

## **APPENDIX G**

### **Section 47**

Outfall 011 – March 20 & 21, 2011

MEC<sup>X</sup> Data Validation Report



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC2187

Prepared by

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**I. INTRODUCTION**

Task Order Title: Boeing SSFL NPDES  
 Contract Task Order: 1261.100D.00  
 Sample Delivery Group: IUC2187  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 2  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 011	IUC2187-03	N/A	Water	3/21/2011 10:00	120.1
Outfall 011	IUC2187-03	G1C230588-001, 994230, S103142-01	Water	3/20/2011 21:35	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, SM5310B

**II. Sample Management**

No anomalies were observed regarding sample management. The samples were received above the temperature limit at Truesdail and Eberline and the samples collected 3/21/2011 were received nominally above the temperature limit at TestAmerica-Irvine; 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, Truesdail, and TestAmerica-West Sacramento. If necessary, the client ID was added to the sample result summary by the reviewer.

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### Data Qualifier Reference Table

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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.

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### 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.**

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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.

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### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: April 15, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> 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 reporting limit for 1,2,3,4,6,7,8-HpCDD, total HpCDD and OCDD. The sample results between the EDL and the RL for 1,2,3,4,6,7,8-HpCDD and total HpCDD were qualified as nondetected, "U," at the level of contamination. The method blank concentration of OCDD was insufficient to qualify the associated sample result.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613, and RPDs were within the laboratory control limit of ≤50%.
- 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. Results for 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 14, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> 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  $\geq 0.995$ . 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: MS/MSD analyses were performed on the sample in this SDG. Recoveries and RPDs were within laboratory-established QC limits.
- 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, MS, and MSD 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 15, 2011

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

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.
- Tuning: Not applicable to these methods.
- Calibration: Mercury initial calibration  $r^2$  values were  $\geq 0.995$ . The magnesium ending CCV was recovered at 114%; therefore, total magnesium in the sample was qualified as estimated, "J." All initial and all remaining continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. The boron 20  $\mu\text{g/L}$  CRDL

recovery was 139%; therefore, total boron in the sample was qualified as estimated, "J." All remaining CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Method blanks and CCBs had no 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. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable to these methods.
- 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.

The total boron concentration was nominally lower than the dissolved boron concentration.

- 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 — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: April 15, 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 log indicated that a portion of the aliquots were filtered and that the filtrate was dissolved and added back 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.

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

Reviewed By: L. Calvin

Date Reviewed: April 15, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> 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  $\geq 0.05$  for all target compounds. The initial calibration %RSDs were  $\leq 35\%$ , or  $r^2$  values  $\geq 0.995$ . The second source ICV had a %D above 20% for 1,2-diphenylhydrazine/azobenzene; therefore, the nondetected result for this compound was qualified as estimated, "UJ." The remaining ICV and CCV %Ds were  $\leq 20\%$ .
- **Blanks:** Butylbenzyl phthalate was detected in the method blank below the reporting limit at 0.74  $\mu\text{g/L}$ . The sample result for butylbenzyl phthalate 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. The nondetected sample result for benzidine was rejected, "R." Remaining recoveries 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: There were no field duplicate samples identified for this SDG.
- 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  $\pm 30$  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 14, 2011

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

- Holding Times: The analytical holding times were met.

- Calibration: Calibration criteria were met. Initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110%. Perchlorate ICP-MS and ICCS recoveries were within 80-120% and 65-125%, respectively. The 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: 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.
- 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 IUC2187

## *Analysis Method 900*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	2.26	3	0.276	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	6.22	4	0.866	pCi/L			

## *Analysis Method 901.1*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	3.25	pCi/L	U	U	
Potassium-40	13966002	ND	25	58.4	pCi/L	U	U	

## *Analysis Method 903.1*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.35	1	0.544	pCi/L	U	U	

## *Analysis Method 904*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.229	1	0.42	pCi/L	U	U	

## *Analysis Method 905*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.018	2	0.625	pCi/L	U	U	

*Analysis Method 906*

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<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Tritium	10028178	-77.2	500	167	pCi/L	U	U	

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*Analysis Method ASTM 5174-91*

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<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Uranium, Total	NA	0.321	1	0.02	pCi/L	Jb	J	DNQ

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*Analysis Method EPA 120.1*

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<b>Sample Name</b>	Outfall 011 (Grab)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-01	<b>Sample Date:</b>	3/21/2011 10:00:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Specific Conductance	NA	89	1.0	1.0	umhos/c			

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*Analysis Method EPA 180.1*

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<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Turbidity	Turb	97	5.0	0.20	NTU			

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*Analysis Method EPA 200.7*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440-38-2	8.9	10	7.0	ug/l	Ja	J	DNQ
Barium	7440-39-3	0.028	0.010	0.0060	mg/l			
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	0.039	0.050	0.020	mg/l	Ja	J	C, DNQ
Calcium	7440-70-2	10	0.10	0.050	mg/l			
Chromium	7440-47-3	5.9	5.0	2.0	ug/l			
Cobalt	7440-48-4	2.2	10	2.0	ug/l	Ja	J	DNQ
Iron	7439-89-6	3.6	0.040	0.015	mg/l			
Magnesium	7439-95-4	3.2	0.020	0.012	mg/l		J	C
Manganese	7439-96-5	55	20	7.0	ug/l			
Nickel	7440-02-0	4.5	10	2.0	ug/l	Ja	J	DNQ
Vanadium	7440-62-2	7.3	10	3.0	ug/l	Ja	J	DNQ
Zinc	7440-66-6	28.4	20.0	6.00	ug/l			

*Analysis Method EPA 200.7-Diss*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 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	0.017	0.010	0.0060	mg/l			
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	0.044	0.050	0.020	mg/l	Ja	J	DNQ
Calcium	7440-70-2	9.4	0.10	0.050	mg/l			
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U	
Cobalt	7440-48-4	ND	10	2.0	ug/l		U	
Iron	7439-89-6	0.059	0.040	0.015	mg/l			
Magnesium	7439-95-4	2.1	0.020	0.012	mg/l			
Manganese	7439-96-5	ND	20	7.0	ug/l		U	
Nickel	7440-02-0	2.2	10	2.0	ug/l	Ja	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*

---

<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

---

*Analysis Method*    *EPA 245.1-Diss*

---

<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

---

*Analysis Method*    *EPA 314.0*

---

<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Perchlorate	14797-73-0	ND	1.0	0.90	ug/l		U	

---

## Analysis Method EPA 625

**Sample Name** Outfall 011 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 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, Ja	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		<b>U</b>	
Diethyl phthalate	84-66-2	0.302	0.943	0.0943	ug/l	Ja	<b>J</b>	<b>DNQ</b>
Dimethyl phthalate	131-11-3	ND	0.472	0.0943	ug/l		<b>U</b>	
Di-n-butyl phthalate	84-74-2	0.396	1.89	0.189	ug/l	Ja	<b>J</b>	<b>DNQ</b>
Di-n-octyl phthalate	117-84-0	ND	4.72	0.0943	ug/l		<b>U</b>	
Fluoranthene	206-44-0	ND	0.472	0.0943	ug/l		<b>U</b>	
Fluorene	86-73-7	ND	0.472	0.0943	ug/l		<b>U</b>	
Hexachlorobenzene	118-74-1	ND	0.943	0.0943	ug/l		<b>U</b>	
Hexachlorobutadiene	87-68-3	ND	1.89	0.189	ug/l		<b>U</b>	
Hexachlorocyclopentadiene	77-47-4	ND	4.72	0.0943	ug/l		<b>U</b>	
Hexachloroethane	67-72-1	ND	2.83	0.189	ug/l		<b>U</b>	
Indeno(1,2,3-cd)pyrene	193-39-5	ND	1.89	0.0943	ug/l		<b>U</b>	
Isophorone	78-59-1	ND	0.943	0.0943	ug/l		<b>U</b>	
Naphthalene	91-20-3	ND	0.943	0.0943	ug/l		<b>U</b>	
Nitrobenzene	98-95-3	ND	0.943	0.0943	ug/l		<b>U</b>	
N-Nitrosodimethylamine	62-75-9	ND	1.89	0.0943	ug/l		<b>U</b>	
N-Nitroso-di-n-propylamine	621-64-7	ND	1.89	0.0943	ug/l		<b>U</b>	
N-Nitrosodiphenylamine	86-30-6	ND	0.943	0.0943	ug/l		<b>U</b>	
Pentachlorophenol	87-86-5	ND	1.89	0.0943	ug/l		<b>U</b>	
Phenanthrene	85-01-8	ND	0.472	0.0943	ug/l		<b>U</b>	
Phenol	108-95-2	ND	0.943	0.283	ug/l		<b>U</b>	
Pyrene	129-00-0	ND	0.472	0.0943	ug/l		<b>U</b>	

*Analysis Method EPA-5 1613B*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** IUC2187-03RE1 **Sample Date:** 3/20/2011 9:35:00 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	0.0000009	ug/L	J, Ba	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.00002	0.00005	0.0000006	ug/L	J	J	DNQ
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000009	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000006	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000004	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000006	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000003	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	0.000001	0.00005	0.0000005	ug/L	J	J	DNQ
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000004	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000009	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000006	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000003	ug/L	J, Q	UJ	*III
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000007	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000008	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000006	ug/L		U	
OCDD	3268-87-9	0.00043	0.0001	0.0000025	ug/L	Ba		
OCDF	39001-02-0	0.000036	0.0001	0.0000011	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	ND	0.00005	0.0000009	ug/L	J, Ba	U	B
Total HpCDF	38998-75-3	0.000044	0.00005	0.0000007	ug/L	J, Q	J	DNQ, *III
Total HxCDD	34465-46-8	0.000011	0.00005	0.0000006	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	0.000015	0.00005	0.0000004	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000009	ug/L		U	
Total PeCDF	30402-15-4	0.000002	0.00005	0.0000007	ug/L	J	J	DNQ
Total TCDD	41903-57-5	0.000003	0.00001	0.0000008	ug/L	J, Q	J	DNQ, *III
Total TCDF	55722-27-5	ND	0.00001	0.0000006	ug/L		U	

*Analysis Method SM 2540D*

**Sample Name** Outfall 011 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUC2187-03 **Sample Date:** 3/20/2011 9:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	35	10	1.0	mg/l			

*Analysis Method SM2340B*

---

<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Hardness (as CaCO3)	NA	38	0.33	0.17	mg/l			

---

*Analysis Method SM2340B-Diss*

---

<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Hardness as CaCO3	NA	32	0.33	0.17	mg/l			

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*Analysis Method SM5310B*

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<b>Sample Name</b>	Outfall 011 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUC2187-03	<b>Sample Date:</b>	3/20/2011 9:35:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Total Organic Carbon	TOC	9.1	1.0	0.50	mg/l			

---

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

## REPORT

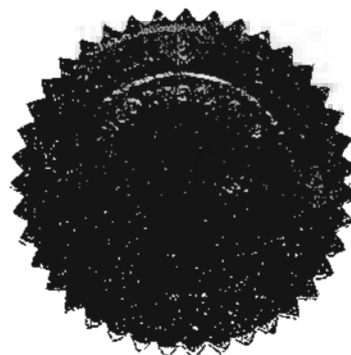
**Laboratory No:** 994230  
**Report Date:** March 25, 2011  
**Sampling Date:** March 20, 2011  
**Receiving Date:** March 22, 2011  
**Extraction Date:** March 22, 2011  
**Analysis Date:** March 23, 2011  
**Units:** µg/L  
**Reported By:** JS

**Attention:** Debby Wilson  
**Sample:** Water / 1 Sample  
**Project Name:** IUC2187  
**Project Number:** IUC2187  
**Method Number:** EPA 8315 (Modified)  
**Investigation:** Hydrazines

### 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
994230	IUC2187-03	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.

LEVEL IV

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 48**

Outfall 011 – 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 011  
Annual Outfall 011

Sampled: 03/20/11-03/21/11  
Received: 03/21/11  
Issued: 04/28/11 16:24

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

Sample: 1

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.

Revised report to include trichlorofluoromethane per client request.

### LABORATORY ID

IUC2187-01

IUC2187-02

IUC2187-03

### CLIENT ID

Outfall 011 (Grab)

Trip Blanks

Outfall 011 (Composite)

### MATRIX

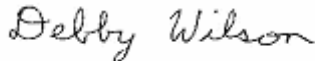
Water

Water

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 011  
Annual Outfall 011  
Report Number: IUC2187

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
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water)</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: mg/l</b>									
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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**IUC2187 <Page 2 of 80>**

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

Project ID: Annual Outfall 011  
 Annual Outfall 011  
 Report Number: IUC2187

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
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water) - cont.</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: mg/l</b>									
DRO (C13 - C28)	EPA 8015B	11C3080	0.094	0.47	ND	0.943	CP	03/24/11	
<i>Surrogate: n-Octacosane (45-120%)</i>					83 %				

**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 011  
Annual Outfall 011  
Report Number: IUC2187

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
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water) - cont.</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: ug/l</b>									
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	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					90 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					99 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					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 011  
Annual Outfall 011  
Report Number: IUC2187

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
<b>Sample ID: IUC2187-02 (Trip Blanks - Water)</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: ug/l</b>									
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	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					90 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					97 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					94 %				

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

Project ID: Annual Outfall 011  
 Annual Outfall 011  
 Report Number: IUC2187

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
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water)</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: ug/l</b>									
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>					91 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					108 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					103 %				
<b>Sample ID: IUC2187-02 (Trip Blanks - Water)</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: ug/l</b>									
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>					105 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					103 %				

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

Project ID: Annual Outfall 011  
Annual Outfall 011  
Report Number: IUC2187

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
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/l</b>									
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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Attention: Bronwyn Kelly

Project ID: Annual Outfall 011  
Annual Outfall 011  
Report Number: IUC2187

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
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/l</b>									
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	
<b>Butyl benzyl phthalate</b>	EPA 625	11C3070	0.660	4.72	<b>0.811</b>	0.943	LB	03/25/11	B, Ja
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	
<b>Di-n-butyl phthalate</b>	EPA 625	11C3070	0.189	1.89	<b>0.396</b>	0.943	LB	03/25/11	Ja
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	
<b>Diethyl phthalate</b>	EPA 625	11C3070	0.0943	0.943	<b>0.302</b>	0.943	LB	03/25/11	Ja
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 011  
 Annual Outfall 011  
 Report Number: IUC2187

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
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/l</b>									
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%)					88 %				
Surrogate: 2-Fluorobiphenyl (50-120%)					75 %				
Surrogate: 2-Fluorophenol (30-120%)					66 %				
Surrogate: Nitrobenzene-d5 (45-120%)					74 %				
Surrogate: Phenol-d6 (35-120%)					71 %				
Surrogate: Terphenyl-d14 (50-125%)					87 %				

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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 011  
Annual Outfall 011  
Report Number: IUC2187

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
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/l</b>									
4,4'-DDD	EPA 608	11C2988	0.0038	0.0047	ND	0.943	CN	03/24/11	C
4,4'-DDE	EPA 608	11C2988	0.0028	0.0047	ND	0.943	CN	03/24/11	C
4,4'-DDT	EPA 608	11C2988	0.0038	0.0094	ND	0.943	CN	03/24/11	
Aldrin	EPA 608	11C2988	0.0014	0.0047	ND	0.943	CN	03/24/11	C
alpha-BHC	EPA 608	11C2988	0.0024	0.0047	ND	0.943	CN	03/24/11	C
beta-BHC	EPA 608	11C2988	0.0038	0.0094	ND	0.943	CN	03/24/11	
delta-BHC	EPA 608	11C2988	0.0033	0.0047	ND	0.943	CN	03/24/11	C
Dieldrin	EPA 608	11C2988	0.0019	0.0047	ND	0.943	CN	03/24/11	C
Endosulfan I	EPA 608	11C2988	0.0019	0.0047	ND	0.943	CN	03/24/11	
Endosulfan II	EPA 608	11C2988	0.0028	0.0047	ND	0.943	CN	03/24/11	
Endosulfan sulfate	EPA 608	11C2988	0.0028	0.0094	ND	0.943	CN	03/24/11	C
Endrin	EPA 608	11C2988	0.0019	0.0047	ND	0.943	CN	03/24/11	C
Endrin aldehyde	EPA 608	11C2988	0.0019	0.0094	ND	0.943	CN	03/24/11	
gamma-BHC (Lindane)	EPA 608	11C2988	0.0028	0.019	ND	0.943	CN	03/24/11	C
Heptachlor	EPA 608	11C2988	0.0028	0.0094	ND	0.943	CN	03/24/11	C
Heptachlor epoxide	EPA 608	11C2988	0.0024	0.0047	ND	0.943	CN	03/24/11	
Chlordane	EPA 608	11C2988	0.075	0.094	ND	0.943	CN	03/24/11	
Toxaphene	EPA 608	11C2988	0.24	0.47	ND	0.943	CN	03/24/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					87 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					65 %				

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Debby Wilson  
Project Manager

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**IUC2187 <Page 10 of 80>**

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

Project ID: Annual Outfall 011  
 Annual Outfall 011  
 Report Number: IUC2187

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
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/l</b>									
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>					95 %				

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 011  
Annual Outfall 011  
Report Number: IUC2187

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
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water)</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C3681	1.4	4.9	ND	1	DA	03/29/11	

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Project ID: Annual Outfall 011  
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 Report Number: IUC2187

Sampled: 03/20/11-03/21/11  
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## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)</b>					<b>Sampled: 03/20/11</b>				
Reporting Units: mg/l									
Hardness (as CaCO3)	SM2340B	[CALC]		0.33	<b>38</b>	1	LL	03/29/11	
Barium	EPA 200.7	11C3239	0.0060	0.010	<b>0.028</b>	1	DP	03/24/11	
Boron	EPA 200.7	11C3239	0.020	0.050	<b>0.039</b>	1	DP	03/24/11	Ja
Calcium	EPA 200.7	11C3239	0.050	0.10	<b>10</b>	1	DP	03/24/11	
Iron	EPA 200.7	11C3239	0.015	0.040	<b>3.6</b>	1	DP	03/24/11	
Magnesium	EPA 200.7	11C3239	0.012	0.020	<b>3.2</b>	1	LL	03/29/11	
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)</b>					<b>Sampled: 03/20/11</b>				
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	<b>8.9</b>	1	DP	03/24/11	Ja
Antimony	EPA 200.8	11C3768	0.30	2.0	<b>0.81</b>	1	kb1	03/29/11	Ja
Beryllium	EPA 200.7	11C3239	0.90	2.0	ND	1	DP	03/24/11	
Chromium	EPA 200.7	11C3239	2.0	5.0	<b>5.9</b>	1	LL	03/29/11	
Cobalt	EPA 200.7	11C3239	2.0	10	<b>2.2</b>	1	DP	03/24/11	Ja
Manganese	EPA 200.7	11C3239	7.0	20	<b>55</b>	1	DP	03/24/11	
Nickel	EPA 200.7	11C3239	2.0	10	<b>4.5</b>	1	DP	03/24/11	Ja
Cadmium	EPA 200.8	11C3768	0.10	1.0	<b>0.16</b>	1	kb1	03/29/11	Ja
Vanadium	EPA 200.7	11C3239	3.0	10	<b>7.3</b>	1	DP	03/24/11	Ja
Zinc	EPA 200.7	11C3239	6.00	20.0	<b>28.4</b>	1	DP	03/24/11	
Copper	EPA 200.8	11C3768	0.500	2.00	<b>5.15</b>	1	kb1	03/29/11	
Lead	EPA 200.8	11C3768	0.20	1.0	<b>3.5</b>	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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Report Number: IUC2187

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Received: 03/21/11

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]		0.33	32	1	DP	03/29/11	
Barium	EPA 200.7-Diss	11C3776	0.0060	0.010	0.017	1	DP	03/29/11	
Boron	EPA 200.7-Diss	11C3776	0.020	0.050	0.044	1	DP	03/29/11	Ja
Calcium	EPA 200.7-Diss	11C3776	0.050	0.10	9.4	1	DP	03/29/11	
Iron	EPA 200.7-Diss	11C3776	0.015	0.040	0.059	1	DP	03/29/11	
Magnesium	EPA 200.7-Diss	11C3776	0.012	0.020	2.1	1	DP	03/29/11	
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)</b>					<b>Sampled: 03/20/11</b>				
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	0.64	1	RDC	03/28/11	Ja
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	ND	1	DP	03/29/11	
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	2.2	1	DP	03/29/11	Ja
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	2.32	1	RDC	03/28/11	
Lead	EPA 200.8-Diss	11C3506	0.20	1.0	0.35	1	RDC	03/28/11	Ja
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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## DISSOLVED INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/l</b>									
Chromium VI	EPA 218.6	11C2890	0.250	1.00	ND	1	MNS	03/22/11	H3

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## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: mg/l</b>									
Ammonia-N (Distilled)	SM4500NH3-C	11C2967	0.500	0.500	ND	1	TMK	03/22/11	
<b>Biochemical Oxygen Demand</b>	SM5210B	11C2910	0.50	2.0	<b>2.0</b>	1	XL	03/27/11	
<b>Chloride</b>	EPA 300.0	11C2884	0.30	0.50	<b>2.5</b>	1	NN	03/22/11	
<b>Fluoride</b>	SM 4500-F-C	11C2986	0.020	0.10	<b>0.17</b>	1	FZ	03/23/11	
<b>Nitrate-N</b>	EPA 300.0	11C2884	0.060	0.11	<b>0.44</b>	1	NN	03/22/11	
Nitrite-N	EPA 300.0	11C2884	0.090	0.15	ND	1	NN	03/22/11	
<b>Nitrate/Nitrite-N</b>	EPA 300.0	11C2884	0.15	0.26	<b>0.52</b>	1	NN	03/22/11	
<b>Sulfate</b>	EPA 300.0	11C2884	0.30	0.50	<b>4.4</b>	1	NN	03/22/11	
Surfactants (MBAS)	SM5540-C	11C2931	0.050	0.10	ND	1	EL	03/22/11	
<b>Total Dissolved Solids</b>	SM2540C	11C2823	1.0	10	<b>83</b>	1	MC	03/22/11	
<b>Total Organic Carbon</b>	SM5310B	11C2985	0.50	1.0	<b>9.1</b>	1	FZ	03/23/11	
<b>Total Suspended Solids</b>	SM 2540D	11C2949	1.0	10	<b>35</b>	1	DK1	03/22/11	

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## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water)</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: ml/l</b>									
Total Settleable Solids	SM2540F	11C2880	0.10	0.10	ND	1	RRZ	03/22/11	
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: NTU</b>									
Turbidity	EPA 180.1	11C2881	0.20	5.0	<b>97</b>	5	RRZ	03/22/11	
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/l</b>									
Perchlorate	EPA 314.0	11C2871	0.90	1.0	ND	1	mn	03/22/11	
Total Cyanide	SM4500CN-E	11C3661	2.2	5.0	ND	1	SLA	03/28/11	
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water)</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: umhos/cm @ 25C</b>									
Specific Conductance	EPA 120.1	11C2825	1.0	1.0	<b>89</b>	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
<b>Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water) - cont.</b>					<b>Sampled: 03/21/11</b>				
<b>Reporting Units: MPN/100 ml</b>									
Fecal Coliform	SM9221 A,B,C,E	11C2797	2.00	2.00	300	1	AK	03/24/11	
E. Coli	SM9221 A,B,C,E	11C2797	2.00	2.00	300	1	AK	03/24/11	

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## 900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: pCi/L</b>									
<b>Gross Alpha</b>	900	8681	0.276	3	<b>2.26</b>	1	LS	03/31/11	Jb
<b>Gross Beta</b>	900	8681	0.866	4	<b>6.22</b>	1	LS	03/31/11	

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## 901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: pCi/L</b>									
Cesium-137	901.1	8681	3.25	20	ND	1	LS	03/31/11	U
Potassium-40	901.1	8681	58.4	25	ND	1	LS	03/31/11	U

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## 903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: pCi/L</b>									
<b>Radium-226</b>	903.1	8681	0.544	1	<b>0.35</b>	1	TM	04/05/11	U

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## 904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: pCi/L</b>									
<b>Radium-228</b>	904	8681	0.42	1	<b>0.229</b>	1	LD	04/07/11	U

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## 905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: pCi/L</b>									
Strontium-90	905	8681	0.625	2	-0.018	1	EMB	04/01/11	U

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Received: 03/21/11

## 906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: pCi/L</b>									
Tritium	906	8681	167	500	-77.2	1	WL	03/30/11	U

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## ASTM-D5174

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: pCi/L</b>									
<b>Uranium, Total</b>	D5174	8681	0.02	1	<b>0.321</b>	1	TAC	03/29/11	Jb

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Received: 03/21/11

## EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUC2187-03RE1 (Outfall 011 (Composite) - Water) - cont.</b>					<b>Sampled: 03/20/11</b>				
<b>Reporting Units: ug/L</b>									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1089421	0.00000096	0.00005	<b>0.000041</b>	0.99	SO	04/05/11	J, Ba
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1089421	0.00000069	0.00005	<b>0.00002</b>	0.99	SO	04/05/11	J
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1089421	0.00000092	0.00005	<b>0.000011</b>	0.99	SO	04/05/11	J, Q
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1089421	0.00000069	0.00005	<b>0.0000081</b>	0.99	SO	04/05/11	J, Q
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1089421	0.00000041	0.00005	<b>0.0000088</b>	0.99	SO	04/05/11	J, Q
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1089421	0.00000065	0.00005	<b>0.000017</b>	0.99	SO	04/05/11	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1089421	0.00000038	0.00005	<b>0.0000076</b>	0.99	SO	04/05/11	J, Q
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1089421	0.00000058	0.00005	<b>0.000014</b>	0.99	SO	04/05/11	J
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1089421	0.00000048	0.00005	ND	0.99	SO	04/05/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1089421	0.00000095	0.00005	ND	0.99	SO	04/05/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1089421	0.00000069	0.00005	ND	0.99	SO	04/05/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1089421	0.00000037	0.00005	<b>0.0000072</b>	0.99	SO	04/05/11	J, Q
2,3,4,7,8-PeCDF	EPA-5 1613B	1089421	0.00000072	0.00005	ND	0.99	SO	04/05/11	
2,3,7,8-TCDD	EPA-5 1613B	1089421	0.00000086	0.00001	ND	0.99	SO	04/05/11	
2,3,7,8-TCDF	EPA-5 1613B	1089421	0.00000067	0.00001	ND	0.99	SO	04/05/11	
OCDD	EPA-5 1613B	1089421	0.0000025	0.0001	<b>0.00043</b>	0.99	SO	04/05/11	Ba
OCDF	EPA-5 1613B	1089421	0.0000011	0.0001	<b>0.000036</b>	0.99	SO	04/05/11	J
Total HpCDD	EPA-5 1613B	1089421	0.00000096	0.00005	<b>0.00011</b>	0.99	SO	04/05/11	J, Ba
Total HpCDF	EPA-5 1613B	1089421	0.00000079	0.00005	<b>0.000044</b>	0.99	SO	04/05/11	J, Q
Total HxCDD	EPA-5 1613B	1089421	0.00000063	0.00005	<b>0.000011</b>	0.99	SO	04/05/11	J, Q
Total HxCDF	EPA-5 1613B	1089421	0.00000041	0.00005	<b>0.000015</b>	0.99	SO	04/05/11	J, Q
Total PeCDD	EPA-5 1613B	1089421	0.00000095	0.00005	ND	0.99	SO	04/05/11	
Total PeCDF	EPA-5 1613B	1089421	0.00000079	0.00005	<b>0.000025</b>	0.99	SO	04/05/11	J
Total TCDD	EPA-5 1613B	1089421	0.00000086	0.00001	<b>0.0000035</b>	0.99	SO	04/05/11	J, Q
Total TCDF	EPA-5 1613B	1089421	0.00000066	0.00001	ND	0.99	SO	04/05/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	106 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	107 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	104 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	118 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	116 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	118 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	116 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	118 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	116 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	107 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	119 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	111 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	105 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	113 %
Surrogate: 13C-OCDD (17-157%)	119 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	120 %

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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 011  
 Annual Outfall 011  
 Report Number: IUC2187

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
<b>Sample ID: Outfall 011 (Grab) (IUC2187-01) - Water</b>					
EPA 624	3	03/21/2011 10:00	03/21/2011 14:32	03/22/2011 07:31	03/22/2011 13:17
SM2540F	2	03/21/2011 10:00	03/21/2011 14:32	03/22/2011 08:38	03/22/2011 08:38
SM9221 A,B,C,E	0	03/21/2011 10:00	03/21/2011 14:32	03/21/2011 15:06	03/24/2011 10:56
<b>Sample ID: Trip Blanks (IUC2187-02) - Water</b>					
EPA 624	3	03/21/2011 10:00	03/21/2011 14:32	03/22/2011 07:31	03/22/2011 13:46
<b>Sample ID: Outfall 011 (Composite) (IUC2187-03) - Water</b>					
EPA 180.1	2	03/20/2011 21:35	03/21/2011 14:32	03/22/2011 11:00	03/22/2011 11:00
EPA 218.6	1	03/20/2011 21:35	03/21/2011 14:32	03/22/2011 09:00	03/22/2011 10:08
EPA 300.0	2	03/20/2011 21:35	03/21/2011 14:32	03/22/2011 11:00	03/22/2011 12:38
Filtration	1	03/20/2011 21:35	03/21/2011 14:32	03/21/2011 23:30	03/21/2011 23:30
SM5210B	2	03/20/2011 21:35	03/21/2011 14:32	03/22/2011 11:00	03/27/2011 12:30
SM5540-C	2	03/20/2011 21:35	03/21/2011 14:32	03/22/2011 11:50	03/22/2011 12:59

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## METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C2911 Extracted: 03/22/11</b>											
<b>Blank Analyzed: 03/22/2011 (11C2911-BLK1)</b>											
GRO (C4 - C12)	ND	0.10	0.025	mg/l							
Surrogate: 4-BFB (FID)	0.00939			mg/l	0.0100		94	65-140			
<b>LCS Analyzed: 03/22/2011 (11C2911-BS1)</b>											
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
<b>Matrix Spike Analyzed: 03/22/2011 (11C2911-MS1)</b>											
						<b>Source: IUC1894-07</b>					
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			
<b>Matrix Spike Dup Analyzed: 03/22/2011 (11C2911-MSD1)</b>											
						<b>Source: IUC1894-07</b>					
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
<b>Batch: 11C3080 Extracted: 03/23/11</b>											
<b>Blank Analyzed: 03/23/2011 (11C3080-BLK1)</b>											
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			
<b>LCS Analyzed: 03/23/2011 (11C3080-BS1)</b>											
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			
<b>LCS Dup Analyzed: 03/23/2011 (11C3080-BSD1)</b>											
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
<b>Batch: 11C3698 Extracted: 03/29/11</b>											
<b>Blank Analyzed: 03/29/2011 (11C3698-BLK1)</b>											
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
<b>Batch: 11C3698 Extracted: 03/29/11</b>											
<b>Blank Analyzed: 03/29/2011 (11C3698-BLK1)</b>											
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			
<b>LCS Analyzed: 03/29/2011 (11C3698-BS1)</b>											
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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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
<b>Batch: 11C3698 Extracted: 03/29/11</b>											
<b>LCS Analyzed: 03/29/2011 (11C3698-BS1)</b>											
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			
<b>Matrix Spike Analyzed: 03/29/2011 (11C3698-MS1)</b>											
<b>Source: IUC2446-02</b>											
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
<b>Batch: 11C3698 Extracted: 03/29/11</b>											
<b>Matrix Spike Analyzed: 03/29/2011 (11C3698-MS1)</b>						<b>Source: IUC2446-02</b>					
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			
<b>Matrix Spike Dup Analyzed: 03/29/2011 (11C3698-MSD1)</b>						<b>Source: IUC2446-02</b>					
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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## 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
<b>Batch: 11C3698 Extracted: 03/29/11</b>											
<b>Matrix Spike Dup Analyzed: 03/29/2011 (11C3698-MSD1)</b>						<b>Source: IUC2446-02</b>					
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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## METHOD BLANK/QC DATA

### PURGEABLES-- GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C2844 Extracted: 03/22/11</b>											
<b>Blank Analyzed: 03/22/2011 (11C2844-BLK1)</b>											
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			
<b>LCS Analyzed: 03/22/2011 (11C2844-BS1)</b>											
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			
<b>Matrix Spike Analyzed: 03/22/2011 (11C2844-MS1)</b>											
						<b>Source: IUC1722-03</b>					
2-Chloroethyl vinyl ether	2.10	5.0	1.8	ug/l	25.0	ND	8	25-170			M13, Ja
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			
<b>Matrix Spike Dup Analyzed: 03/22/2011 (11C2844-MSD1)</b>											
						<b>Source: IUC1722-03</b>					
2-Chloroethyl vinyl ether	2.17	5.0	1.8	ug/l	25.0	ND	9	25-170	3	25	M13, Ja
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
<b>Batch: 11C3016 Extracted: 03/23/11</b>											
<b>Blank Analyzed: 03/23/2011 (11C3016-BLK1)</b>											
1,4-Dioxane	ND	2.0	1.0	ug/l							
Surrogate: Dibromofluoromethane	0.860			ug/l	1.00		86	80-120			
<b>LCS Analyzed: 03/23/2011 (11C3016-BS1)</b>											
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			
<b>Matrix Spike Analyzed: 03/23/2011 (11C3016-MS1)</b>						<b>Source: IUC2241-01</b>					
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			
<b>Matrix Spike Dup Analyzed: 03/23/2011 (11C3016-MSD1)</b>						<b>Source: IUC2241-01</b>					
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	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C3070 Extracted: 03/23/11</b>											
<b>Blank Analyzed: 03/25/2011 (11C3070-BLK1)</b>											
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							Ja
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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### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C3070 Extracted: 03/23/11</b>											
<b>Blank Analyzed: 03/25/2011 (11C3070-BLK1)</b>											
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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## 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
<b>Batch: 11C3070 Extracted: 03/23/11</b>											
<b>LCS Analyzed: 03/25/2011 (11C3070-BS1)</b>											
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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## 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
<b>Batch: 11C3070 Extracted: 03/23/11</b>											
<b>LCS Analyzed: 03/25/2011 (11C3070-BS1)</b>											<b>MNR1</b>
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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Project Manager



