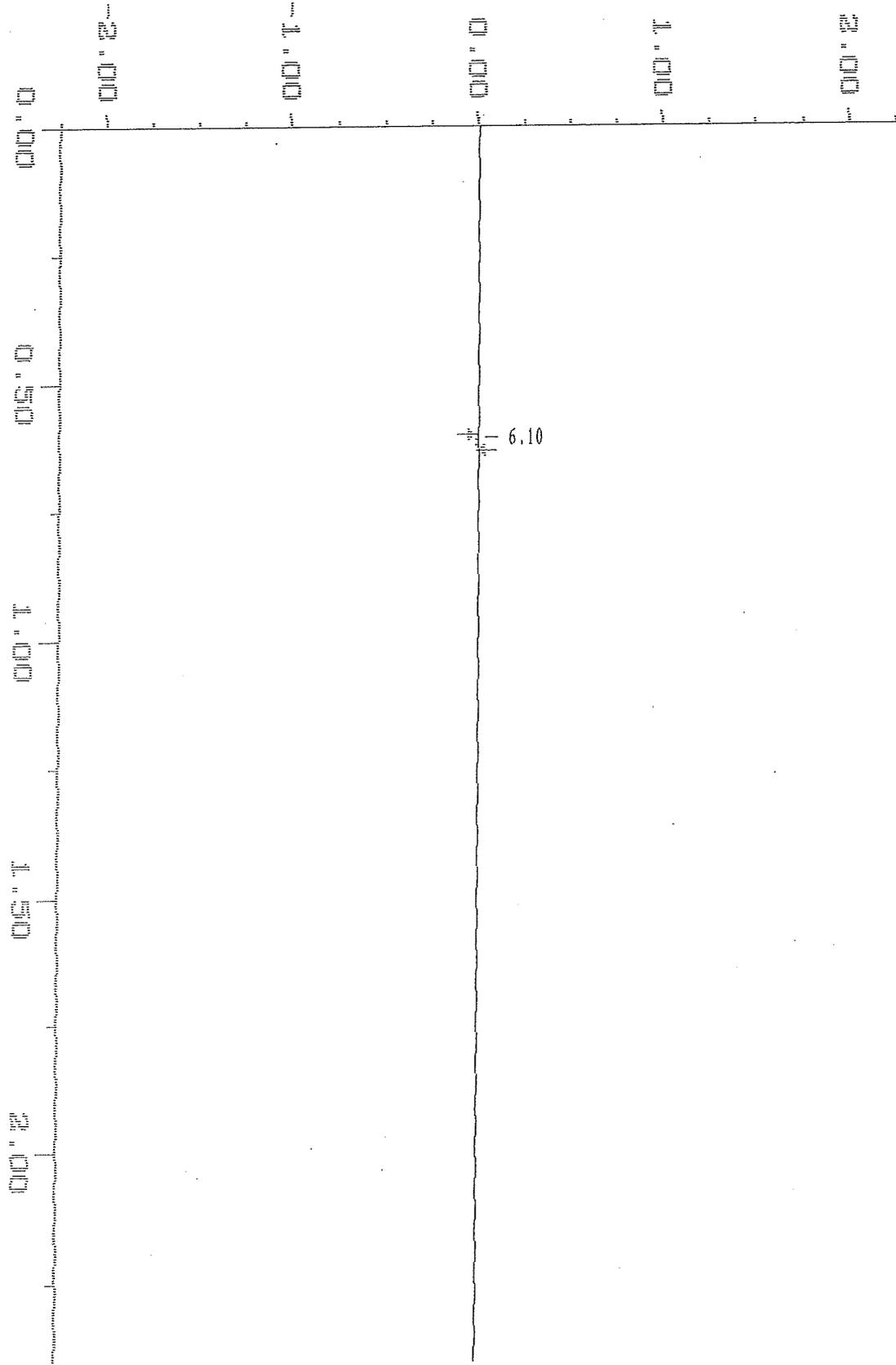
Sample: MP BLANK 2
Acquired: 23-MAR-11 15:34

Channel: UV #1 365
Method: C:\MAX\DATA1\HYD-699

Filename: MR112316
Operator: JS

6.10

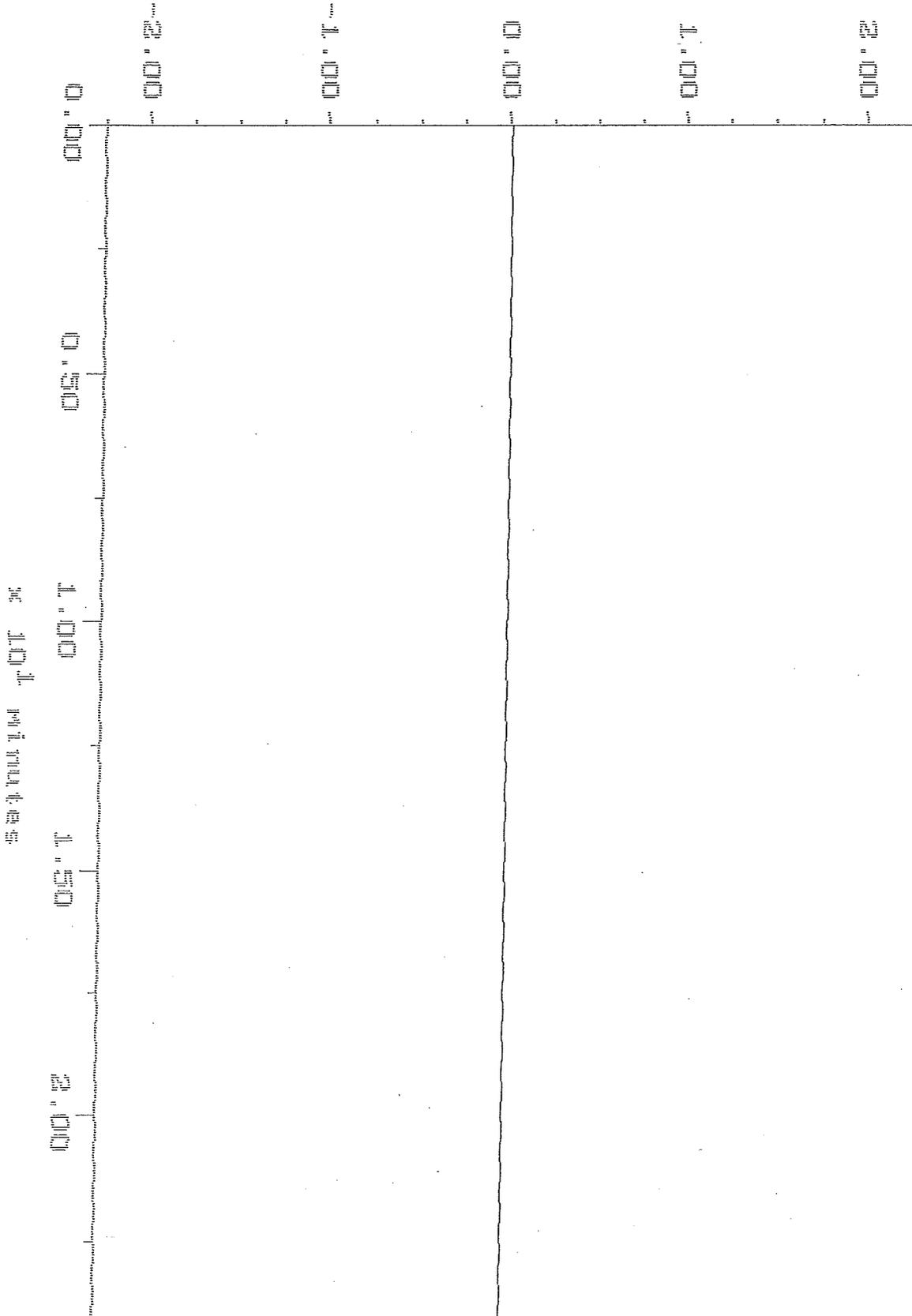
6.10



Sample: MP BLANK 2 Channel: #UV #2 322
Acquired: 23-MAR-11 15:34 Method: C:\MAX\DATA1\HYD-699

Filename: MR112316
Operator: JS

50000



APPENDIX G

Section 3

Outfall 001 – March 24, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC2624

Prepared by

MECX, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
Contract Task Order: 1261.100D.00
Sample Delivery Group: IUC2624
Project Manager: B. Kelly
Matrix: Water
QC Level: IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 001	IUC2624-01	N/A	Water	3/24/2011 10:25:00 AM	SM9221

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, no custody seals were required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 26, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *Standard Method SM9221*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time is listed as immediate. As the sample was prepared within six hours of collection, no qualifications were required.
- Calibration: The control results were acceptable.
- Blanks: Not applicable to this method.
- Blank Spikes and Laboratory Control Samples: Not applicable to this method.
- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this method.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms IUC2624

Analysis Method *SM9221 A,B,C,E*

Sample Name Outfall 001 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUC2624-01 **Sample Date:** 3/24/2011 10:25:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
E. Coli	NA	80.0	2.00	2.00	MPN/10			
Fecal Coliform	NA	80.0	2.00	2.00	MPN/10			

APPENDIX G

Section 4

Outfall 001 – March 24, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project: Annual Outfall 001
Annual Outfall 001

Sampled: 03/24/11
Received: 03/24/11
Issued: 03/31/11 15:25

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID

IUC2624-01

CLIENT ID

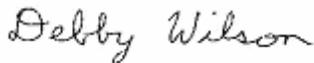
Outfall 001

MATRIX

Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2624

Sampled: 03/24/11
Received: 03/24/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2624-01 (Outfall 001 - Water)									
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11C3300	2.00	2.00	80.0	1	AK	03/27/11	
E. Coli	SM9221 A,B,C,E	11C3300	2.00	2.00	80.0	1	AK	03/27/11	

TestAmerica Irvine

Debby Wilson
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IUC2624 <Page 2 of 5>

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2624

Sampled: 03/24/11
Received: 03/24/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 001 (IUC2624-01) - Water SM9221 A,B,C,E	0	03/24/2011 10:25	03/24/2011 13:01	03/24/2011 13:32	03/27/2011 11:30

TestAmerica Irvine

Debby Wilson
Project Manager

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except in full, without written permission from TestAmerica.*

IUC2624 <Page 3 of 5>

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2624

Sampled: 03/24/11
Received: 03/24/11

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IUC2624 <Page 4 of 5>

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC2624

Sampled: 03/24/11
Received: 03/24/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

EMSL Analytical-Cinnaminson, NJ

Analysis Performed: Level 4 Data Package
Samples: IUC2624-01

Analysis Performed: Outside Analysis
Samples: IUC2624-01

TestAmerica Irvine

Debby Wilson
Project Manager

EMSL Analytical, Inc.

200 Route 130 N, Cinnaminson, NJ 08077, Tel: 800-220-3675, Fax: 856-786-0262



Client: TestAmerica
17461 Derian Ave, Suite 100
Irvine, CA 92614

Attn: Debby Wilson

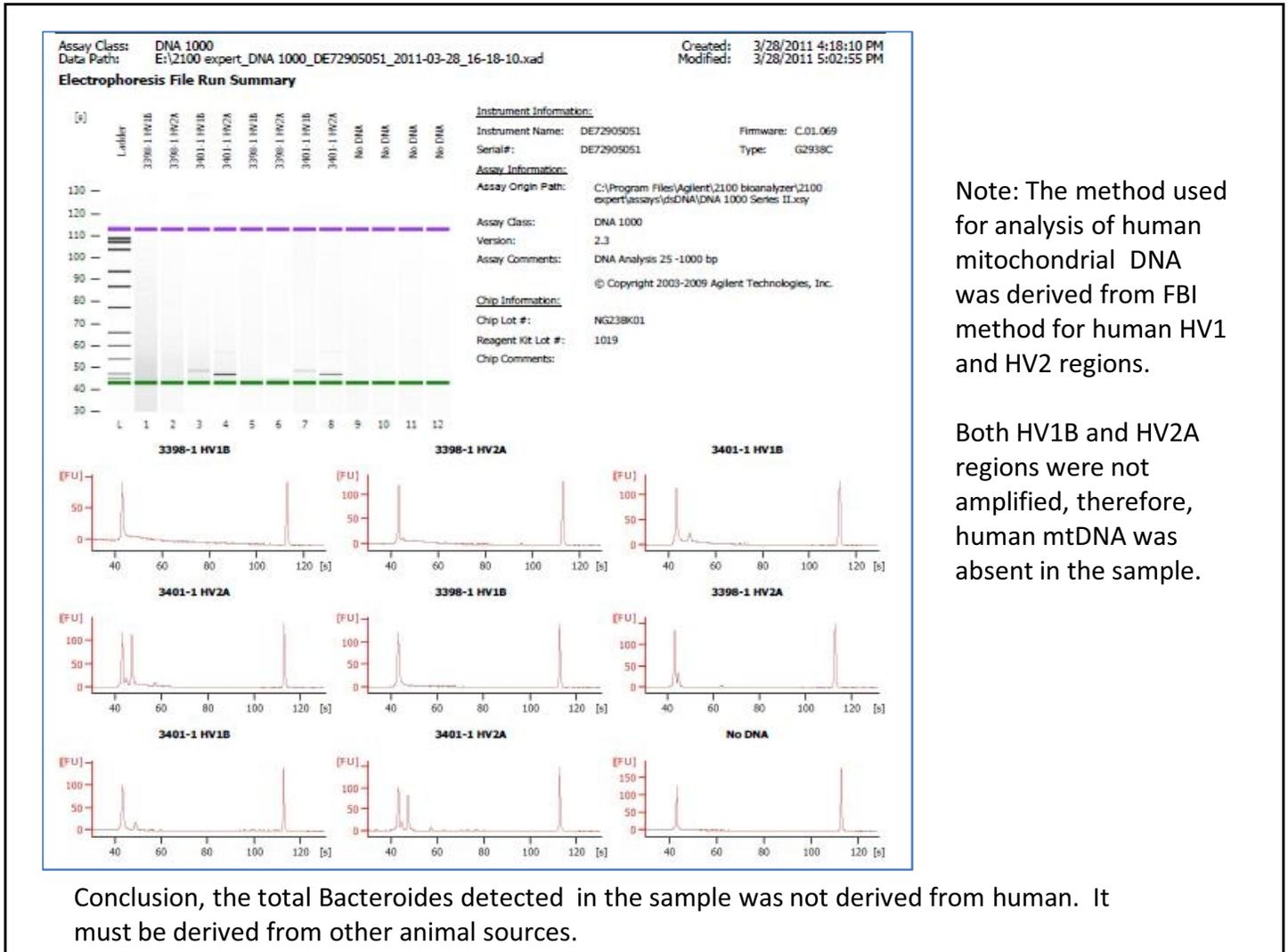
Project: Outfall 001-Water

EMSL Order ID: 371103401

Date Received: 3/25/2011

Date Analyzed: 3/28/2011

Date Reported: 3/29/2011



Note: The method used for analysis of human mitochondrial DNA was derived from FBI method for human HV1 and HV2 regions.