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

Project ID: Annual Outfall 011  
Annual Outfall 011  
Report Number: IUC2187

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

## 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
<b>Batch: 11C3070 Extracted: 03/23/11</b>											
<b>LCS Dup Analyzed: 03/25/2011 (11C3070-BSD1)</b>											
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	
Benizidine	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
<b>Batch: 11C3070 Extracted: 03/23/11</b>											
<b>LCS Dup Analyzed: 03/25/2011 (11C3070-BSD1)</b>											
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
<b>Batch: 11C2988 Extracted: 03/23/11</b>											
<b>Blank Analyzed: 03/23/2011 (11C2988-BLK1)</b>											
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			
<b>LCS Analyzed: 03/23/2011 (11C2988-BS1)</b>											
4,4'-DDD	0.442	0.0050	0.0040	ug/l	0.500		88	55-120			MNR1
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			

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### ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C2988 Extracted: 03/23/11</b>											
<b>LCS Analyzed: 03/23/2011 (11C2988-BS1)</b>											<b>MNR1</b>
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			
<b>LCS Dup Analyzed: 03/23/2011 (11C2988-BSD1)</b>											
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
<b>Batch: 11C2988 Extracted: 03/23/11</b>											
<b>Blank Analyzed: 03/23/2011 (11C2988-BLK1)</b>											
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			
<b>LCS Analyzed: 03/23/2011 (11C2988-BS2)</b>											
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			
<b>LCS Dup Analyzed: 03/23/2011 (11C2988-BSD2)</b>											
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
<b>Batch: 11C3681 Extracted: 03/29/11</b>											
<b>Blank Analyzed: 03/29/2011 (11C3681-BLK1)</b>											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
<b>LCS Analyzed: 03/29/2011 (11C3681-BS1)</b>											
Hexane Extractable Material (Oil & Grease)	18.7	5.0	1.4	mg/l	20.0		94	78-114			MNR1
<b>LCS Dup Analyzed: 03/29/2011 (11C3681-BSD1)</b>											
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
<b><u>Batch: 11C3102 Extracted: 03/23/11</u></b>											
<b>Blank Analyzed: 03/23/2011 (11C3102-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 03/23/2011 (11C3102-BS1)</b>											
Mercury	8.13	0.20	0.10	ug/l	8.00		102	85-115			
<b>Matrix Spike Analyzed: 03/23/2011 (11C3102-MS1)</b>											
						<b>Source: IUC2145-01</b>					
Mercury	8.13	0.20	0.10	ug/l	8.00	ND	102	70-130			
<b>Matrix Spike Dup Analyzed: 03/23/2011 (11C3102-MSD1)</b>											
						<b>Source: IUC2145-01</b>					
Mercury	8.00	0.20	0.10	ug/l	8.00	ND	100	70-130	2	20	
<b><u>Batch: 11C3239 Extracted: 03/24/11</u></b>											
<b>Blank Analyzed: 03/24/2011-03/25/2011 (11C3239-BLK1)</b>											
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
<b>Batch: 11C3239 Extracted: 03/24/11</b>											
<b>LCS Analyzed: 03/24/2011-03/25/2011 (11C3239-BS1)</b>											
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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Annual Outfall 011  
Report Number: IUC2187

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

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C3239 Extracted: 03/24/11</b>											
<b>Matrix Spike Analyzed: 03/24/2011 (11C3239-MS2)</b>						<b>Source: IUC2091-02</b>					
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			
<b>Matrix Spike Dup Analyzed: 03/24/2011-03/25/2011 (11C3239-MSD1)</b>						<b>Source: IUC2091-01</b>					
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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## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C3768 Extracted: 03/29/11</b>											
<b>Blank Analyzed: 03/29/2011 (11C3768-BLK1)</b>											
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							
<b>LCS Analyzed: 03/29/2011 (11C3768-BS1)</b>											
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			
<b>Matrix Spike Analyzed: 03/29/2011 (11C3768-MS1) Source: IUC2664-05</b>											
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			
<b>Matrix Spike Analyzed: 03/29/2011 (11C3768-MS2) Source: IUC2664-06</b>											
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
<b>Batch: 11C3768 Extracted: 03/29/11</b>											
<b>Matrix Spike Dup Analyzed: 03/29/2011 (11C3768-MSD1)</b>						<b>Source: IUC2664-05</b>					
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
<b><u>Batch: 11C3083 Extracted: 03/23/11</u></b>											
<b>Blank Analyzed: 03/23/2011 (11C3083-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 03/23/2011 (11C3083-BS1)</b>											
Mercury	7.87	0.20	0.10	ug/l	8.00		98	85-115			
<b>Matrix Spike Analyzed: 03/23/2011 (11C3083-MS1)</b>											
						<b>Source: IUC2139-03</b>					
Mercury	7.77	0.20	0.10	ug/l	8.00	ND	97	70-130			
<b>Matrix Spike Dup Analyzed: 03/23/2011 (11C3083-MSD1)</b>											
						<b>Source: IUC2139-03</b>					
Mercury	7.76	0.20	0.10	ug/l	8.00	ND	97	70-130	0.2	20	
<b><u>Batch: 11C3506 Extracted: 03/26/11</u></b>											
<b>Blank Analyzed: 03/28/2011-03/29/2011 (11C3506-BLK1)</b>											
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							
<b>LCS Analyzed: 03/28/2011-03/29/2011 (11C3506-BS1)</b>											
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
<b>Batch: 11C3506 Extracted: 03/26/11</b>											
<b>Matrix Spike Analyzed: 03/28/2011-03/29/2011 (11C3506-MS1)</b>						<b>Source: IUC2142-02</b>					
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			
<b>Matrix Spike Analyzed: 03/28/2011-03/29/2011 (11C3506-MS2)</b>						<b>Source: IUC2141-02</b>					
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			
<b>Matrix Spike Dup Analyzed: 03/28/2011-03/29/2011 (11C3506-MSD1)</b>						<b>Source: IUC2142-02</b>					
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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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C3776 Extracted: 03/29/11</b>											
<b>Blank Analyzed: 03/29/2011 (11C3776-BLK1)</b>											
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							
<b>LCS Analyzed: 03/29/2011 (11C3776-BS1)</b>											
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			
<b>Matrix Spike Analyzed: 03/29/2011 (11C3776-MS1)</b>											
						<b>Source: IUC2464-02</b>					
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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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C3776 Extracted: 03/29/11</b>											
<b>Matrix Spike Dup Analyzed: 03/29/2011 (11C3776-MSD1)</b>						<b>Source: IUC2464-02</b>					
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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## METHOD BLANK/QC DATA

### DISSOLVED INORGANICS

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

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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
<b><u>Batch: 11C2823 Extracted: 03/22/11</u></b>											
<b>Blank Analyzed: 03/22/2011 (11C2823-BLK1)</b>											
Total Dissolved Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 03/22/2011 (11C2823-BS1)</b>											
Total Dissolved Solids	998	10	1.0	mg/l	1000		100	90-110			
<b>Duplicate Analyzed: 03/22/2011 (11C2823-DUP1)</b>											
						<b>Source: IUC2198-02</b>					
Total Dissolved Solids	509	10	1.0	mg/l		513			0.8	10	
<b><u>Batch: 11C2825 Extracted: 03/22/11</u></b>											
<b>Blank Analyzed: 03/22/2011 (11C2825-BLK1)</b>											
Specific Conductance	ND	1.0	1.0	hos/cm @ 2							
<b>LCS Analyzed: 03/22/2011 (11C2825-BS1)</b>											
Specific Conductance	1390	1.0	1.0	hos/cm @ 2	1410		99	90-110			
<b>Duplicate Analyzed: 03/22/2011 (11C2825-DUP1)</b>											
						<b>Source: IUC2205-01</b>					
Specific Conductance	49.4	1.0	1.0	hos/cm @ 2		49.0			0.8	5	
<b><u>Batch: 11C2871 Extracted: 03/22/11</u></b>											
<b>Blank Analyzed: 03/22/2011 (11C2871-BLK1)</b>											
Perchlorate	ND	1.0	0.90	ug/l							
<b>LCS Analyzed: 03/22/2011 (11C2871-BS1)</b>											
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
<b><u>Batch: 11C2871 Extracted: 03/22/11</u></b>											
<b>Matrix Spike Analyzed: 03/22/2011 (11C2871-MS1)</b>						<b>Source: IUC2009-01</b>					
Perchlorate	26.1	1.0	0.90	ug/l	25.0	ND	104	80-120			
<b>Matrix Spike Dup Analyzed: 03/22/2011 (11C2871-MSD1)</b>						<b>Source: IUC2009-01</b>					
Perchlorate	26.3	1.0	0.90	ug/l	25.0	ND	105	80-120	0.6	20	
<b><u>Batch: 11C2881 Extracted: 03/22/11</u></b>											
<b>Blank Analyzed: 03/22/2011 (11C2881-BLK1)</b>											
Turbidity	ND	1.0	0.040	NTU							
<b>Duplicate Analyzed: 03/22/2011 (11C2881-DUP1)</b>						<b>Source: IUC2139-03</b>					
Turbidity	29.9	1.0	0.040	NTU		29.9			0	20	
<b>Duplicate Analyzed: 03/22/2011 (11C2881-DUP2)</b>						<b>Source: IUC2220-12</b>					
Turbidity	0.280	1.0	0.040	NTU		0.270			4	20	Ja
<b><u>Batch: 11C2884 Extracted: 03/22/11</u></b>											
<b>Blank Analyzed: 03/22/2011 (11C2884-BLK1)</b>											
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							
<b>LCS Analyzed: 03/22/2011 (11C2884-BS1)</b>											
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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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C2884 Extracted: 03/22/11</b>											
<b>Matrix Spike Analyzed: 03/22/2011 (11C2884-MS1)</b>						<b>Source: IUC2181-03</b>					
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			
<b>Matrix Spike Analyzed: 03/22/2011 (11C2884-MS2)</b>						<b>Source: IUC2320-01</b>					
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			
<b>Matrix Spike Dup Analyzed: 03/22/2011 (11C2884-MSD1)</b>						<b>Source: IUC2181-03</b>					
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	
<b>Batch: 11C2910 Extracted: 03/22/11</b>											
<b>Blank Analyzed: 03/27/2011 (11C2910-BLK1)</b>											
Biochemical Oxygen Demand	ND	2.0	0.50	mg/l							
<b>LCS Analyzed: 03/27/2011 (11C2910-BS1)</b>											
Biochemical Oxygen Demand	198	100	25	mg/l	198		100	85-115			
<b>LCS Dup Analyzed: 03/27/2011 (11C2910-BSD1)</b>											
Biochemical Oxygen Demand	206	100	25	mg/l	198		104	85-115	3	20	

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### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11C2931 Extracted: 03/22/11</b>											
<b>Blank Analyzed: 03/22/2011 (11C2931-BLK1)</b>											
Surfactants (MBAS)	ND	0.10	0.050	mg/l							
<b>LCS Analyzed: 03/22/2011 (11C2931-BS1)</b>											
Surfactants (MBAS)	0.250	0.10	0.050	mg/l	0.250		100	90-110			
<b>Matrix Spike Analyzed: 03/22/2011 (11C2931-MS1)</b>											
						<b>Source: IUC2139-03</b>					
Surfactants (MBAS)	0.244	0.10	0.050	mg/l	0.250	ND	98	50-125			
<b>Matrix Spike Dup Analyzed: 03/22/2011 (11C2931-MSD1)</b>											
						<b>Source: IUC2139-03</b>					
Surfactants (MBAS)	0.262	0.10	0.050	mg/l	0.250	ND	105	50-125	7	20	
<b>Batch: 11C2949 Extracted: 03/22/11</b>											
<b>Blank Analyzed: 03/22/2011 (11C2949-BLK1)</b>											
Total Suspended Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 03/22/2011 (11C2949-BS1)</b>											
Total Suspended Solids	1000	10	1.0	mg/l	1000		100	85-115			
<b>Duplicate Analyzed: 03/22/2011 (11C2949-DUP1)</b>											
						<b>Source: IUC2184-03</b>					
Total Suspended Solids	36.0	10	1.0	mg/l		37.0			3	10	
<b>Batch: 11C2967 Extracted: 03/22/11</b>											
<b>Blank Analyzed: 03/22/2011 (11C2967-BLK1)</b>											
Ammonia-N (Distilled)	ND	0.500	0.500	mg/l							

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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
<b><u>Batch: 11C2967 Extracted: 03/22/11</u></b>											
<b>LCS Analyzed: 03/22/2011 (11C2967-BS1)</b>											
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0		98	80-115			
<b>Matrix Spike Analyzed: 03/22/2011 (11C2967-MS1)</b>											
						<b>Source: IUC2139-03</b>					
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0	ND	98	70-120			
<b>Matrix Spike Dup Analyzed: 03/22/2011 (11C2967-MSD1)</b>											
						<b>Source: IUC2139-03</b>					
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0	ND	98	70-120	0	15	
<b><u>Batch: 11C2985 Extracted: 03/23/11</u></b>											
<b>Blank Analyzed: 03/23/2011 (11C2985-BLK1)</b>											
Total Organic Carbon	ND	1.0	0.50	mg/l							
<b>LCS Analyzed: 03/23/2011 (11C2985-BS1)</b>											
Total Organic Carbon	10.4	1.0	0.50	mg/l	10.0		104	90-110			
<b>Matrix Spike Analyzed: 03/23/2011 (11C2985-MS1)</b>											
						<b>Source: IUC2188-02</b>					
Total Organic Carbon	11.1	1.0	0.50	mg/l	5.00	6.08	100	80-120			
<b>Matrix Spike Dup Analyzed: 03/23/2011 (11C2985-MSD1)</b>											
						<b>Source: IUC2188-02</b>					
Total Organic Carbon	11.3	1.0	0.50	mg/l	5.00	6.08	105	80-120	2	20	
<b><u>Batch: 11C2986 Extracted: 03/23/11</u></b>											
<b>Blank Analyzed: 03/23/2011 (11C2986-BLK1)</b>											
Fluoride	ND	0.10	0.020	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
<b><u>Batch: 11C2986 Extracted: 03/23/11</u></b>											
<b>LCS Analyzed: 03/23/2011 (11C2986-BS1)</b>											
Fluoride	1.07	0.10	0.020	mg/l	1.00		107	90-110			
<b>Matrix Spike Analyzed: 03/23/2011 (11C2986-MS1)</b>											
Fluoride	1.29	0.10	0.020	mg/l	1.00	0.336	95	80-120			
<b>Matrix Spike Dup Analyzed: 03/23/2011 (11C2986-MSD1)</b>											
Fluoride	1.33	0.10	0.020	mg/l	1.00	0.336	99	80-120	3	20	
<b><u>Batch: 11C3661 Extracted: 03/28/11</u></b>											
<b>Blank Analyzed: 03/28/2011 (11C3661-BLK1)</b>											
Total Cyanide	ND	5.0	2.2	ug/l							
<b>LCS Analyzed: 03/28/2011 (11C3661-BS1)</b>											
Total Cyanide	180	5.0	2.2	ug/l	196		92	90-110			
<b>Matrix Spike Analyzed: 03/28/2011 (11C3661-MS1)</b>											
Total Cyanide	193	5.0	2.2	ug/l	196	ND	98	70-115			
<b>Matrix Spike Dup Analyzed: 03/28/2011 (11C3661-MSD1)</b>											
Total Cyanide	192	5.0	2.2	ug/l	196	ND	98	70-115	0.7	15	

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## METHOD BLANK/QC DATA

### 900

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8681 Extracted: 03/31/11</b>											
<b>LCS Analyzed: 03/31/2011 (S103143-02)</b>											
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			
<b>Blank Analyzed: 03/31/2011 (S103143-03)</b>											
Gross Alpha	0.261	3	1.85	pCi/L				-			U
Gross Beta	-0.333	4	2.4	pCi/L				-			U
<b>Duplicate Analyzed: 03/31/2011 (S103143-04)</b>											
Gross Alpha	1.94	3	0.434	pCi/L		2.26		-	15		Jb
Gross Beta	6.74	4	0.831	pCi/L		6.22		-	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
<b>Batch: 8681 Extracted: 03/24/11</b>											
<b>LCS Analyzed: 03/31/2011 (S103143-02)</b>											
Cobalt-60	123	10	2.5	pCi/L	124		99	80-120			
Cesium-137	118	20	3.18	pCi/L	110		107	80-120			
<b>Blank Analyzed: 03/31/2011 (S103143-03)</b>											
Cesium-137	ND	20	2.34	pCi/L				-			U
Potassium-40	ND	25	47.4	pCi/L				-			U
<b>Duplicate Analyzed: 03/31/2011 (S103143-04)</b>											
Cesium-134	ND	20	3.68	pCi/L				-	0		U
Cesium-137	ND	20	1.17	pCi/L		0		-	0		U
Potassium-40	ND	25	15.8	pCi/L		0		-	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
<b>Batch: 8681 Extracted: 04/05/11</b>											
<b>LCS Analyzed: 04/05/2011 (S103143-02)</b>											
Radium-226	49	1	0.859	pCi/L	55.7		88	80-120			
<b>Blank Analyzed: 04/05/2011 (S103143-03)</b>											
Radium-226	0.031	1	0.8	pCi/L				-			U
<b>Duplicate Analyzed: 04/05/2011 (S103143-04)</b>											
Radium-226	0.283	1	0.711	pCi/L		0.35		-	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
<b>Batch: 8681 Extracted: 04/07/11</b>											
<b>LCS Analyzed: 04/07/2011 (S103143-02)</b>											
Radium-228	3.92	1	0.432	pCi/L	5.01		78	60-140			
<b>Blank Analyzed: 04/07/2011 (S103143-03)</b>											
Radium-228	-0.153	1	0.434	pCi/L				-			U
<b>Duplicate Analyzed: 04/07/2011 (S103143-04)</b>											
Radium-228	0.235	1	0.402	pCi/L		0.229		-	0		U

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## METHOD BLANK/QC DATA

### 905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8681 Extracted: 04/01/11</b>											
<b>LCS Analyzed: 04/01/2011 (S103143-02)</b>											
Strontium-90	19.7	2	0.576	pCi/L	17.4		113	80-120			
<b>Blank Analyzed: 04/01/2011 (S103143-03)</b>											
Strontium-90	0.045	2	0.468	pCi/L				-			U
<b>Duplicate Analyzed: 04/01/2011 (S103143-04)</b>											
Strontium-90	0.078	2	0.717	pCi/L		IUC2187-03		-	0		U

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## METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8681 Extracted: 03/30/11</b>											
<b>LCS Analyzed: 03/30/2011 (S103143-02)</b>											
Tritium	2150	500	166	pCi/L	2350		91	80-120			
<b>Blank Analyzed: 03/30/2011 (S103143-03)</b>											
Tritium	-30.1	500	163	pCi/L				-			U
<b>Duplicate Analyzed: 03/30/2011 (S103143-04)</b>											
Tritium	-10.9	500	168	pCi/L				-77.2	-	0	U

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## METHOD BLANK/QC DATA

### ASTM-D5174

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8681 Extracted: 03/29/11</b>											
<b>LCS Analyzed: 03/29/2011 (S103143-02)</b>											
Uranium, Total	55.3	1	0.205	pCi/L	56.5		98	80-120			
<b>Blank Analyzed: 03/29/2011 (S103143-03)</b>											
Uranium, Total	ND	1	0.02	pCi/L				-			U
<b>Duplicate Analyzed: 03/29/2011 (S103143-04)</b>											
Uranium, Total	0.292	1	0.02	pCi/L		0.321		-	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
<b>Batch: 1089421 Extracted: 03/30/11</b>											
<b>Blank Analyzed: 04/04/2011 (G1C300000421B)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	1e-006	0.00005	0.0000076	ug/L				-			J, Q
1,2,3,4,6,7,8-HpCDF	ND	0.00005	0.0000052	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000067	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	0.0000007	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	0.0000038	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	0.0000065	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	0.0000035	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	0.0000059	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.0000043	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.0000075	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000006	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.0000034	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000062	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000084	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.0000057	ug/L				-			
OCDD	3.4e-006	0.0001	0.0000078	ug/L				-			J
OCDF	ND	0.0001	0.0000064	ug/L				-			
Total HpCDD	2.2e-006	0.00005	0.0000076	ug/L				-			J, Q
Total HpCDF	ND	0.00005	0.0000052	ug/L				-			
Total HxCDD	ND	0.00005	0.0000059	ug/L				-			
Total HxCDF	ND	0.00005	0.0000034	ug/L				-			
Total PeCDD	ND	0.00005	0.0000075	ug/L				-			
Total PeCDF	ND	0.00005	0.0000006	ug/L				-			
Total TCDD	ND	0.00001	0.0000084	ug/L				-			
Total TCDF	ND	0.00001	0.0000057	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0024			ug/L	0.002		120	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0023			ug/L	0.002		117	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0024			ug/L	0.002		120	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0026			ug/L	0.002		129	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0025			ug/L	0.002		123	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0024			ug/L	0.002		122	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0024			ug/L	0.002		118	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0025			ug/L	0.002		126	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0027			ug/L	0.002		133	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0024			ug/L	0.002		121	24-185			

**TestAmerica Irvine**

Debby Wilson  
 Project Manager

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

Project ID: Annual Outfall 011  
Annual Outfall 011  
Report Number: IUC2187

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	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1089421 Extracted: 03/30/11</b>											
<b>Blank Analyzed: 04/04/2011 (G1C300000421B)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0025			ug/L	0.002		124	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0025			ug/L	0.002		126	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0024			ug/L	0.002		119	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0026			ug/L	0.002		129	24-169			
Surrogate: 13C-OCDD	0.0055			ug/L	0.004		138	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.001			ug/L	0.0008		128	35-197			
<b>LCS Analyzed: 04/05/2011 (G1C300000421C)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00113	0.00005	0.0000065	ug/L	0.001		113	70-140			Ba
1,2,3,4,6,7,8-HpCDF	0.00119	0.00005	0.0000062	ug/L	0.001		119	82-122			
1,2,3,4,7,8,9-HpCDF	0.00119	0.00005	0.0000086	ug/L	0.001		119	78-138			
1,2,3,4,7,8-HxCDD	0.00109	0.00005	0.0000042	ug/L	0.001		109	70-164			
1,2,3,4,7,8-HxCDF	0.00108	0.00005	0.0000005	ug/L	0.001		108	72-134			
1,2,3,6,7,8-HxCDD	0.0011	0.00005	0.00000039	ug/L	0.001		110	76-134			
1,2,3,6,7,8-HxCDF	0.00114	0.00005	0.0000048	ug/L	0.001		114	84-130			
1,2,3,7,8,9-HxCDD	0.00114	0.00005	0.00000035	ug/L	0.001		114	64-162			
1,2,3,7,8,9-HxCDF	0.00105	0.00005	0.0000057	ug/L	0.001		105	78-130			
1,2,3,7,8-PeCDD	0.00104	0.00005	0.0000019	ug/L	0.001		104	70-142			
1,2,3,7,8-PeCDF	0.00117	0.00005	0.0000015	ug/L	0.001		117	80-134			
2,3,4,6,7,8-HxCDF	0.00112	0.00005	0.0000046	ug/L	0.001		112	70-156			
2,3,4,7,8-PeCDF	0.00112	0.00005	0.0000015	ug/L	0.001		112	68-160			
2,3,7,8-TCDD	0.000242	0.00001	0.00000093	ug/L	0.0002		121	67-158			
2,3,7,8-TCDF	0.000251	0.00001	0.00000065	ug/L	0.0002		126	75-158			
OCDD	0.00211	0.0001	0.0000082	ug/L	0.002		106	78-144			Ba
OCDF	0.00215	0.0001	0.0000085	ug/L	0.002		108	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00237			ug/L	0.002		118	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0024			ug/L	0.002		120	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00238			ug/L	0.002		119	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00265			ug/L	0.002		132	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00264			ug/L	0.002		132	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00254			ug/L	0.002		127	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00247			ug/L	0.002		123	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00266			ug/L	0.002		133	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0027			ug/L	0.002		135	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00245			ug/L	0.002		122	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00262			ug/L	0.002		131	22-176			

#### TestAmerica Irvine

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011  
 Annual Outfall 011  
 Report Number: IUC2187

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	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 1089421 Extracted: 03/30/11</b>											
<b>LCS Analyzed: 04/05/2011 (G1C300000421C)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00256			ug/L	0.002		128	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.00245			ug/L	0.002		123	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00271			ug/L	0.002		136	22-152			
Surrogate: 13C-OCDD	0.00537			ug/L	0.004		134	13-199			
Surrogate: 37C14-2,3,7,8-TCDD	0.00104			ug/L	0.0008		130	31-191			
<b>LCS Dup Analyzed: 04/05/2011 (G1C300000421L)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00115	0.00005	0.0000064	ug/L	0.001		115	70-140	2.1	50	Ba
1,2,3,4,6,7,8-HpCDF	0.00119	0.00005	0.0000075	ug/L	0.001		119	82-122	0.27	50	
1,2,3,4,7,8,9-HpCDF	0.00119	0.00005	0.0000098	ug/L	0.001		119	78-138	0.28	50	
1,2,3,4,7,8-HxCDD	0.00109	0.00005	0.0000046	ug/L	0.001		109	70-164	0.41	50	
1,2,3,4,7,8-HxCDF	0.00111	0.00005	0.0000057	ug/L	0.001		111	72-134	2.6	50	
1,2,3,6,7,8-HxCDD	0.00111	0.00005	0.0000043	ug/L	0.001		111	76-134	0.38	50	
1,2,3,6,7,8-HxCDF	0.00112	0.00005	0.0000053	ug/L	0.001		112	84-130	1.6	50	
1,2,3,7,8,9-HxCDD	0.00115	0.00005	0.0000039	ug/L	0.001		115	64-162	0.38	50	
1,2,3,7,8,9-HxCDF	0.00104	0.00005	0.0000063	ug/L	0.001		104	78-130	0.74	50	
1,2,3,7,8-PeCDD	0.00106	0.00005	0.0000015	ug/L	0.001		106	70-142	1.9	50	
1,2,3,7,8-PeCDF	0.00115	0.00005	0.0000017	ug/L	0.001		115	80-134	1.7	50	
2,3,4,6,7,8-HxCDF	0.00104	0.00005	0.0000052	ug/L	0.001		104	70-156	8	50	
2,3,4,7,8-PeCDF	0.00113	0.00005	0.0000018	ug/L	0.001		113	68-160	0.9	50	
2,3,7,8-TCDD	0.000241	0.00001	0.00000096	ug/L	0.0002		120	67-158	0.69	50	
2,3,7,8-TCDF	0.000246	0.00001	0.00000072	ug/L	0.0002		123	75-158	2.3	50	
OCDD	0.00215	0.0001	0.000008	ug/L	0.002		107	78-144	1.6	50	Ba
OCDF	0.00217	0.0001	0.0000055	ug/L	0.002		109	63-170	0.87	50	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00228			ug/L	0.002		114	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0023			ug/L	0.002		115	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00235			ug/L	0.002		117	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00246			ug/L	0.002		123	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0024			ug/L	0.002		120	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00247			ug/L	0.002		124	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00238			ug/L	0.002		119	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00257			ug/L	0.002		129	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0026			ug/L	0.002		130	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00243			ug/L	0.002		122	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0025			ug/L	0.002		125	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00247			ug/L	0.002		123	13-328			

**TestAmerica Irvine**

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 Project Manager



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

Project ID: Annual Outfall 011  
 Annual Outfall 011  
 Report Number: IUC2187

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
<b>Batch: 1089421 Extracted: 03/30/11</b>											
<b>LCS Dup Analyzed: 04/05/2011 (G1C300000421L)</b>											
Surrogate: 13C-2,3,7,8-TCDD	0.00236			ug/L	0.002		118	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00256			ug/L	0.002		128	22-152			
Surrogate: 13C-OCDD	0.00529			ug/L	0.004		132	13-199			
Surrogate: 37C14-2,3,7,8-TCDD	0.00102			ug/L	0.0008		127	31-191			

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Annual Outfall 011  
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Sampled: 03/20/11-03/21/11  
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## 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
IUC2187-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.9	15
IUC2187-01	624-Reg-X-2+c12DCE, LOW	1,1-Dichloroethene	ug/l	0	0.50	6
IUC2187-01	624-Reg-X-2+c12DCE, LOW	1,2-Dichloroethane	ug/l	0.12	0.50	0.5
IUC2187-01	624-Reg-X-2+c12DCE, LOW	Trichloroethene	ug/l	0	0.50	5
IUC2187-01	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
IUC2187-02	624-Reg-X-2+c12DCE, LOW	1,1-Dichloroethene	ug/l	0	0.50	6
IUC2187-02	624-Reg-X-2+c12DCE, LOW	1,2-Dichloroethane	ug/l	0.13	0.50	0.5
IUC2187-02	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
IUC2187-03	608-Pesticides (LL)	alpha-BHC	ug/l	0	0.0047	0.03
IUC2187-03	625+NDMA, LL	2,4,6-Trichlorophenol	ug/l	0	0.943	13
IUC2187-03	625+NDMA, LL	2,4-Dinitrotoluene	ug/l	0	4.72	18
IUC2187-03	625+NDMA, LL	Bis(2-ethylhexyl)phthalate	ug/l	0.36	4.72	4
IUC2187-03	625+NDMA, LL	N-Nitrosodimethylamine	ug/l	0	1.89	16
IUC2187-03	625+NDMA, LL	Pentachlorophenol	ug/l	0	1.89	16.5
IUC2187-03	Ammonia-N, Titr 4500NH3-C (w/di	Ammonia-N (Distilled)	mg/l	0	0.500	10.1
IUC2187-03	Antimony-200.8	Antimony	ug/l	0.81	2.0	6
IUC2187-03	Arsenic-200.7	Arsenic	ug/l	8.93	10	10
IUC2187-03	Barium-200.7	Barium	mg/l	0.028	0.010	1
IUC2187-03	Beryllium-200.7	Beryllium	ug/l	0.44	2.0	4
IUC2187-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	1.97	2.0	30
IUC2187-03	Cadmium-200.8	Cadmium	ug/l	0.16	1.0	3.1
IUC2187-03	Chloride - 300.0	Chloride	mg/l	2.51	0.50	150
IUC2187-03	Chromium VI-218.6	Chromium VI	ug/l	0	1.00	16
IUC2187-03	Copper-200.8	Copper	ug/l	5.15	2.00	14
IUC2187-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-1	5.0	8.5

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IUC2187-03	Fluoride SM4500F,C	Fluoride	mg/l	0.17	0.10	1.6
<b>IUC2187-03</b>	<b>Iron-200.7</b>	<b>Iron</b>	<b>mg/l</b>	<b>3.59</b>	<b>0.040</b>	<b>0.3</b>
IUC2187-03	Lead-200.8	Lead	ug/l	3.49	1.0	5.2
<b>IUC2187-03</b>	<b>Manganese-200.7</b>	<b>Manganese</b>	<b>ug/l</b>	<b>55</b>	<b>20</b>	<b>50</b>
IUC2187-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.033	0.10	0.5
IUC2187-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1
IUC2187-03	Nickel-200.7	Nickel	ug/l	4.50	10	96
IUC2187-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.44	0.11	8
IUC2187-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0.081	0.15	1
IUC2187-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.52	0.26	8
IUC2187-03	Perchlorate 314.0 (1ppb_IC6)	Perchlorate	ug/l	0.20	1.0	6
IUC2187-03	Selenium-200.8	Selenium	ug/l	0.41	2.0	5
IUC2187-03	Silver-200.8	Silver	ug/l	0.049	1.0	4.1
IUC2187-03	Sulfate-300.0	Sulfate	mg/l	4.40	0.50	300
IUC2187-03	TDS - SM2540C	Total Dissolved Solids	mg/l	83	10	950
IUC2187-03	Thallium-200.8	Thallium	ug/l	0.025	1.0	2
IUC2187-03	TSS - SM2540D	Total Suspended Solids	mg/l	35	10	45
IUC2187-03	Zinc-200.7	Zinc	ug/l	28	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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### TestAmerica Irvine

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## DATA QUALIFIERS AND DEFINITIONS

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

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## 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](http://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 011  
Annual Outfall 011  
Report Number: IUC2187

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-7 dy Chnric  
Samples: IUC2187-03

Analysis Performed: Bioassay-Acute 96hr  
Samples: IUC2187-01

Analysis Performed: Level 4 Data Package  
Samples: IUC2187-01

**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.*

**IUC2187 <Page 78 of 80>**

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

Project ID: Annual Outfall 011  
Annual Outfall 011  
Report Number: IUC2187

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: IUC2187-03

Analysis Performed: Gross Alpha  
Samples: IUC2187-03

Analysis Performed: Gross Beta  
Samples: IUC2187-03

Analysis Performed: Level 4 Data Package  
Samples: IUC2187-03

Analysis Performed: Radium, Combined  
Samples: IUC2187-03

Analysis Performed: Strontium 90  
Samples: IUC2187-03

Analysis Performed: Tritium  
Samples: IUC2187-03

Analysis Performed: Uranium, Combined  
Samples: IUC2187-03

Method Performed: 900  
Samples: IUC2187-03

Method Performed: 901.1  
Samples: IUC2187-03

Method Performed: 903.1  
Samples: IUC2187-03

Method Performed: 904  
Samples: IUC2187-03

Method Performed: 905  
Samples: IUC2187-03

Method Performed: 906  
Samples: IUC2187-03

Method Performed: D5174  
Samples: IUC2187-03

## TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Annual Outfall 011  
Annual Outfall 011  
Report Number: IUC2187

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: IUC2187-03RE1

**Truesdail Laboratories-SUB** *California Cert #1237*

14201 Franklin Avenue - Tustin, CA 92680

Analysis Performed: Hydrazine  
Samples: IUC2187-03

**TestAmerica Irvine**

Debby Wilson  
Project Manager



EUC2187

Client Name/Address: <b>MWH-Arcadia</b> 618 Michillinda Ave, Suite 200 Arcadia, CA 91007  Test America Contact: Debby Wilson	Project: Boeing-SSFL NPDES <b>Annual Outfall 011 GRAB</b>	<b>ANALYSIS REQUIRED</b>
---	---	--------------------------

Project Manager: Bronwyn Kelly  Sampler: <b>RICK BANACO</b>	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Field readings: (Log in and include in report Temp and pH)  Temp °F = <b>50.0</b> pH = <b>7.6</b> DO = <b>9.12 mg/L</b> Total Residual Chlorine = <b>0</b>  Time of readings = <b>10:00</b>
---	--	---

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	VOCs 624 + xylenes + Freon 113, Freon 123A, Cyclohexane + PP	VOCs 624 +A+A+2CVE	Settleable Solids	Conductivity	Oil & Grease (1664-HEM)	8015 - gas	8015 - diesel/jet fuel	Fecal coliform (SM9223)	E. coli (SM9223)	Acute Toxicity	Comments
Outfall 011	W	VOAs	5	<b>3-21-2011 10:00</b>	HCl	1A, 1B, 1C, 1D, 1E	X										
Outfall 011	W	VOAs	3		None	2A, 2B, 2C		X									
Outfall 011	W	1L Poly	1		None	3			X								
Outfall 011	W	500 mL Poly	2		None	4A, 4B				X							
Outfall 011	W	1L Amber	2		HCl	5A, 5B					X						
Trip Blanks	W	VOAs	3		HCl	6A, 6B, 6C	X										
Trip Blanks	W	VOAs	3		None	7A, 7B, 7C		X									
Outfall 011	W	VOAs	1		HCl	8A						X					
Outfall 011 Dup	W	VOAs	2		HCl	8B, 8C						X					
Outfall 011	W	1L Amber	1		None	9A							X				
Outfall 011 Dup	W	1L Amber	1		None	9B							X				
Outfall 011	W	125mL Poly	1		Na2S2O3	10								X			
Outfall 011	W	125mL Poly	1		Na2S2O3	11									X		
Outfall 011	W	1 Gal Cube	2	<b>3-21-2011 16:00</b>	None	12										X	

**These Samples are the Grab Portion of Outfall 011 for this storm event. Composite samples will follow and are to be added to this work order.**

Relinquished By: <b>Rick Banaco</b> Date/Time: <b>3-21-2011</b>	Received By: <b>[Signature]</b> Date/Time: <b>3.21.11 1240</b>	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <b>[Signature]</b> Date/Time: <b>3-21-11 1432</b>	Received By: <b>VuBanaco</b> Date/Time: <b>3/2/11</b>	Sample Integrity: (Check) Intact: _____ On Ice: <b>X</b>
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <b>X</b>

KH 3-21-11 1710

#21KJ03





# LABORATORY REPORT



**Date:** March 28, 2011  
**Client:** TestAmerica, Irvine  
17461 Derian Ave., Suite 100  
Irvine, CA 92614  
Attn: Debby Wilson

*"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

**Laboratory No.:** A-11032107-001/002  
**Sample I.D.:** IUC2187-01, 03 (Outfall 011)

**Sample Control:** The samples were received by ATL chilled, within the recommended hold time and with the chain of custody record attached. Testing conducted on only one sample per client instruction (rain runoff sample) for the acute (grab) and chronic (composite) samples.

Date Sampled: 03/21/11 10:00 (acute), 03/20/11 21:35 (chronic)  
Date Received: 03/22/11 10:05 (acute), 03/21/11 20:10 (chronic)  
Temp. Received: 1.7°C (acute), 5.7°C (chronic)  
Chlorine (TRC): 0.0 mg/l  
Date Tested: 03/22/11 to 03/28/11

**Sample Analysis:** The following analyses were performed on your sample:

Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).  
*Ceriodaphnia dubia* Survival and Reproduction Test (EPA Method 1002).

Attached are the test data generated from the analysis of your sample.

## Result Summary:

<b>Acute:</b>	<u>Survival</u>	<u>TU<sub>a</sub></u>
Fathead Minnow:	100%	0.0
<b>Chronic:</b>	<u>NOEC</u>	<u>TU<sub>c</sub></u>
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

**Quality Control:** Reviewed and approved by:

  
Joseph A. LeMay  
Laboratory Director

**FATHEAD MINNOW PERCENT SURVIVAL TEST**  
**EPA Method 2000.0**



Lab No.: A-11032107-001

Client/ID: TestAmerica IUC2187-01

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	<i>[Signature]</i> 1100
	100%	20.1	9.6	7.2	0	0	
24 Hr	Control	20.3	8.6	7.9	0	0	<i>[Signature]</i> 1100
	100%	20.2	8.9	7.8	0	0	
48 Hr	Control	19.8	8.2	7.8	0	0	<i>[Signature]</i> 1030
	100%	19.8	8.9	7.7	0	0	
Renewal	Control	20.1	8.7	7.9	0	0	<i>[Signature]</i> 1030
	100%	20.1	8.9	7.9	0	0	
72 Hr	Control	20.0	8.7	7.8	0	0	<i>[Signature]</i> 1130
	100%	20.0	8.8	7.7	0	0	
96 Hr	Control	20.3	7.9	7.7	0	0	<i>[Signature]</i> 1130
	100%	20.3	7.7	7.5	0	0	

**Comments:**

Sample as received: Chlorine: 0.0 mg/l; pH: 7.2; Conductivity: 96 umho; Temp: 1.7°C;

DO: 9.9 mg/l; Alkalinity: 31 mg/l; Hardness: 34 mg/l; NH<sub>3</sub>-N: 0.3 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 O<sub>2</sub>.

**RESULTS**

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

# ***CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST***

- *Test and Results Summary*
- *Data Summary and Statistical Analyses*
- *Raw Test Data: Water Quality & Test Organism Measurements*

**CERIODAPHNIA CHRONIC BIOASSAY  
EPA METHOD 1002.0**



Lab No.: A-11032107-001  
Client/ID: Test America – IUC2187-03 (Outfall 011)

Date Tested: 03/22/11 to 03/28/11

**TEST SUMMARY**

Test type: Daily static-renewal.  
Species: *Ceriodaphnia dubia*.  
Age: < 24 hrs; all released within 8 hrs.  
Test vessel size: 30 ml.  
Number of test organisms per vessel: 1.  
Temperature: 25 +/- 1°C.  
Dilution water: Mod. hard reconstituted (MHRW).  
QA/QC Batch No.: RT-110308.

Endpoints: Survival and Reproduction.  
Source: In-laboratory culture.  
Food: .1 ml YTC, algae per day.  
Test solution volume: 15 ml.  
Number of replicates: 10.  
Photoperiod: 16/8 hrs. light/dark cycle.  
Test duration: 6 days.  
Statistics: ToxCalc computer program.

**RESULTS SUMMARY**

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	21.5
100% Sample	100%	23.9

Sample not statistically significantly less than Control.

**CHRONIC TOXICITY**

Survival NOEC	100%
Survival TUc	1.0
Reproduction NOEC	100%
Reproduction TUc	1.0

**QA/QC TEST ACCEPTABILITY**

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (21.5 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 20.9%)
Statistically significantly different concentrations relative difference > 13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

**Ceriodaphnia Survival and Reproduction Test-Survival Day 6**

Start Date: 3/22/2011 08:00 Test ID: 11032107c Sample ID: Outfall 011  
 End Date: 3/28/2011 09:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater  
 Sample Date: 3/20/2011 21:35 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia

Comments:

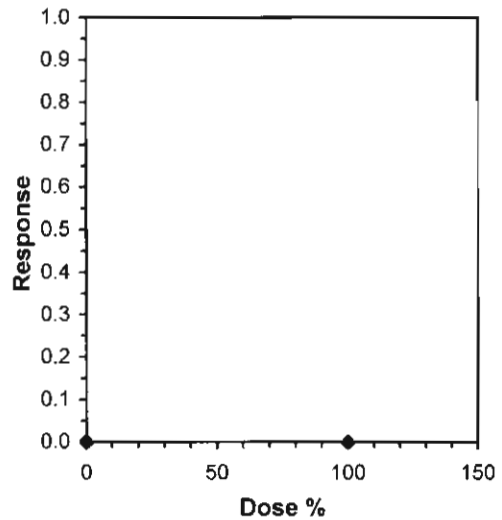
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's 1-Tailed		Isotonic	
							Exact P	Critical	Mean	N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1
Treatments vs D-Control				

**Linear Interpolation (200 Resamples)**

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			





**Ceriodaphnia Survival and Reproduction Test-Reproduction**

Start Date: 3/22/2011 08:00 Test ID: 11032107c Sample ID: Outfall 011  
 End Date: 3/28/2011 09:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater  
 Sample Date: 3/20/2011 21:35 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia

Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	12.000	24.000	14.000	21.000	24.000	23.000	24.000	28.000	25.000	20.000
100	13.000	25.000	28.000	26.000	12.000	30.000	29.000	27.000	28.000	21.000

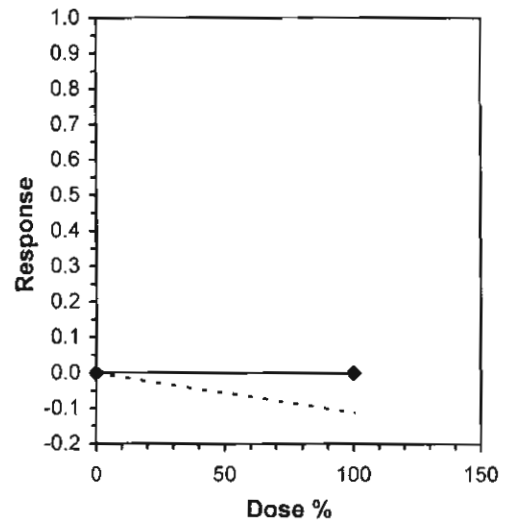
Conc-%	Mean	N-Mean	Transform: Untransformed				N	Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%				Mean	N-Mean
D-Control	21.500	1.0000	21.500	12.000	28.000	23.230	10			22.700	1.0000
100	23.900	1.1116	23.900	12.000	30.000	27.220	10	125.50	82.00	22.700	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.85055	0.905	-1.0995	0.04344
F-Test indicates equal variances (p = 0.44)	1.69666	6.54109		

**Hypothesis Test (1-tail, 0.05)**

Wilcoxon Two-Sample Test indicates no significant differences  
 Treatments vs D-Control

Point	%	SD	Linear Interpolation (200 Resamples)	
			95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



**CERIODAPHNIA DUBIA CHRONIC BIOASSAY**  
**EPA METHOD 1002.0 Raw Data Sheet**



Lab No.: A-11032107-001

Client ID: TestAmerica - Outfall 011

Start Date: 03/22/2011

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		-	
Time of Readings:		0900 0900		0900 0900		0900 0900		0830 0830		0830 0900		0900 0900		-	
Control	DO	9.0	8.9	9.1	8.7	9.1	8.1	8.3	8.0	8.4	8.6	8.9	8.7	-	-
	pH	8.1	8.1	8.1	8.1	8.0	8.0	8.1	8.0	8.1	8.1	8.0	8.1	-	-
	Temp	24.2	24.3	24.3	24.1	24.2	24.4	24.3	24.2	24.3	24.4	24.2	24.4	-	-
100%	DO	9.6	9.1	9.6	8.6	9.7	8.7	9.8	8.6	9.9	8.6	8.4	8.2	-	-
	pH	7.2	8.0	7.2	8.0	7.2	8.1	7.3	8.0	7.2	8.0	7.6	8.0	-	-
	Temp	24.3	24.2	24.3	24.4	24.5	24.5	24.2	24.2	24.2	24.2	24.6	24.2	-	-

Additional Parameters	Control	100% Sample
Conductivity (umohms)	339	114
Alkalinity (mg/l CaCO <sub>3</sub> )	68	34
Hardness (mg/l CaCO <sub>3</sub> )	96	38
Ammonia (mg/l NH <sub>3</sub> -N)	0	0-1

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	2A	2B	3C	3D	3E	1F	2G	2H	2I	2J	

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials	
		A	B	C	D	E	F	G	H	I	J				
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	3	0	3	0	0	0	0	0	3	0	0	6	10	[Signature]	
	4	4	0	5	4	3	4	4	0	4	4	32	10	[Signature]	
	5	0	7	0	7	6	8	8	9	7	6	58	10	[Signature]	
	6	8	14	9	10	15	11	12	16	14	10	119	10	[Signature]	
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	[Signature]
	Total	12	24	14	21	24	23	24	28	25	20	215	10	[Signature]	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	3	0	4	3	3	0	0	3	5	0	0	18	10	[Signature]	
	4	5	0	0	0	4	5	0	0	4	4	22	10	[Signature]	
	5	0	6	9	7	8	8	9	7	8	7	69	10	[Signature]	
	6	8	15	16	16	0	17	17	15	16	10	130	10	[Signature]	
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	[Signature]
	Total	13	25	28	26	12	30	29	27	28	21	239	10	[Signature]	

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.



***CHAIN  
OF  
CUSTODY***

# Subcontract Order - TestAmerica Irvine (IUC2187)

**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: 1.7 °C

Ice: (Y) N

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

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

**Sample ID: IUC2187-01 (Outfall 011 (Grab) - Water)**

Sampled: 03/21/11 10:00

Bioassay-Acute 96hr	% Survival	03/22/11 22:00	FH minnow, EPA/821-R02-012, Sub to AqTox Labs
Level 4 Data Package - Out	N/A	04/18/11 10:00	



Containers Supplied:  
 1 gal Poly (U)

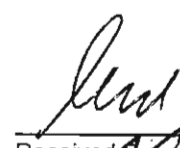

**Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)**

Sampled: 03/20/11 21:35

<del>Bioassay-7 dy Chronic</del>	N/A	<del>03/22/11 09:35</del>	Cerib, EPA/821-R02-013, Sub to AqTox Labs
----------------------------------	-----	---------------------------	---

Containers Supplied:  
 1 gal Poly (AB)

  
 Released By \_\_\_\_\_ Date/Time 3-22-11 7:00  
  
 Released By \_\_\_\_\_ Date/Time 3-22-11 1055

  
 Received By \_\_\_\_\_ Date/Time 3-22-11 7:00  
  
 Received By \_\_\_\_\_ Date/Time 3-22-11 1055





***REFERENCE  
TOXICANT  
DATA***



***Fathead Minnow  
Acute Toxicity Test  
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:	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:	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

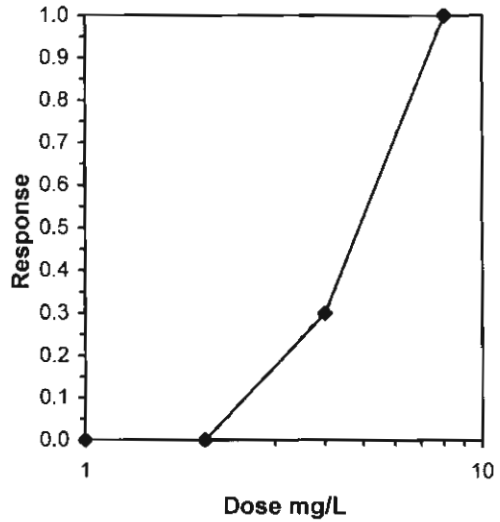
**Auxiliary Tests**

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

Statistic      Critical      Skew      Kurt

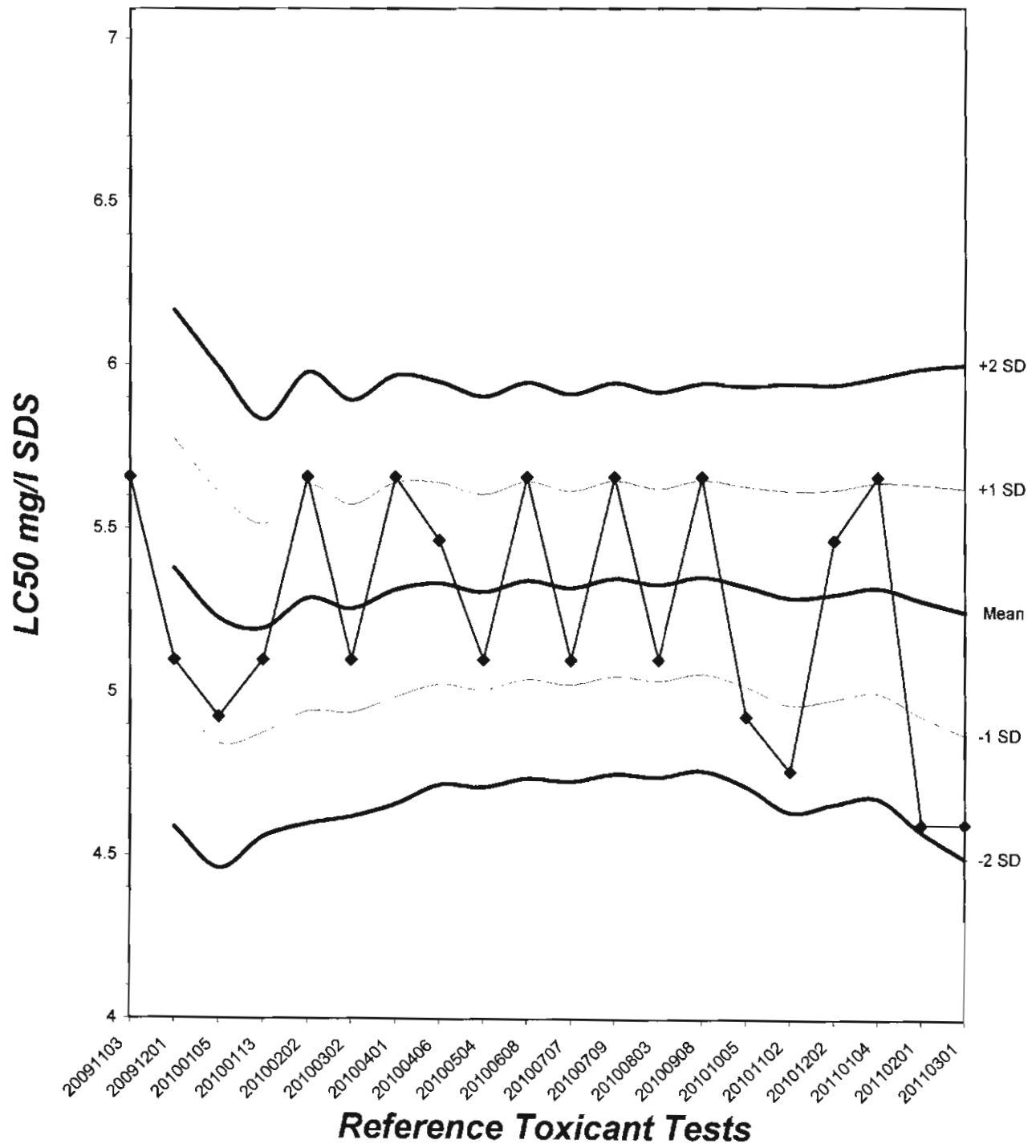
**Trimmed Spearman-Kärber**

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 NH<sub>3</sub>-N

DO: 9.1 mg/l

Alkalinity: 20 mg/l

Hardness: 92 mg/l

READINGS RECORDED BY: [Signature]

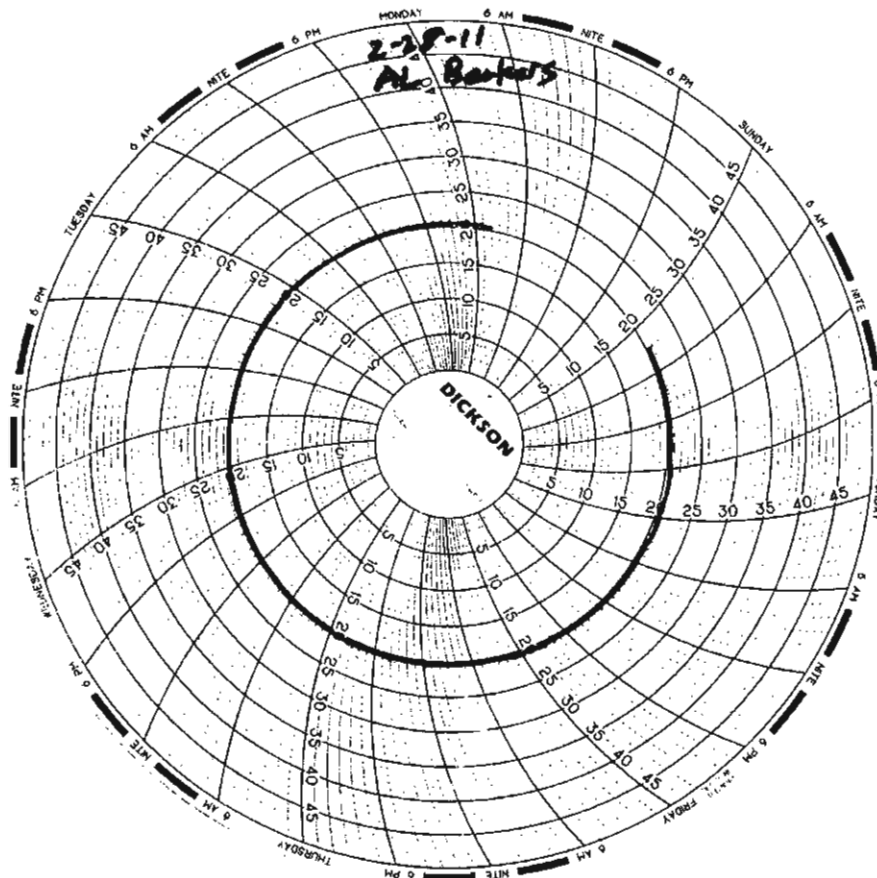
DATE: 3-2-11

# Test Temperature Chart

Test No: RT-110301

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

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





*Ceriodaphnia dubia*  
*Chronic Toxicity Test*  
*Reference*  
*Toxicant*  
*Data*

**CERIODAPHNIA CHRONIC BIOASSAY**  
**EPA METHOD 1002.0**  
**REFERENCE TOXICANT - NaCl**



QA/QC Batch No.: RT-110308

Date Tested: 03/08/11 to 03/14/11

**TEST SUMMARY**

Test type: Daily static-renewal.  
 Species: *Ceriodaphnia dubia*.  
 Age: < 24 hrs; all released within 8 hrs.  
 Test vessel size: 30 ml.  
 Number of test organisms per vessel: 1.  
 Temperature: 25 +/- 1°C.  
 Dilution water: Mod. hard reconstituted (MHRW).  
 Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.  
 Source: In-laboratory culture.  
 Food: .1 ml YTC, algae per day.  
 Test solution volume: 20 ml.  
 Number of replicates: 10.  
 Photoperiod: 16/8 hrs. light/dark cycle.  
 Test duration: 6 days.  
 Statistics: ToxCalc computer program.

**RESULTS SUMMARY**

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		22.5	
0.25 g/l	100%		23.7	
0.5 g/l	100%		22.9	
1.0 g/l	100%		12.0	*
2.0 g/l	90%		3.9	*
4.0 g/l	0%	*	0	**

\* Statistically significantly less than control at P = 0.05 level  
 \*\* Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

**CHRONIC TOXICITY**

Survival LC50	2.6 g/l
Reproduction IC25	0.70 mg/l

**QA/QC TEST ACCEPTABILITY**

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (22.5 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 12.5%)
Stat. sig. diff. conc. relative difference > 13%	Pass (Stat. sig. diff. conc. Relative difference = 46.7%)
Concentration response relationship acceptable	Pass (Response curve normal)

**Ceriodaphnia Survival and Reproduction Test-Survival Day 6**

Start Date: 3/8/2011 14:00    Test ID: RT110308c    Sample ID: REF-Ref Toxicant  
 End Date: 3/14/2011 14:00    Lab ID: CAATL-Aquatic Testing Labs    Sample Type: NACL-Sodium chloride  
 Sample Date: 3/8/2011    Protocol: FWCH EPA    Test Species: CD-Ceriodaphnia dubia  
 Comments:

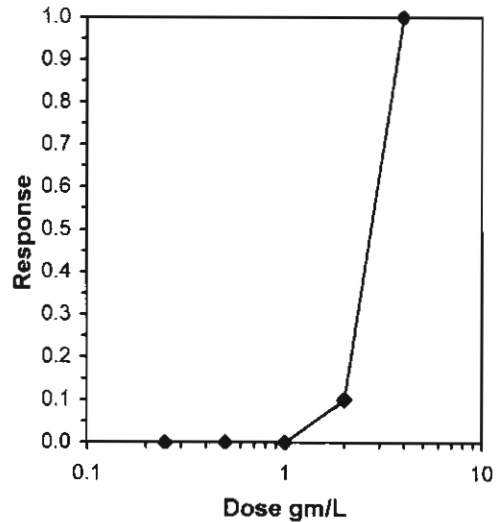
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
B-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	0.9000	0.9000	1	9	10	10	0.5000	0.0500	1	10
4	0.0000	0.0000	10	0	10	10			10	10

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	2	4	2.82843	
Treatments vs B-Control				

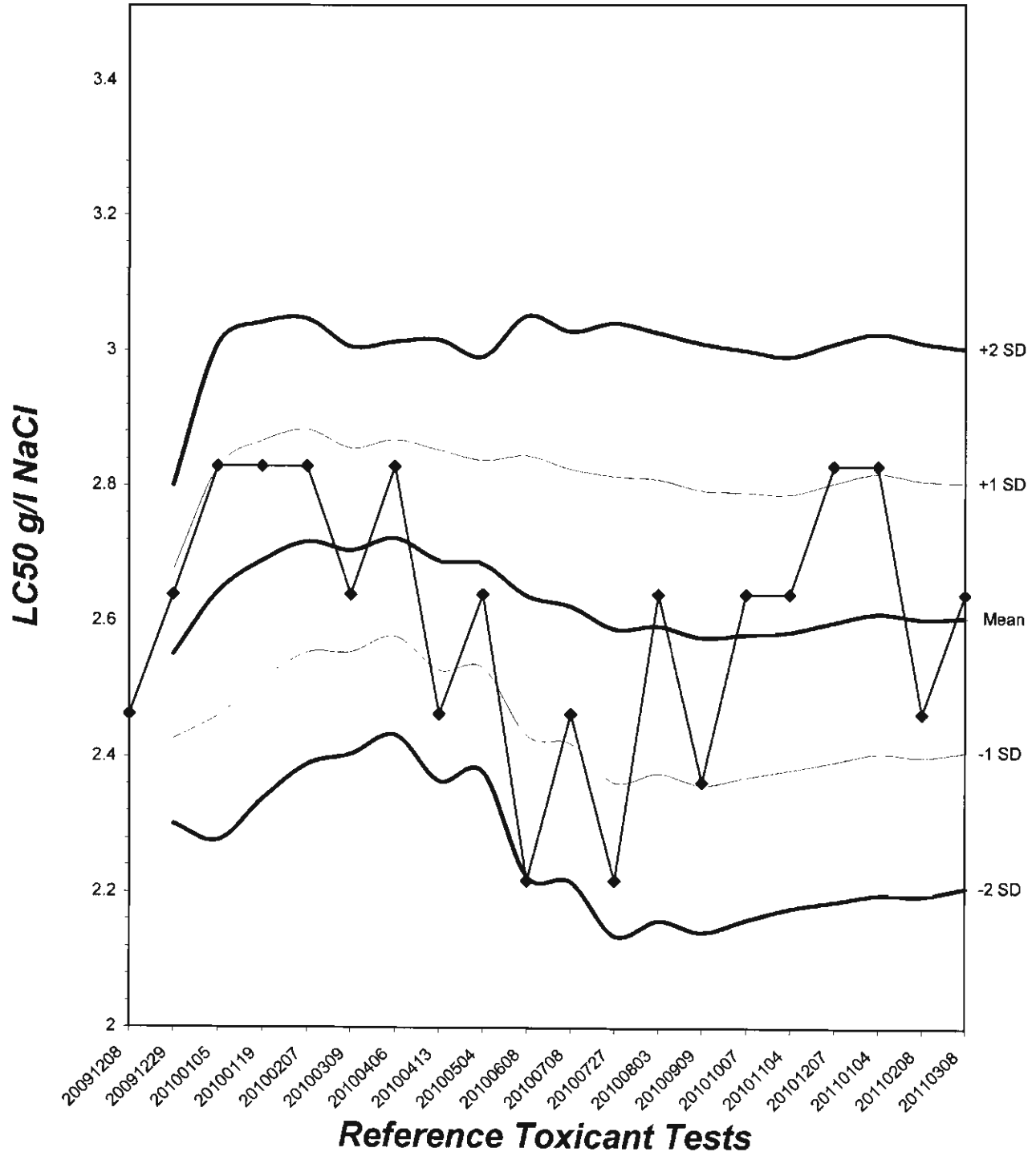
**Trimmed Spearman-Kärber**

Trim Level	EC50	95% CL	
0.0%	2.6390	2.3138	3.0099
5.0%	2.6984	2.2899	3.1798
10.0%	2.7216	2.5094	2.9517
20.0%	2.7216	2.5094	2.9517
Auto-0.0%	2.6390	2.3138	3.0099



# Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 7.62





**Ceriodaphnia Survival and Reproduction Test-Reproduction**

Start Date: 3/8/2011 14:00 Test ID: RT110308c Sample ID: REF-Ref Toxicant  
 End Date: 3/14/2011 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride  
 Sample Date: 3/8/2011 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia  
 Comments:

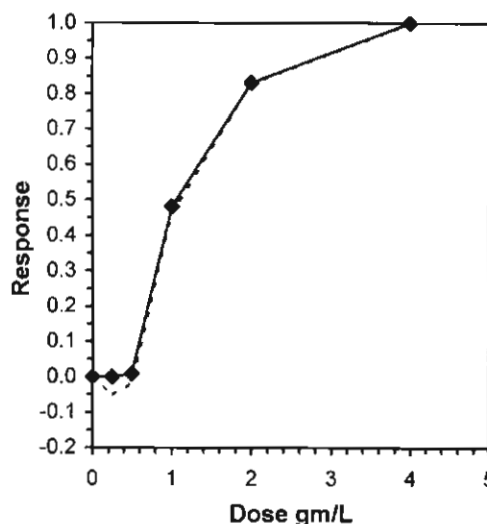
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	24.000	24.000	19.000	23.000	23.000	24.000	21.000	25.000	21.000	21.000
0.25	24.000	24.000	21.000	22.000	23.000	25.000	24.000	24.000	24.000	26.000
0.5	25.000	23.000	20.000	24.000	23.000	27.000	22.000	21.000	20.000	24.000
1	14.000	7.000	8.000	19.000	9.000	23.000	10.000	8.000	12.000	10.000
2	3.000	3.000	3.000	5.000	5.000	3.000	2.000	6.000	6.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Conc-gm/L	Mean	N-Mean	Transform: Untransformed					Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%	N			Mean	N-Mean
B-Control	22.500	1.0000	22.500	19.000	25.000	8.446	10			23.100	1.0000
0.25	23.700	1.0533	23.700	21.000	26.000	5.984	10	123.50	76.00	23.100	1.0000
0.5	22.900	1.0178	22.900	20.000	27.000	9.754	10	108.00	76.00	22.900	0.9913
*1	12.000	0.5333	12.000	7.000	23.000	43.744	10	60.50	76.00	12.000	0.5195
*2	3.900	0.1733	3.900	2.000	6.000	37.157	10	55.00	76.00	3.900	0.1688
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.90573	0.947	1.46249	4.8782
Bartlett's Test indicates unequal variances (p = 8.08E-05)	23.9758	13.2767		
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	

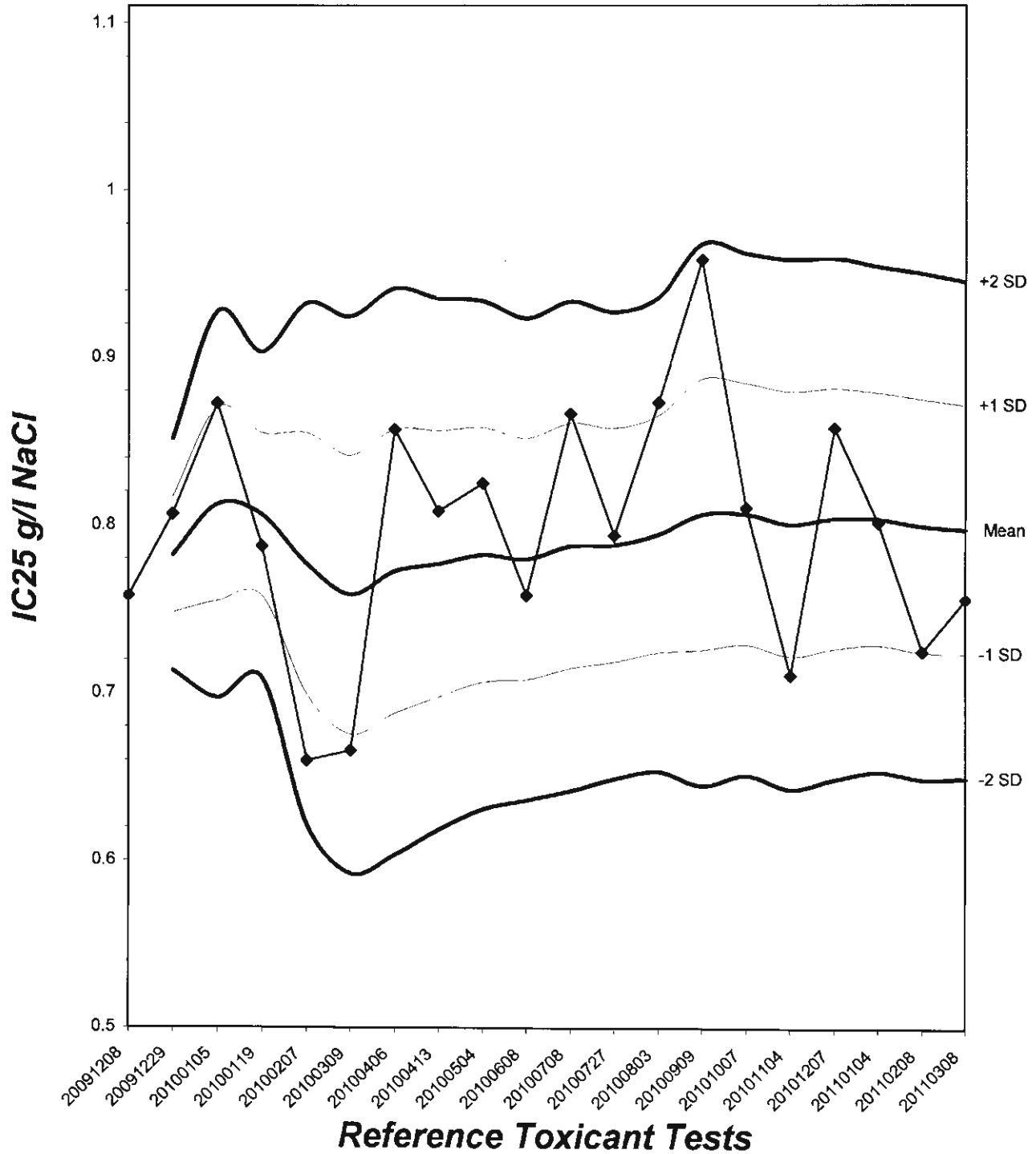
Treatments vs B-Control

Point	gm/L	SD	Linear Interpolation (200 Resamples)		
			95% CL	Skew	
IC05	0.5438	0.0300	0.4449	0.5664	-1.9652
IC10	0.5968	0.0241	0.5421	0.6337	-0.3174
IC15	0.6498	0.0276	0.5962	0.7005	0.2620
IC20	0.7028	0.0325	0.6466	0.7696	0.5751
IC25	0.7557	0.0383	0.6958	0.8374	0.7146
IC40	0.9147	0.0625	0.8295	1.0702	1.0671
IC50	1.0556	0.1119	0.9137	1.2926	0.6361



# Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 9.31



# CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

## Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-110308

Start Date: 03/08/2011

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	h
	2	0	0	0	0	0	0	0	0	0	0	0	10	h
	3	3	4	0	4	0	4	4	0	3	0	22	10	h
	4	7	0	3	0	5	8	7	4	0	3	37	10	h
	5	14	7	6	7	7	0	0	6	7	8	62	10	h
	6	0	13	10	12	11	12	10	15	11	10	104	10	h
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	24	24	19	23	23	24	21	25	21	21	225	10	h
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	10	h	
	2	0	0	0	0	0	0	0	0	0	0	10	h	
	3	4	4	0	3	0	4	5	0	3	4	27	10	h
	4	7	0	4	0	5	7	0	3	0	7	33	10	h
	5	13	6	7	7	7	0	7	6	7	15	75	10	h
	6	0	14	10	12	11	14	12	15	14	0	102	10	h
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	24	24	21	22	23	25	24	24	24	26	237	10	h
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	10	h	
	2	0	0	0	0	0	0	0	0	0	0	10	h	
	3	4	0	0	3	3	0	0	0	3	3	16	10	h
	4	7	3	4	0	0	4	5	4	0	7	34	10	h
	5	14	7	6	7	7	8	7	7	6	14	83	10	h
	6	0	13	10	14	13	15	10	10	11	0	96	10	h
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	25	23	20	24	23	27	22	24	20	24	229	10	h

Circled fourth brood not used in statistical analysis.