Both HV1B and HV2A regions were not amplified, therefore, human mtDNA was absent in the sample.

USEPA License No: 0240-02

Quanyi "Charlie" Li, Ph.D.
Director, PCR and DNA Analysis Lab
EMSL Analytical, Inc.

APPENDIX G

Section 5

Outfall 001 – March 29, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC3013

Prepared by

MEC^x, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
Contract Task Order: 1261.100D.00
Sample Delivery Group: IUC3013
Project Manager: B. Kelly
Matrix: Water
QC Level: IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 001	IUC3013-01	N/A	Water	3/29/2011 2:12:00 PM	SM9221

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, no custody seals were required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 26, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *Standard Method SM9221*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time is listed as immediate. As the sample was prepared within six hours, no qualifications were required.
- Calibration: The control results were acceptable.
- Blanks: Not applicable to this method.
- Blank Spikes and Laboratory Control Samples: Not applicable to this method.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG. The geometric mean of the results was reported.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this method.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms IUC3013

Analysis Method *SM9221 A,B,C,E*

Sample Name Outfall 001 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUC3013-01 **Sample Date:** 3/29/2011 2:12:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
E. Coli	NA	8.78	2.00	2.00	MPN/10			
Fecal Coliform	NA	8.78	2.00	2.00	MPN/10			

APPENDIX G

Section 6

Outfall 001 – March 29, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project: Annual Outfall 001
Annual Outfall 001

Sampled: 03/29/11
Received: 03/29/11
Issued: 04/05/11 16:43

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID

IUC3013-01

CLIENT ID

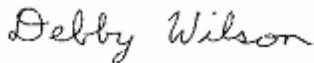
Outfall 001

MATRIX

Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC3013

Sampled: 03/29/11
Received: 03/29/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC3013-01 (Outfall 001 - Water)									
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11C3857	2.00	2.00	8.78	1	SK	04/01/11	
E. Coli	SM9221 A,B,C,E	11C3857	2.00	2.00	8.78	1	SK	04/01/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC3013 <Page 2 of 5>

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 001
Annual Outfall 001
Report Number: IUC3013

Sampled: 03/29/11
Received: 03/29/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 001 (IUC3013-01) - Water SM9221 A,B,C,E	0	03/29/2011 14:12	03/29/2011 17:40	03/29/2011 18:20	04/01/2011 14:03

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC3013 <Page 3 of 5>

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DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

TestAmerica Irvine

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Project Manager

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IUC3013 <Page 4 of 5>

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Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Debby Wilson
Project Manager

APPENDIX G

Section 7

Outfall 002 – January 3, 2011
MEC^X Data Validation Reports



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUA0081

Prepared by

MEC^x, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: IUA0081
 Project Manager: B. Kelly
 Matrix: Water
 QC Level: IV
 No. of Samples: 1
 No. of Reanalyses/Dilutions: 0
 Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 002 (composite)	IUA0081-03	S101021-01, G1A060501-001	Water	1/3/2011 14:46:00 AM	180.1, 245.1, 245.1-Diss, 900, 901.1, 903.1, 904, 905, 906,1613B, SM2540D, D5174
Outfall 002 (grab)	IUA0081-02	N/A	Water	1/3/2011 9:40:00 AM	120.1

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at Eberline above the temperature limit at 7.3°C; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at TestAmerica-Irvine and TestAmerica-West Sacramento within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the samples were delivered to TestAmerica-Irvine by courier, no custody seals were required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The reported result is above the method detection limit but is less than the reporting limit.	The reported result is above the method detection limit but is less than the reporting limit.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: February 21, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0)*, *USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review (8/02)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
 - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
 - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
 - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had detects between the EDL and the RL for total HpCDD, OCDD, and OCDF. Total HpCDD and OCDF were reported as EMPCs; however, the reviewer considered it appropriate to use the EMPCs to qualify sample results. OCDD and OCDF were qualified as nondetected, "U," at the level of contamination. Total

HpCDD was qualified as estimated, "J," as only a portion of the total was considered method blank contamination.

- Blank Spikes and Laboratory Control Samples: LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries in the sample were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. The laboratory reported 1,2,3,7,8,9-HxCDF as an EMPC below the EDL. The result was qualified as an estimated nondetect, "UJ," at the EDL. Any remaining individual isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Any totals containing EMPCs were qualified as estimated, "J." Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks

Date Reviewed: February 16, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Method 245.1*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 and the initial and continuing calibration recoveries were within 85-115% for mercury. CRA recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the dissolved fraction of the sample in this SDG. Both recoveries and the RPD were within laboratory-established QC limits.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: February 16, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- **Holding Times:** The tritium sample was analyzed within 180 days of collection. The remaining aliquots were prepared within the five-day analytical holding time for unpreserved samples.
- **Calibration:** The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, nondetected gross alpha in the sample was qualified as estimated, "UJ." The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis.

- **Blanks:** There were no analytes detected in the method blanks.
- **Blank Spikes and Laboratory Control Samples:** The recoveries were within laboratory-established control limits.
- **Laboratory Duplicates:** Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. The RPDs were within the laboratory-established control limits.
- **Matrix Spike/Matrix Spike Duplicate:** No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- **Sample Result Verification:** An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

A notation in the sample preparation logbook indicated that the aliquots for radium-226, radium-228, and strontium were filtered and that the filter was digested and added to the aliquot.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: February 16, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Methods 120.1 and 180.1*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time, 48 hours from collection for turbidity and 28 days from collection for conductivity, were met.
- Calibration: Calibration criteria were met. Turbidity initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110%.
- Blanks: The method blanks had no detects.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established QC limits.
- Laboratory Duplicates: A laboratory duplicate analyses was performed on the sample in this SDG for conductivity. The RPD was within the laboratory-established control limit.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, “J,” and coded with

“DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms IUA0081

Analysis Method 8659

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUA0081-03 **Sample Date:** 1/3/2011 2:46:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		1.68	1	0.016	pCi/L			

Analysis Method 900

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUA0081-03 **Sample Date:** 1/3/2011 2:46:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.986	3	1.08	pCi/L		UJ	C
Gross Beta	12587472	3.26	4	1.69	pCi/L		J	DNQ

Analysis Method 901.1

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUA0081-03 **Sample Date:** 1/3/2011 2:46:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.17	pCi/L		U	
Potassium-40	13966002	ND	25	18.6	pCi/L		U	

Analysis Method 903.1

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUA0081-03 **Sample Date:** 1/3/2011 2:46:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	-0.12	1	0.62	pCi/L		U	

Analysis Method 904

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUA0081-03 **Sample Date:** 1/3/2011 2:46:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.175	1	0.478	pCi/L		U	

Analysis Method 905

Sample Name	Outfall 002 (Composite)	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUA0081-03	Sample Date:	1/3/2011 2:46:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.159	2	1.27	pCi/L		U	

Analysis Method 906

Sample Name	Outfall 002 (Composite)	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUA0081-03	Sample Date:	1/3/2011 2:46:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-58.1	500	265	pCi/L		U	

Analysis Method EPA 120.1

Sample Name	Outfall 002 (Grab)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUA0081-01	Sample Date:	1/3/2011 9:40:00 AM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	NA	700	1.0	1.0	umhos/c			

Analysis Method EPA 180.1

Sample Name	Outfall 002 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUA0081-03	Sample Date:	1/3/2011 2:46:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	0.68	1.0	0.040	NTU		J	DNQ

Analysis Method EPA 245.1

Sample Name	Outfall 002 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUA0081-03	Sample Date:	1/3/2011 2:46:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method EPA 245.1-Diss

Sample Name	Outfall 002 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUA0081-03	Sample Date:	1/3/2011 2:46:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method EPA-5 1613B

Sample Name	Outfall 002 (Composite)	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUA0081-03	Sample Date:	1/3/2011 2:46:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000004	ug/L		UJ	*III
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000004	ug/L		UJ	*III
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000006	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000008	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000004	ug/L		UJ	*III
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000006	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	6.7e-007	0.00005	0.0000004	ug/L		J	DNQ
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000007	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000005	ug/L		UJ	*III
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000011	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000005	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000004	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000006	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000005	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000003	ug/L		U	
OCDD	3268-87-9	ND	0.0001	0.0000009	ug/L		U	B
OCDF	39001-02-0	ND	0.0001	0.0000012	ug/L		U	B
Total HpCDD	37871-00-4	8.4e-006	0.00005	0.0000004	ug/L		J	B, DNQ, *III
Total HpCDF	38998-75-3	2.3e-006	0.00005	0.0000005	ug/L		J	DNQ, *III
Total HxCDD	34465-46-8	ND	0.00005	0.0000006	ug/L		U	
Total HxCDF	55684-94-1	1.7e-006	0.00005	0.0000004	ug/L		J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000011	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000005	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000005	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000003	ug/L		U	

APPENDIX G

Section 8

Outfall 002 – January 3, 2011

Test America Analytical Laboratory Reports

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project: Routine Outfall 002

Sampled: 01/03/11-01/05/11
Received: 01/03/11
Issued: 02/08/11 09:28

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report. This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: WATER, 1613B, Dioxins/Furans with Totals

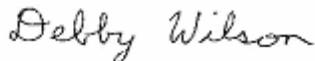
Some analytes in this sample and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

Some analytes are reported at a concentration below the estimated detection limit (EDL). The data is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

LABORATORY ID	CLIENT ID	MATRIX
IUA0081-01	Outfall 002 (Grab)	Water
IUA0081-02	Trip Blanks	Water
IUA0081-03	Outfall 002 (Composite)	Water
IUA0081-04	TRIP BLANK	Water

I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
Received: 01/03/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-01 (Outfall 002 (Grab) - Water)					Sampled: 01/03/11				
Reporting Units: ug/l									
Benzene	EPA 624	11A0830	0.28	0.50	ND	1	SS	01/09/11	
Carbon tetrachloride	EPA 624	11A0830	0.28	0.50	ND	1	SS	01/09/11	
Chloroform	EPA 624	11A0830	0.33	0.50	ND	1	SS	01/09/11	
1,1-Dichloroethane	EPA 624	11A0830	0.40	0.50	ND	1	SS	01/09/11	
1,2-Dichloroethane	EPA 624	11A0830	0.28	0.50	ND	1	SS	01/09/11	
1,1-Dichloroethene	EPA 624	11A0830	0.42	0.50	ND	1	SS	01/09/11	
Ethylbenzene	EPA 624	11A0830	0.25	0.50	ND	1	SS	01/09/11	
Tetrachloroethene	EPA 624	11A0830	0.32	0.50	ND	1	SS	01/09/11	
Toluene	EPA 624	11A0830	0.36	0.50	ND	1	SS	01/09/11	
1,1,1-Trichloroethane	EPA 624	11A0830	0.30	0.50	ND	1	SS	01/09/11	
1,1,2-Trichloroethane	EPA 624	11A0830	0.30	0.50	ND	1	SS	01/09/11	
Trichloroethene	EPA 624	11A0830	0.26	0.50	ND	1	SS	01/09/11	
Trichlorofluoromethane	EPA 624	11A0830	0.34	0.50	ND	1	SS	01/09/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11A0830	0.50	5.0	ND	1	SS	01/09/11	
Vinyl chloride	EPA 624	11A0830	0.40	0.50	ND	1	SS	01/09/11	
Xylenes, Total	EPA 624	11A0830	0.90	1.5	ND	1	SS	01/09/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					90 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					96 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					105 %				