7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.

**CERIODAPHNIA DUBIA CHRONIC BIOASSAY**  
**Reference Toxicant - NaCl**  
**Reproduction and Survival Raw Data Sheet**



QA/QC No.: RT-110308

Start Date: 03/08/2011

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	3	0	0	4	0	3	3	0	0	0	13	10	R
	4	5	3	2	0	3	6	7	3	2	3	34	10	R
	5	6	4	0	5	6	0	0	5	4	7	37	10	R
	6	0	0	6	10	0	14	0	0	6	0	36	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	14	7	8	14	9	23	10	8	12	10	120	10	R
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	3	0	0	0	0	0	2	0	5	10	R	
	4	3	0	0	2	2	0	0	3	0	3	13	10	R
	5	0	0	3	0	0	3	0	0	4	0	10	10	R
	6	0	X	0	3	3	0	2	3	0	0	11	9	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	3	3	3	5	5	3	2	6	6	3	39	9	R
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	R	
	2	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	-	-	-	
	5	-	-	-	-	-	-	-	-	-	-	-	-	
	6	-	-	-	-	-	-	-	-	-	-	-	-	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	R

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.

# CERIODAPHNIA DUBIA CHRONIC BIOASSAY

## Reference Toxicant - NaCl Water Chemistries Raw Data Sheet



QA/QC No.: RT-110308

Start Date: 03/08/2011

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst Initials:		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		— —	
Time of Readings:		1400 1500		1300 1330		1300 1300		1300 1330		1330 1330		0800 1400		— —	
Control	DO	8.9	8.6	7.8	7.9	8.1	7.8	8.7	8.2	8.8	8.5	8.4	8.2	—	—
	pH	7.9	8.1	8.1	8.1	8.1	7.9	8.0	8.1	8.0	8.1	8.0	7.9	—	—
	Temp	25.5	25.2	25.0	25.3	25.6	25.2	25.5	24.4	25.0	24.4	24.7	24.2	—	—
0.25 g/l	DO	8.5	8.6	8.2	7.9	8.6	8.1	8.8	8.2	9.0	8.4	8.7	8.5	—	—
	pH	8.0	8.8	8.1	8.1	8.1	7.9	8.1	8.1	8.1	8.1	8.1	7.9	—	—
	Temp	25.3	25.6	25.0	25.4	25.6	24.9	25.6	24.4	25.2	24.5	24.8	24.4	—	—
0.5 g/l	DO	9.1	8.9	8.3	8.0	8.6	8.2	8.4	8.2	8.9	8.3	8.5	8.0	—	—
	pH	8.0	8.1	8.1	8.1	8.1	7.9	8.1	8.1	8.1	8.1	8.1	7.9	—	—
	Temp	25.3	25.7	24.9	25.3	25.6	25.1	25.4	24.4	25.4	24.3	25.0	24.6	—	—
1.0 g/l	DO	8.9	8.9	8.7	8.2	8.3	8.2	8.3	8.4	9.1	8.3	8.8	8.3	—	—
	pH	8.1	8.1	8.1	8.1	8.1	7.9	8.1	8.0	8.1	8.1	8.1	7.9	—	—
	Temp	25.5	25.5	24.7	25.3	25.5	25.1	25.5	24.7	25.4	24.7	24.7	24.4	—	—
2.0 g/l	DO	8.8	8.9	8.9	8.0	8.1	8.2	8.4	8.4	8.6	8.1	8.7	8.5	—	—
	pH	8.0	8.1	8.1	8.1	8.0	7.9	8.0	8.0	8.0	8.0	8.0	7.9	—	—
	Temp	25.4	25.5	24.6	25.3	25.6	25.2	25.6	24.2	25.3	24.3	24.7	24.5	—	—
4.0 g/l	DO	8.8	8.8	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.0	8.0	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	25.6	25.2	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O<sub>2</sub>; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
	Conductivity (µS)	344	352	340	8020	2820
Alkalinity (mg/l CaCO <sub>3</sub> )	64	65	66	64	65	68
Hardness (mg/l CaCO <sub>3</sub> )	92	92	92	93	92	93

### Source of Neonates

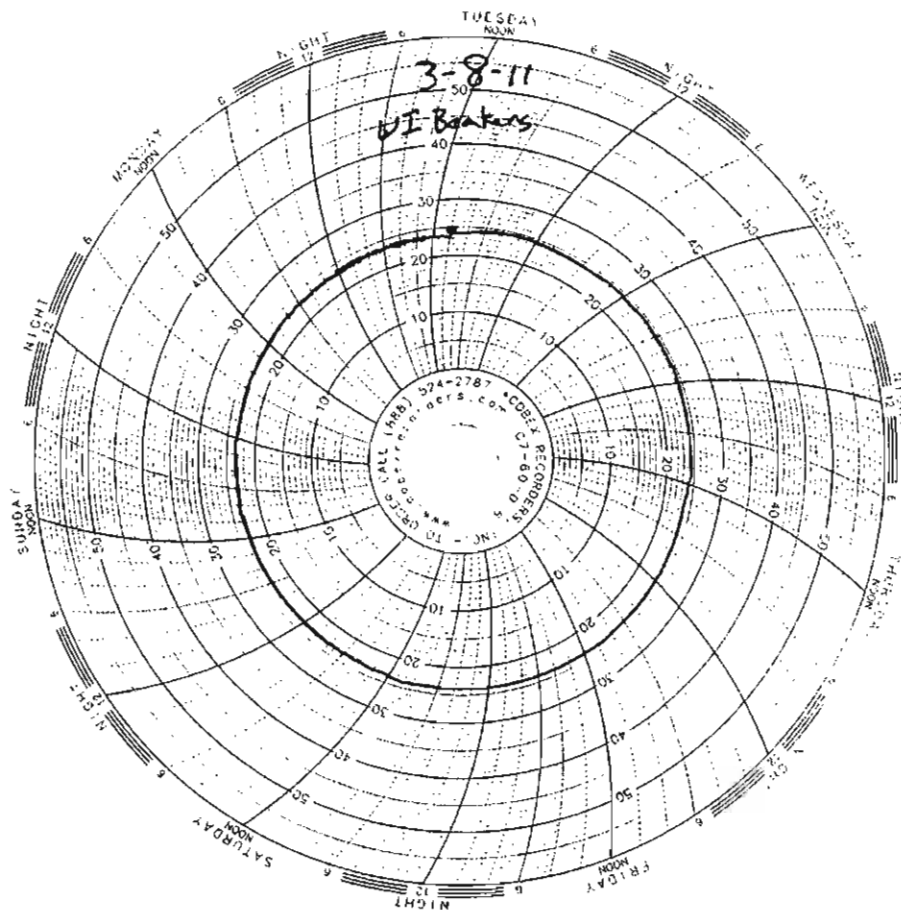
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1B	3B	3C	1D	3E	1F	3G	3H	1I	2J

# Test Temperature Chart

Test No: RT-110308

Date Tested: 03/08/11 to 03/14/11

Acceptable Range:  $25 \pm 1^{\circ}\text{C}$





# EBERLINE

SERVICES

EBERLINE ANALYTICAL CORPORATION  
2830 Wright Avenue  
Richmond, California 94804-3849  
Phone (510) 235-2633 Fax (510) 235-0438  
Toll Free (800) 841-5487  
www.eberlineservices.com

April 12, 2011

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

**Reference: Test America-Irvine IUC2187  
Eberline Analytical Report S103143-8681  
Sample Delivery Group 8681**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. IUC2187. 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/jag

Enclosure: Level IV CLP-like Data Package CD

### 1.0 General Comments

Sample delivery group 8681 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

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  $2\sigma$  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. The gamma spectroscopy planchets were counted for sufficient time to meet the required Cs-137 detection limit of 20 pCi/L. As a consequence of keying to the Cs-137 RDL, the detection limits for K-40 were not achieved for the sample.

#### 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

4/12/11  
\_\_\_\_\_  
Date

EBERLINE ANALYTICAL  
SDG 8681

SDG 8681  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUC2187

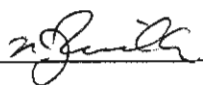
S U M M A R Y   D A T A   S E C T I O N

T A B L E   O F   C O N T E N T S				
About this section	.	.	.	1
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End of Section	.	.	.	34

Prepared by



Reviewed by



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

EBERLINE ANALYTICAL

SDG 8681

SDG 8681  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract IUC2187

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

Page 1

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

EBERLINE ANALYTICAL

SDG 8681

SDG 8681  
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.  
Contract IUC2187

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

Page 2

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

EBERLINE ANALYTICAL

SDG 8681

SDG 8681

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUC2187

LAB SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S103143-01	IUC2187-03	Boeing - SSFL	WATER			IUC2187	03/20/11 21:35
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 SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LS

Version 3.06

Report date 04/11/11

EBERLINE ANALYTICAL

SDG 8681

SDG 8681  
 Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.  
 Contract IUC2187

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
8681	IUC2187	IUC2187-03	WATER		10.0 L		03/23/11 3	S103143-01		8681-001
		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

Page 4

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

EBERLINE ANALYTICAL

SDG 8681

SDG 8681  
Contact N. Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.  
Contract IUC2187

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

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

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

**EBERLINE ANALYTICAL**

SDG 8681

SDG 8681

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUC2187

**LAB WORK SUMMARY**

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION		MATRIX		SUF-					
RECEIVED	CUSTODY	SAS no		PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD
S103143-01	IUC2187-03			8681-001	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water
03/20/11	Boeing - SSFL		WATER	8681-001	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water
03/23/11	IUC2187			8681-001	AC		04/07/11	04/08/11	MWT	Radium-228 in Water
				8681-001	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water
				8681-001	H		03/30/11	04/04/11	BW	Tritium in Water
				8681-001	RA		04/05/11	04/06/11	BW	Radium-226 in Water
				8681-001	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water
				8681-001	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

Page 1

SUMMARY DATA SECTION

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LWS

Version 3.06

Report date 04/11/11



EBERLINE ANALYTICAL

SDG 8681

WORK SUMMARY, cont.

SDG 8681  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUC2187

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

SUMMARY DATA SECTION

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

EBERLINE ANALYTICAL  
SDG 8681

8681-003

Method Blank

METHOD BLANK

SDG <u>8681</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2187</u>
Lab sample id <u>S103143-03</u> Dept sample id <u>8681-003</u>	Client sample id <u>Method Blank</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

EBERLINE ANALYTICAL

SDG 8681

8681-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8681</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUC2187</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 LMTS (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>04/11/11</u>

EBERLINE ANALYTICAL

SDG 8681

8681-004

IUC2187-03

DUPLICATE

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

EBERLINE ANALYTICAL

SDG 8681

8681-001

IUC2187-03

DATA SHEET

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

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	2.26	0.46	0.276	3.00	J	80A
Gross Beta	12587472	6.22	0.70	0.866	4.00		80B
Tritium	10028178	-77.2	96	167	500	U	H
Radium-226	13982633	0.350	0.34	0.544	1.00	U	RA
Radium-228	15262201	0.229	0.32	0.420	1.00	U	AC
Strontium-90	10098972	-0.018	0.26	0.625	2.00	U	SR
Uranium, Total		0.321	0.18	0.020	1.00	J	U_T
Potassium-40	13966002	U		<u>58.4</u>	25.0	U	GAM
Cesium-137	10045973	U		3.25	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>04/11/11</u>

**EBERLINE ANALYTICAL**

SDG 8681

**LAB METHOD SUMMARY**

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER  
 SDG 8681  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUC2187

**RESULTS**

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

Preparation batch 7281-071

S103143-01		8681-001	IUC2187-03	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

S103143-01		IUC2187-03	0.420	1.80			89	150		18	04/07/11	04/07	GRB-229
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 0.422 ± 0.029  
 FOR 4 SAMPLES      YIELD 86 ± 9

METHOD SUMMARIES

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

**EBERLINE ANALYTICAL**

SDG 8681

**LAB METHOD SUMMARY**

STRONTIUM-90 IN WATER  
BETA COUNTING

Test SR Matrix WATER  
SDG 8681  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUC2187

**RESULTS**

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

Preparation batch 7281-071

S103143-01		8681-001	IUC2187-03	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

S103143-01		IUC2187-03	0.625	0.500			86	50	12	04/01/11	04/01	GRB-228
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 0.596 ± 0.207  
FOR 4 SAMPLES YIELD 87 ± 10

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

**EBERLINE ANALYTICAL**

SDG 8681

**LAB METHOD SUMMARY**

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER

SDG 8681

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUC2187

**RESULTS**

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
Preparation batch 7281-071				
S103143-01	80	8681-001	IUC2187-03	2.26 J
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															
S103143-01	80	IUC2187-03	0.276	0.300			27	400				11	03/31/11	03/31	GRB-101
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 0.942 ± 1.46  
 FOR 4 SAMPLES      RESIDUE 43 ± 39

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Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LMS

Version 3.06

Report date 04/11/11



**EBERLINE ANALYTICAL**

SDG 8681

**LAB METHOD SUMMARY**

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER  
 SDG 8681  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUC2187

**RESULTS**

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

Preparation batch 7281-071				
S103143-01	80	8681-001	IUC2187-03	6.22
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													
S103143-01	80	IUC2187-03	0.866	0.300			27		400			11	03/31/11	03/31	GRB-101
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 1.79 ± 2.24  
 FOR 4 SAMPLES      RESIDUE 43 ± 39

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

EBERLINE ANALYTICAL

SDG 8681

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER  
GAMMA SPECTROSCOPY

Test GAM Matrix WATER  
SDG 8681  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUC2187

RESULTS

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

Preparation batch 7281-071

S103143-01		8681-001	IUC2187-03		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

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 PAC TION % % min keV KeV HELD PREPARED YZED DETECTOR

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

S103143-01		IUC2187-03		2.00					401		11	03/24/11	03/31	MB,05,00
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

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 04/11/11

**EBERLINE ANALYTICAL**

SDG 8681

**LAB METHOD SUMMARY**

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER  
 SDG 8681  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUC2187

**RESULTS**

LAB	RAW	SUF-		Uranium,	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7281-071					
S103143-01			8681-001	IUC2187-03	0.321 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											
S103143-01			IUC2187-03	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  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 04/11/11

**EBERLINE ANALYTICAL**

SDG 8681

**LAB METHOD SUMMARY**

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER  
 SDG 8681  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUC2187

**RESULTS**

LAB	RAW	SUF-		
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID
				Tritium
Preparation batch 7281-071				
S103143-01			8681-001	IUC2187-03 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) 500

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EPF	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 10.0 % Reference Lab Notebook No. 7281 pg. 71															
S103143-01			IUC2187-03	167	0.0100			100	150		10	03/30/11	03/30	LSC-004	
S103143-02			Lab Control Sample	166	0.100			10	150			03/30/11	03/30	LSC-004	
S103143-03			Method Blank	163	0.100			10	150			03/30/11	03/30	LSC-004	
S103143-04			Duplicate (S103143-01)	168	0.0100			100	150		10	03/30/11	03/30	LSC-004	

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 166 ± 4.32  
 FOR 4 SAMPLES YIELD 55 ± 104

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 Form DVD-LMS  
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EBERLINE ANALYTICAL

SDG 8681

LAB METHOD SUMMARY

RADIUM-226 IN WATER  
RADON COUNTING

Test RA Matrix WATER  
SDG 8681  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUC2187

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226
Preparation batch 7281-071				
S103143-01		8681-001	IUC2187-03	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															
S103143-01		IUC2187-03	0.544	0.100			100		90			16	04/05/11	04/05	RN-012
S103143-02		Lab Control Sample	0.859	0.100			100		90				04/05/11	04/05	RN-009
S103143-03		Method Blank	0.800	0.100			100		90				04/05/11	04/05	RN-010
S103143-04		Duplicate (S103143-01)	0.711	0.100			100		90			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 0.728 ± 0.274  
FOR 4 SAMPLES YIELD 100 ± 0

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

EBERLINE ANALYTICAL

SDG 8681

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Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
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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 8681

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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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REPORT GUIDE

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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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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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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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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.

EBERLINE ANALYTICAL

SDG 8681

SDG 8681  
 Contact N. Joseph Verville

REPORT GUIDE

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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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GUIDE, cont.

Client Test America, Inc.  
 Contract IUC2187

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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SUMMARY DATA SECTION

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

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REPORT GUIDE

Client Test America, Inc.  
 Contract IUC2187

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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GUIDE, cont.

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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.

REPORT GUIDES

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SUMMARY DATA SECTION

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



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REPORT GUIDE

Client Test America, Inc.  
Contract IUC2187

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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Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.  
Contract IUC2187

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

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
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EBERLINE ANALYTICAL

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Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.  
Contract IUC2187

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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GUIDE, cont.

Client Test America, Inc.  
Contract IUC2187

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

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

# Subcontract Order - TestAmerica Irvine (IUC2187)

8681

**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: IUC2187-03 (Outfall 011 (Composite) - Water)

Sampled: 03/20/11 21:35

Gamma Spec-O	pCi/L	03/19/12 21:35	Out eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	09/16/11 21:35	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	09/16/11 21:35	Out eberline, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	04/17/11 21:35	
Radium, Combined-O	pCi/L	03/19/12 21:35	Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/19/12 21:35	Out eberline Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/19/12 21:35	Out eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/19/12 21:35	Out eberline, Boeing permit, DO NOT FILTER!

*Containers Supplied:*

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

  
 Released By \_\_\_\_\_ Date/Time 3/22/11 17:00

Released By FED EX \_\_\_\_\_  
 Date/Time \_\_\_\_\_

FedEx  
 Received By \_\_\_\_\_ Date/Time 3/22/11 17:00

Received By MW \_\_\_\_\_  
 Date/Time 03/23/11 09:30



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA  
 Date/Time received 09/23/11 0930 CoC No. 03 UC2187  
 Container I.D. No. [see CoC] 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 2.5 Preservative HNO3
13. Describe any anomalies: \_\_\_\_\_

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date \_\_\_\_\_  
 15. Inspected by [Signature] Date: 09/23/11 Time: 1030

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
UC2187	260						

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: 994230**

**Hydrazines by EPA 8315M**

**Project Name: IUC2187-03 (Outfall 011 (Composite) - Water)**  
**Project Number: IUC2187-03 (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

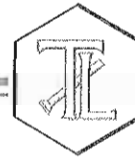
### TLI Laboratory Level IV Data Package

Laboratory Number: 994230

Project Name: IUC2187-03 (Outfall 011 (Composite) - Water)

<u>ITEM</u>	<u>SECTION</u>
<b>REPORTS</b>	1.0
<b>Samples Cross Reference</b>	
<b>Case Narrative</b>	
<b>Results Summary</b>	
Sample Analytical Results	
QA/QC reports	
Qualifier Codes and Definitions	
<b>SAMPLE CHECK-IN RECORDS</b>	2.0
Chain of Custody	
Sample Integrity and Analysis Discrepancy Form	
Internal Chain of Custody	
<b>DATA PACKAGE</b>	3.0
QC Batch 709338	





## **Section 1.0**

# **REPORTS**

**Samples Cross Reference**

**Case Narrative**

**Results Summary**

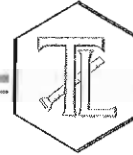
**Sample Analytical Results**

**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:** IUC2187-03 (Outfall 011 (Composite) - Water)  
**Project Number:** IUC2187-03 (Outfall 011 (Composite) - Water)

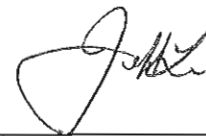
**Date Received:** 3/22/2011  
**Truesdail Project:** 994230

## 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>
994230-01	IUC2187-03 (Outfall 011 (Composite) - Water)	Water	03/20/11	21:35	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.

EXCELLENCE IN INDEPENDENT TESTING



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14201 FRANKLIN AVENUE  
TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 · FAX (714) 730-6462  
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March 31, 2011

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

**Project Name:** IUC2187-03 (Outfall 011 (Composite) - Water)      **Date Received:** 03/22/11  
**Project Number:** IUC2187-03 (Outfall 011 (Composite) - Water)      **Truesdail Project:** 994230

## 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 994230-1 as the method requirement per batch of 20 samples.

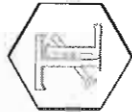
All quality assurance requirements set forth by the method specification and all quality control recoveries were within the laboratory acceptance limits. No anomalies or nonconformance events occurred during the course of analysis.

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

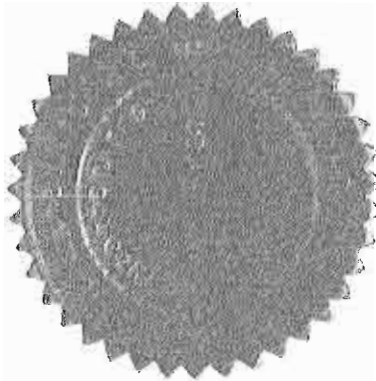
**Attention:** Debby Wilson  
**Sample:** Water / 1 Sample  
**Project Name:** IUC2187  
**Project Number:** IUC2187  
**Method Number:** EPA 8315 (Modified)  
**Investigation:** Hydrazines

**REPORT**

**Laboratory No:** 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  
**Units:** µg/L  
**Reported By:** JS

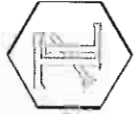
**Analytical Results**

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
994230	IUC2187-03	100	1	ND	ND	ND	None
MDL				1.77	1.13	0.439	
PQL				5.0	5.0	1.00	
<b>Sample Reporting Limits</b>				5.0	5.0	1.00	



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

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



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

**QC Lab. No.:** 709338  
**Project Lab. No.:** 994230  
**Spiked Sample ID:** 994230

**Client Contact:** Debby Wilson  
**Sample:** Water / 1 Sample  
**Project Number:** IUC2187  
**Method Number:** EPA 8315 (Modified)  
**Investigation:** Hydrazines  
**Run Batch No.:** Extraction: 5494; Analysis: 699

**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	Percent Recovery (%)	LCS	LCSD	RPD	Flag	Control Limits			
									%D	% Rec.	
Monomethyl Hydrazine	50.0	49.9	99.8	0.0	48.7	0.0	97.3	2.55%	PASS	20	50-150
u-Dimethyl Hydrazine	50.0	50.7	101	0.0	50.8	0.0	102	0.28%	PASS	20	50-150
Hydrazine	10.0	10.1	101	0.0	9.77	0.0	97.7	2.86%	PASS	20	50-150

### MS/MSD

Parameter	Recovered Concentration	Percent Recovery (%)	MSD	RPD	Flag	Control Limits			
							MS	MSD	%D
Monomethyl Hydrazine	34.3	38.7	0.00	68.6	77.5	12.2%	PASS	20	50-150
u-Dimethyl Hydrazine	41.8	45.4	0.00	83.6	90.8	8.30%	PASS	20	50-150
Hydrazine	8.34	9.27	0.00	83.4	92.7	10.5%	PASS	20	50-150

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

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



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

**Attention:** Debby Wilson

**Project Name:** IUC2187-03 (Outfall 011 (Composite) - Water)

**Method Number:** 8315 (Modified)

**Investigation:** Hydrazines

**Laboratory No:** 994230

**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>
MIDL	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 (IUC2187)

994 230

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:

Truesdail Laboratories  
 14201 Franklin Avenue  
 Tustin, CA 92680  
 Phone: (714) 730-6239  
 Fax: (714) 730-6462  
 Project Location: California  
 Receipt Temperature: \_\_\_\_\_ °C


Rec'd 03/22/11  
 s5d 994230

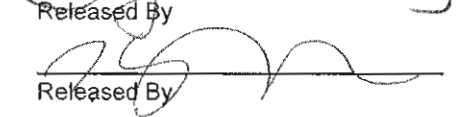
Ice: Y / N

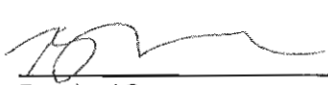
Standard TAT is requested unless specific due date is requested. => Due Date: \_\_\_\_\_ Initials: \_\_\_\_\_

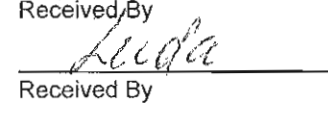
Analysis	Units	Expires	Comments
Sample ID: IUC2187-03 (Outfall 011 (Composite) - Water)      Sampled: 03/20/11 21:35			
Hydrazine-OUT	ug/l	03/23/11 21:35	Sub Truesdail for Monomethylhydrazine, J flags
<i>Containers Supplied:</i>			
1 L Amber (AA)	1 L Amber (Z)		

**For Sample Conditions  
 See Form Attached**

  
 Released By \_\_\_\_\_  
 Date/Time 3.22.11 7:55

  
 Released By \_\_\_\_\_  
 Date/Time 3.22.11 8:15

  
 Received By \_\_\_\_\_  
 Date/Time 3.22.11 7:55

  
 Received By \_\_\_\_\_  
 Date/Time 3/22/11 8:15





# Sample Integrity & Analysis Discrepancy Form

Client: Test America

Lab # 994230

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 709338**

**Pages: 001-062**

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

Truesdell 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  
 Infr. 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 <sup>2</sup>	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

Formulas:

CCV - Continuous Calibration Verification

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

RT - Retention Time

$$Response Factor = Concentration / Response$$

%D - Percent Difference

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

Laboratory No.: 994230  
 QC Report No: 709338  
 Client: Test America - Irvine  
 Extrt. 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 # 83157M

BATCH # 5494

Matrix (DW, WW, S, or other)\*: Lienv

Start Date: 3-22-11

HYDRAZINES.

Finish Date: 3-23-11

LAB. ID.#	CLIENT	INIT. VOL/WEIGHT	FINAL VOL.	SURROG.(V)	LCS/MS (V)
709338-MB	METHRO BLANK	100ml	5ml	MA	
709338-ST01	QC-CAL.				5ul 1st
2					10
3					25
4					50
5					100
709338-LCS	QC				Soulans
-LCS11					
994230	TEST AMERICA - FERRIS	100ml	5ml	MA	
994231					
994230 MS					Soulans
MSD					
709338-QES	QC	100ml	5ml	MA	Soulans
3-22-11 JS					

EXTRACTION SOLVENTS.

CHECK WHAT APPLIES AND INDICATE MANUFACTURER/LOT ID.

MeCl<sub>2</sub> Manuf./Lot ID.: 49296

Acetone Manuf./Lot ID.:

Ethyl Acetate Manuf./Lot ID.:

Hexane Manuf./Lot ID.:

Ether Manuf./Lot ID.:

Other ACN  
09602

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

1<sup>ST</sup> SOURCE ALDRICH: W011032201 @ 100 ug/ml EXP. 3-29-11  
20

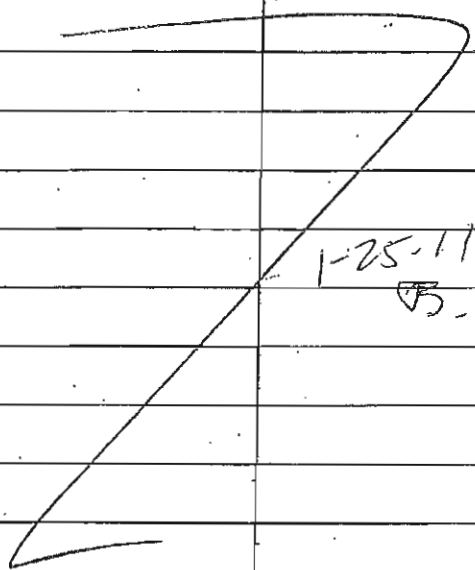
2<sup>ND</sup> SOURCE CHEM SERVICE W011032202 @ 100 ug/ml EXP. 3-29-11  
20

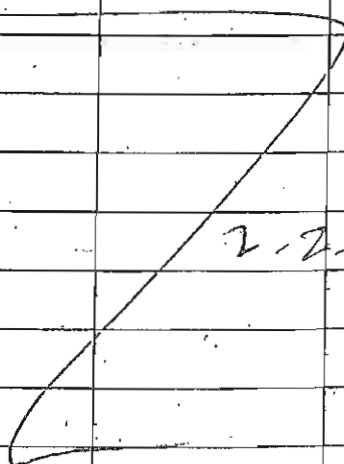
\*DW=Drinking Water; WW=Waste Water; S=Solid/Soil

EXTRACTION CHEMIST (PRINT NAME):

JEFFS.

ORGANIC STANDARD PREPARATION LOGBOOK

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
E011012501	b25 Surrogate	—	—	—	—	—
DATE PREP.:	B/W	0031950	5000 <sup>ug</sup> /ml	1ml	50ml	100 <sup>ug</sup> /ml
1-25-11	AcNO	0031949	7500 <sup>ug</sup> /ml	↓	↓	150 <sup>ug</sup> /ml
ANALYST:						
JS.						
EXP. DATE:						
7-25-11						
SOLVENT:						
NaOH	1-25-11	JS.				
SOLV. LOT ID:						
PESTERK						

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
S011020201	Hydrazines <sup>150</sup>	—	—	—	—	—
DATE PREP.:	MMH	0031151	0.866 <sup>ug</sup> /ml	46.2ul	8ml	5000 <sup>ug</sup> /ml
2-2-11	GDMMH	0031152	0.791 <sup>ug</sup> /ml	50.6ul	↓	5000 ↓
ANALYST:	HYDRAZINE	0031150	1.021 <sup>ug</sup> /ml	7.84ul	↓	1000 ↓
JS.						
EXP. DATE:						
4-2-11						
SOLVENT:						
H <sub>2</sub> O						
SOLV. LOT ID:	NA					
1st Source						
ANDREA						



ORGANIC STANDARD PREPARATION LOGBOOK

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
S011020202	Hydrazines <sup>2nd</sup>	—	—	—	—	—
DATE PREP.: 2-2-11	MMH	0031158	0.866 g/ml	46.2 ul	9ml	5000 <sup>5</sup> g/ml
ANALYST: J.S.	MMH	0031157	0.791 g/ml	80.6 ul	↓	5000 ↓
EXP. DATE: 4-2-11	Hydrazine	0031156	1.019 g/ml	7.84 ul	↓	1000 ↓
SOLVENT: H <sub>2</sub> O	2-2-11 JS					
SOLV. LOT ID: NA						
2 <sup>nd</sup> Sample						
Offensive						

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
W011020203	Hydrazines STD.	S011020201	5000 <sup>4</sup> g/ml 5000 1000	200ul	10ml	1000 <sup>4</sup> g/ml 1000 50
DATE PREP.: 2-2-11	2-2-11 JS					
ANALYST: JS.						
EXP. DATE: 2-9-11						
SOLVENT: H <sub>2</sub> O						
SOLV. LOT ID: NA						
1 <sup>st</sup> Sample ADZCH						

ORGANIC STANDARD PREPARATION LOGBOOK

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

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

Truesdail Laboratories, Inc.

Shimadzu HPLC #1  
DAILY SAMPLE LOG

Date Analyzed: 3-23-11

Start Time: \_\_\_\_\_

8315 M

Stop Time: \_\_\_\_\_

HYDRAZINES LIQUID

Inst. Batch No.: 699

Sample ID	Dil. Factor	Method No.	Notes (see below)*
MP Blank 1	1	MR112301	INST. BLANK
709338-STD1		2	WBH220 <sup>3-23-11</sup> W011032201 @ 5 PPB
2		3	10
3		4	25
4		5	50
5		6	100
ELU @ 25 PPB		7	STD. #3 @ 25 PPB
709338-LCS		8	W011032202 @ 50 PPB
-LCS0		9	↓
-MB		10	Method Blank
994230		11	IUC2187-03
994231		12	IUC2181-03
994230 MS		13	IUC2187-03ms @ 50 PPB
↓ MS0		14	↓ MS0 ↓
709338-LCS		15	QCS <sup>2nd</sup> SOURCE @ 50 PPB
MP Blank 2		16	INST. BLANK
3-23-11			
(S)			

Daily Instrument Maintenance Log

1<sup>st</sup> SOURCE ALDRICH W011032201 @ 100 uyl/ml EXP. 3-29-11  
 2<sup>nd</sup> SOURCE CHEM SERVICE W011032202 @ 100 uyl/ml EXP. 3-29-11

Analyst (Print Name): JEFFS

\*Enter what applies: Client, Standard ID., Quality Control (LCS/MS)

# 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

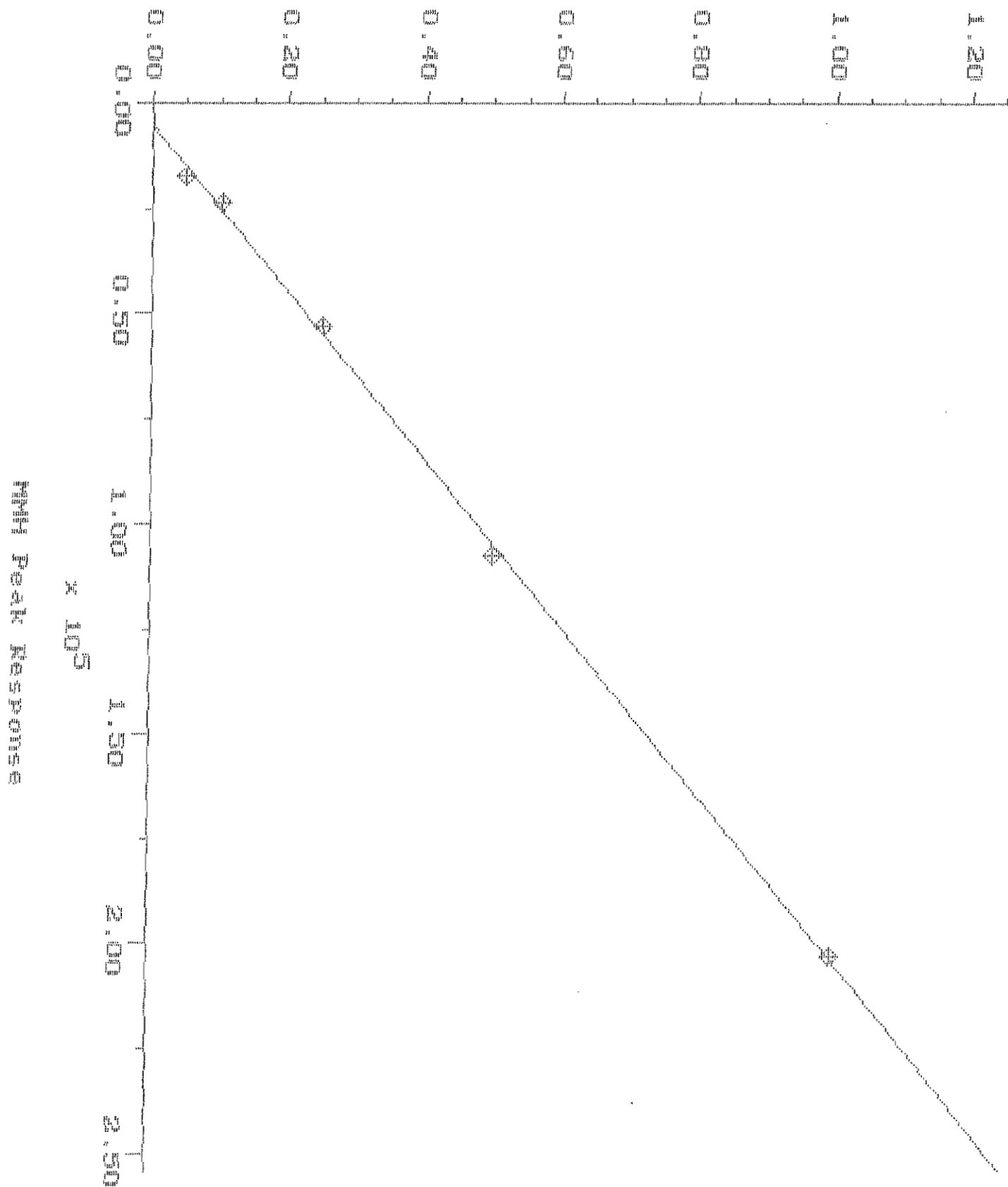
#	Name	Type	Source	File Name	Index	Inj. Volume	Amount	Dilution
1	MP BLANK 1	UNKN	DISK	MR112301	1			
2	709338-Std 1	STND	DISK	MR112302	2			
3	709338-Std 2	STND	DISK	MR112303	3			
4	709338-Std 3	STND	DISK	MR112304	4			
5	709338-Std 4	STND	DISK	MR112305	5			
6	709338-Std 5	STND	DISK	MR112306	6			
7	ICV @ 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
ODMH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
*ODMH	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

Concentration

$\times 10^2$



# MMH Calibration Report

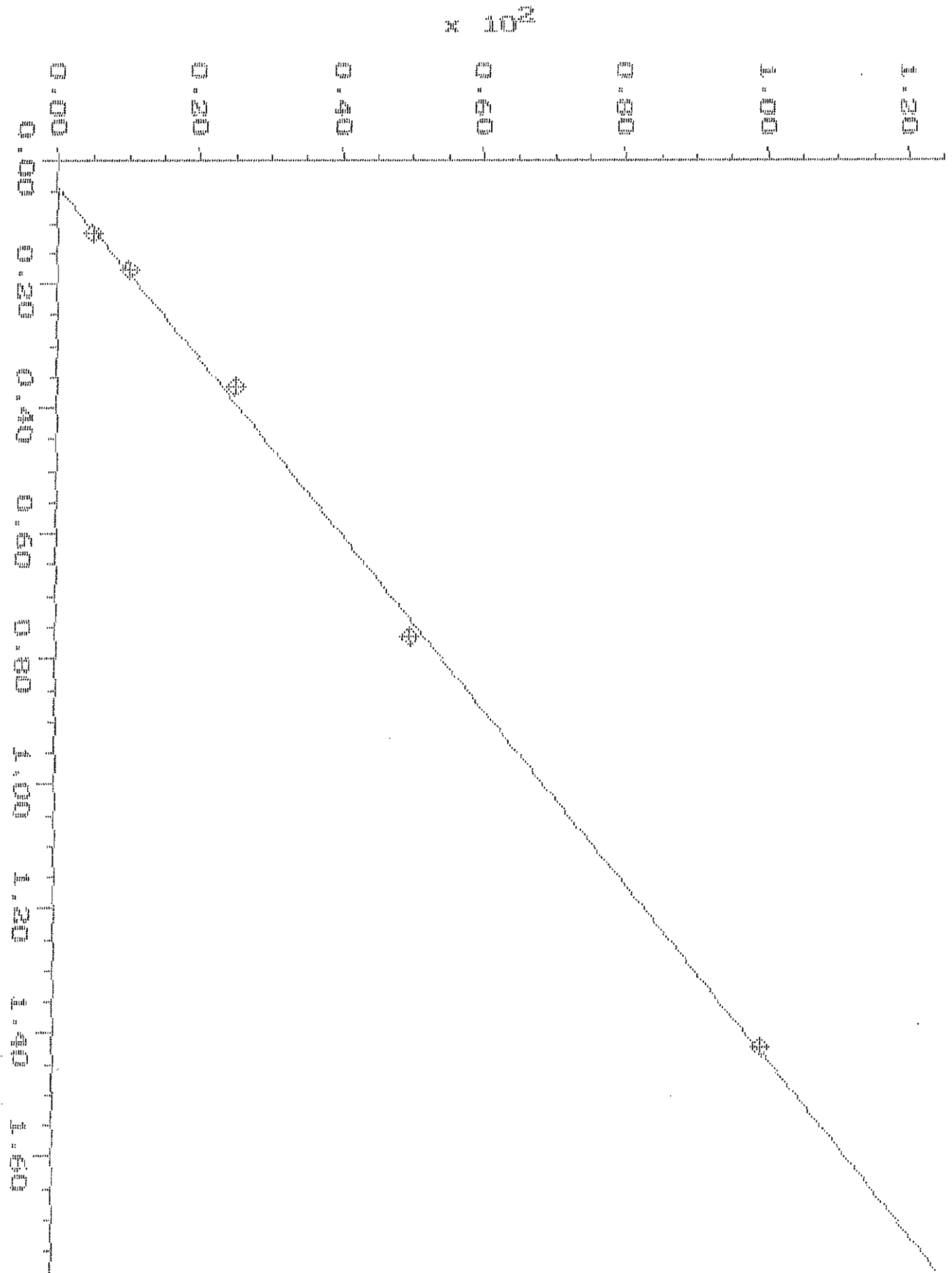
Printed: 23-MAR-2011 16:08:12

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 (r<sup>2</sup>): 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

COI x





# UDMH Calibration Report

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

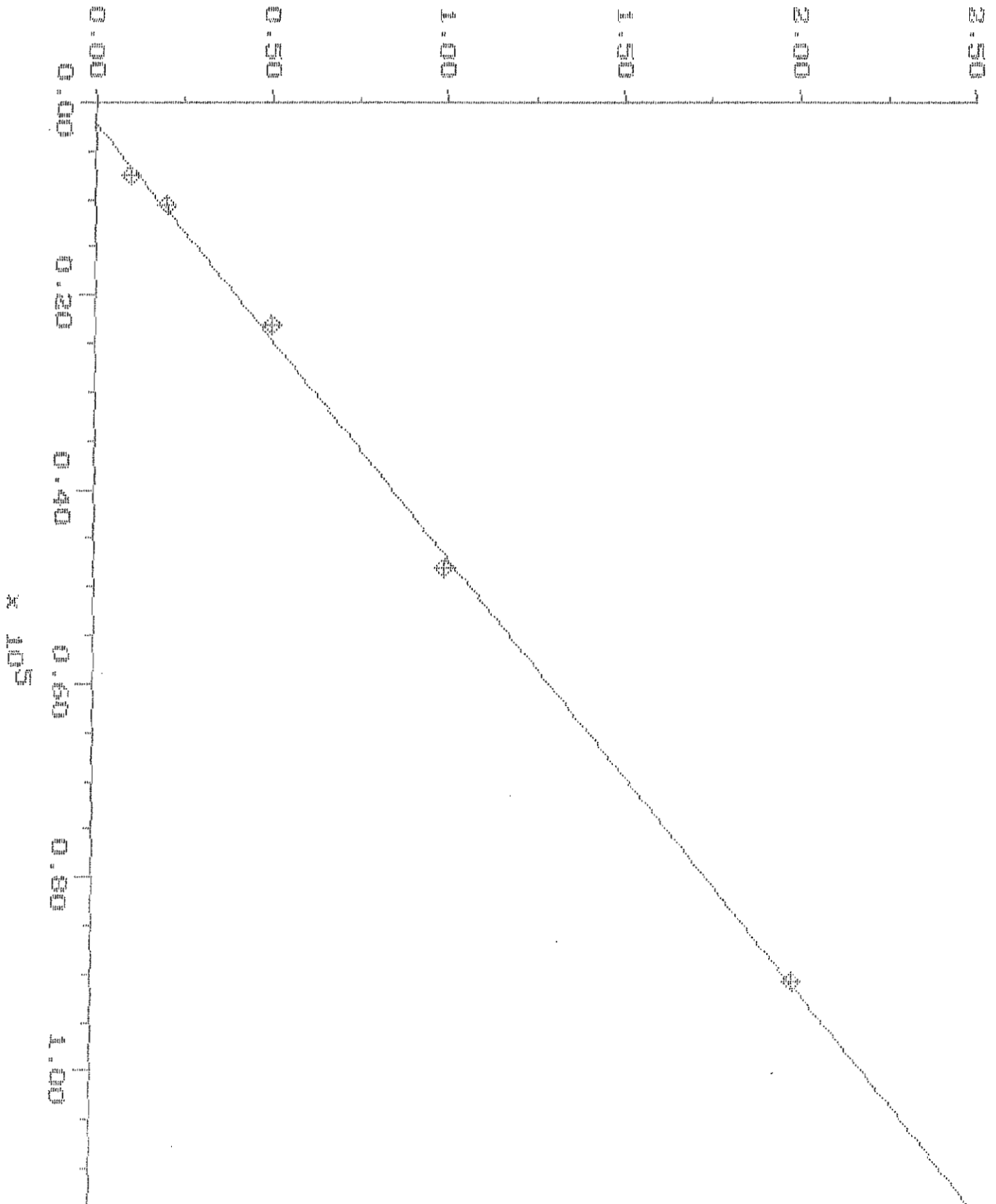
Quant Basis: Area                      Rejection Tolerance: None                      Internal Standard: None  
 Curve Type: Linear                      Weighting: None                      Forced Through Origin: No  
 Y-axis Label: Concentration  
 Corr. Coef. (r): 0.9993441              Coef. of Determination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

Equation: Conc = -2.928306E+00 + 7.167084E-04 \* 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	1.1800112E+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

$\times 10^1$



Hyperfine Split Resonance

# 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 (r<sup>2</sup>): 0.9989533

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

<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: MR112301  
 Index: 1

DETECTOR: UV #1 365

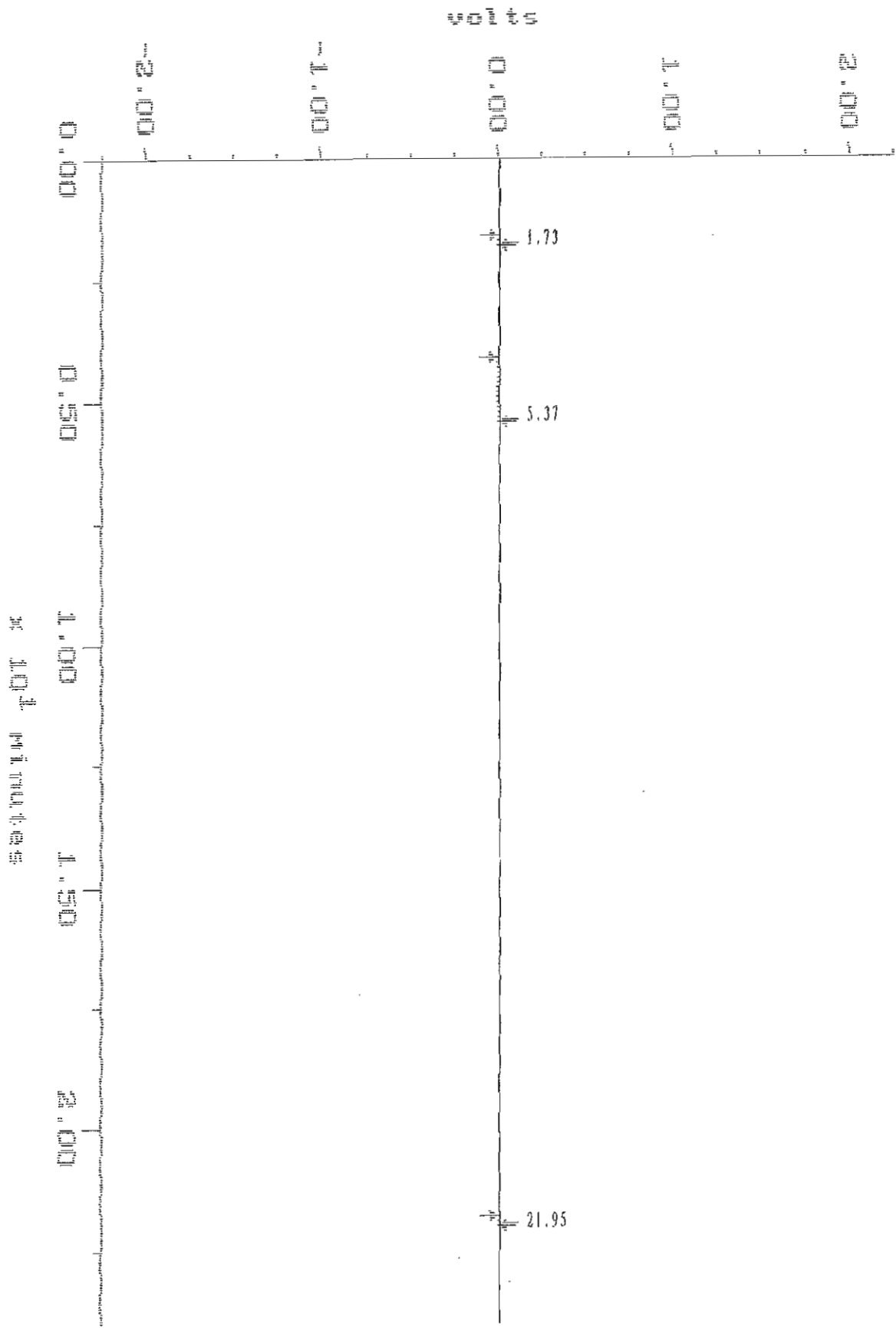
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
---	---	-----	-----	-----	-----
1			1.733	915	
2			5.367	651	
3			21.950	720	
TOTAL				2286	0.0000

DETECTOR: \*UV #2 322

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

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

Filename: MR112301  
Operator: JS



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

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

Filename: MR112301  
Operator: JS

0.000

0.00

1.00

0.00

1.00

2.00

3.10 minutes

0.00

0.50

1.00

1.50

2.00

BASELINE 810 CUSTOM REPORT

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

SAMPLE: 709338-Std 1  
 #2 in Method: EPA8315M,ODS COL,SHIMADZU 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	MWH	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

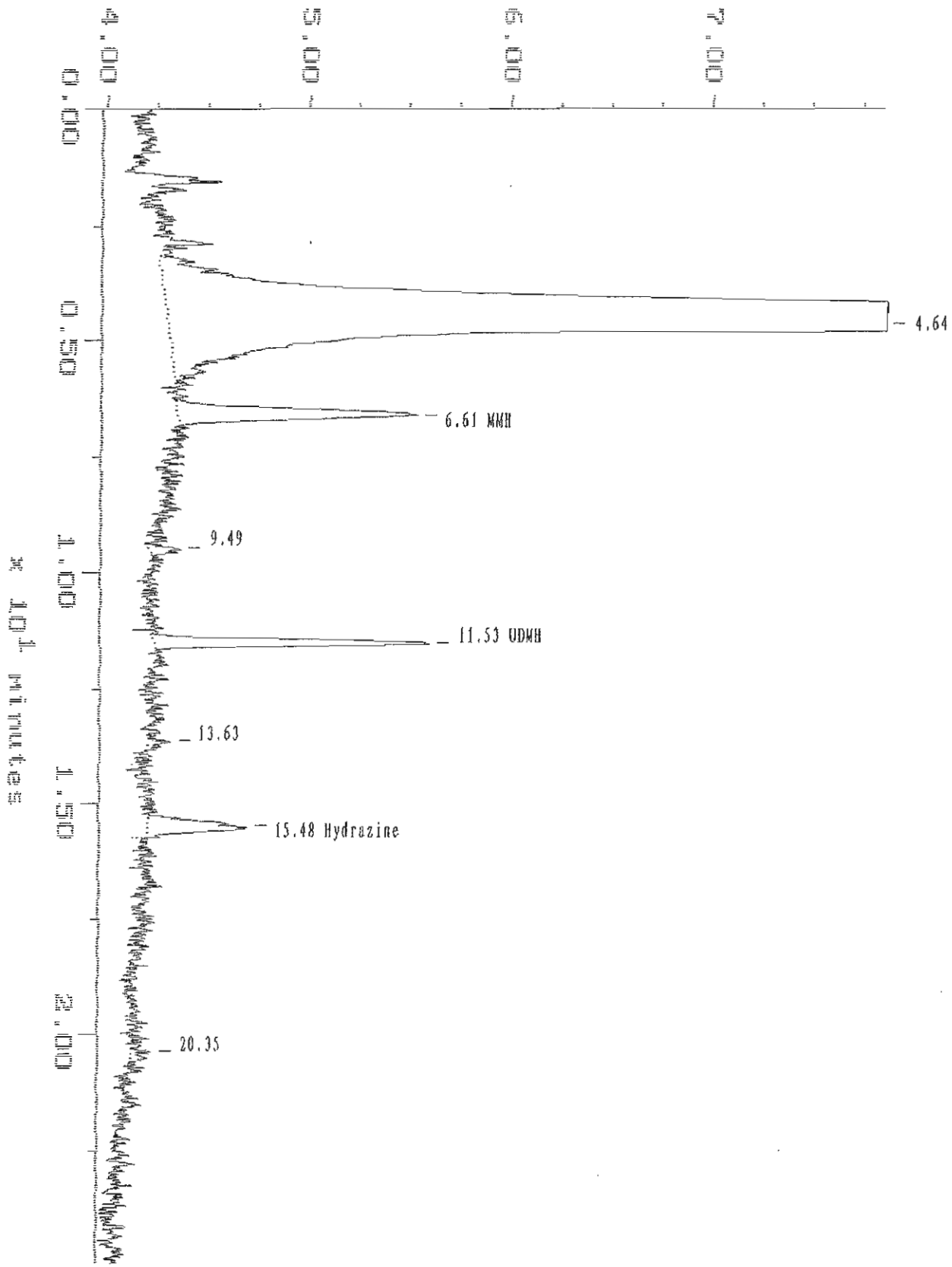
DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.700	3984855	
2	2	*MWH	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

$\times 10^{-3}$  volts

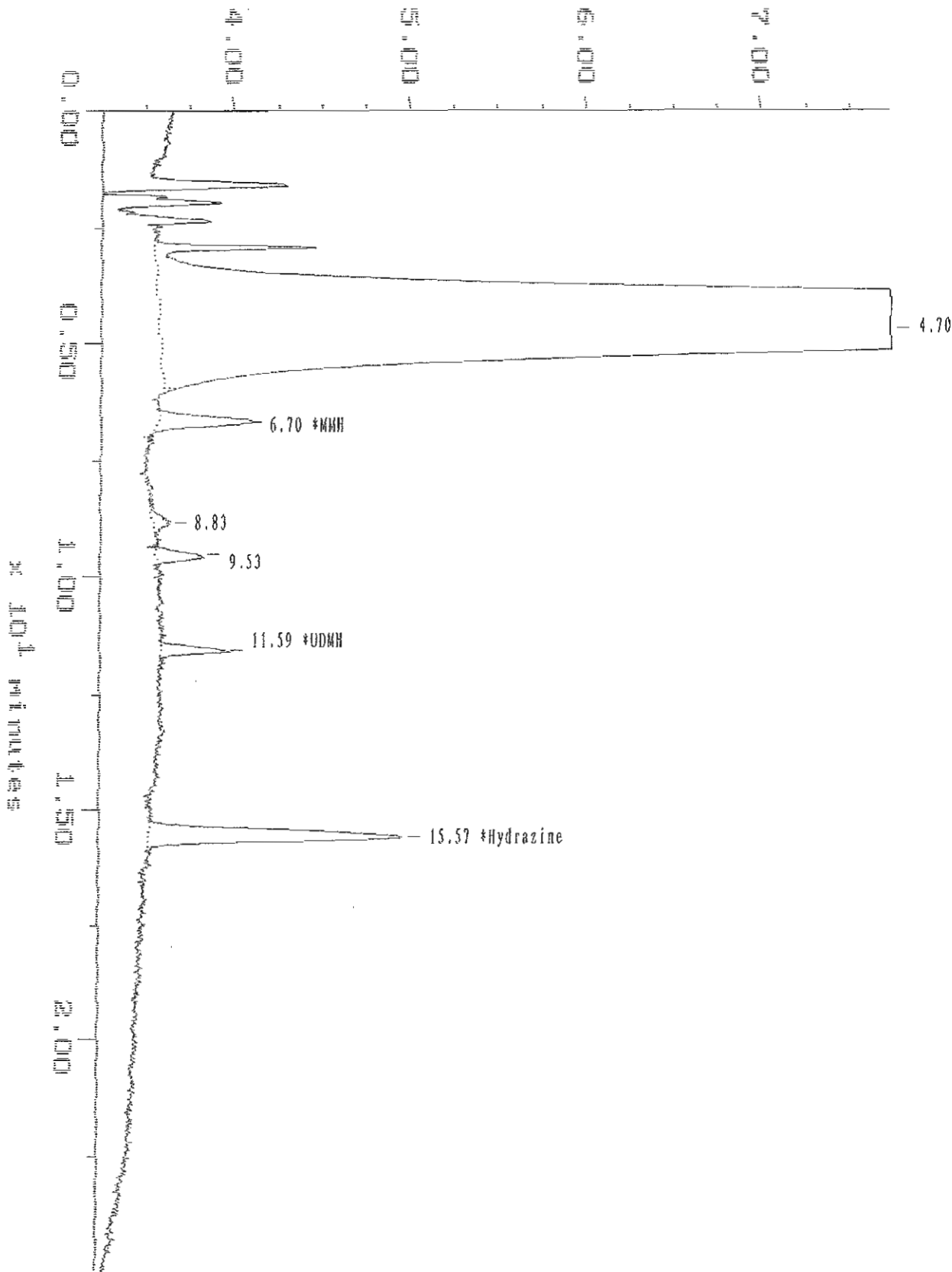




Sample: 709338-Std 1 Channel: \*UV #2 322  
Acquired: 23-MAR-11 9:37 Method: C:\MAX\DATA1\HYD-699

Filename: MR112302  
Operator: JS

$\times 10^{-6}$  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	MNH	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

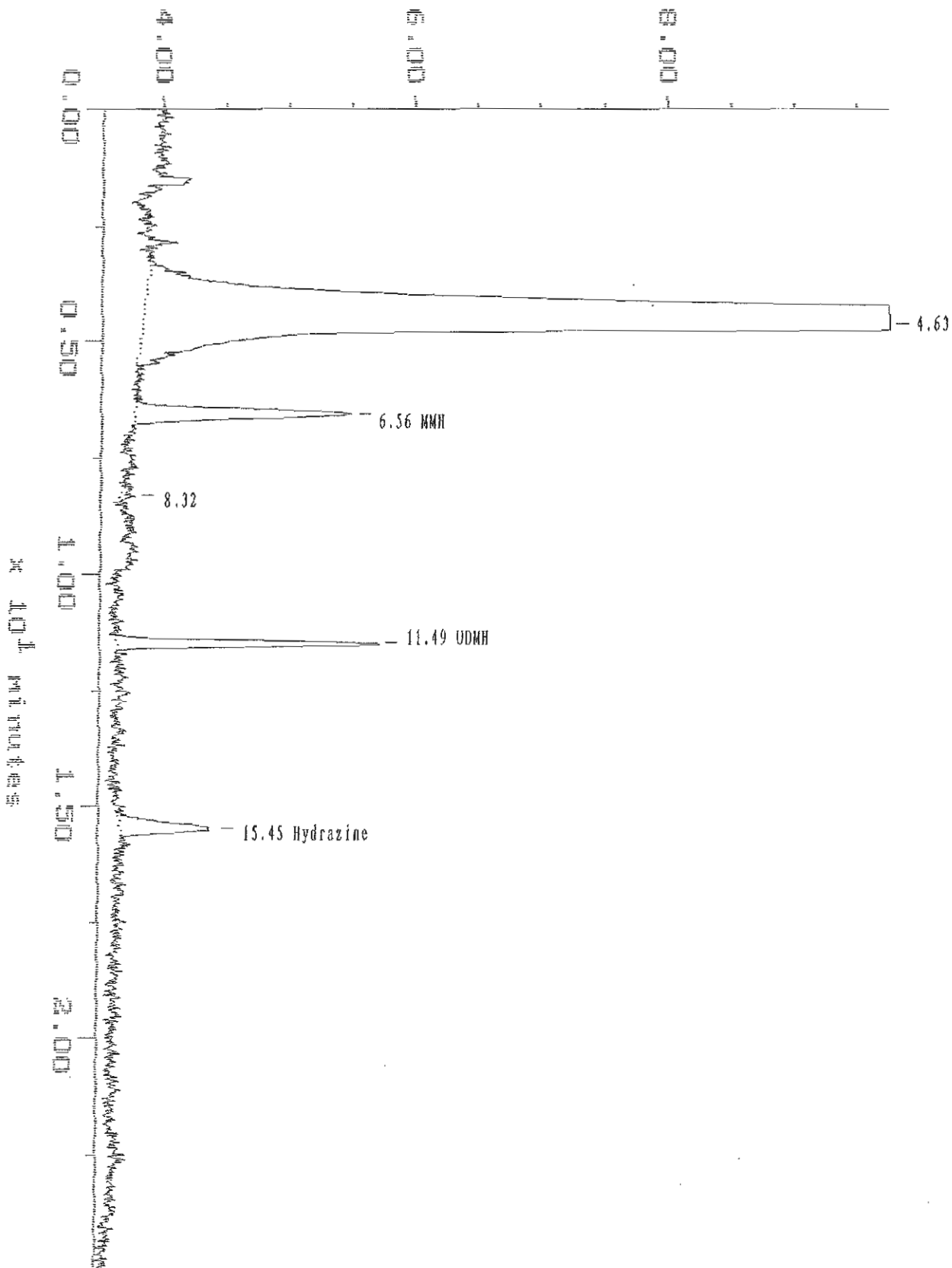
DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.700	4425741	
2	2	*MNH	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: OV #1 365  
Acquired: 23-MAR-11 10:02 Method: C:\MAX\DATA1\HYD-699

Filename: MR112303  
Operator: JS

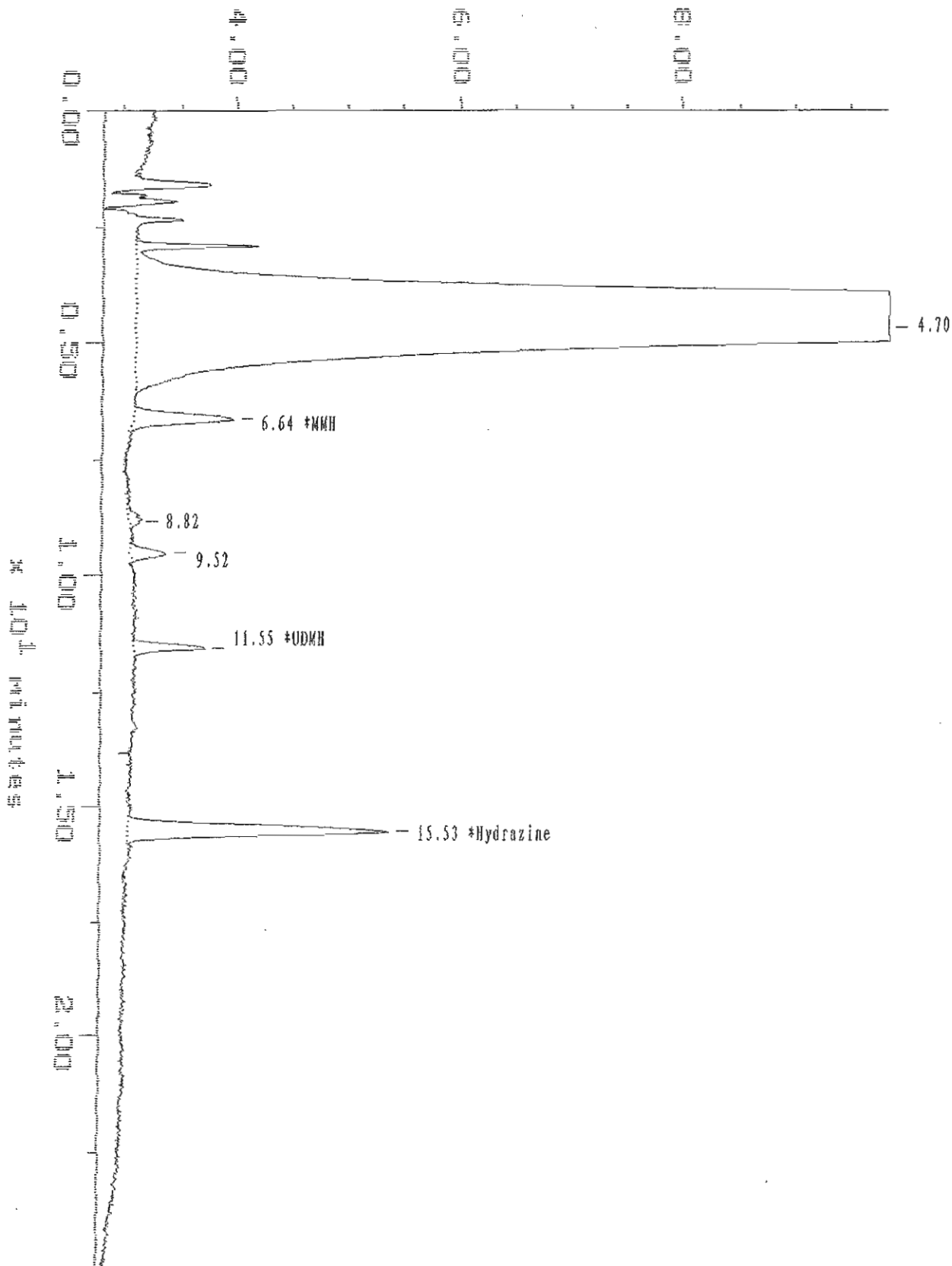
Response



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

Filename: NR112303  
Operator: JS

X 10<sup>-4</sup> 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: MR112304