Sample ID: IUA0081-02 (Trip Blanks - Water)

Sampled: 01/03/11

Reporting Units: ug/l

Benzene	EPA 624	11A0830	0.28	0.50	ND	1	SS	01/09/11	
Carbon tetrachloride	EPA 624	11A0830	0.28	0.50	ND	1	SS	01/09/11	
Chloroform	EPA 624	11A0830	0.33	0.50	ND	1	SS	01/09/11	
1,1-Dichloroethane	EPA 624	11A0830	0.40	0.50	ND	1	SS	01/09/11	
1,2-Dichloroethane	EPA 624	11A0830	0.28	0.50	ND	1	SS	01/09/11	
1,1-Dichloroethene	EPA 624	11A0830	0.42	0.50	ND	1	SS	01/09/11	
Ethylbenzene	EPA 624	11A0830	0.25	0.50	ND	1	SS	01/09/11	
Tetrachloroethene	EPA 624	11A0830	0.32	0.50	ND	1	SS	01/09/11	
Toluene	EPA 624	11A0830	0.36	0.50	ND	1	SS	01/09/11	
1,1,1-Trichloroethane	EPA 624	11A0830	0.30	0.50	ND	1	SS	01/09/11	
1,1,2-Trichloroethane	EPA 624	11A0830	0.30	0.50	ND	1	SS	01/09/11	
Trichloroethene	EPA 624	11A0830	0.26	0.50	ND	1	SS	01/09/11	
Trichlorofluoromethane	EPA 624	11A0830	0.34	0.50	ND	1	SS	01/09/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11A0830	0.50	5.0	ND	1	SS	01/09/11	
Vinyl chloride	EPA 624	11A0830	0.40	0.50	ND	1	SS	01/09/11	
Xylenes, Total	EPA 624	11A0830	0.90	1.5	ND	1	SS	01/09/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					93 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					97 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					104 %				

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ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	11A0336	1.62	4.76	ND	0.952	LB\	01/10/11	
2,4-Dinitrotoluene	EPA 625	11A0336	0.190	4.76	ND	0.952	LB\	01/10/11	
N-Nitrosodimethylamine	EPA 625	11A0336	0.0952	4.76	ND	0.952	LB\	01/10/11	
Pentachlorophenol	EPA 625	11A0336	0.0952	4.76	ND	0.952	LB\	01/10/11	
2,4,6-Trichlorophenol	EPA 625	11A0336	0.0952	5.71	ND	0.952	LB\	01/10/11	
<i>Surrogate: 2,4,6-Tribromophenol (40-120%)</i>					91 %				
<i>Surrogate: 2-Fluorobiphenyl (50-120%)</i>					77 %				
<i>Surrogate: 2-Fluorophenol (30-120%)</i>					67 %				
<i>Surrogate: Nitrobenzene-d5 (45-120%)</i>					74 %				
<i>Surrogate: Phenol-d6 (35-120%)</i>					72 %				
<i>Surrogate: Terphenyl-d14 (50-125%)</i>					88 %				

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water) - cont.					Sampled: 01/03/11				
Reporting Units: ug/l									
alpha-BHC	EPA 608	11A0715	0.0024	0.0096	ND	0.962	CN	01/11/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					84 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					66 %				

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HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-01 (Outfall 002 (Grab) - Water)					Sampled: 01/03/11				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11A1479	1.3	4.8	ND	1	DA	01/14/11	

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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: mg/l									
Iron	EPA 200.7	11A1551	0.015	0.040	0.024	1	LL	01/17/11	Ja
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: ug/l									
Mercury	EPA 245.1	11A0567	0.10	0.20	ND	1	DB	01/07/11	
Manganese	EPA 200.7	11A0923	7.0	20	ND	1	DP	01/11/11	
Cadmium	EPA 200.8	11A0917	0.10	1.0	ND	1	RDC	01/11/11	
Zinc	EPA 200.7	11A0923	6.00	20.0	ND	1	DP	01/11/11	
Copper	EPA 200.8	11A0917	0.500	2.00	2.51	1	RDC	01/11/11	
Lead	EPA 200.8	11A0917	0.200	1.00	ND	1	RDC	01/11/11	
Selenium	EPA 200.8	11A0917	0.50	2.0	0.61	1	RDC	01/11/11	Ja

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DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water) - cont.					Sampled: 01/03/11				
Reporting Units: mg/l									
Iron	EPA 200.7-Diss	11A1039	0.015	0.040	ND	1	LL	01/13/11	
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11A0572	0.10	0.20	ND	1	DB	01/07/11	
Manganese	EPA 200.7-Diss	11A1039	7.0	20	ND	1	LL	01/13/11	
Cadmium	EPA 200.8-Diss	11A1040	0.10	1.0	ND	1	RDC	01/12/11	
Zinc	EPA 200.7-Diss	11A1039	6.00	20.0	11.7	1	LL	01/13/11	Ja
Copper	EPA 200.8-Diss	11A1040	0.500	2.00	1.75	1	RDC	01/12/11	Ja
Lead	EPA 200.8-Diss	11A1040	0.200	1.00	ND	1	RDC	01/12/11	
Selenium	EPA 200.8-Diss	11A1040	0.50	2.0	ND	1	RDC	01/12/11	

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water) - cont.					Sampled: 01/03/11				
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	11A0408	0.500	0.500	ND	1	TMK	01/05/11	
Biochemical Oxygen Demand	SM5210B	11A0374	0.50	2.0	1.3	1	XL	01/10/11	Ja
Chloride	EPA 300.0	11A0203	2.5	5.0	28	10	NN	01/04/11	
Nitrate-N	EPA 300.0	11A0203	0.060	0.11	0.12	1	NN	01/04/11	
Nitrite-N	EPA 300.0	11A0203	0.090	0.15	ND	1	NN	01/04/11	
Nitrate/Nitrite-N	EPA 300.0	11A0203	0.15	0.26	ND	1	NN	01/04/11	
Sulfate	EPA 300.0	11A0203	2.0	5.0	140	10	NN	01/04/11	
Surfactants (MBAS)	SM5540-C	11A0277	0.050	0.10	0.053	1	EL	01/04/11	Ja
Total Dissolved Solids	SM2540C	11A0304	1.0	10	450	1	MC	01/05/11	
Total Suspended Solids	SM 2540D	11A0627	1.0	10	ND	1	DK	01/06/11	

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-01 (Outfall 002 (Grab) - Water)					Sampled: 01/03/11				
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	11A0200	0.10	0.10	ND	1	RRZ	01/04/11	
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: NTU									
Turbidity	EPA 180.1	11A0357	0.040	1.0	0.68	1	AC1	01/05/11	Ja
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11A0470	0.90	4.0	ND	1	mn	01/06/11	
Total Cyanide	SM4500CN-E	11A0416	2.2	5.0	ND	1	HH	01/05/11	
Sample ID: IUA0081-01 (Outfall 002 (Grab) - Water)					Sampled: 01/03/11				
Reporting Units: umhos/cm @ 25C									
Specific Conductance	EPA 120.1	11A0306	1.0	1.0	700	1	MC	01/05/11	

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Sampled: 01/03/11-01/05/11
Received: 01/03/11

8659

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: pCi/L									
Uranium, Total	8659	8659		1	1.68	1	CSS	02/01/11	
Sample ID: IUA0081-04 (TRIP BLANK - Water)					Sampled: 01/05/11				
Reporting Units: pCi/L									
Uranium, Total	8659	8659		1	ND	1	CSS	02/01/11	U

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Sampled: 01/03/11-01/05/11
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900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: pCi/L									
Gross Alpha	900	8659		3	0.986	1	MH	01/17/11	U
Gross Beta	900	8659		4	3.26	1	MH	01/17/11	Jb
Sample ID: IUA0081-04 (TRIP BLANK - Water)					Sampled: 01/05/11				
Reporting Units: pCi/L									
Gross Alpha	900	8659		3	0.035	1	MH	01/21/11	U
Gross Beta	900	8659		4	-0.366	1	MH	01/21/11	U

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Sampled: 01/03/11-01/05/11
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901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8659		20	ND	1	LA	01/14/11	U
Potassium-40	901.1	8659		25	ND	1	LA	01/14/11	U
Sample ID: IUA0081-04 (TRIP BLANK - Water)					Sampled: 01/05/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8659		20	ND	1	LS	01/20/11	U
Potassium-40	901.1	8659		25	ND	1	LS	01/20/11	U

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903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: pCi/L									
Radium-226	903.1	8659		1	-0.12	1	ASM	01/27/11	U
Sample ID: IUA0081-04 (TRIP BLANK - Water)					Sampled: 01/05/11				
Reporting Units: pCi/L									
Radium-226	903.1	8659		1	-0.106	1	ASM	01/27/11	U

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904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: pCi/L									
Radium-228	904	8659		1	0.175	1	ASM	01/26/11	U
Sample ID: IUA0081-04 (TRIP BLANK - Water)					Sampled: 01/05/11				
Reporting Units: pCi/L									
Radium-228	904	8659		1	-0.056	1	ASM	01/26/11	U

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905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: pCi/L									
Strontium-90	905	8659		2	0.159	1	TSC	01/26/11	U
Sample ID: IUA0081-04 (TRIP BLANK - Water)					Sampled: 01/05/11				
Reporting Units: pCi/L									
Strontium-90	905	8659		2	-0.033	1	TSC	01/26/11	U

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906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water)					Sampled: 01/03/11				
Reporting Units: pCi/L									
Tritium	906	8659		500	-58.1	1	JO	01/24/11	U

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
Received: 01/03/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water) - cont.					Sampled: 01/03/11				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1006286	0.00000045	0.00005	3.9e-006	0.99	SY	01/07/11	J, Q
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1006286	0.00000045	0.00005	1.2e-006	0.99	SY	01/07/11	J, Q
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1006286	0.00000061	0.00005	ND	0.99	SY	01/07/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1006286	0.00000085	0.00005	ND	0.99	SY	01/07/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1006286	0.00000044	0.00005	5.7e-007	0.99	SY	01/07/11	J, Q
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1006286	0.00000067	0.00005	ND	0.99	SY	01/07/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1006286	0.00000043	0.00005	6.7e-007	0.99	SY	01/07/11	J
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1006286	0.0000007	0.00005	ND	0.99	SY	01/07/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1006286	0.00000052	0.00005	4.7e-007	0.99	SY	01/07/11	J, Q
1,2,3,7,8-PeCDD	EPA-5 1613B	1006286	0.0000011	0.00005	ND	0.99	SY	01/07/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1006286	0.00000055	0.00005	ND	0.99	SY	01/07/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1006286	0.00000042	0.00005	ND	0.99	SY	01/07/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1006286	0.0000006	0.00005	ND	0.99	SY	01/07/11	
2,3,7,8-TCDD	EPA-5 1613B	1006286	0.00000059	0.00001	ND	0.99	SY	01/07/11	
2,3,7,8-TCDF	EPA-5 1613B	1006286	0.00000037	0.00001	ND	0.99	SY	01/07/11	
OCDD	EPA-5 1613B	1006286	0.00000094	0.0001	3.1e-005	0.99	SY	01/07/11	J, Ba
OCDF	EPA-5 1613B	1006286	0.0000012	0.0001	3.1e-006	0.99	SY	01/07/11	J, Q, Ba
Total HpCDD	EPA-5 1613B	1006286	0.00000045	0.00005	8.4e-006	0.99	SY	01/07/11	J, Q, Ba
Total HpCDF	EPA-5 1613B	1006286	0.00000052	0.00005	2.3e-006	0.99	SY	01/07/11	J, Q
Total HxCDD	EPA-5 1613B	1006286	0.00000067	0.00005	ND	0.99	SY	01/07/11	
Total HxCDF	EPA-5 1613B	1006286	0.00000045	0.00005	1.7e-006	0.99	SY	01/07/11	J, Q
Total PeCDD	EPA-5 1613B	1006286	0.0000011	0.00005	ND	0.99	SY	01/07/11	
Total PeCDF	EPA-5 1613B	1006286	0.00000055	0.00005	ND	0.99	SY	01/07/11	
Total TCDD	EPA-5 1613B	1006286	0.00000059	0.00001	ND	0.99	SY	01/07/11	
Total TCDF	EPA-5 1613B	1006286	0.00000037	0.00001	ND	0.99	SY	01/07/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	91 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	84 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	91 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	79 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	83 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	101 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	85 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	80 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	96 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	98 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	85 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	97 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	86 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	83 %
Surrogate: 13C-OCDD (17-157%)	87 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	93 %

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Debby Wilson
Project Manager

MWH-Pasadena/Boeing
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Report Number: IUA0081

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Received: 01/03/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
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Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water) - cont.

Sampled: 01/03/11

Reporting Units: ug/L

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Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
Received: 01/03/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 002 (Grab) (IUA0081-01) - Water					
SM2540F	2	01/03/2011 09:40	01/03/2011 16:25	01/04/2011 08:35	01/04/2011 08:35
Sample ID: Outfall 002 (Composite) (IUA0081-03) - Water					
EPA 180.1	2	01/03/2011 14:46	01/03/2011 16:25	01/05/2011 11:00	01/05/2011 11:00
EPA 300.0	2	01/03/2011 14:46	01/03/2011 16:25	01/04/2011 16:00	01/04/2011 21:23
Filtration	1	01/03/2011 14:46	01/03/2011 16:25	01/04/2011 20:04	01/04/2011 20:06
SM5210B	2	01/03/2011 14:46	01/03/2011 16:25	01/05/2011 11:29	01/10/2011 13:00
SM5540-C	2	01/03/2011 14:46	01/03/2011 16:25	01/04/2011 18:57	01/04/2011 20:35

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0830 Extracted: 01/09/11										
Blank Analyzed: 01/09/2011 (11A0830-BLK1)										
Benzene	ND	0.50	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chloroform	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
Toluene	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Trichlorofluoromethane	ND	0.50	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Xylenes, Total	ND	1.5	ug/l							
Surrogate: 4-Bromofluorobenzene	22.8		ug/l	25.0		91	80-120			
Surrogate: Dibromofluoromethane	22.9		ug/l	25.0		92	80-120			
Surrogate: Toluene-d8	25.7		ug/l	25.0		103	80-120			
LCS Analyzed: 01/09/2011 (11A0830-BS1)										
Benzene	21.9	0.50	ug/l	25.0		88	70-120			
Carbon tetrachloride	26.2	0.50	ug/l	25.0		105	65-140			
Chloroform	20.7	0.50	ug/l	25.0		83	70-130			
1,1-Dichloroethane	22.5	0.50	ug/l	25.0		90	70-125			
1,2-Dichloroethane	22.9	0.50	ug/l	25.0		92	60-140			
1,1-Dichloroethene	20.2	0.50	ug/l	25.0		81	70-125			
Ethylbenzene	23.5	0.50	ug/l	25.0		94	75-125			
Tetrachloroethene	24.2	0.50	ug/l	25.0		97	70-125			
Toluene	23.0	0.50	ug/l	25.0		92	70-120			
1,1,1-Trichloroethane	24.2	0.50	ug/l	25.0		97	65-135			
1,1,2-Trichloroethane	23.2	0.50	ug/l	25.0		93	70-125			
Trichloroethene	24.4	0.50	ug/l	25.0		97	70-125			
Trichlorofluoromethane	22.1	0.50	ug/l	25.0		88	65-145			
Vinyl chloride	18.6	0.50	ug/l	25.0		75	55-135			
Xylenes, Total	73.4	1.5	ug/l	75.0		98	70-125			

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0830 Extracted: 01/09/11										
LCS Analyzed: 01/09/2011 (11A0830-BS1)										
Surrogate: 4-Bromofluorobenzene	23.3		ug/l	25.0		93	80-120			
Surrogate: Dibromofluoromethane	24.6		ug/l	25.0		99	80-120			
Surrogate: Toluene-d8	25.7		ug/l	25.0		103	80-120			
Matrix Spike Analyzed: 01/09/2011 (11A0830-MS1)					Source: IUA0468-01					
Benzene	22.2	0.50	ug/l	25.0	ND	89	65-125			
Carbon tetrachloride	30.1	0.50	ug/l	25.0	2.78	109	65-140			
Chloroform	22.1	0.50	ug/l	25.0	0.730	85	65-135			
1,1-Dichloroethane	23.0	0.50	ug/l	25.0	ND	92	65-130			
1,2-Dichloroethane	22.8	0.50	ug/l	25.0	ND	91	60-140			
1,1-Dichloroethene	21.0	0.50	ug/l	25.0	ND	84	60-130			
Ethylbenzene	23.0	0.50	ug/l	25.0	ND	92	65-130			
Tetrachloroethene	25.1	0.50	ug/l	25.0	ND	100	65-130			
Toluene	23.0	0.50	ug/l	25.0	ND	92	70-125			
1,1,1-Trichloroethane	25.8	0.50	ug/l	25.0	ND	103	65-140			
1,1,2-Trichloroethane	23.3	0.50	ug/l	25.0	ND	93	65-130			
Trichloroethene	25.1	0.50	ug/l	25.0	ND	100	65-125			
Trichlorofluoromethane	23.7	0.50	ug/l	25.0	ND	95	60-145			
Vinyl chloride	20.8	0.50	ug/l	25.0	ND	83	45-140			
Xylenes, Total	71.7	1.5	ug/l	75.0	ND	96	60-130			
Surrogate: 4-Bromofluorobenzene	22.5		ug/l	25.0		90	80-120			
Surrogate: Dibromofluoromethane	24.6		ug/l	25.0		98	80-120			
Surrogate: Toluene-d8	25.4		ug/l	25.0		102	80-120			
Matrix Spike Dup Analyzed: 01/09/2011 (11A0830-MSD1)					Source: IUA0468-01					
Benzene	23.4	0.50	ug/l	25.0	ND	93	65-125	5	20	
Carbon tetrachloride	31.5	0.50	ug/l	25.0	2.78	115	65-140	4	25	
Chloroform	22.0	0.50	ug/l	25.0	0.730	85	65-135	0.5	20	
1,1-Dichloroethane	23.4	0.50	ug/l	25.0	ND	94	65-130	1	20	
1,2-Dichloroethane	24.7	0.50	ug/l	25.0	ND	99	60-140	8	20	
1,1-Dichloroethene	20.7	0.50	ug/l	25.0	ND	83	60-130	2	20	
Ethylbenzene	24.7	0.50	ug/l	25.0	ND	99	65-130	7	20	
Tetrachloroethene	26.8	0.50	ug/l	25.0	ND	107	65-130	7	20	
Toluene	24.4	0.50	ug/l	25.0	ND	97	70-125	6	20	
1,1,1-Trichloroethane	25.5	0.50	ug/l	25.0	ND	102	65-140	1	20	
1,1,2-Trichloroethane	25.7	0.50	ug/l	25.0	ND	103	65-130	9	25	
Trichloroethene	26.3	0.50	ug/l	25.0	ND	105	65-125	5	20	

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0830 Extracted: 01/09/11										
Matrix Spike Dup Analyzed: 01/09/2011 (11A0830-MSD1)					Source: IUA0468-01					
Trichlorofluoromethane	22.8	0.50	ug/l	25.0	ND	91	60-145	4	25	
Vinyl chloride	19.8	0.50	ug/l	25.0	ND	79	45-140	5	30	
Xylenes, Total	77.0	1.5	ug/l	75.0	ND	103	60-130	7	20	
Surrogate: 4-Bromofluorobenzene	23.3		ug/l	25.0		93	80-120			
Surrogate: Dibromofluoromethane	23.7		ug/l	25.0		95	80-120			
Surrogate: Toluene-d8	25.7		ug/l	25.0		103	80-120			

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METHOD BLANK/QC DATA

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0336 Extracted: 01/05/11										
Blank Analyzed: 01/07/2011 (11A0336-BLK1)										
Bis(2-ethylhexyl)phthalate	ND	5.00	ug/l							
2,4-Dinitrotoluene	ND	5.00	ug/l							
N-Nitrosodimethylamine	0.160	5.00	ug/l							Ja
Pentachlorophenol	ND	5.00	ug/l							
2,4,6-Trichlorophenol	ND	6.00	ug/l							
Surrogate: 2,4,6-Tribromophenol	17.4		ug/l	20.0		87	40-120			
Surrogate: 2-Fluorobiphenyl	8.56		ug/l	10.0		86	50-120			
Surrogate: 2-Fluorophenol	14.3		ug/l	20.0		71	30-120			
Surrogate: Nitrobenzene-d5	7.92		ug/l	10.0		79	45-120			
Surrogate: Phenol-d6	15.5		ug/l	20.0		77	35-120			
Surrogate: Terphenyl-d14	8.84		ug/l	10.0		88	50-125			
LCS Analyzed: 01/07/2011 (11A0336-BS1)										
Bis(2-ethylhexyl)phthalate	9.38	5.00	ug/l	10.0		94	65-130			MNR1
2,4-Dinitrotoluene	7.56	5.00	ug/l	10.0		76	65-120			
N-Nitrosodimethylamine	7.00	5.00	ug/l	10.0		70	45-120			
Pentachlorophenol	5.02	5.00	ug/l	10.0		50	24-121			
2,4,6-Trichlorophenol	8.08	6.00	ug/l	10.0		81	55-120			
Surrogate: 2,4,6-Tribromophenol	17.9		ug/l	20.0		89	40-120			
Surrogate: 2-Fluorobiphenyl	7.62		ug/l	10.0		76	50-120			
Surrogate: 2-Fluorophenol	12.2		ug/l	20.0		61	30-120			
Surrogate: Nitrobenzene-d5	7.22		ug/l	10.0		72	45-120			
Surrogate: Phenol-d6	14.1		ug/l	20.0		71	35-120			
Surrogate: Terphenyl-d14	8.54		ug/l	10.0		85	50-125			
LCS Dup Analyzed: 01/07/2011 (11A0336-BSD1)										
Bis(2-ethylhexyl)phthalate	8.66	5.00	ug/l	10.0		87	65-130	8	20	
2,4-Dinitrotoluene	8.12	5.00	ug/l	10.0		81	65-120	7	20	
N-Nitrosodimethylamine	7.62	5.00	ug/l	10.0		76	45-120	8	20	
Pentachlorophenol	5.40	5.00	ug/l	10.0		54	24-121	7	25	
2,4,6-Trichlorophenol	8.50	6.00	ug/l	10.0		85	55-120	5	30	
Surrogate: 2,4,6-Tribromophenol	18.7		ug/l	20.0		93	40-120			
Surrogate: 2-Fluorobiphenyl	8.16		ug/l	10.0		82	50-120			
Surrogate: 2-Fluorophenol	13.2		ug/l	20.0		66	30-120			
Surrogate: Nitrobenzene-d5	7.78		ug/l	10.0		78	45-120			
Surrogate: Phenol-d6	15.3		ug/l	20.0		76	35-120			
Surrogate: Terphenyl-d14	8.82		ug/l	10.0		88	50-125			

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 Received: 01/03/11

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0715 Extracted: 01/07/11										
Blank Analyzed: 01/11/2011 (11A0715-BLK1)										
alpha-BHC	ND	0.010	ug/l							
Surrogate: Decachlorobiphenyl	0.355		ug/l	0.500		71	45-120			
Surrogate: Tetrachloro-m-xylene	0.366		ug/l	0.500		73	35-115			
LCS Analyzed: 01/11/2011 (11A0715-BS1)										
alpha-BHC	0.529	0.010	ug/l	0.500		106	45-115			
Surrogate: Decachlorobiphenyl	0.331		ug/l	0.500		66	45-120			
Surrogate: Tetrachloro-m-xylene	0.436		ug/l	0.500		87	35-115			
LCS Dup Analyzed: 01/11/2011 (11A0715-BSD1)										
alpha-BHC	0.513	0.010	ug/l	0.500		103	45-115	3	30	
Surrogate: Decachlorobiphenyl	0.332		ug/l	0.500		66	45-120			
Surrogate: Tetrachloro-m-xylene	0.421		ug/l	0.500		84	35-115			

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11A1479 Extracted: 01/14/11</u>										
Blank Analyzed: 01/14/2011 (11A1479-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 01/14/2011 (11A1479-BS1)										
Hexane Extractable Material (Oil & Grease)	18.7	5.0	mg/l	20.0		94	78-114			MNR1
LCS Dup Analyzed: 01/14/2011 (11A1479-BSD1)										
Hexane Extractable Material (Oil & Grease)	19.0	5.0	mg/l	20.0		95	78-114	2	11	

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0567 Extracted: 01/06/11										
Blank Analyzed: 01/07/2011 (11A0567-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 01/07/2011 (11A0567-BS1)										
Mercury	8.08	0.20	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 01/07/2011 (11A0567-MS1)										
					Source: IUA0495-04					
Mercury	7.99	0.20	ug/l	8.00	ND	100	70-130			
Matrix Spike Dup Analyzed: 01/07/2011 (11A0567-MSD1)										
					Source: IUA0495-04					
Mercury	8.07	0.20	ug/l	8.00	ND	101	70-130	1	20	
Batch: 11A0917 Extracted: 01/10/11										
Blank Analyzed: 01/11/2011 (11A0917-BLK1)										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.00	ug/l							
Selenium	ND	2.0	ug/l							
LCS Analyzed: 01/11/2011 (11A0917-BS1)										
Cadmium	82.4	1.0	ug/l	80.0		103	85-115			
Copper	82.9	2.00	ug/l	80.0		104	85-115			
Lead	81.8	1.00	ug/l	80.0		102	85-115			
Selenium	83.6	2.0	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 01/11/2011 (11A0917-MS1)										
					Source: IUA0579-01					
Cadmium	80.9	1.0	ug/l	80.0	ND	101	70-130			
Copper	76.5	2.00	ug/l	80.0	3.47	91	70-130			
Lead	80.6	1.00	ug/l	80.0	ND	101	70-130			
Selenium	81.7	2.0	ug/l	80.0	1.05	101	70-130			