Index: 4

DETECTOR: UV #1 365

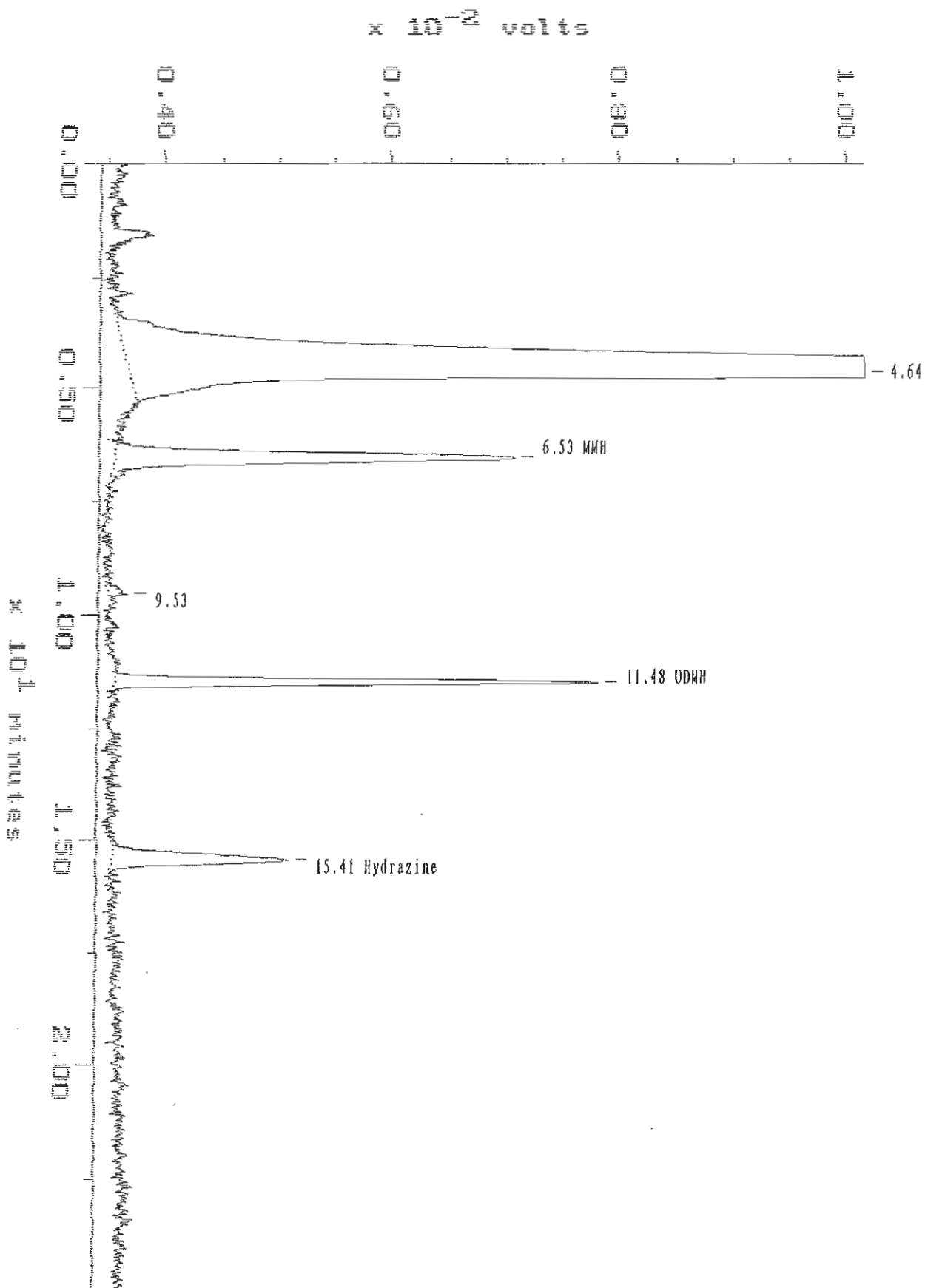
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.642	598719	
2	1	MMH	6.533	53007	25.0000
3			9.533	1088	
4	3	UDMH	11.475	36512	25.0000
5	5	Hydrazine	15.408	22990	5.0000
TOTAL				712317	55.0000

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

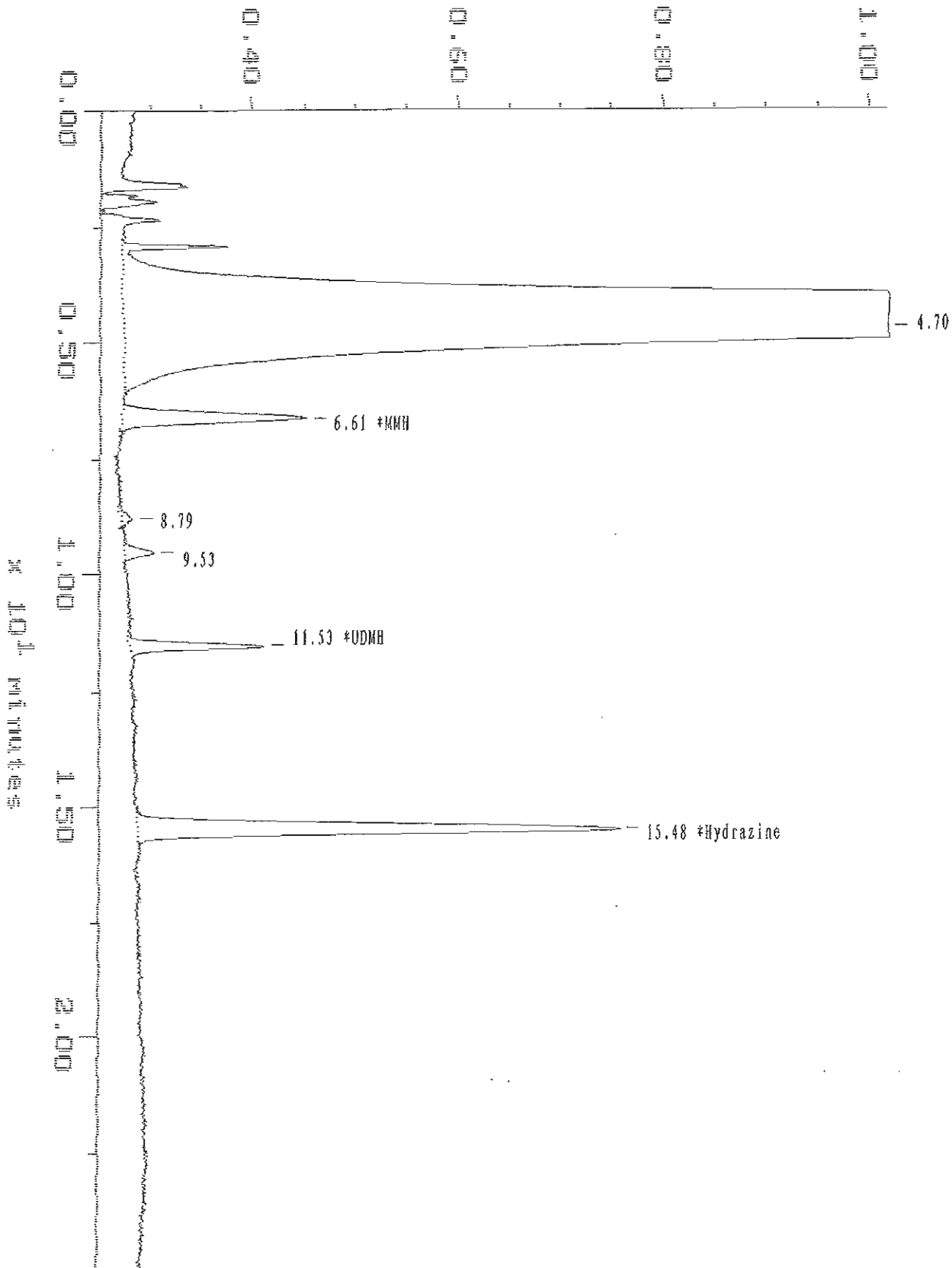
Filename: WR112304  
Operator: JS



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

Filename: WR12304  
Operator: JS

1000000



BASELINE 810 CUSTOM REPORT

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

SAMPLE: 709338-Std 4

#5 in Method: EPA8315M,ODS COL,SHIMADZU LC/OV  
 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	ODMH	11.500	76666	50.0000
4	5	Hydrazine	15.467	48106	10.0000
TOTAL				921234	110.0000

DETECTOR: \*UV #2 322

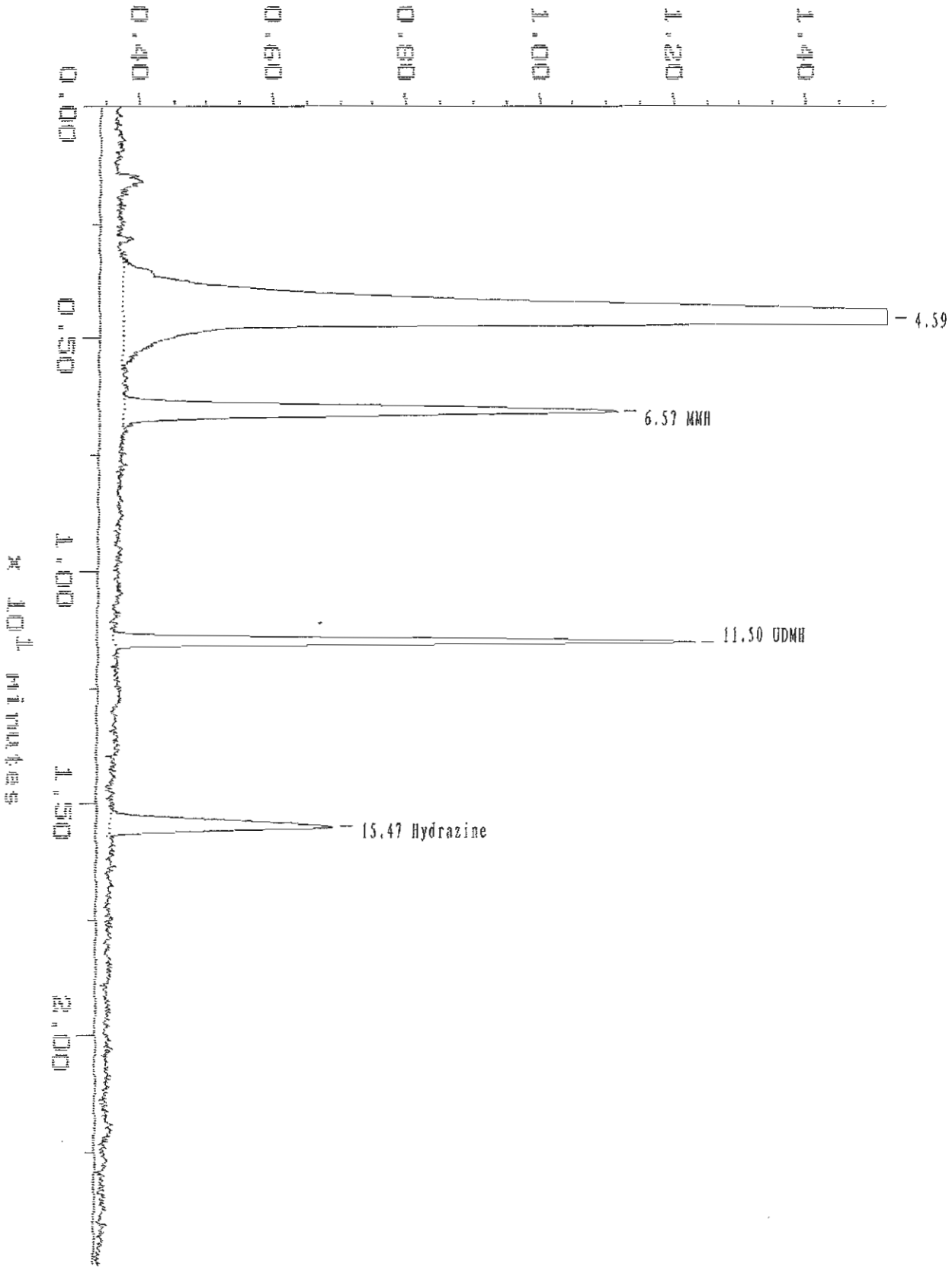
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.650	4600221	
2	2	*MMH	6.625	54594	50.0000
3			8.850	1823	
4			9.525	3820	
5	4	*UDMH	11.558	23600	50.0000
6			13.308	660	
7	6	*Hydrazine	15.525	151151	10.0000
TOTAL				4835871	110.0000



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

Filename: MR112305  
Operator: JS

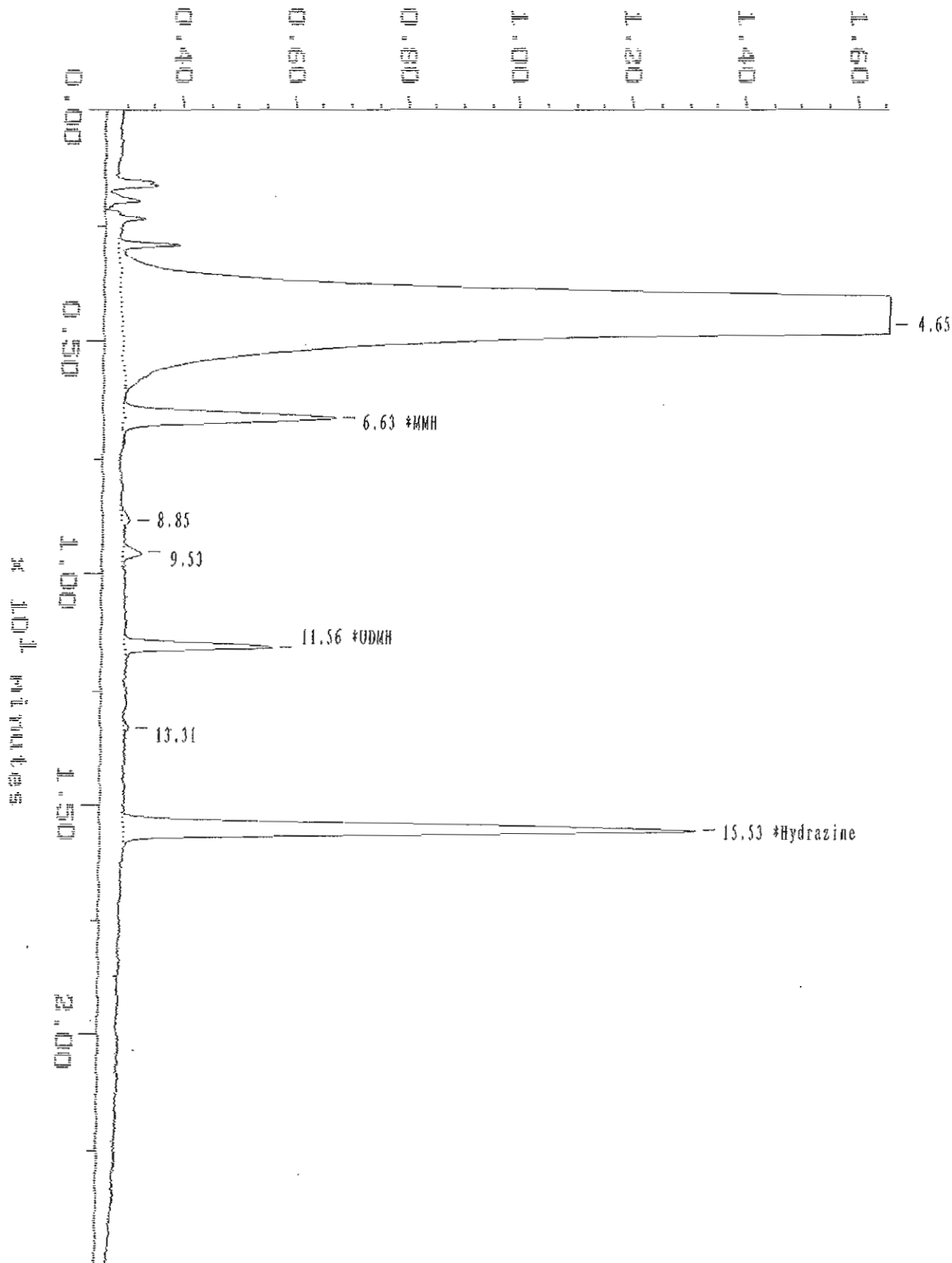
X 40.00 50.00 60.00 70.00 80.00 90.00 100.00



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: MRI12306

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	ODMH	11.483	142688	100.0000
4	5	Hydrazine	15.442	90900	20.0000
TOTAL				1018482	220.0000

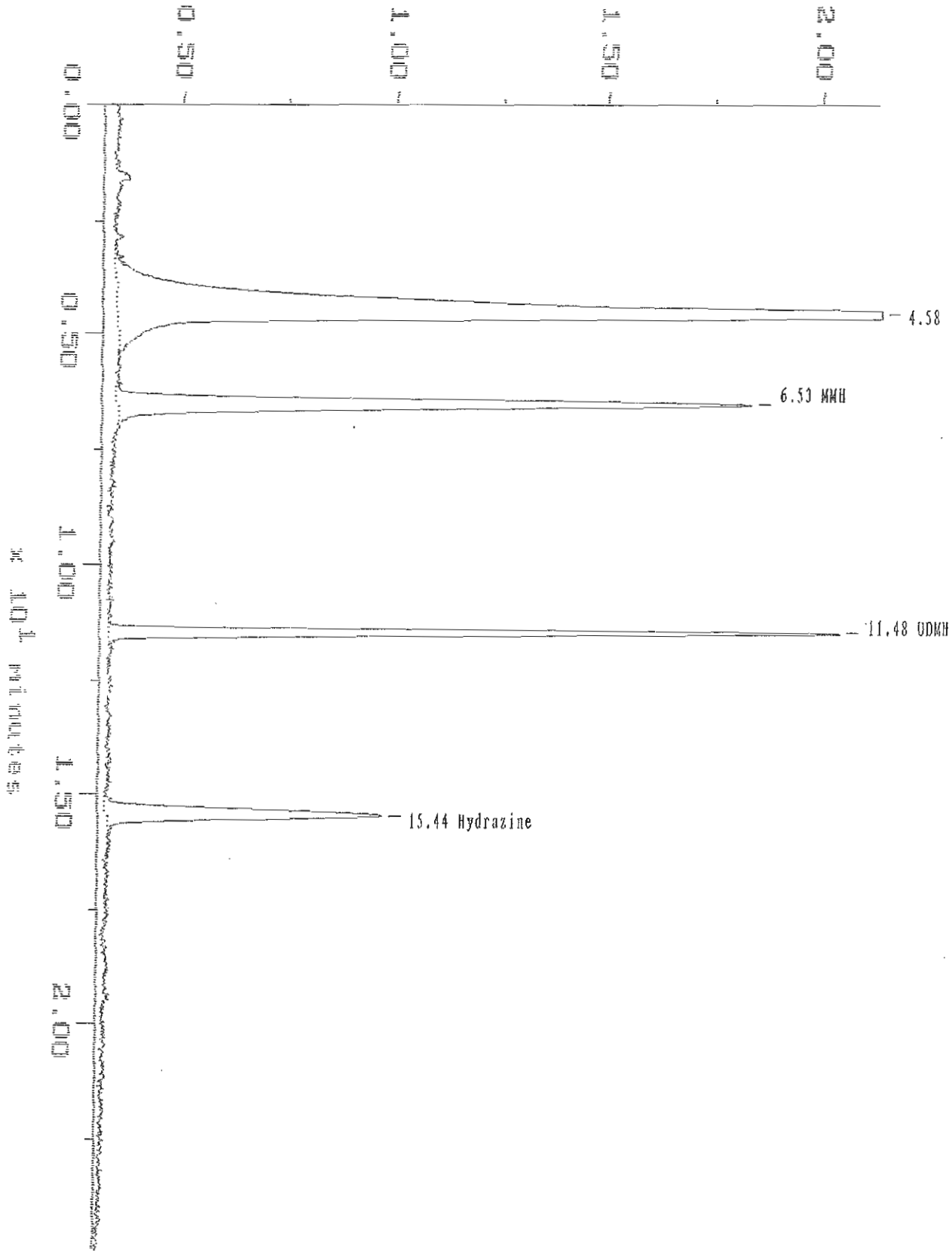
DETECTOR: \*UV #2 322

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	*ODMH	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\DATA\HYD-699

Filename: MRI12306  
Operator: JS

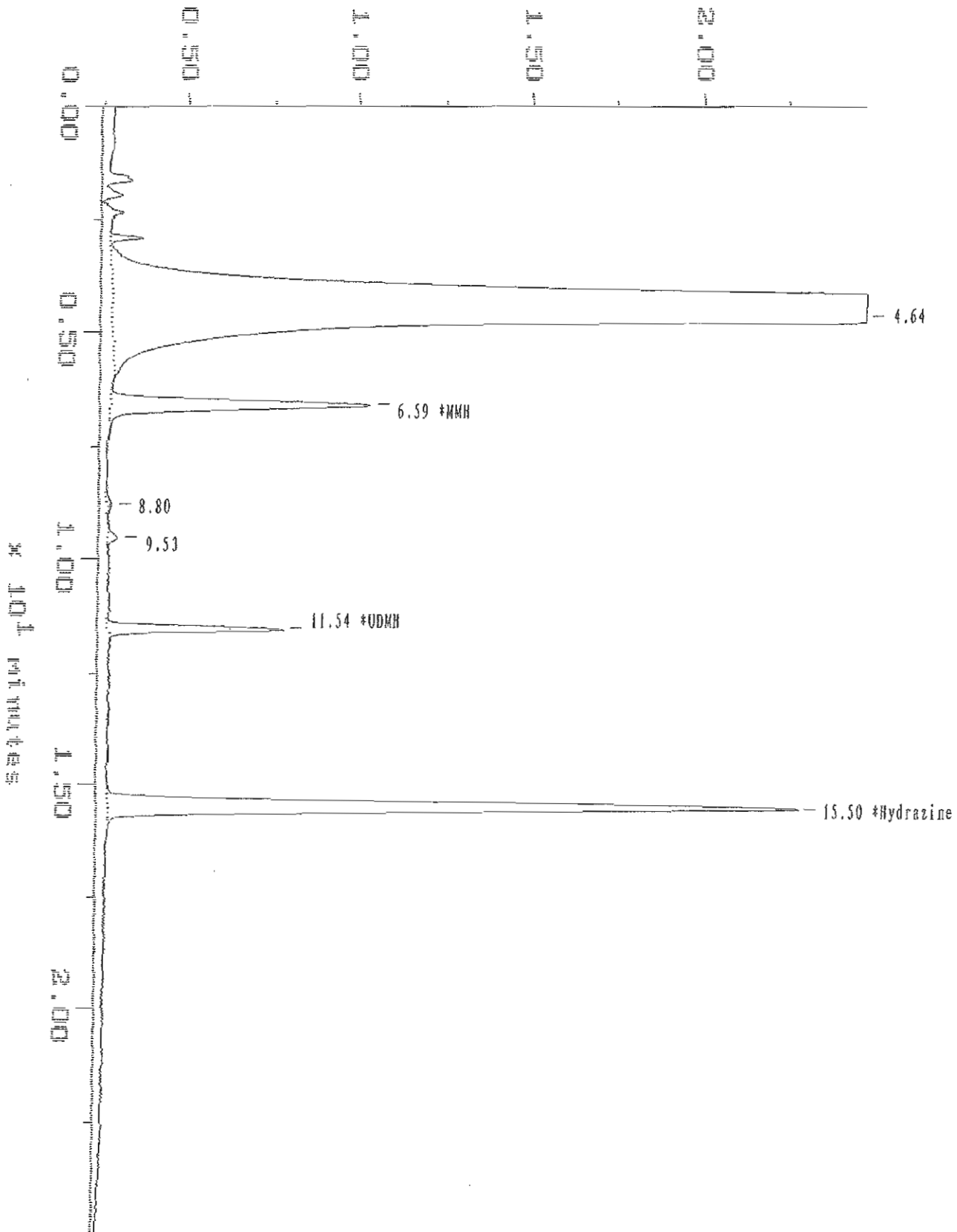
NO<sub>2</sub> NO<sub>2</sub> NO<sub>2</sub>



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

Filename: MR112306  
Operator: JS

Hydrazine



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

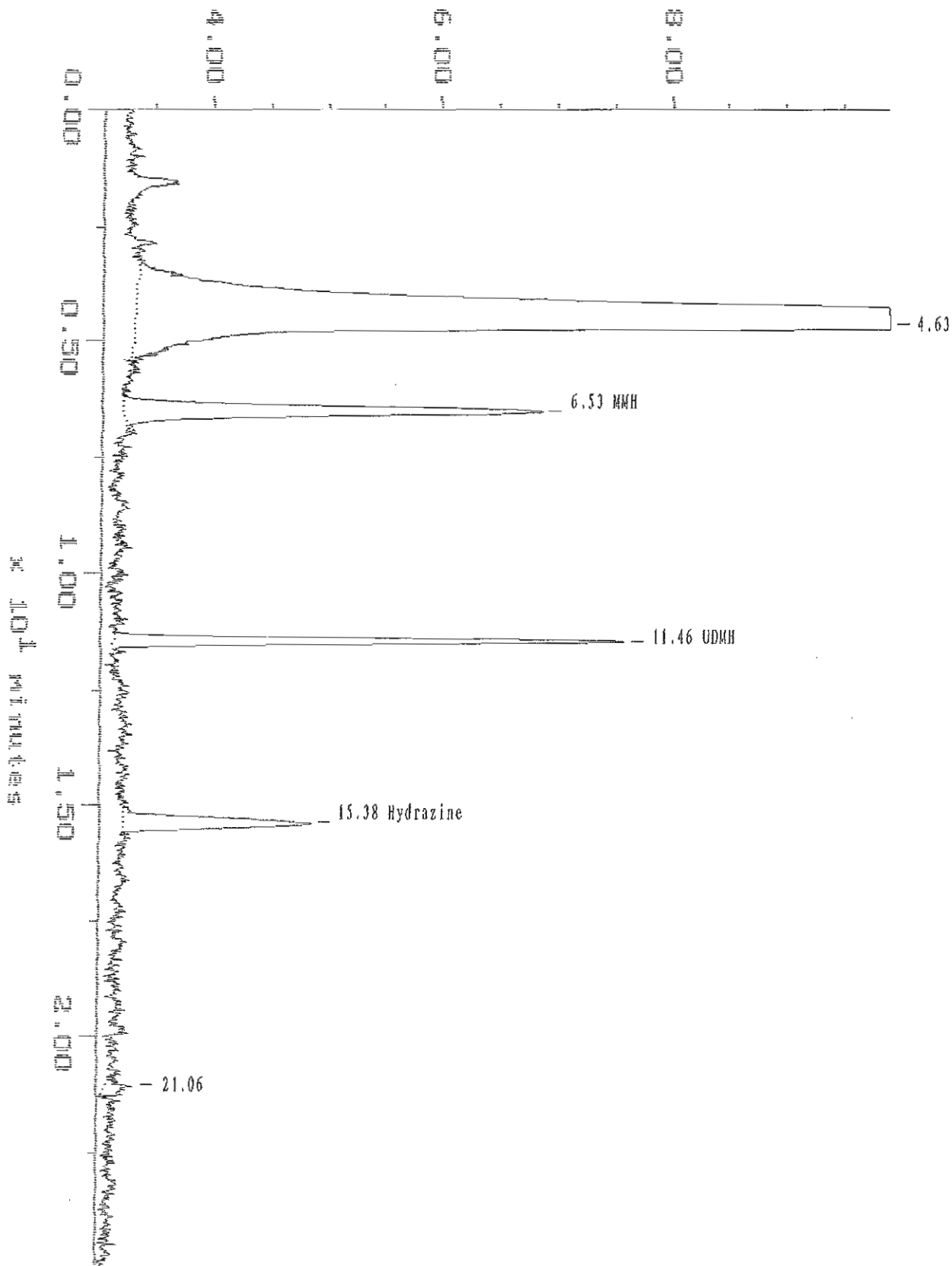
DETECTOR: \*UV #2 322

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\DATA\HYD-699

Filename: MR112307  
Operator: JS

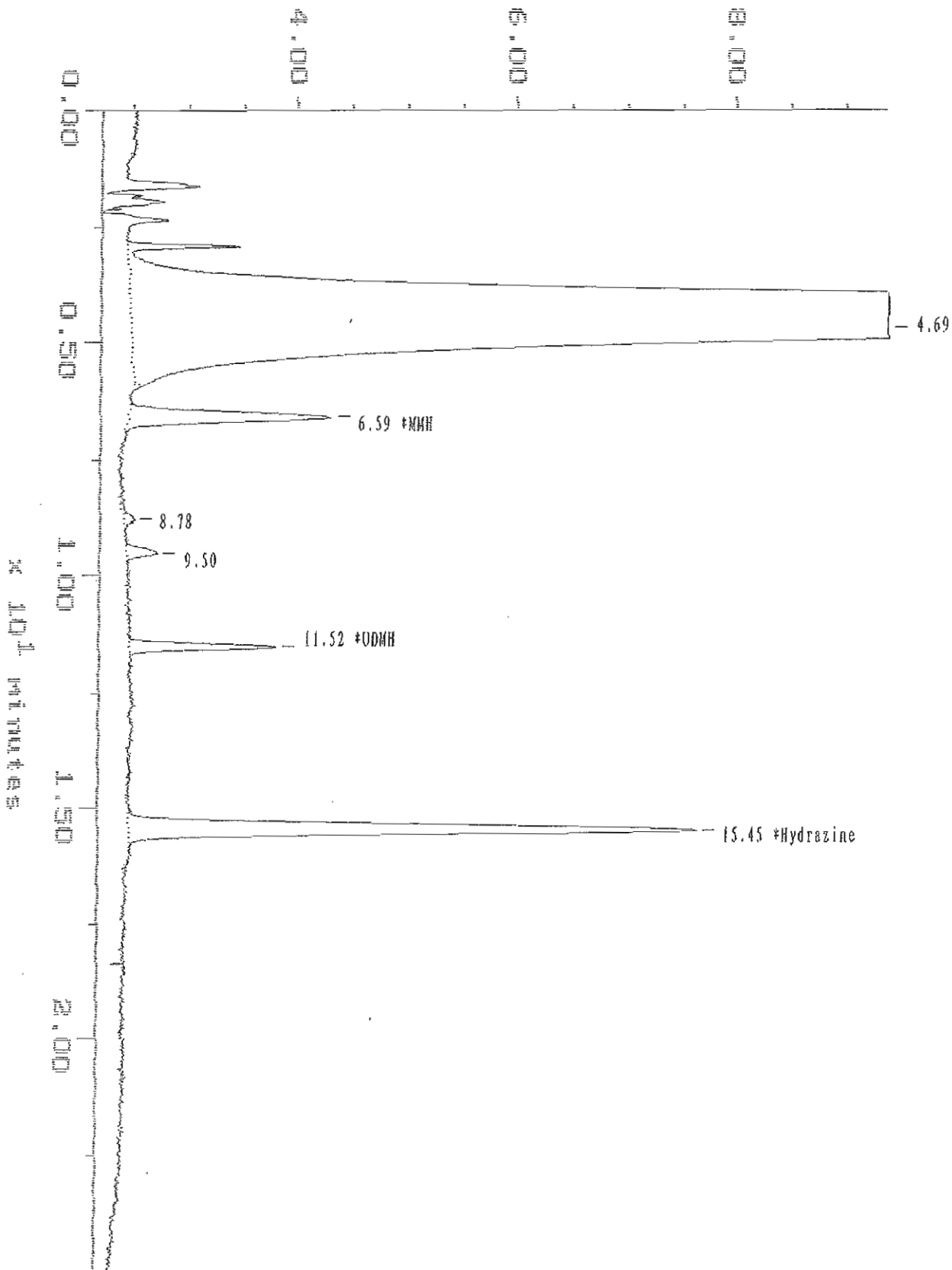
x 10<sup>-4</sup> volts



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

Filename: MR112307  
Operator: JS

$\times 10^{-6}$  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: MR112308  
 Index: 8