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0917 Extracted: 01/10/11										
Matrix Spike Analyzed: 01/11/2011 (11A0917-MS2)					Source: IUA0081-03					
Cadmium	83.4	1.0	ug/l	80.0	ND	104	70-130			
Copper	80.9	2.00	ug/l	80.0	2.51	98	70-130			
Lead	80.1	1.00	ug/l	80.0	ND	100	70-130			
Selenium	84.5	2.0	ug/l	80.0	0.613	105	70-130			
Matrix Spike Dup Analyzed: 01/11/2011 (11A0917-MSD1)					Source: IUA0579-01					
Cadmium	82.0	1.0	ug/l	80.0	ND	103	70-130	1	20	
Copper	78.6	2.00	ug/l	80.0	3.47	94	70-130	3	20	
Lead	78.2	1.00	ug/l	80.0	ND	98	70-130	3	20	
Selenium	82.5	2.0	ug/l	80.0	1.05	102	70-130	1	20	
Batch: 11A0923 Extracted: 01/10/11										
Blank Analyzed: 01/11/2011 (11A0923-BLK1)										
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
LCS Analyzed: 01/11/2011 (11A0923-BS1)										
Manganese	516	20	ug/l	500		103	85-115			
Zinc	457	20.0	ug/l	500		91	85-115			
Matrix Spike Analyzed: 01/11/2011 (11A0923-MS1)					Source: IUA0642-05					
Manganese	551	20	ug/l	500	52.5	100	70-130			
Zinc	572	20.0	ug/l	500	102	94	70-130			
Matrix Spike Analyzed: 01/11/2011 (11A0923-MS2)					Source: IUA0081-03					
Manganese	520	20	ug/l	500	ND	104	70-130			
Zinc	475	20.0	ug/l	500	ND	95	70-130			

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0923 Extracted: 01/10/11										
Matrix Spike Dup Analyzed: 01/11/2011 (11A0923-MSD1)					Source: IUA0642-05					
Manganese	556	20	ug/l	500	52.5	101	70-130	0.9	20	
Zinc	575	20.0	ug/l	500	102	95	70-130	0.6	20	
Batch: 11A1551 Extracted: 01/14/11										
Blank Analyzed: 01/17/2011 (11A1551-BLK1)										
Iron	ND	0.040	mg/l							
LCS Analyzed: 01/17/2011 (11A1551-BS1)										
Iron	0.516	0.040	mg/l	0.500		103	85-115			
Matrix Spike Analyzed: 01/17/2011 (11A1551-MS1)					Source: IUA1056-08					
Iron	0.829	0.040	mg/l	0.500	0.412	83	70-130			
Matrix Spike Analyzed: 01/17/2011 (11A1551-MS2)					Source: IUA1194-03					
Iron	0.511	0.040	mg/l	0.500	ND	102	70-130			
Matrix Spike Dup Analyzed: 01/17/2011 (11A1551-MSD1)					Source: IUA1056-08					
Iron	0.843	0.040	mg/l	0.500	0.412	86	70-130	2	20	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0572 Extracted: 01/06/11										
Blank Analyzed: 01/07/2011 (11A0572-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 01/07/2011 (11A0572-BS1)										
Mercury	8.05	0.20	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 01/07/2011 (11A0572-MS1)										
					Source: IUA0081-03					
Mercury	8.04	0.20	ug/l	8.00	ND	101	70-130			
Matrix Spike Dup Analyzed: 01/07/2011 (11A0572-MSD1)										
					Source: IUA0081-03					
Mercury	8.04	0.20	ug/l	8.00	ND	100	70-130	0.02	20	
Batch: 11A1039 Extracted: 01/11/11										
Blank Analyzed: 01/12/2011-01/13/2011 (11A1039-BLK1)										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
LCS Analyzed: 01/12/2011-01/13/2011 (11A1039-BS1)										
Iron	0.539	0.040	mg/l	0.500		108	85-115			
Manganese	539	20	ug/l	500		108	85-115			
Zinc	531	20.0	ug/l	500		106	85-115			
Matrix Spike Analyzed: 01/12/2011-01/13/2011 (11A1039-MS1)										
					Source: IUA0603-01					
Iron	0.521	0.040	mg/l	0.500	ND	104	70-130			
Manganese	514	20	ug/l	500	ND	103	70-130			
Zinc	511	20.0	ug/l	500	ND	102	70-130			

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A1039 Extracted: 01/11/11										
Matrix Spike Analyzed: 01/12/2011-01/13/2011 (11A1039-MS2)					Source: IUA0603-02					
Iron	0.514	0.040	mg/l	0.500	ND	103	70-130			
Manganese	504	20	ug/l	500	ND	101	70-130			
Zinc	505	20.0	ug/l	500	ND	101	70-130			
Matrix Spike Dup Analyzed: 01/12/2011-01/13/2011 (11A1039-MSD1)					Source: IUA0603-01					
Iron	0.518	0.040	mg/l	0.500	ND	104	70-130	0.6	20	
Manganese	518	20	ug/l	500	ND	104	70-130	0.6	20	
Zinc	518	20.0	ug/l	500	ND	104	70-130	1	20	
Batch: 11A1040 Extracted: 01/11/11										
Blank Analyzed: 01/12/2011 (11A1040-BLK1)										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.00	ug/l							
Selenium	ND	2.0	ug/l							
LCS Analyzed: 01/12/2011 (11A1040-BS1)										
Cadmium	77.7	1.0	ug/l	80.0		97	85-115			
Copper	82.8	2.00	ug/l	80.0		104	85-115			
Lead	85.6	1.00	ug/l	80.0		107	85-115			
Selenium	76.0	2.0	ug/l	80.0		95	85-115			
Matrix Spike Analyzed: 01/12/2011 (11A1040-MS1)					Source: IUA0617-01					
Cadmium	76.6	1.0	ug/l	80.0	ND	96	70-130			
Copper	82.5	2.00	ug/l	80.0	1.56	101	70-130			
Lead	82.9	1.00	ug/l	80.0	ND	104	70-130			
Selenium	74.7	2.0	ug/l	80.0	ND	93	70-130			

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A1040 Extracted: 01/11/11										
Matrix Spike Analyzed: 01/12/2011 (11A1040-MS2)					Source: IUA0500-02					
Cadmium	74.4	1.0	ug/l	80.0	ND	93	70-130			
Copper	82.2	2.00	ug/l	80.0	1.69	101	70-130			
Lead	80.7	1.00	ug/l	80.0	ND	101	70-130			
Selenium	76.9	2.0	ug/l	80.0	1.60	94	70-130			
Matrix Spike Dup Analyzed: 01/12/2011 (11A1040-MSD1)					Source: IUA0617-01					
Cadmium	76.3	1.0	ug/l	80.0	ND	95	70-130	0.5	20	
Copper	82.9	2.00	ug/l	80.0	1.56	102	70-130	0.5	20	
Lead	80.6	1.00	ug/l	80.0	ND	101	70-130	3	20	
Selenium	75.0	2.0	ug/l	80.0	ND	94	70-130	0.5	20	

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0203 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0203-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate-N	ND	0.11	mg/l							
Nitrite-N	ND	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 01/04/2011 (11A0203-BS1)										
Chloride	5.08	0.50	mg/l	5.00		102	90-110			
Nitrate-N	1.16	0.11	mg/l	1.13		103	90-110			
Nitrite-N	1.57	0.15	mg/l	1.52		103	90-110			
Sulfate	9.76	0.50	mg/l	10.0		98	90-110			M-3
Matrix Spike Analyzed: 01/04/2011 (11A0203-MS1) Source: IUA0056-01										
Chloride	18.5	0.50	mg/l	5.00	13.4	101	80-120			
Nitrate-N	1.12	0.11	mg/l	1.13	ND	99	80-120			
Nitrite-N	1.47	0.15	mg/l	1.52	ND	97	80-120			
Matrix Spike Analyzed: 01/04/2011 (11A0203-MS2) Source: IUA0066-01										
Chloride	5.07	0.50	mg/l	5.00	0.262	96	80-120			
Nitrate-N	1.16	0.11	mg/l	1.13	ND	102	80-120			
Nitrite-N	1.46	0.15	mg/l	1.52	ND	96	80-120			
Sulfate	10.1	0.50	mg/l	10.0	0.318	98	80-120			
Matrix Spike Dup Analyzed: 01/04/2011 (11A0203-MSD1) Source: IUA0056-01										
Chloride	18.7	0.50	mg/l	5.00	13.4	105	80-120	1	20	
Nitrate-N	1.10	0.11	mg/l	1.13	ND	97	80-120	2	20	
Nitrite-N	1.53	0.15	mg/l	1.52	ND	101	80-120	4	20	

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0277 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0277-BLK1)										
Surfactants (MBAS)	ND	0.10	mg/l							
LCS Analyzed: 01/04/2011 (11A0277-BS1)										
Surfactants (MBAS)	0.249	0.10	mg/l	0.250		100	90-110			
Matrix Spike Analyzed: 01/04/2011 (11A0277-MS1)										
Surfactants (MBAS)	0.258	0.10	mg/l	0.250	ND	103	50-125			
Matrix Spike Dup Analyzed: 01/04/2011 (11A0277-MSD1)										
Surfactants (MBAS)	0.273	0.10	mg/l	0.250	ND	109	50-125	5	20	
Batch: 11A0304 Extracted: 01/05/11										
Blank Analyzed: 01/05/2011 (11A0304-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 01/05/2011 (11A0304-BS1)										
Total Dissolved Solids	1010	10	mg/l	1000		101	90-110			
Duplicate Analyzed: 01/05/2011 (11A0304-DUP1)										
Total Dissolved Solids	1830	20	mg/l		1830			0	10	
Batch: 11A0306 Extracted: 01/05/11										
Blank Analyzed: 01/05/2011 (11A0306-BLK1)										
Specific Conductance	1.01	1.0	umhos/cm @ 25C							B

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0306 Extracted: 01/05/11										
LCS Analyzed: 01/05/2011 (11A0306-BS1)										
Specific Conductance	1440	1.0	umhos/cm @ 25C	1410		102	90-110			
Duplicate Analyzed: 01/05/2011 (11A0306-DUP1)										
Specific Conductance	705	1.0	umhos/cm @ 25C		705			0	5	
Source: IUA0081-01										
Batch: 11A0357 Extracted: 01/05/11										
Blank Analyzed: 01/05/2011 (11A0357-BLK1)										
Turbidity	ND	1.0	NTU							
Duplicate Analyzed: 01/05/2011 (11A0357-DUP1)										
Turbidity	35.5	1.0	NTU		35.8			0.8	20	
Source: IUA0116-01										
Duplicate Analyzed: 01/05/2011 (11A0357-DUP2)										
Turbidity	0.0900	1.0	NTU		0.0800			12	20	Ja
Source: IUA0186-08										
Batch: 11A0374 Extracted: 01/05/11										
Blank Analyzed: 01/10/2011 (11A0374-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							
LCS Analyzed: 01/10/2011 (11A0374-BS1)										
Biochemical Oxygen Demand	205	100	mg/l	198		104	85-115			
LCS Dup Analyzed: 01/10/2011 (11A0374-BSD1)										
Biochemical Oxygen Demand	209	100	mg/l	198		106	85-115	2	20	

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0408 Extracted: 01/05/11										
Blank Analyzed: 01/05/2011 (11A0408-BLK1)										
Ammonia-N (Distilled)	ND	0.500	mg/l							
LCS Analyzed: 01/05/2011 (11A0408-BS1)										
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0		98	80-115			
Matrix Spike Analyzed: 01/05/2011 (11A0408-MS1)										
Ammonia-N (Distilled)	9.52	0.500	mg/l	10.0	ND	95	70-120			
Matrix Spike Dup Analyzed: 01/05/2011 (11A0408-MSD1)										
Ammonia-N (Distilled)	9.52	0.500	mg/l	10.0	ND	95	70-120	0	15	
Batch: 11A0416 Extracted: 01/05/11										
Blank Analyzed: 01/05/2011 (11A0416-BLK1)										
Total Cyanide	ND	5.0	ug/l							
LCS Analyzed: 01/05/2011 (11A0416-BS1)										
Total Cyanide	191	5.0	ug/l	200		96	90-110			
Matrix Spike Analyzed: 01/05/2011 (11A0416-MS1)										
Total Cyanide	162	5.0	ug/l	200	ND	81	70-115			
Matrix Spike Dup Analyzed: 01/05/2011 (11A0416-MSD1)										
Total Cyanide	181	5.0	ug/l	200	ND	91	70-115	11	15	
Batch: 11A0470 Extracted: 01/06/11										
Blank Analyzed: 01/06/2011 (11A0470-BLK1)										
Perchlorate	ND	4.0	ug/l							

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0470 Extracted: 01/06/11										
LCS Analyzed: 01/06/2011 (11A0470-BS1)										
Perchlorate	25.0	4.0	ug/l	25.0		100	85-115			
Matrix Spike Analyzed: 01/06/2011 (11A0470-MS1)										
Perchlorate	30.6	4.0	ug/l	25.0	5.87	99	80-120			
Matrix Spike Dup Analyzed: 01/06/2011 (11A0470-MSD1)										
Perchlorate	32.1	4.0	ug/l	25.0	5.87	105	80-120	5	20	
Batch: 11A0627 Extracted: 01/06/11										
Blank Analyzed: 01/06/2011 (11A0627-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 01/06/2011 (11A0627-BS1)										
Total Suspended Solids	992	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 01/06/2011 (11A0627-DUP1)										
Total Suspended Solids	14.0	10	mg/l		14.0			0	10	

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METHOD BLANK/QC DATA

8659

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8659 Extracted: 02/01/11										
LCS Analyzed: 02/01/2011 (S101015-03)										
Uranium, Total	59.8	1	pCi/L	56.5		106	80-120			
Blank Analyzed: 02/01/2011 (S101015-04)										
Uranium, Total	0	1	pCi/L				-			U
Duplicate Analyzed: 02/01/2011 (S101015-05)										
Uranium, Total	0.102	1	pCi/L				-	10		Jb

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900

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 8659 Extracted: 01/17/11</u>										
LCS Analyzed: 01/17/2011 (S101015-03)										
Gross Alpha	39.3	3	pCi/L	40.4		97	70-130			
Gross Beta	35.5	4	pCi/L	35		101	70-130			
Blank Analyzed: 01/17/2011 (S101015-04)										
Gross Alpha	0.122	3	pCi/L							U
Gross Beta	0.089	4	pCi/L							U
Duplicate Analyzed: 01/17/2011 (S101015-05)										
Gross Alpha	0.592	3	pCi/L					44		Jb
Gross Beta	2.03	4	pCi/L					50		Jb

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8659 Extracted: 01/13/11										
LCS Analyzed: 01/14/2011 (S101015-03)										
Cobalt-60	129	10	pCi/L	128		101	80-120			
Cesium-137	118	20	pCi/L	110		107	80-120			
Blank Analyzed: 01/14/2011 (S101015-04)										
Cesium-137	ND	20	pCi/L				-			U
Potassium-40	ND	25	pCi/L				-			U
Duplicate Analyzed: 01/15/2011 (S101015-05)										
Cesium-137	ND	20	pCi/L				-	0		U
Potassium-40	ND	25	pCi/L				-	0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 8659 Extracted: 01/27/11</u>										
LCS Analyzed: 01/27/2011 (S101015-03)										
Radium-226	47.3	1	pCi/L	55.7	Source:	85	80-120			
Blank Analyzed: 01/27/2011 (S101015-04)										
Radium-226	-0.022	1	pCi/L		Source:		-			U
Duplicate Analyzed: 01/27/2011 (S101015-05)										
Radium-226	0.426	1	pCi/L		Source:		-	0		U

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Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8659 Extracted: 01/26/11										
LCS Analyzed: 01/26/2011 (S101015-03)										
Radium-228	4.07	1	pCi/L	4.62		88	60-140			
Blank Analyzed: 01/26/2011 (S101015-04)										
Radium-228	-0.112	1	pCi/L							U
Duplicate Analyzed: 01/26/2011 (S101015-05)										
Radium-228	-0.069	1	pCi/L					0		U

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Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8659 Extracted: 01/19/11										
LCS Analyzed: 01/26/2011 (S101015-03)										
Strontium-90	18.6	2	pCi/L	17.5	Source:	106	80-120			
Blank Analyzed: 01/26/2011 (S101015-04)										
Strontium-90	-0.096	2	pCi/L		Source:		-			U
Duplicate Analyzed: 01/26/2011 (S101015-05)										
Strontium-90	-0.142	2	pCi/L		Source:		-	0		U

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Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8659 Extracted: 01/24/11										
LCS Analyzed: 01/24/2011 (S101015-03)										
Tritium	2110	500	pCi/L	2240		94	80-120			
Blank Analyzed: 01/24/2011 (S101015-04)										
Tritium	4.53	500	pCi/L				-			U
Duplicate Analyzed: 01/24/2011 (S101015-05)										
Tritium	-54.4	500	pCi/L				-	0		U

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Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1006286 Extracted: 01/06/11										
Blank Analyzed: 01/07/2011 (G1A06000286B)					Source:					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	5.7e-006	0.0001	ug/L				-			J
OCDF	1.8e-006	0.0001	ug/L				-			J, Q
Total HpCDD	1.4e-006	0.00005	ug/L				-			J, Q
Total HpCDF	ND	0.00005	ug/L				-			
Total HxCDD	ND	0.00005	ug/L				-			
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0019		ug/L	0.002		94	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0018		ug/L	0.002		88	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0019		ug/L	0.002		95	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0016		ug/L	0.002		82	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0017		ug/L	0.002		85	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0021		ug/L	0.002		103	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0017		ug/L	0.002		85	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0017		ug/L	0.002		85	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.002		ug/L	0.002		102	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0021		ug/L	0.002		104	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0017		ug/L	0.002		87	28-136			

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 Project Manager

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MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1006286 Extracted: 01/06/11										
Blank Analyzed: 01/07/2011 (G1A060000286B)					Source:					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0021		ug/L	0.002		105	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0017		ug/L	0.002		86	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0016		ug/L	0.002		82	24-169			
Surrogate: 13C-OCDD	0.0037		ug/L	0.004		92	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00081		ug/L	0.0008		101	35-197			
LCS Analyzed: 01/07/2011 (G1A060000286C)					Source:					
1,2,3,4,6,7,8-HpCDD	0.000924	0.00005	ug/L	0.001		92	70-140			
1,2,3,4,6,7,8-HpCDF	0.000987	0.00005	ug/L	0.001		99	82-122			
1,2,3,4,7,8,9-HpCDF	0.000958	0.00005	ug/L	0.001		96	78-138			
1,2,3,4,7,8-HxCDD	0.000966	0.00005	ug/L	0.001		97	70-164			
1,2,3,4,7,8-HxCDF	0.000893	0.00005	ug/L	0.001		89	72-134			
1,2,3,6,7,8-HxCDD	0.000897	0.00005	ug/L	0.001		90	76-134			
1,2,3,6,7,8-HxCDF	0.000917	0.00005	ug/L	0.001		92	84-130			
1,2,3,7,8,9-HxCDD	0.00093	0.00005	ug/L	0.001		93	64-162			
1,2,3,7,8,9-HxCDF	0.000918	0.00005	ug/L	0.001		92	78-130			
1,2,3,7,8-PeCDD	0.000987	0.00005	ug/L	0.001		99	70-142			
1,2,3,7,8-PeCDF	0.000871	0.00005	ug/L	0.001		87	80-134			
2,3,4,6,7,8-HxCDF	0.000934	0.00005	ug/L	0.001		93	70-156			
2,3,4,7,8-PeCDF	0.00086	0.00005	ug/L	0.001		86	68-160			
2,3,7,8-TCDD	0.000186	0.00001	ug/L	0.0002		93	67-158			
2,3,7,8-TCDF	0.000173	0.00001	ug/L	0.0002		86	75-158			
OCDD	0.00173	0.0001	ug/L	0.002		86	78-144			Ba
OCDF	0.0017	0.0001	ug/L	0.002		85	63-170			Ba
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00183		ug/L	0.002		91	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0017		ug/L	0.002		85	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0018		ug/L	0.002		90	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00169		ug/L	0.002		85	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00159		ug/L	0.002		80	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0019		ug/L	0.002		95	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00171		ug/L	0.002		85	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00163		ug/L	0.002		81	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00186		ug/L	0.002		93	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00189		ug/L	0.002		95	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00169		ug/L	0.002		84	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00192		ug/L	0.002		96	13-328			

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Debby Wilson
 Project Manager

MWH-Pasadena/Boeing
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1006286 Extracted: 01/06/11										
LCS Analyzed: 01/07/2011 (G1A060000286C)										
Surrogate: 13C-2,3,7,8-TCDD	0.00164		ug/L	0.002		82	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00157		ug/L	0.002		79	22-152			
Surrogate: 13C-OCDD	0.00355		ug/L	0.004		89	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000739		ug/L	0.0008		92	31-191			

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
Received: 01/03/11

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUA0081-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.29	4.8	15
IUA0081-01	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUA0081-01	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5
IUA0081-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUA0081-02	624-Boeing 001/002Q (Fr113+X+Fr1,1-Dichloroethene		ug/l	0	0.50	6
IUA0081-02	624-Boeing 001/002Q (Fr113+X+FrTrichloroethene		ug/l	0	0.50	5

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUA0081-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0096	0.03
IUA0081-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.71	13
IUA0081-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.76	18
IUA0081-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.19	4.76	4
IUA0081-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.76	16
IUA0081-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.76	16.5
IUA0081-03	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)		mg/l	0	0.500	10.1
IUA0081-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	1.33	2.0	30
IUA0081-03	Cadmium-200.8	Cadmium	ug/l	0.026	1.0	3.1
IUA0081-03	Chloride - 300.0	Chloride	mg/l	28	5.0	150
IUA0081-03	Copper-200.8	Copper	ug/l	2.51	2.00	14
IUA0081-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-2	5.0	8.5
IUA0081-03	Iron-200.7	Iron	mg/l	0.024	0.040	0.3
IUA0081-03	Lead-200.8	Lead	ug/l	0.046	1.00	5.2
IUA0081-03	Manganese-200.7	Manganese	ug/l	4.26	20	50
IUA0081-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.053	0.10	0.5
IUA0081-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.12	0.11	8
IUA0081-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
IUA0081-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.12	0.26	8

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Sampled: 01/03/11-01/05/11
 Received: 01/03/11

IUA0081-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
IUA0081-03	Selenium-200.8	Selenium	ug/l	0.61	2.0	5
IUA0081-03	Sulfate-300.0	Sulfate	mg/l	138	5.0	300
IUA0081-03	TDS - SM2540C	Total Dissolved Solids	mg/l	448	10	950
IUA0081-03	TSS - SM2540D	Total Suspended Solids	mg/l	0	10	45
IUA0081-03	Zinc-200.7	Zinc	ug/l	4.80	20.0	119

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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 Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
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Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
Received: 01/03/11

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- Ba** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- J** Estimated result. Result is less than the reporting limit.
- Ja** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

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IUA0081 <Page 49 of 52>

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 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
 Received: 01/03/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 120.1	Water	X	X
EPA 1664A	Water	X	X
EPA 180.1	Water	X	X
EPA 200.7-Diss	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2540C	Water	X	
SM2540F	Water	X	X
SM4500CN-E	Water	X	X
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5540-C	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

TestAmerica Irvine

Debby Wilson
 Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
Received: 01/03/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUA0081-03, IUA0081-04

Analysis Performed: Gross Alpha
Samples: IUA0081-03, IUA0081-04

Analysis Performed: Gross Beta
Samples: IUA0081-03, IUA0081-04

Analysis Performed: Level 4 Data Package
Samples: IUA0081-03, IUA0081-04

Analysis Performed: Radium, Combined
Samples: IUA0081-03, IUA0081-04

Analysis Performed: Strontium 90
Samples: IUA0081-03, IUA0081-04

Analysis Performed: Tritium
Samples: IUA0081-03, IUA0081-04

Analysis Performed: Uranium, Combined
Samples: IUA0081-03, IUA0081-04

TestAmerica Irvine

Debby Wilson
Project Manager

MWH-Pasadena/Boeing
618 Michillinda Avenue, Suite 200
Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IUA0081

Sampled: 01/03/11-01/05/11
Received: 01/03/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8659
Samples: IUA0081-03, IUA0081-04

Method Performed: 900
Samples: IUA0081-03, IUA0081-04

Method Performed: 901.1
Samples: IUA0081-03, IUA0081-04

Method Performed: 903.1
Samples: IUA0081-03, IUA0081-04

Method Performed: 904
Samples: IUA0081-03, IUA0081-04

Method Performed: 905
Samples: IUA0081-03, IUA0081-04

Method Performed: 906
Samples: IUA0081-03

TestAmerica West Sacramento NELAC Cert #1119CA, Nevada Cert #CA44

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUA0081-03

TestAmerica Irvine

Debby Wilson
Project Manager



EBERLINE ANALYTICAL CORPORATION
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Richmond, California 94804-3849
Phone (510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
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February 7, 2011

Ms. Debby Wilson
Test America Irvine
17461 Derian Ave., Ste. 100
Irvine, CA 92614

Reference: Test America-Irvine IUA0081
Eberline Analytical Report S101021-8659
Sample Delivery Group 8659

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUA0081. The samples were received on January 6, 2011.

Please call me, if you have any questions concerning the enclosed report.

Sincerely,

N. Joseph Verville
Client Services Manager

RM/ljb

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8659 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

Tritium and gamma analyses were performed on the sample as received i.e. the sample was not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volume.

2.0 Quality Control

For efficiency of analysis, samples IUA0081-03 and IUA0081-04 were analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8658 and are reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

3.0 Method Errors

The error for each result is an estimate of the significant random uncertainties incurred in the measurement process. These are propagated to each final result. They include the counting (Poisson) uncertainty, as well as those intrinsic errors due to carrier or tracer standardization, aliquoting, counter efficiencies, weights, or volumes. The following method errors were propagated to the count error to calculate the 2σ error (Total):

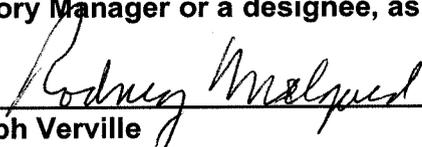
Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

4.0 Analysis Notes

- 4.1 **Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 **Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 **Strontium-90 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

5.0 Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



N. Joseph Verville
Client Services Manager

2/07/11

Date

EBERLINE ANALYTICAL
SDG 8659

SDG 8659
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0081

S U M M A R Y D A T A S E C T I O N

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UB

Prepared by

J. Melgard

Reviewed by

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8659

SDG 8659
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUA0081

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DUPLICATES

REPORT GUIDES

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SUMMARY DATA SECTION

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Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

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Contact N. Joseph Verville

GUIDE , c o n t .

Client Test America, Inc.
Contract IUA0081

ABOUT THE DATA SUMMARY SECTION

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS
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EBERLINE ANALYTICAL

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Client Test America, Inc.
 Contract IUA0081

LAB SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S101015-03	Lab Control Sample		WATER				
S101015-04	Method Blank		WATER				
S101015-05	Duplicate (S101015-01)	Boeing - SSFL	WATER				01/03/11 11:20
S101021-01	IUA0081-03	Boeing - SSFL	WATER			IUA0081	01/03/11 14:46
S101021-02	IUA0081-04 (TRIP BLANK)	Boeing - SSFL	WATER			IUA0081	01/05/11 12:45

LAB SUMMARY

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EBERLINE ANALYTICAL

SDG 8659

SDG 8659
 Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
 Contract IUA0081

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8658		Method Blank	WATER						S101015-04	8658-004
		Lab Control Sample	WATER						S101015-03	8658-003
		Duplicate (S101015-01)	WATER		10.0 L		01/05/11 2		S101015-05	8658-005
8659	IUA0081	IUA0081-03	WATER		10.0 L		01/06/11 3		S101021-01	8659-001
		IUA0081-04 (TRIP BLANK)	WATER		10.0 L		01/06/11 1		S101021-02	8659-002

QC SUMMARY

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Lab id EAS
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 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8659

SDG 8659
Contact N. Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
Contract IUA0081

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALIFIERS
			BATCH	2σ %	CLIENT	MORE	RE BLANK	LCS	
Beta Counting									
AC	WATER	Radium-228 in Water	7221-041	10.4	2		1	1	1/0/1
SR	WATER	Strontium-90 in Water	7221-041	10.4	2		1	1	1/0/1
Gas Proportional Counting									
80A	WATER	Gross Alpha in Water	7221-041	20.6	2		1	1	1/0/1
80B	WATER	Gross Beta in Water	7221-041	11.0	2		1	1	1/0/1
Gamma Spectroscopy									
GAM	WATER	Gamma Emitters in Water	7221-041	7.0	2		1	1	1/0/1
Kinetic Phosphorimetry, ug									
U_T	WATER	Uranium, Total	7221-041		2		1	1	1/0/1
Liquid Scintillation Counting									
H	WATER	Tritium in Water	7221-041	10.0	1		1	1	1/0/1
Radon Counting									
RA	WATER	Radium-226 in Water	7221-041	16.4	2		1	1	1/0/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.
In counts like 'a/b/c', 'a' = QC planchets, 'b' = Originals in this SDG, 'c' = Originals in other SDGs.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8659

SDG 8659
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUA0081

LAB WORK SUMMARY

LAB SAMPLE	CLIENT SAMPLE ID										
COLLECTED	LOCATION	MATRIX			SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD		
S101015-03	Lab Control Sample		8658-003	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water		
		WATER	8658-003	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water		
			8658-003	AC		01/26/11	02/04/11	BW	Radium-228 in Water		
			8658-003	GAM		01/14/11	01/24/11	MWT	Gamma Emitters in Water		
			8658-003	H		01/24/11	01/26/11	BW	Tritium in Water		
			8658-003	RA		01/27/11	01/28/11	BW	Radium-226 in Water		
			8658-003	SR		01/26/11	02/04/11	BW	Strontium-90 in Water		
			8658-003	U_T		02/01/11	02/03/11	BW	Uranium, Total		
S101015-04	Method Blank		8658-004	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water		
		WATER	8658-004	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water		
			8658-004	AC		01/26/11	02/04/11	BW	Radium-228 in Water		
			8658-004	GAM		01/14/11	01/24/11	MWT	Gamma Emitters in Water		
			8658-004	H		01/24/11	01/26/11	BW	Tritium in Water		
			8658-004	RA		01/27/11	01/28/11	BW	Radium-226 in Water		
			8658-004	SR		01/26/11	02/04/11	BW	Strontium-90 in Water		
			8658-004	U_T		02/01/11	02/03/11	BW	Uranium, Total		
S101015-05	Duplicate (S101015-01)		8658-005	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water		
		01/03/11	Boeing - SSFL	WATER	8658-005	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water
		01/05/11			8658-005	AC		01/26/11	02/04/11	BW	Radium-228 in Water
					8658-005	GAM		01/15/11	01/24/11	MWT	Gamma Emitters in Water
					8658-005	H		01/24/11	01/26/11	BW	Tritium in Water
					8658-005	RA		01/27/11	01/28/11	BW	Radium-226 in Water
					8658-005	SR		01/26/11	02/04/11	BW	Strontium-90 in Water
					8658-005	U_T		02/01/11	02/03/11	BW	Uranium, Total
S101021-01	IUA0081-03		8659-001	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water		
		01/03/11	Boeing - SSFL	WATER	8659-001	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water
		01/06/11	IUA0081		8659-001	AC		01/26/11	02/04/11	BW	Radium-228 in Water
					8659-001	GAM		01/14/11	01/24/11	MWT	Gamma Emitters in Water
					8659-001	H		01/24/11	01/26/11	BW	Tritium in Water
					8659-001	RA		01/27/11	01/28/11	BW	Radium-226 in Water
					8659-001	SR		01/26/11	02/04/11	BW	Strontium-90 in Water
					8659-001	U_T		02/01/11	02/03/11	BW	Uranium, Total

WORK SUMMARY

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Lab id EAS
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EBERLINE ANALYTICAL

SDG 8659

SDG 8659
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0081

WORK SUMMARY, cont.

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S101021-02	IUA0081-04 (TRIP BLANK)		8659-002	80A/80		01/21/11	02/04/11	BW	Gross Alpha in Water	
01/05/11	Boeing - SSFL	WATER	8659-002	80B/80		01/21/11	02/04/11	BW	Gross Beta in Water	
01/06/11	IUA0081		8659-002	AC		01/26/11	02/04/11	BW	Radium-228 in Water	
			8659-002	GAM		01/20/11	01/24/11	MWT	Gamma Emitters in Water	
			8659-002	RA		01/27/11	01/28/11	BW	Radium-226 in Water	
			8659-002	SR		01/26/11	02/04/11	BW	Strontium-90 in Water	
			8659-002	U_T		02/01/11	02/03/11	BW	Uranium, Total	

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	2			1	1	1	5
80B/80		Gross Beta in Water	900.0	2			1	1	1	5
AC		Radium-228 in Water	904.0	2			1	1	1	5
GAM		Gamma Emitters in Water	901.1	2			1	1	1	5
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	2			1	1	1	5
SR		Strontium-90 in Water	905.0	2			1	1	1	5
U_T		Uranium, Total	D5174	2			1	1	1	5
TOTALS				15			8	8	8	39

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8659

8658-004

Method Blank

METHOD BLANK

SDG <u>8659</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUA0081</u>
Lab sample id <u>S101015-04</u>	Client sample id <u>Method Blank</u>
Dept sample id <u>8658-004</u>	Material/Matrix <u>WATER</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.122	0.30	0.620	3.00	U	80A
Gross Beta	12587472	0.089	0.57	0.952	4.00	U	80B
Tritium	10028178	4.53	160	269	500	U	H
Radium-226	13982633	-0.022	0.34	0.630	1.00	U	RA
Radium-228	15262201	-0.112	0.20	0.448	1.00	U	AC
Strontium-90	10098972	-0.096	0.76	1.81	2.00	U	SR
Uranium, Total		0	0.007	0.016	1.00	U	U_T
Potassium-40	13966002	U		23.8	25.0	U	GAM
Cesium-137	10045973	U		1.10	20.0	U	GAM

QC-BLANK #76761

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>02/07/11</u>

EBERLINE ANALYTICAL

SDG 8659

8658-005

IUA0079-02

DUPLICATE

SDG <u>8659</u> Contact <u>N. Joseph Verville</u> DUPLICATE Lab sample id <u>S101015-05</u> Dept sample id <u>8658-005</u>	ORIGINAL Lab sample id <u>S101015-01</u> Dept sample id <u>8658-001</u> Received <u>01/05/11</u>	Client <u>Test America, Inc.</u> Contract <u>IUA0081</u> Client sample id <u>IUA0079-02</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>01/03/11 11:20</u> <u>10.0 L</u> Chain of custody id <u>IUA0079</u>
--	---	--

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.592	0.26	0.292	3.00	J	80A	0.929	0.34	0.378	J	44	96	1.4
Gross Beta	2.03	0.54	0.785	4.00	J	80B	1.22	0.58	0.891	J	50	77	1.9
Tritium	-54.4	150	269	500	U	H	-84.0	150	263	U	-	-	0.3
Radium-226	0.426	0.39	0.616	1.00	U	RA	0.441	0.44	0.715	U	-	-	0.1
Radium-228	-0.069	0.23	0.501	1.00	U	AC	0.186	0.21	0.433	U	-	-	1.6
Strontium-90	-0.142	0.64	1.58	2.00	U	SR	-0.020	0.44	1.03	U	-	-	0.3
Uranium, Total	0.102	0.013	0.016	1.00	J	U_T	0.092	0.012	0.016	J	10	27	1.1
Potassium-40	U		19.1	25.0	U	GAM	U		23.9	U	-	-	0.3
Cesium-137	U		1.63	20.0	U	GAM	U		1.19	U	-	-	0.4

QC-DUP#1 76762

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>02/07/11</u>

EBERLINE ANALYTICAL
SDG 8659

8659-001

IUA0081-03

DATA SHEET

SDG <u>8659</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUA0081</u>
Lab sample id <u>S101021-01</u>	Client sample id <u>IUA0081-03</u>
Dept sample id <u>8659-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>01/06/11</u>	Collected/Volume <u>01/03/11 14:46</u> <u>10.0 L</u>
	Chain of custody id <u>IUA0081</u>

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.986	0.76	1.08	3.00	U	80A
Gross Beta	12587472	3.26	1.1	1.69	4.00	J	80B
Tritium	10028178	-58.1	150	265	500	U	H
Radium-226	13982633	-0.120	0.32	0.620	1.00	U	RA
Radium-228	15262201	0.175	0.23	0.478	1.00	U	AC
Strontium-90	10098972	0.159	0.56	1.27	2.00	U	SR
Uranium, Total		1.68	0.20	0.016	1.00		U_T
Potassium-40	13966002	U		18.6	25.0	U	GAM
Cesium-137	10045973	U		1.17	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>02/07/11</u>

EBERLINE ANALYTICAL

SDG 8659

8659-002

IUA0081-04 (TRIP BLANK)

DATA SHEET

SDG <u>8659</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUA0081</u>
Lab sample id <u>S101021-02</u>	Client sample id <u>IUA0081-04 (TRIP BLANK)</u>
Dept sample id <u>8659-002</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>01/06/11</u>	Collected/Volume <u>01/05/11 12:45</u> <u>10.0 L</u>
	Chain of custody id <u>IUA0081</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.035	0.17	0.339	3.00	U	80A
Gross Beta	12587472	-0.366	0.49	0.879	4.00	U	80B
Radium-226	13982633	-0.106	0.32	0.623	1.00	U	RA
Radium-228	15262201	-0.056	0.19	0.451	1.00	U	AC
Strontium-90	10098972	-0.033	0.83	1.96	2.00	U	SR
Uranium, Total		0	0.007	0.016	1.00	U	U_T
Potassium-40	13966002	U		18.0	25.0	U	GAM
Cesium-137	10045973	U		1.50	20.0	U	GAM

DATA SHEETS

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SUMMARY DATA SECTION

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Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>02/07/11</u>

EBERLINE ANALYTICAL

SDG 8659

Test SR Matrix WATER
 SDG 8659
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUA0081

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER
 BETA COUNTING

RESULTS

LAB RAW SUP-
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Strontium-90

Preparation batch 7221-041

S101015-03	8658-003	Lab Control Sample	ok
S101015-04	8658-004	Method Blank	U
S101015-05	8658-005	Duplicate (S101015-01)	- U
S101021-01	8659-001	IUA0081-03	U
S101021-02	8659-002	IUA0081-04 (TRIP BLANK)	U

Nominal values and limits from method RDLs (pCi/L) 2.00

METHOD PERFORMANCE

LAB RAW SUP- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7221-041 2σ prep error 10.4 % Reference Lab Notebook No. 7221 p.41

S101015-03	Lab Control Sample	1.04	0.500	61	50	01/19/11	01/26	GRB-222
S101015-04	Method Blank	1.81	0.500	52	50	01/19/11	01/26	GRB-231
S101015-05	Duplicate (S101015-01)	1.58	0.500	56	50	23	01/19/11	01/26 GRB-232
S101021-01	IUA0081-03	1.27	0.500	78	50	23	01/19/11	01/26 GRB-202
S101021-02	IUA0081-04 (TRIP BLANK)	1.96	0.500	49	50	21	01/19/11	01/26 GRB-203

Nominal values and limits from method 2.00 0.500 30-105 50 180

PROCEDURES REFERENCE 905.0
 DWP-380 Strontium in Drinking Water, rev 8

AVERAGES ± 2 SD MDA 1.53 ± 0.757
 FOR 5 SAMPLES YIELD 59 ± 23

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8659

Test 80A Matrix WATER

SDG 8659

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUA0081

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha

Preparation batch 7221-041

S101015-03	80	8658-003	Lab Control Sample	ok
S101015-04	80	8658-004	Method Blank	U
S101015-05	80	8658-005	Duplicate (S101015-01)	ok J
S101021-01	80	8659-001	IUA0081-03	U
S101021-02	80	8659-002	IUA0081-04 (TRIP BLANK)	U

Nominal values and limits from method RDLs (pCi/L) 3.00

METHOD PERFORMANCE

LAB	RAW	SUF-		MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS		ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID		pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR

Preparation batch 7221-041 2σ prep error 20.6 % Reference Lab Notebook No. 7221 p.41

S101015-03	80	Lab Control Sample	0.581	0.250				62		400				01/17/11	01/17	GRB-103
S101015-04	80	Method Blank	0.620	0.250				61		400				01/17/11	01/17	GRB-104
S101015-05	80	Duplicate (S101015-01)	0.292	0.300				0		400		14	01/17/11	01/17	GRB-109	
S101021-01	80	IUA0081-03	1.08	<u>0.150</u>				72		400		14	01/17/11	01/17	GRB-111	
S101021-02	80	IUA0081-04 (TRIP BLANK)	0.339	0.300				0		400		16	01/20/11	01/21	GRB-216	

Nominal values and limits from method 3.00 0.250 0-200 100 180

PROCEDURES	REFERENCE	900.0
	DWP-121	Gross Alpha and Gross Beta in Drinking Water, rev 10

AVERAGES ± 2 SD	MDA	<u>0.582</u> ± <u>0.627</u>
FOR 5 SAMPLES	RESIDUE	<u>39</u> ± <u>72</u>

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id	<u>EAS</u>
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-LMS</u>
Version	<u>3.06</u>
Report date	<u>02/07/11</u>

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SDG 8659

Test 80B Matrix WATER
 SDG 8659
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUA0081

LAB METHOD SUMMARY

GROSS BETA IN WATER
 GAS PROPORTIONAL COUNTING

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7221-041					
S101015-03	80	8658-003	Lab Control Sample	ok	
S101015-04	80	8658-004	Method Blank	U	
S101015-05	80	8658-005	Duplicate (S101015-01)	ok	J
S101021-01	80	8659-001	IUA0081-03	3.26	J
S101021-02	80	8659-002	IUA0081-04 (TRIP BLANK)	U	

Nominal values and limits from method RDLs (pCi/L) 4.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD PREPARED	YZED DETECTOR
Preparation batch 7221-041 2σ prep error 11.0 % Reference Lab Notebook No. 7221 p.41													
S101015-03	80	Lab Control Sample	1.23	0.250			62		400			01/17/11	01/17 GRB-103
S101015-04	80	Method Blank	0.952	0.250			61		400			01/17/11	01/17 GRB-104
S101015-05	80	Duplicate (S101015-01)	0.785	0.300			0		400		14	01/17/11	01/17 GRB-109
S101021-01	80	IUA0081-03	1.69	<u>0.150</u>			72		400		14	01/17/11	01/17 GRB-111
S101021-02	80	IUA0081-04 (TRIP BLANK)	0.879	0.300			0		400		16	01/20/11	01/21 GRB-216

Nominal values and limits from method 4.00 0.250 0-200 100 180

PROCEDURES REFERENCE 900.0
 DWP-121 Gross Alpha and Gross Beta in Drinking Water,
 rev 10

AVERAGES ± 2 SD MDA 1.11 ± 0.731
 FOR 5 SAMPLES RESIDUE 39 ± 72

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8659

Test GAM Matrix WATER

SDG 8659

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUA0081

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137

Preparation batch 7221-041

S101015-03	8658-003	Lab Control Sample	ok	ok
S101015-04	8658-004	Method Blank		U
S101015-05	8658-005	Duplicate (S101015-01)		- U
S101021-01	8659-001	IUA0081-03		U
S101021-02	8659-002	IUA0081-04 (TRIP BLANK)		U

Nominal values and limits from method	RDLs (pCi/L)	10.0	20.0
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METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR

Preparation batch 7221-041 2σ prep error 7.0 % Reference Lab Notebook No. 7221 p.41

S101015-03	Lab Control Sample	2.00							907				01/13/11	01/14	MB,05,00
S101015-04	Method Blank	2.00							907				01/13/11	01/14	01,02,00
S101015-05	Duplicate (S101015-01)	2.00							401		12		01/13/11	01/15	MB,08,00
S101021-01	IUA0081-03	2.00							907				01/13/11	01/14	01,04,00
S101021-02	IUA0081-04 (TRIP BLANK)	2.00							565				01/13/11	01/20	01,01,00

Nominal values and limits from method	6.00	2.00							400				180
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PROCEDURES	REFERENCE	901.1
	DWP-100	Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

METHOD SUMMARIES

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Protocol TA

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Version 3.06

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SDG 8659

Test U T Matrix WATER
 SDG 8659
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUA0081

LAB METHOD SUMMARY

URANIUM, TOTAL
 KINETIC PHOSPHORIMETRY, UG

RESULTS

LAB	RAW	SUF-		Uranium,
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7221-041				
S101015-03		8658-003	Lab Control Sample	ok
S101015-04		8658-004	Method Blank	U
S101015-05		8658-005	Duplicate (S101015-01)	ok J
S101021-01		8659-001	IUA0081-03	1.68
S101021-02		8659-002	IUA0081-04 (TRIP BLANK)	U

Nominal values and limits from method RDLs (pCi/L) 1.00

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7221-041			2σ prep error		Reference Lab Notebook No. 7221 p.41										
S101015-03		Lab Control Sample	0.160	0.0200									02/01/11	02/01	KPA-001
S101015-04		Method Blank	0.016	0.0200									02/01/11	02/01	KPA-001
S101015-05		Duplicate (S101015-01)	0.016	0.0200								29	02/01/11	02/01	KPA-001
S101021-01		IUA0081-03	0.016	0.0200								29	02/01/11	02/01	KPA-001
S101021-02		IUA0081-04 (TRIP BLANK)	0.016	0.0200								27	02/01/11	02/01	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.045 ± 0.129
 FOR 5 SAMPLES YIELD _____ ± _____

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 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 02/07/11

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SDG 8659

Test H Matrix WATER
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 Contract IUA0081

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

RESULTS

LAB RAW SUF-
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Tritium

Preparation batch 7221-041

S101015-03	8658-003	Lab Control Sample	ok
S101015-04	8658-004	Method Blank	U
S101015-05	8658-005	Duplicate (S101015-01)	- U
S101021-01	8659-001	IUA0081-03	U

Nominal values and limits from method RDLs (pCi/L) 500

METHOD PERFORMANCE

LAB RAW SUF- MDA ALIQ PREP DILU- YIELD EFF COUNT FWHM DRIFT DAYS ANAL-
 SAMPLE ID TEST FIX CLIENT SAMPLE ID pCi/L L FAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

Preparation batch 7221-041 2σ prep error 10.0 % Reference Lab Notebook No. 7221 p.41

S101015-03	Lab Control Sample	270	0.100	10	<u>50</u>	01/24/11	01/24	LSC-007
S101015-04	Method Blank	269	0.100	10	<u>50</u>	01/24/11	01/24	LSC-007
S101015-05	Duplicate (S101015-01)	269	0.0100	100	<u>50</u>	21	01/24/11	01/24 LSC-007
S101021-01	IUA0081-03	265	0.0100	100	<u>50</u>	21	01/24/11	01/24 LSC-007

Nominal values and limits from method 500 0.0100 100 180

PROCEDURES REFERENCE 906.0
 DWP-212 Tritium in Drinking Water by Distillation, rev 8

AVERAGES ± 2 SD MDA 268 ± 4.43
 FOR 4 SAMPLES YIELD 55 ± 104

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 02/07/11

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SDG 8659

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REPORT GUIDE

Client Test America, Inc.
Contract IUA0081

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- * LAB SAMPLE ID is the lab's primary identification for a sample.
- * DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- * CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- * QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- * All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

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REPORT GUIDE

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PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- * The preparation batches are shown in the same order as the Method Summary Reports are printed.
- * Only analyses of planchets relevant to the SDG are included.
- * Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- * The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

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REPORT GUIDE

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- * TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- * SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- * The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- * PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- * For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- * The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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REPORT GUIDE

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- * TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- * The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- * ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- * A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- * When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.

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DATA SHEET

- J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.
- Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.
- For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.
- L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.
- H Similar to 'L' except the recovery was high.
- P The RESULT is 'preliminary'.
- X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.
- 2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.
- Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- * An MDA is underlined if it is bigger than its RDL.
- * An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA

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SUMMARY DATA SECTION

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DATA SHEET

may not be a good estimate of the 'real' minimum detectable activity.

- * A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- * When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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REPORT GUIDE

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LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- * An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- * The first, computed limits for the recovery reflect:
 1. The error of RESULT, including that introduced by rounding the result prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
 2. The error of ADDED.
 3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- * The second limits are protocol defined upper and lower QC limits for the recovery.
- * The recovery is underlined if it is outside either of these ranges.

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SUMMARY DATA SECTION

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DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- * The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:

1. A fixed percentage specified in the protocol.

REPORT GUIDES

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DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- * The RPD is underlined if it is greater than either limit.
- * If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- * The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

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MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- * The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- * The second limits are protocol defined upper and lower QC limits for the recovery.

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Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/07/11

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MATRIX SPIKE

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- * The recovery is underlined (out of spec) if it is outside either of these ranges.

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METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- * Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- * The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- * If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- * Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

- * Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

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Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-RG</u>
Version	<u>3.06</u>
Report date	<u>02/07/11</u>

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METHOD SUMMARY

correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

* Aliquots are underlined if less than the nominal value specified for the method.

* Preparation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

* Count times are underlined if less than the nominal value

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METHOD SUMMARY

specified for the method.

- * Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- * Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- * Days Held are underlined if greater than the holding time specified in the protocol.
- * Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included.

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No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

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SUBCONTRACT ORDER

TestAmerica Irvine

IUA0081

8659

SENDING LABORATORY:

TestAmerica Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 260-3297
 Project Manager: Debby Wilson

RECEIVING LABORATORY:

Eberline Services
 2030 Wright Avenue
 Richmond, CA 94804
 Phone : (510) 235-2633
 Fax: (510) 235-0438
 Project Location: California
 Receipt Temperature: 7.3 °C Ice: Y N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: IUA0081-03 (Outfall 002 (Composite) - Water) Sampled: 01/03/11 14:46			
Gamma Spec-O	mg/kg	01/03/12 14:46	Out St Louis, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	07/02/11 14:46	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	07/02/11 14:46	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	01/31/11 14:46	
Radium, Combined-O	pCi/L	01/03/12 14:46	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	01/03/12 14:46	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	01/03/12 14:46	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/03/12 14:46	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (S) HNO₃ 500 mL Amber (T)

Sample ID: IUA0081-04 (TRIP BLANK - Water)

Sampled: 01/05/11 12:45

Gamma Spec-O	mg/kg	01/05/12 12:45	Out St Louis, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	07/04/11 12:45	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	07/04/11 12:45	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	02/02/11 12:45	
Radium, Combined-O	pCi/L	01/05/12 12:45	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	01/05/12 12:45	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	01/05/12 12:45	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/05/12 12:45	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (A) HNO₃

Released By [Signature] Date/Time 1/5/11 12:00

Received By FedEx Date/Time 1/5/11 17:00

Released By _____ Date/Time _____

Received By [Signature] Date/Time 01/06/11 09:30



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 09/06/11 09:30 CoC No. 10A0081

Container I.D. No. 16 CHEST Requested TAT (Days) STD P.O. Received Yes [] No []

INSPECTION

1. Custody seals on shipping container intact? Yes No [] N/A []
2. Custody seals on shipping container dated & signed? Yes No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A
5. Packing material is: Wet [] Dry
6. Number of samples in shipping container: 2 Sample Matrix U
7. Number of containers per sample: _____ (Or see CoC X)
8. Samples are in correct container Yes No []
9. Paperwork agrees with samples? Yes No []
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels
11. Samples are: In good condition Leaking [] Broken Container [] Missing []
12. Samples are: Preserved Not preserved pH <2 / N/A Preservative _____
13. Describe any anomalies: _____

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____

15. Inspected by [Signature] Date: 09/06/11 Time: 1315

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>As Shw</u>							
<u>10A0081</u>	<u>260</u>						

Ion Chamber Ser. No. _____
 Alpha Meter Ser. No. _____
 Beta/Gamma Meter Ser. No. 105482

Calibration date _____
 Calibration date _____
 Calibration date 24 SEP 10