DETECTOR: UV #1 365

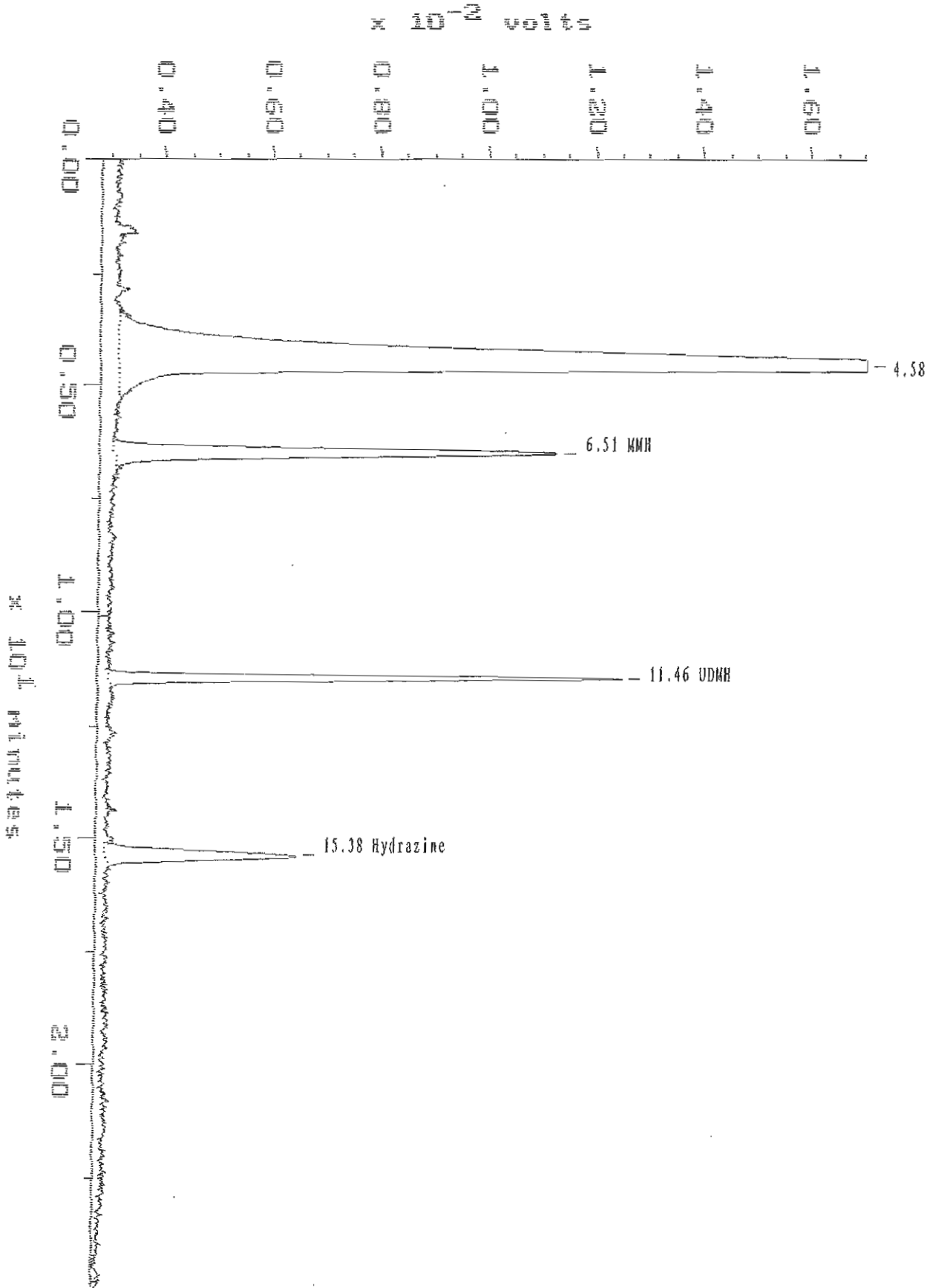
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.583	684644	
2	1	MNH	6.508	104650	49.9218
3	3	UDMH	11.458	74878	50.6671
4	5	Hydrazine	15.375	46937	10.0572
TOTAL				911109	110.6461

DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.650	4525296	
2	2	*MNH	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

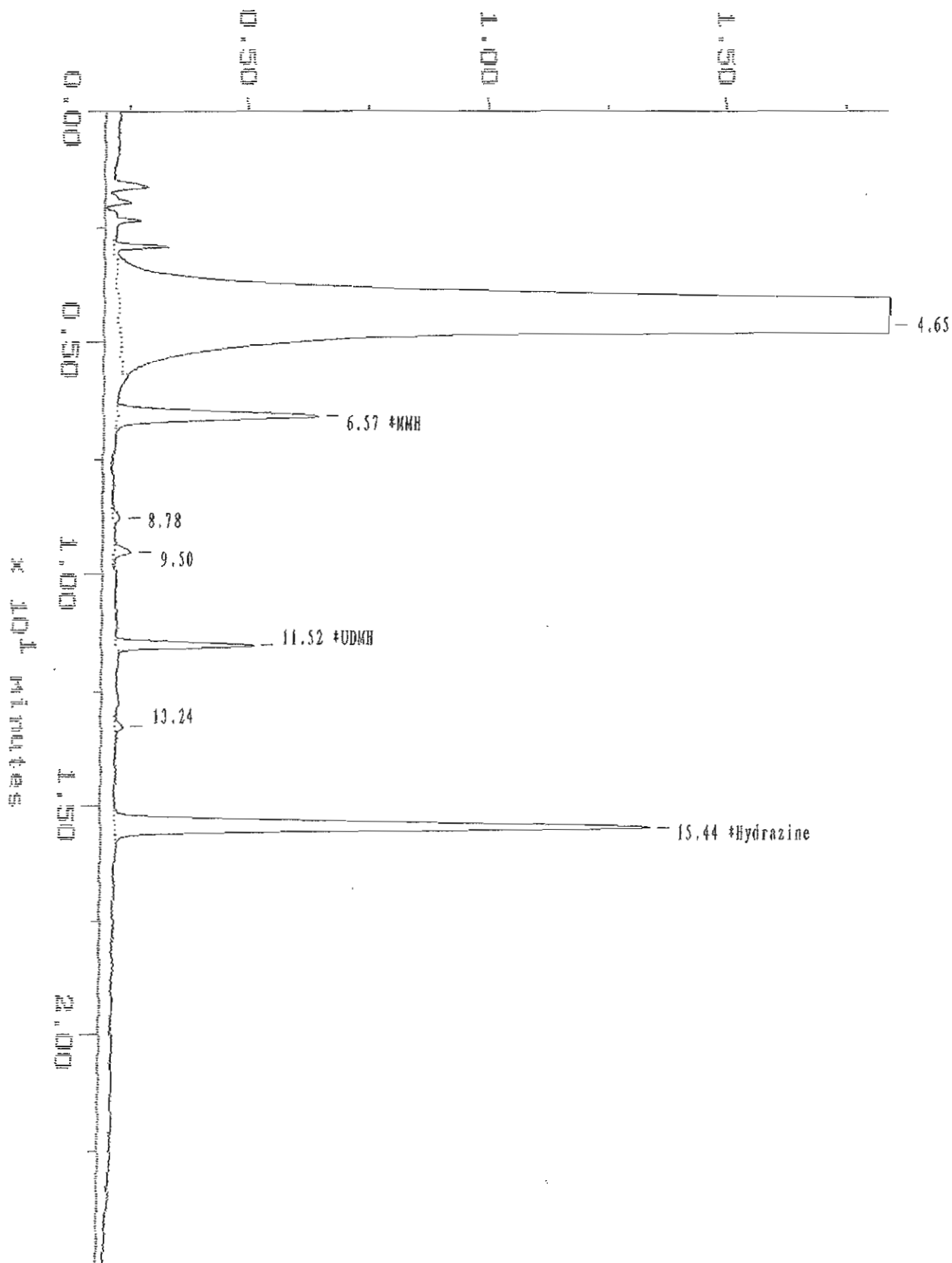
Filename: MR112308  
Operator: JS



Sample: 709338-LCS Channel: #OV #2 322  
Acquired: 23-MAR-11 12:10 Method: C:\MAX\DATA\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: EPA8315W,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: MRI12309  
 Index: 9

DETECTOR: UV #1 365

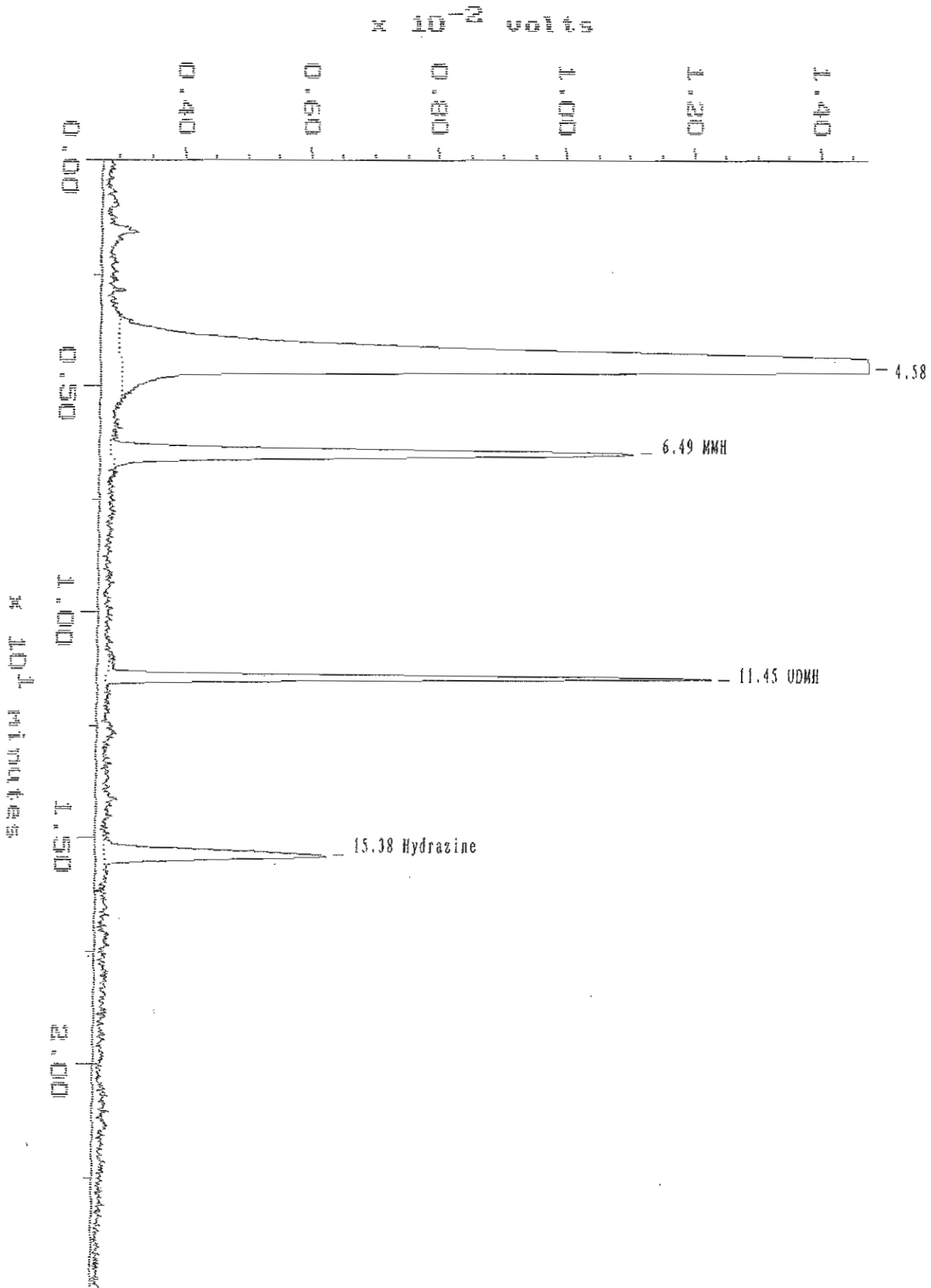
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.575	661101	
2	1	MNH	6.492	102149	48.6650
3	3	UDMH	11.450	75078	50.8108
4	5	Hydrazine	15.375	45670	9.7733
TOTAL				883998	109.2491

DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.633	4399814	
2	2	*MNH	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

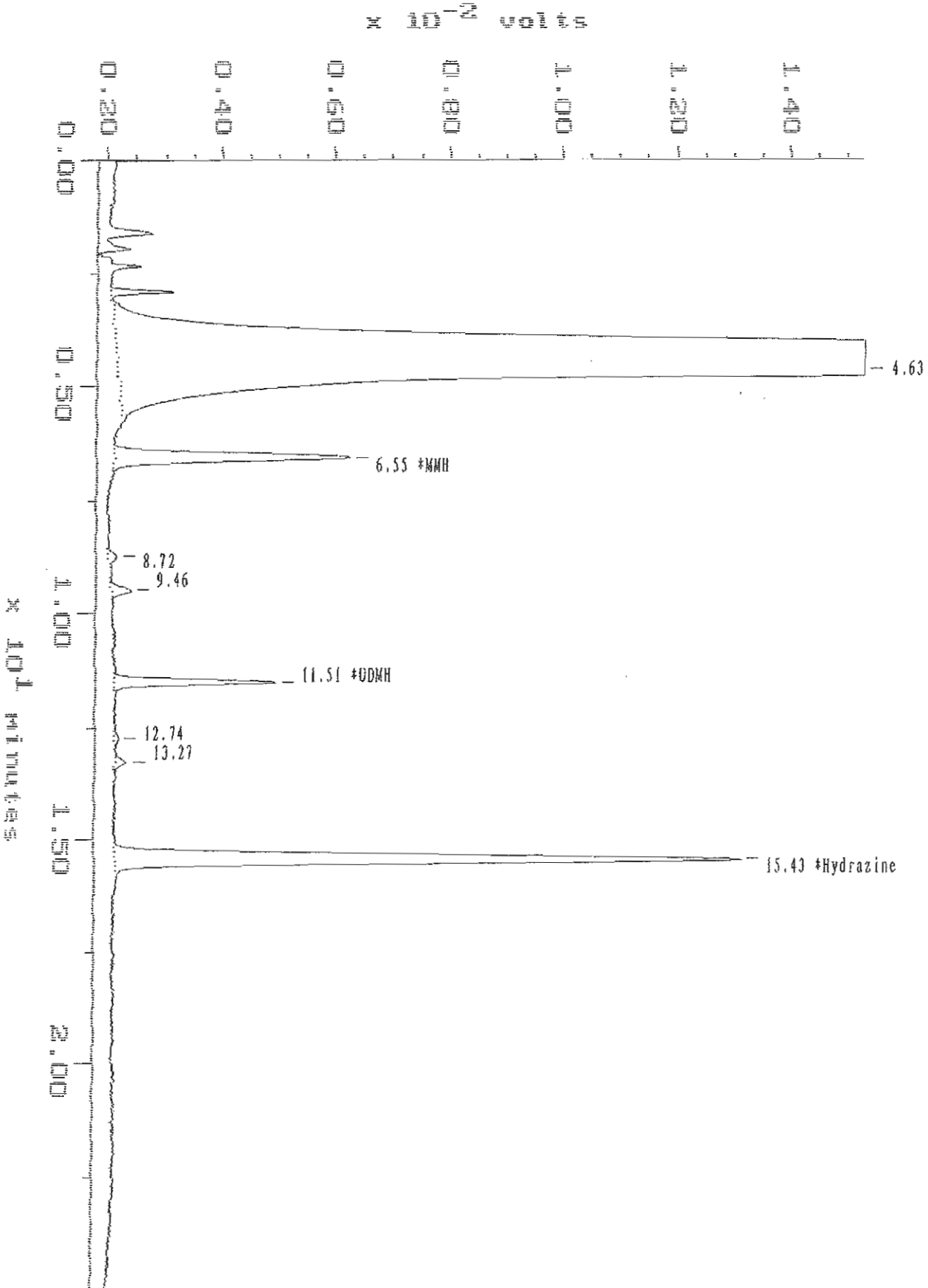
Sample: 709338-LCSD Channel: UV #1 365  
Acquired: 23-MAR-11 12:36 Method: C:\MAX\DATA1\HYD-699

Filename: MR112309  
Operator: JS



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

Filename: HR112309  
Operator: JS



## BASELINE 810 CUSTOM REPORT

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

SAMPLE: 709338-WB

#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: WRI12310  
 Index: 10

DETECTOR: UV #1 365

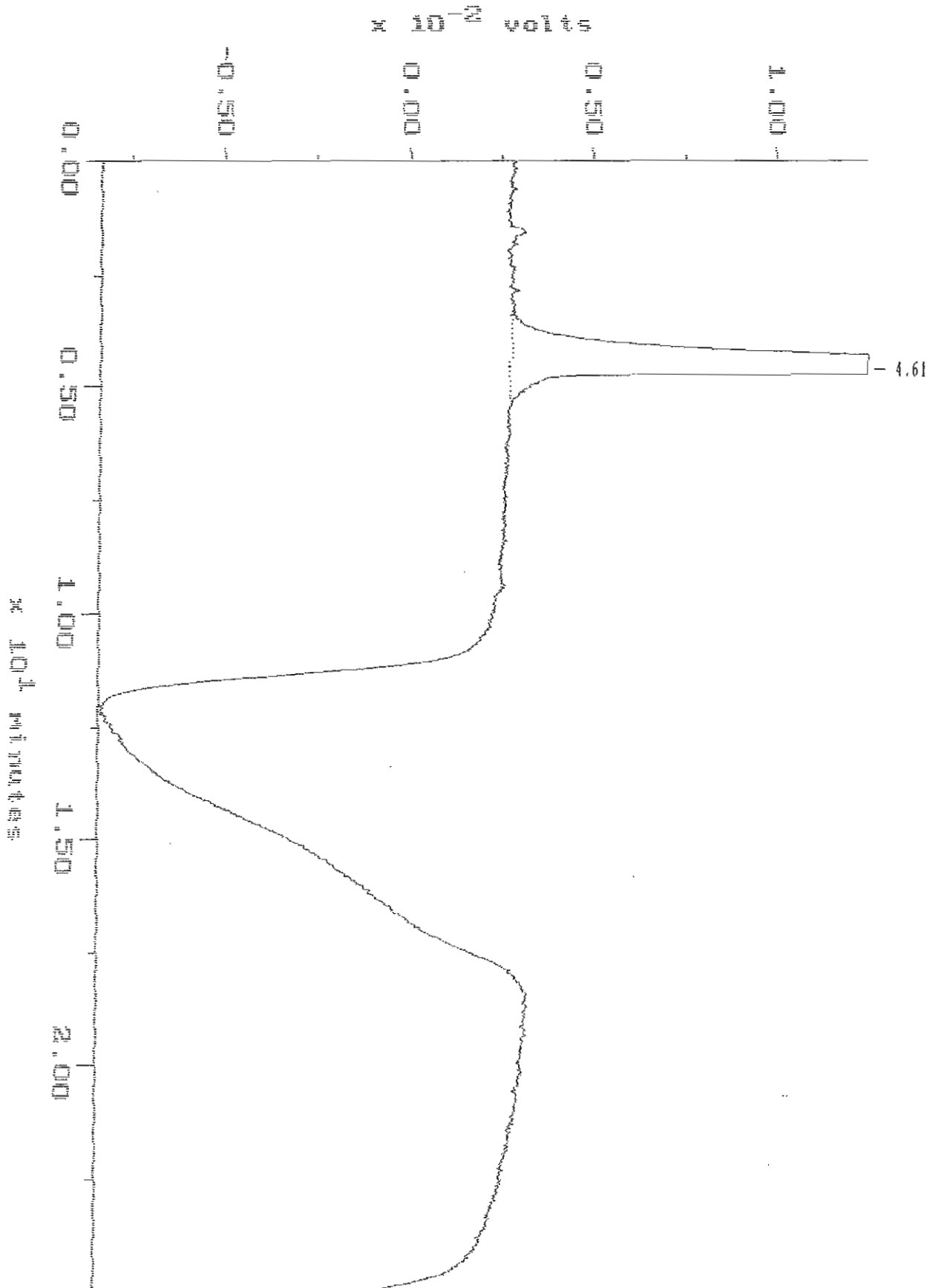
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
---	---	-----	-----	-----	-----
1			4.608	726135	.
TOTAL				726135	0.0000

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

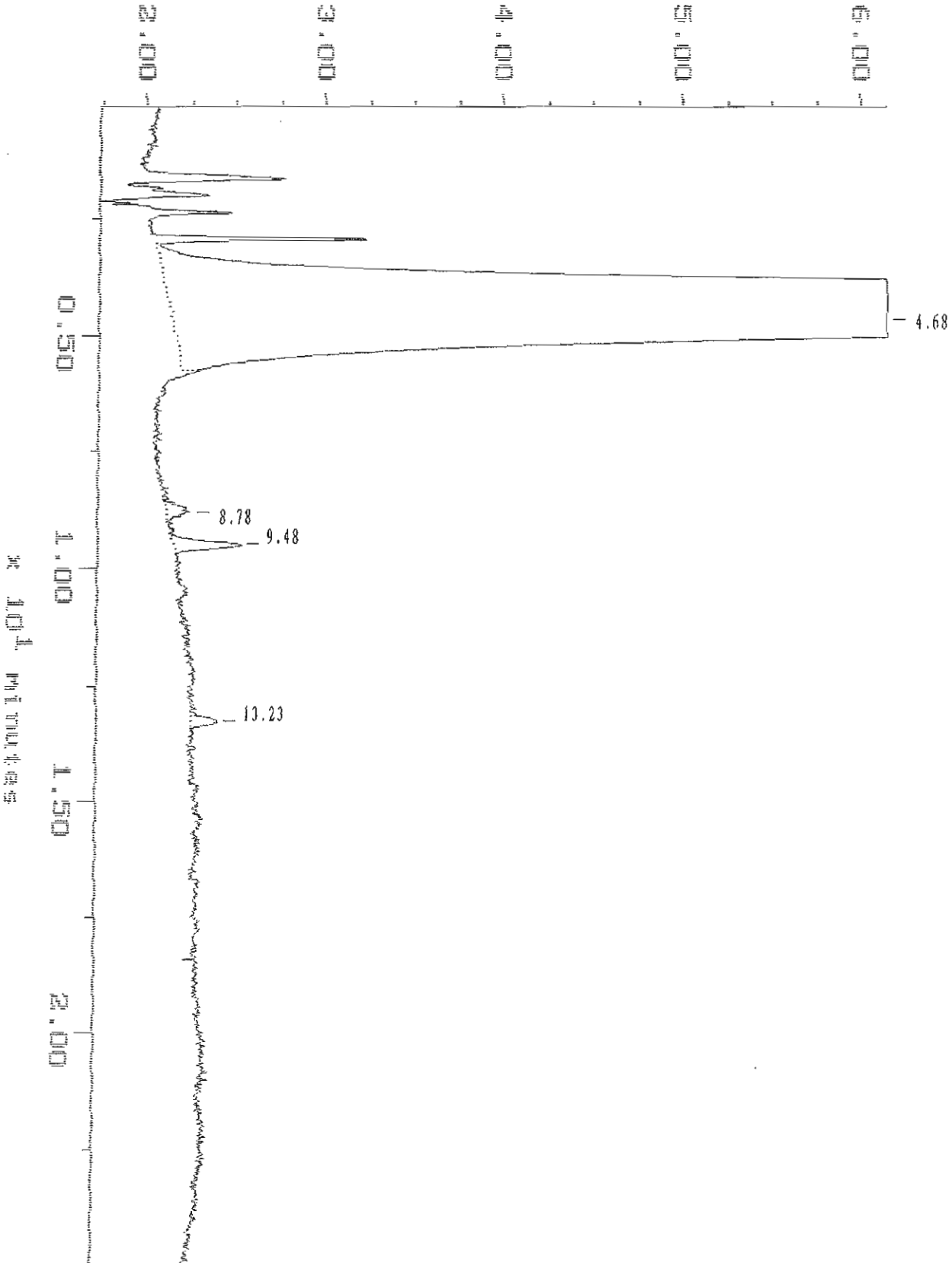




Sample: 709338-WB Channel: \*UV #2 322  
Acquired: 23-MAR-11 13:01 Method: C:\MAX\DATA1\HYD-699

Filename: WR112310  
Operator: JS

X 10<sup>-4</sup> counts



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: MRI12311  
 Index: 11

DETECTOR: UV #1 365

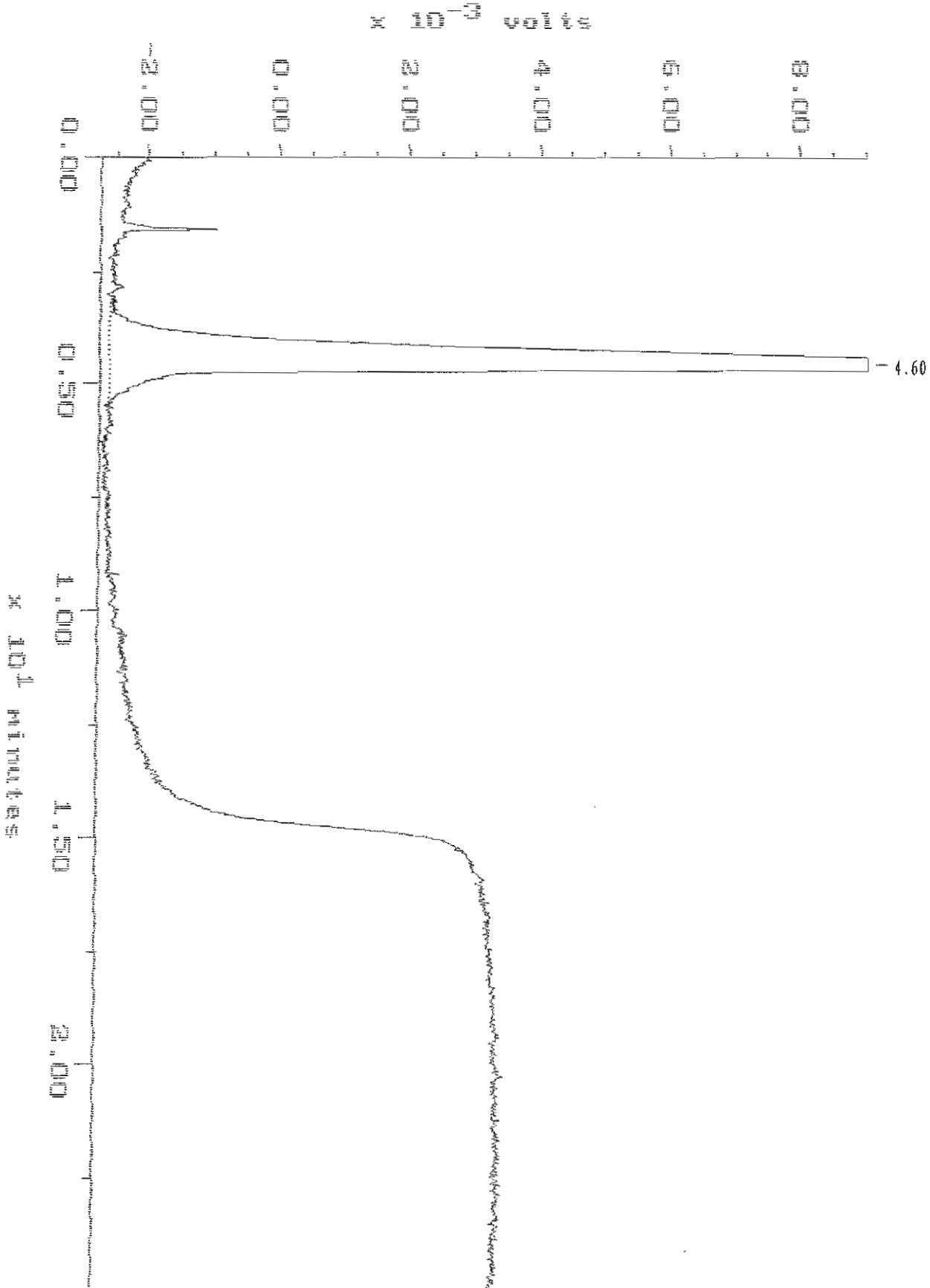
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.600	627561	
TOTAL				627561	0.0000

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

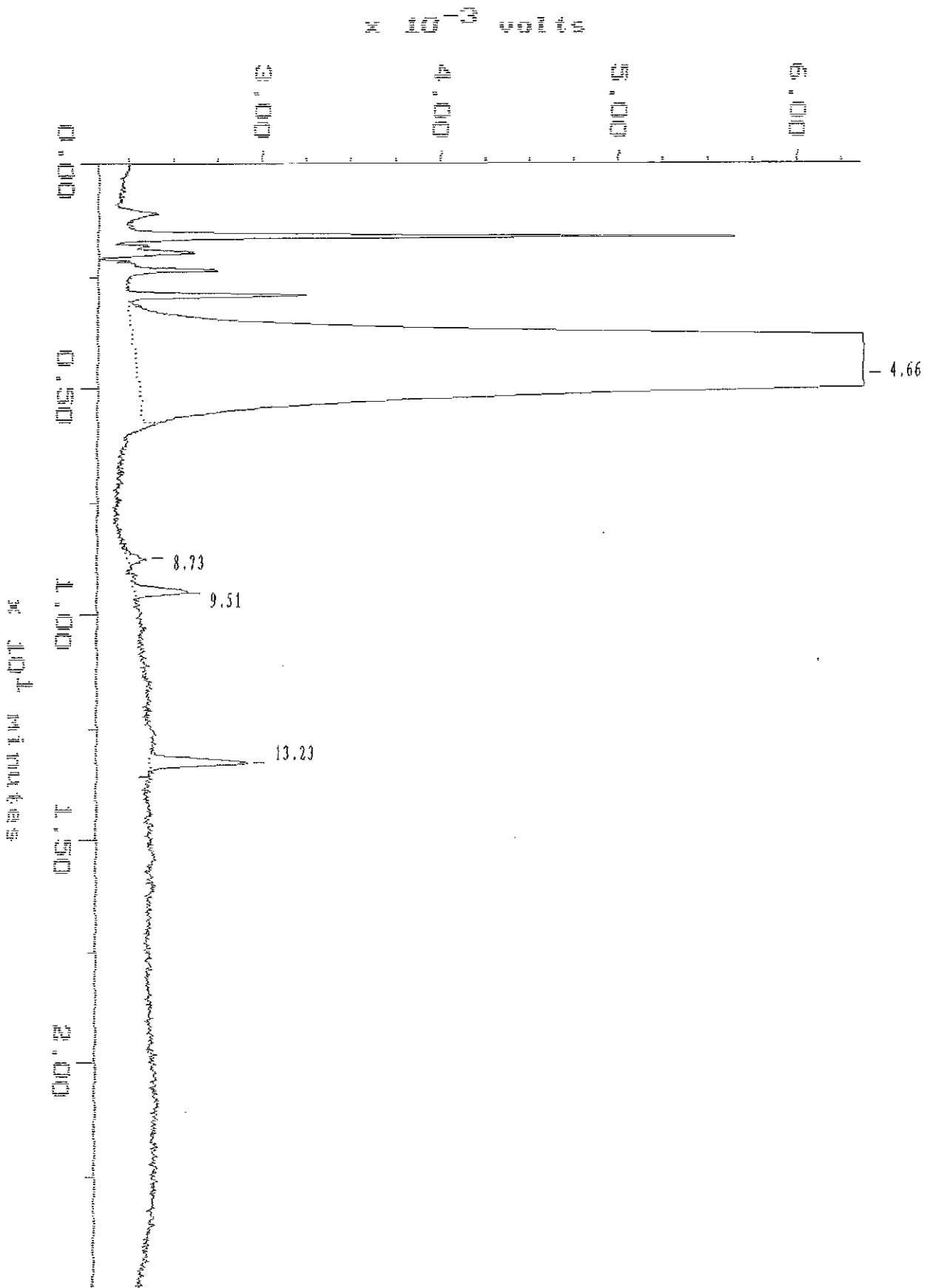
Sample: 994230 Channel: UV #1 J65  
Acquired: 23-MAR-11 13:27 Method: C:\MAX\DATA1\HYD-699

Filename: MR112311  
Operator: JS



Sample: 994230 Channel: #0V #2 322  
Acquired: 23-MAR-11 13:27 Method: C:\MAX\DATA\HYD-699

Filename: WR112311  
Operator: JS



## BASELINE 810 CUSTOM REPORT

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

SAMPLE: 994230 MS

#13 in Method: BPA8315M,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

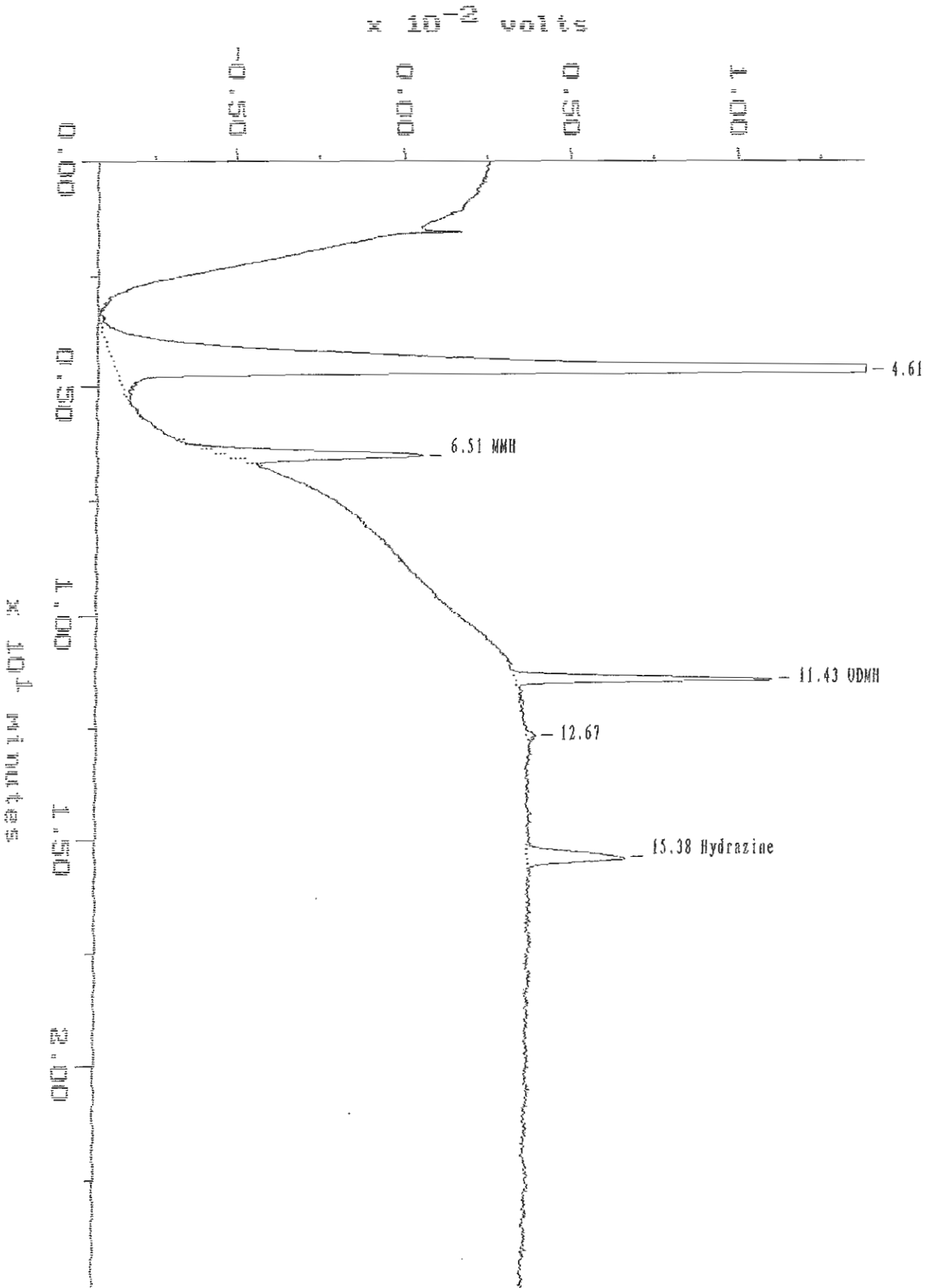
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.608	629040	
2	1	MNH	6.508	73538	34.2877
3	3	UDMH	11.433	62511	41.7785
4			12.667	2143	
5	5	Hydrazine	15.383	39264	8.3383
TOTAL				806495	84.4046

DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.667	4266761	
2	2	*MNH	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

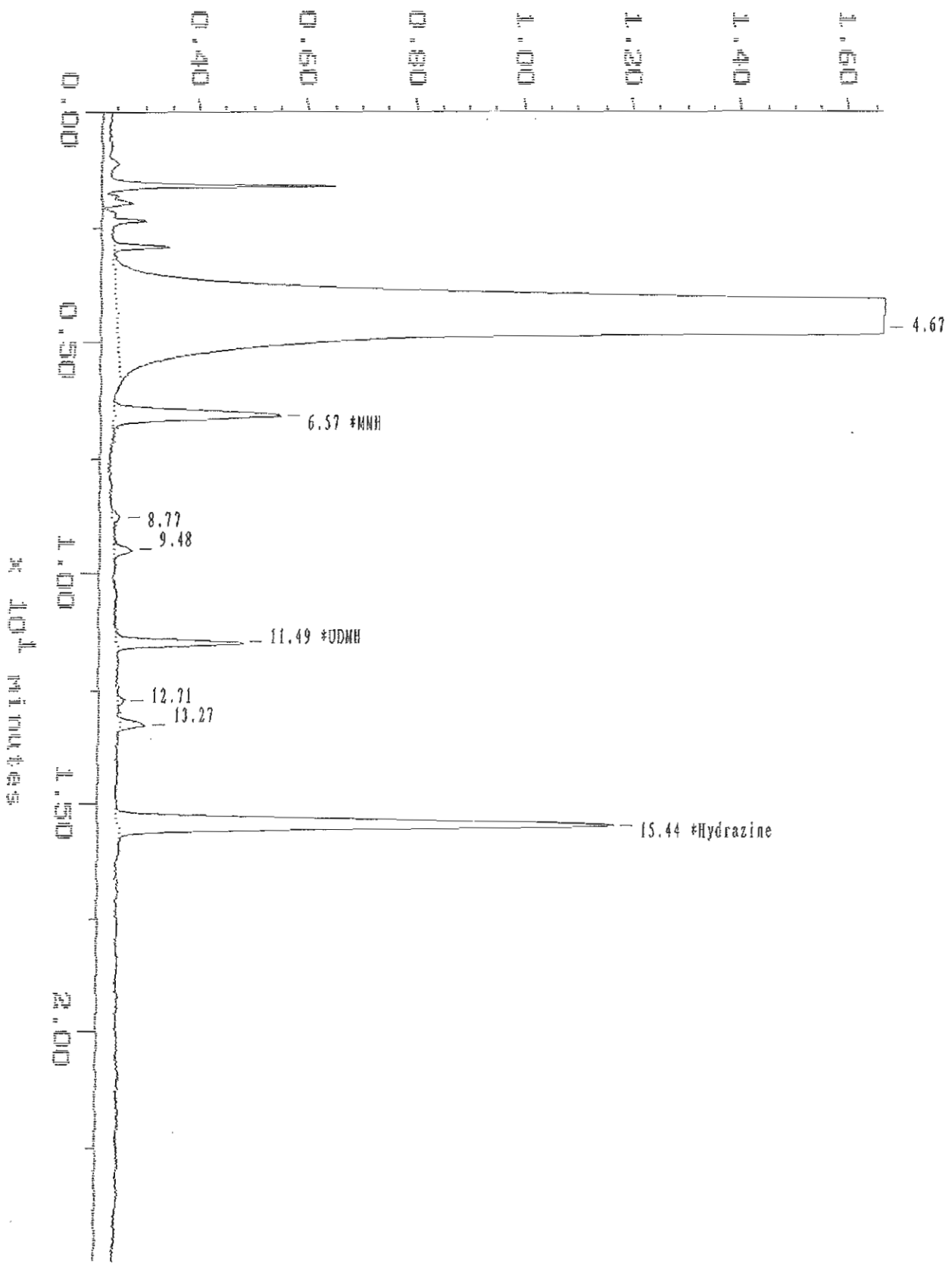
Filename: MR112313  
Operator: JS



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

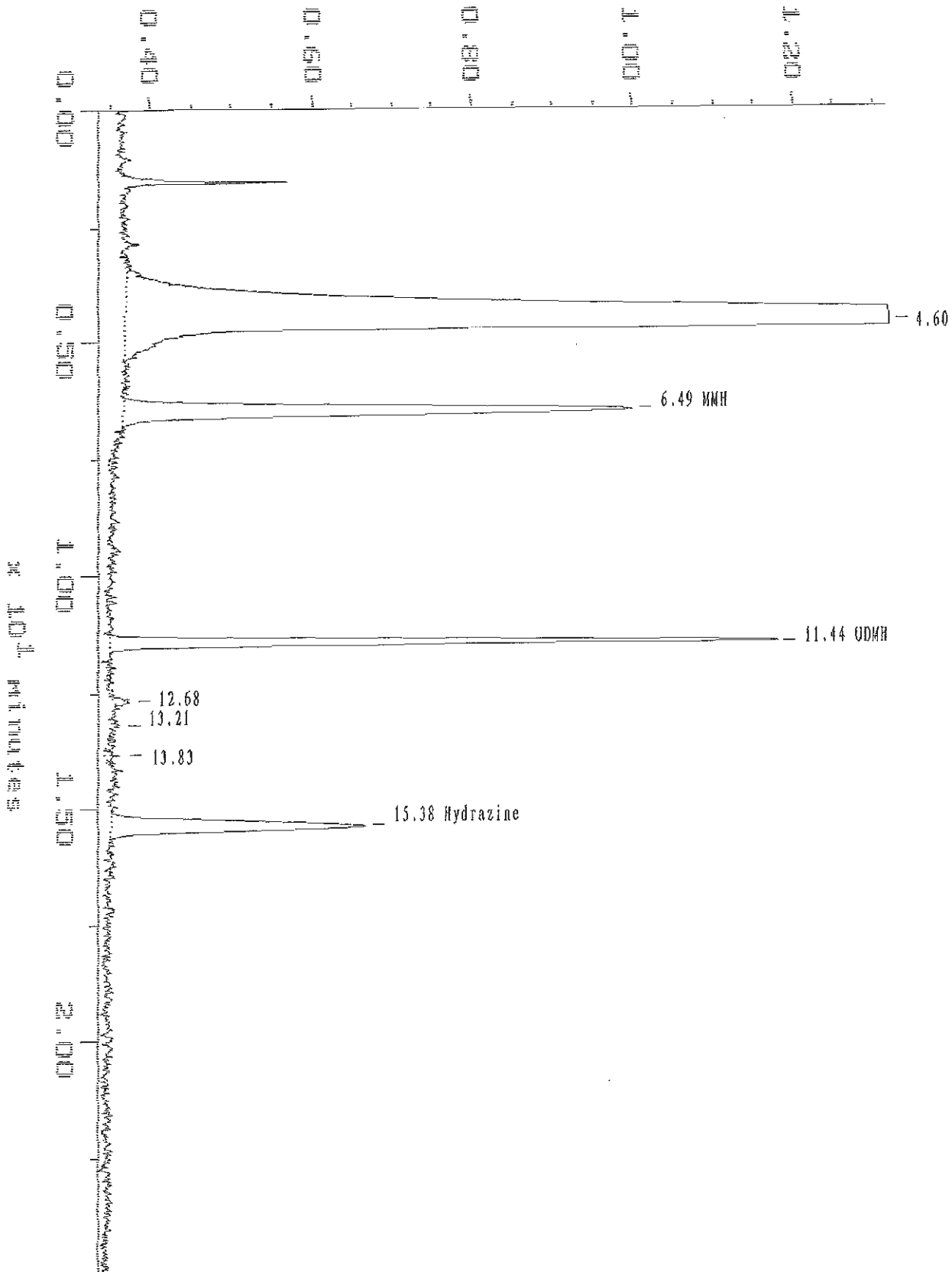
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.658	4553400	
2	2	*MMH	6.542	41659	38.8056
3			8.750	1231	
4			8.758	36	
5			9.483	3607	
6	4	*UDMH	11.500	20898	45.8056
7			12.742	1196	
8			13.258	6126	
9	6	*Hydrazine	15.433	135793	9.1969
TOTAL				4763946	93.8082



Sample: 994230 MSD Channel: UV #1 365  
Acquired: 23-MAR-11 14:43 Method: C:\MAX\DATA\HYD-699

Filename: MR112314  
Operator: JS

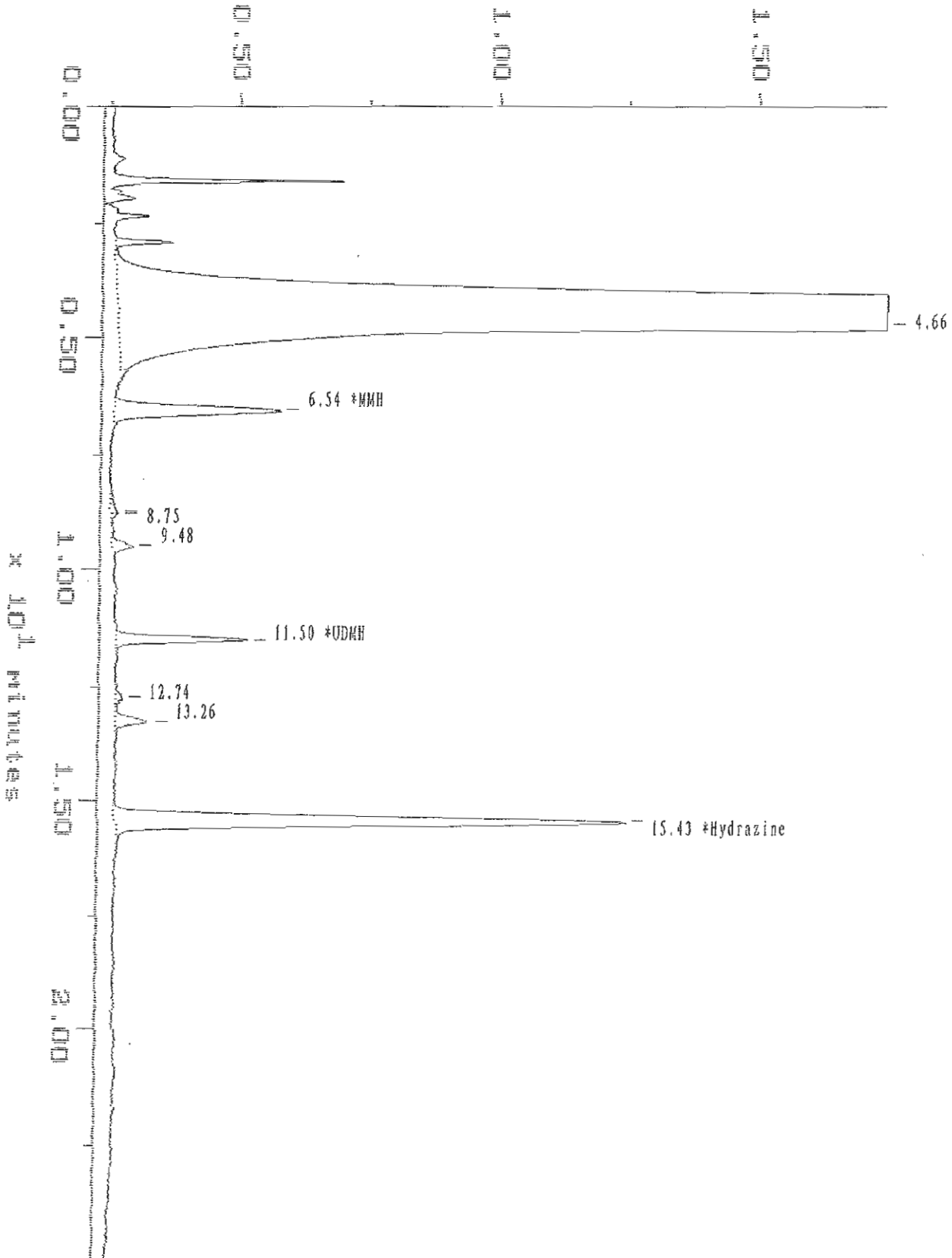
10<sup>-6</sup> counts



Sample: 994230 MSD Channel: #UV #2 322  
Acquired: 23-MAR-11 14:43 Method: C:\MAX\DATA\HYD-699

Filename: WR112314  
Operator: JS

$\times 10^{-2}$  counts



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	MNH	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

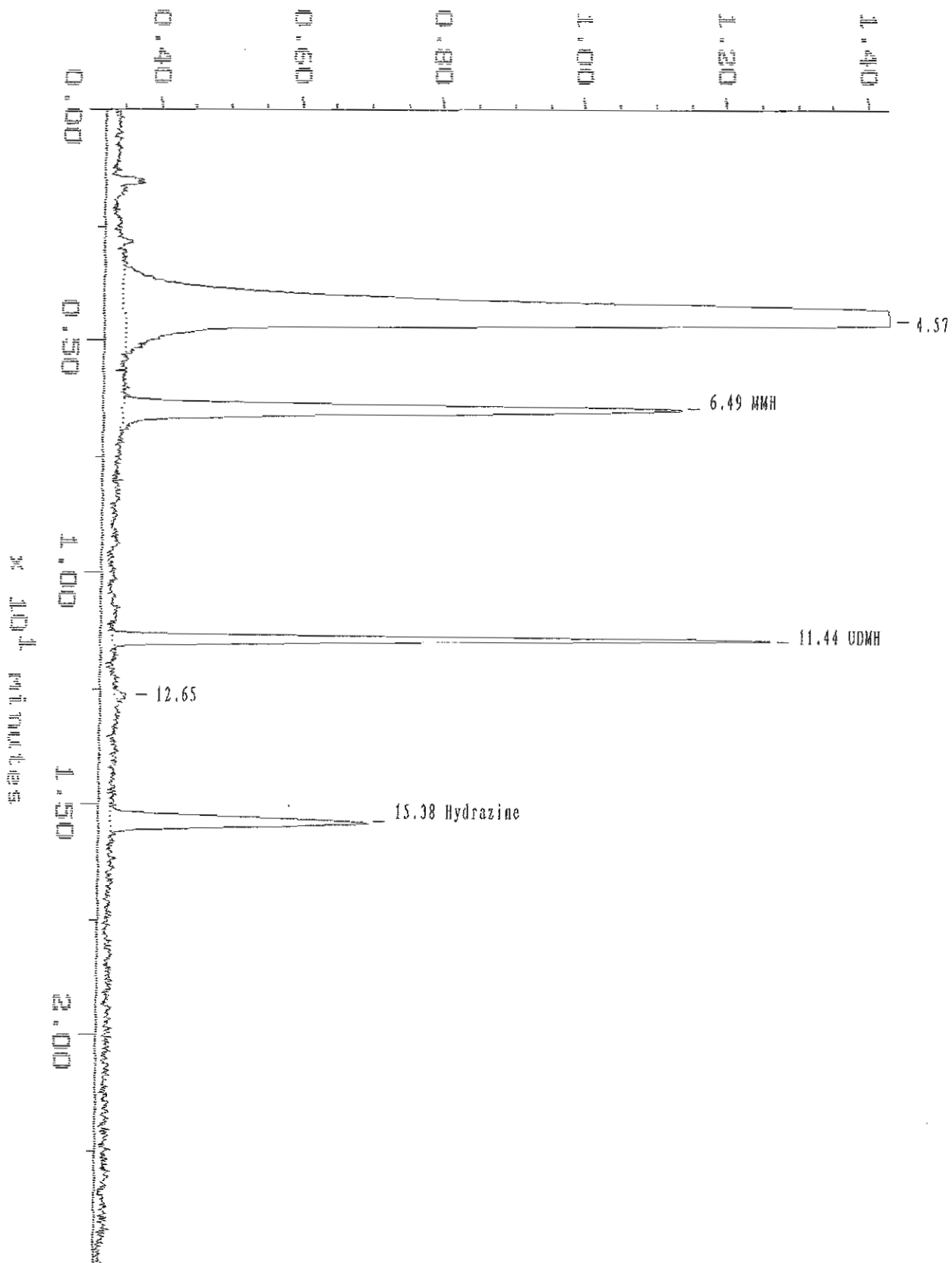
DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.625	4508487	
2	2	*MNH	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 Channel: UV #1 365  
Acquired: 23-MAR-11 15:08 Method: C:\MAX\DATA1\HYD-699

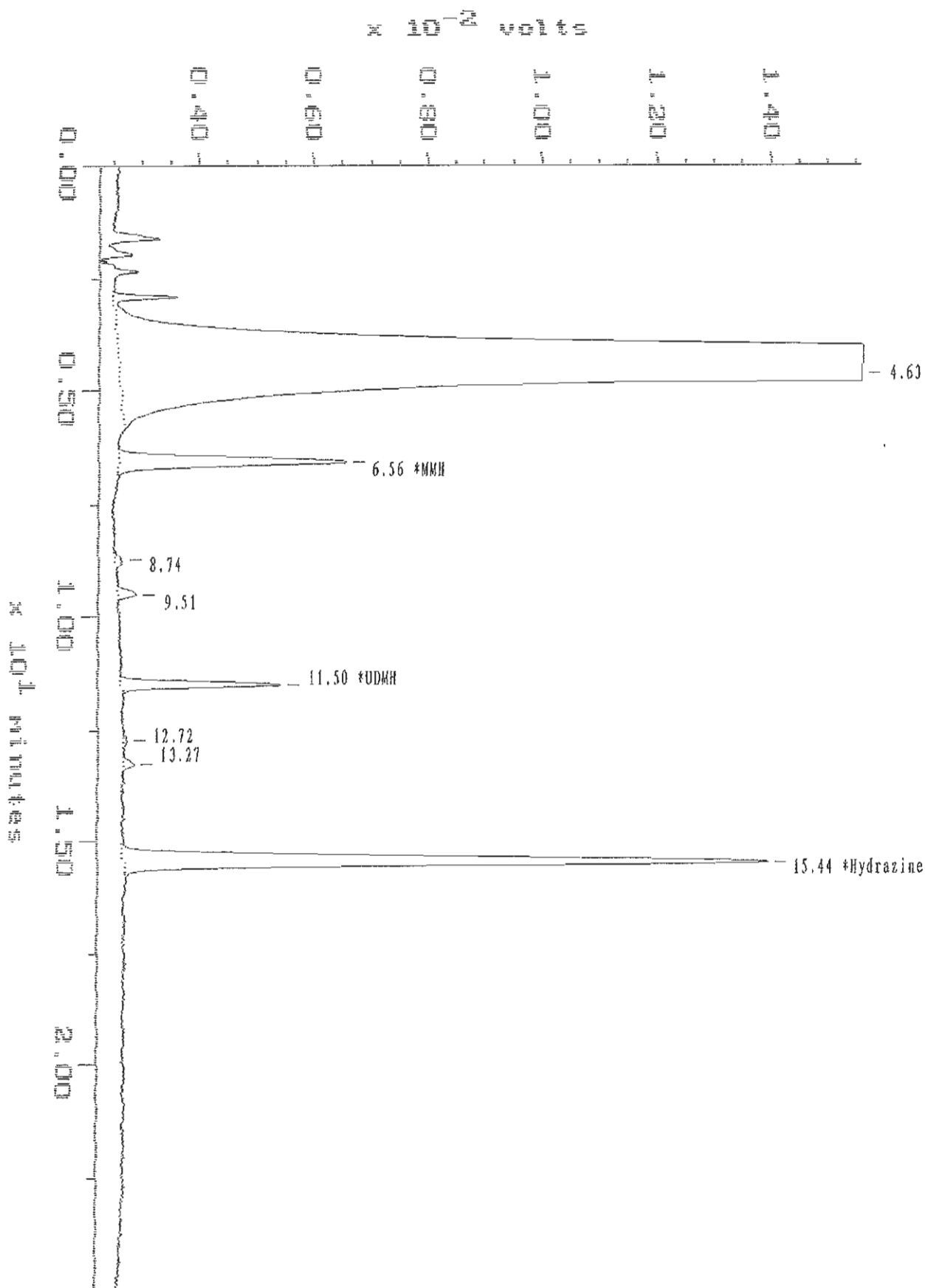
Filename: MR112315  
Operator: JS

$\times 10^{-2}$  volts



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: BPA8315M,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

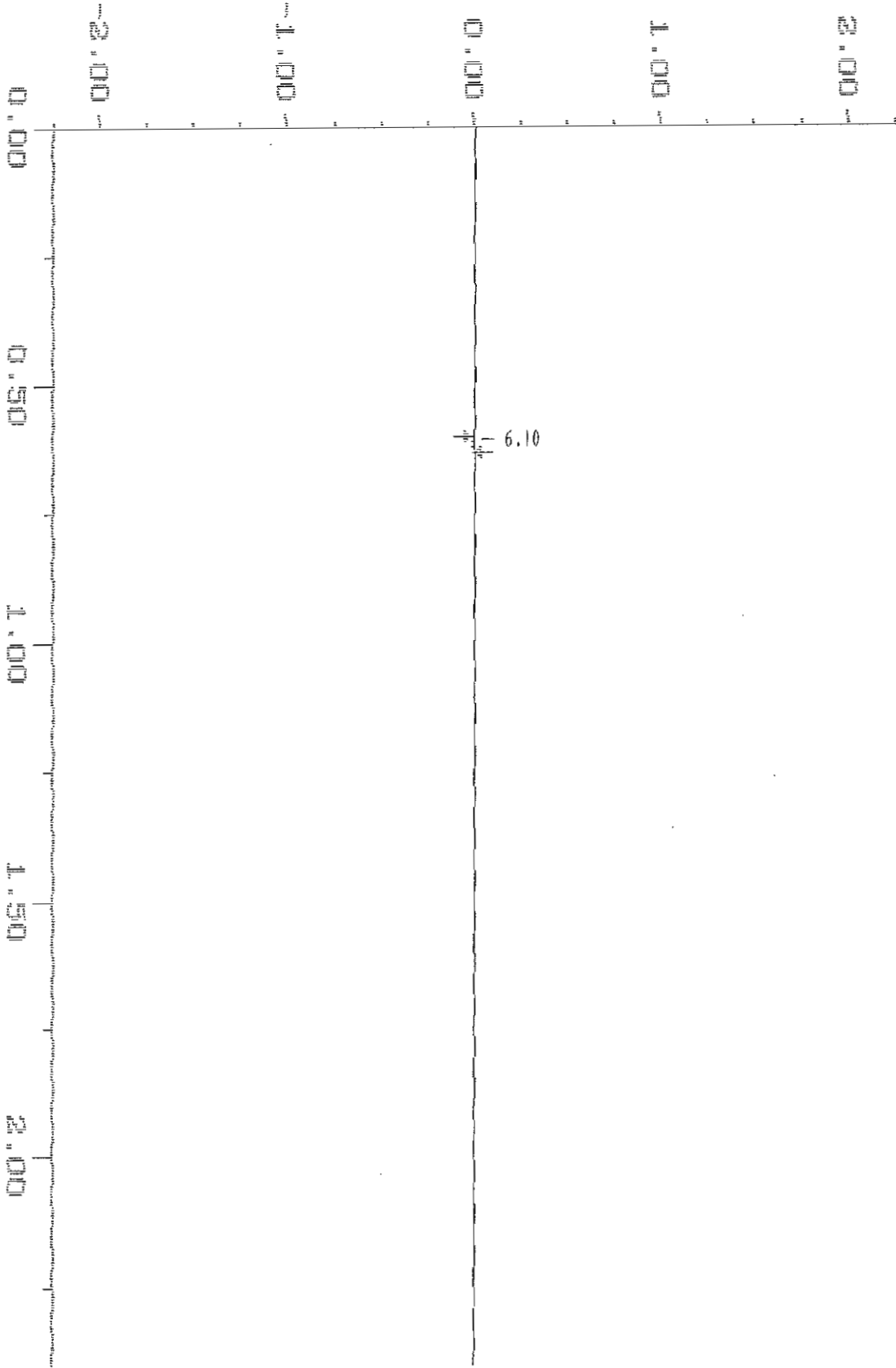
DETECTOR: \*UV #2 322

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

Sample: MP BLANK 2 Channel: UV #1 365  
Acquired: 23-MAR-11 15:34 Method: C:\MAX\DATA1\HYD-699

Filename: WR112316  
Operator: JS

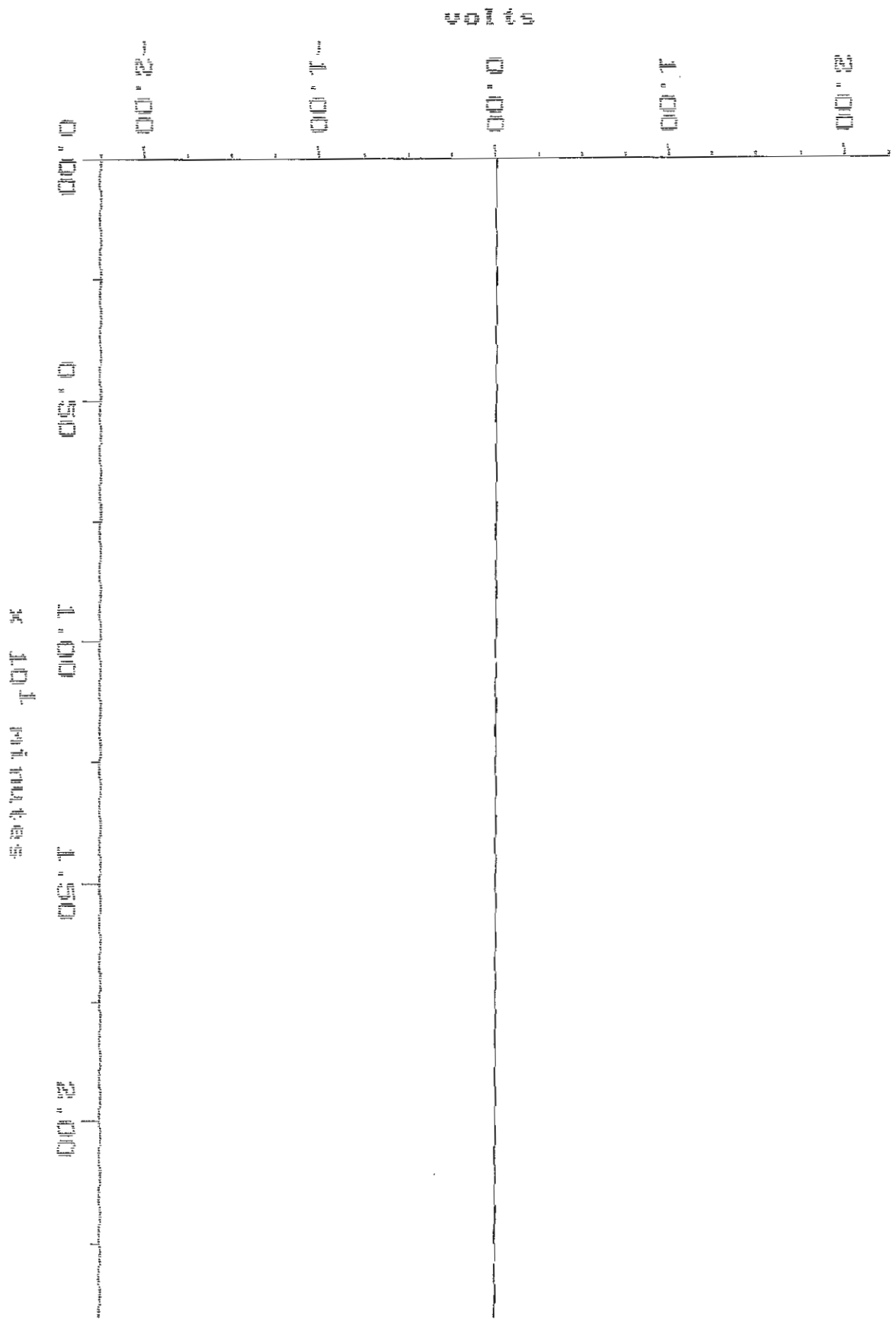
6.10



6.10 min

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

Filename: MR112316  
Operator: JS





## **APPENDIX G**

### **Section 49**

Outfall 018 – February 17 **& 18**, 2011

MEC<sup>X</sup> Data Validation Report



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUB1966

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: IUB1966  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 2  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 018	IUB1966-01	N/A	Water	2/18/10 15:30	120.1, 8015M
Outfall 018	IUB1966-03	G1B220467-001, S102233-001, 993769-01	Water	2/18/10 15:31	180.1, 200.7, 200.7 (Diss), 245.1, 245.1 (Diss), 1613B, 8260B SIM, 8315M, 625, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, SM2340B, SM2340B-Diss, SM5310B, ASTM 5174

**II. Sample Management**

No anomalies were observed regarding sample management. The samples were received above the temperature limit at Eberline; 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 sample was couriered to TestAmerica-Irvine and Truesdail, no custody seals were required. If necessary, the client ID was added to the sample result summary by the reviewer.

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**Data Qualifier Reference Table**


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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.

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### 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.**

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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.

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### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: March 24, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> 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 RL for OCDD. The sample result below the reporting limit was qualified as nondetected, "U," at the level of 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. EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. 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 8315M—Hydrazines

Reviewed By: P. Meeks

Date Reviewed: March 25, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> 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  $\geq 0.995$ . The ICV, CCV and QCS recoveries were within 85-115%.
- Blanks: Hydrazine was 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: March 25, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC<sup>x</sup> Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.7, 245.1*, 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  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110% for the ICP metals and 85-115% for mercury. The CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Method blanks and CCBs had no applicable detects.
- Interference Check Samples: Recoveries were within 80-120% for all 200.7 analyses. Boron was detected in the ICSA associated with the total analysis at 76.7 µg/L and was reported in the ICSA associated with the dissolved analysis at -57.7 µg/L; however, the concentration of the primary interferent, iron, was not sufficient to cause matrix interference in the site sample.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the the sample in this SDG. Method accuracy for the methods was evaluated based on the LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- 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.
- 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 — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: March 25, 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, 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 recoveries were within laboratory-established control limits.
- **Laboratory Duplicates:** Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. The gross alpha RPD exceeded the control limit; therefore gross alpha detected in the sample was qualified as estimated, "J." The remaining 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.

- 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: March 25, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> 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  $\geq 0.05$  for all target compounds. The initial calibration %RSDs were  $\leq 35\%$ , or  $r^2$  values  $\geq 0.995$ . The second source ICV had a %D above 20% for 1,2-diphenylhydrazine/azobenzene; therefore, the nondetected result for this compound was qualified as estimated, "UJ." The remaining ICV and CCV %Ds were  $\leq 20\%$ .
- Blanks: Butylbenzyl phthalate was detected in the method blank below the reporting limit at 0.70  $\mu\text{g/L}$ . The sample result for butylbenzyl phthalate 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: Recoveries 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 was evaluated based on LCS 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.
- **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  $\pm 30$  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. EPA METHODS 8015Mod—Gasoline Range Organics (GRO), and 8015B—Extractable Total Fuel Hydrocarbons (EFHs)**

Reviewed By: L. Calvin

Date Reviewed: March 25, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> Data Validation Procedure for Total Fuel Hydrocarbons (DVP-8, Rev. 0)*, *EPA Method 8015B*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- **Holding Times:** Extraction and analytical holding times were met. The GRO sample was analyzed within 14 days of collection and the sample for the remaining hydrocarbon ranges was extracted within seven days of collection and analyzed within 40 days of extraction.

- Calibration: The initial calibration %RSDs for all target compound ranges were less than 20%, and continuing calibration %Ds were less than 15%.
- Blanks: The method blanks had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries for all LCSs and RPDs for the EFH LCS/LCSD (representative of all of the reported extractable hydrocarbon ranges) were within laboratory-established QC limits.
- Surrogate Recovery: The surrogate recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample of this SDG. Method accuracy for GRO and EFH ranges, and precision for EFH were evaluated based on the blank spike 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. Four hydrocarbon ranges were reported: GRO (C4-C12,) DRO (C13-C28,) EFH (C13-C40,) and ORO (C29-C40.) Review of the sample chromatograms and retention time ranges 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 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.

#### **G. EPA METHOD 8260B-SIM—1,4-Dioxane**

Reviewed By: L. Calvin

Date Reviewed: March 25, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0)*, *EPA Methods 624 and 8260B*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: The analytical holding time was met. The preserved water sample was analyzed within 14 days of collection.
- GC/MS Tuning: The BFB tunes met the method abundance criteria specified by EPA Method 8260B. Samples were analyzed within 12 hours of the BFB injection time.
- Calibration: The initial calibration average RRF and continuing calibration RRF were  $\geq 0.05$  for 1,4-dioxane. The initial calibration %RSD was  $\leq 15\%$ , and the continuing calibration %D was  $\leq 20\%$ .
- Blanks: The method blank had 1,4-dioxane detected marginally below the MDL at 0.68  $\mu\text{g/L}$ . The sample result below the reporting limit was well below five times the method blank concentration; therefore, in the professional judgment of the reviewer, the sample result was qualified as nondetected, "U," at the level of contamination.
- Blank Spikes and Laboratory Control Samples: The LCS recovery was within laboratory-established QC limits.
- Surrogate Recovery: The recovery was within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample from this SDG. Evaluation of method accuracy was based on LCS 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:
  - Trip Blanks: A trip blank was not analyzed for 1,4-dioxane by Method 8260B SIM.
  - 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 in this SDG.
- 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  $\pm 30$  seconds for retention times.
- Compound Identification: Compound identification was verified. The laboratory analyzed for 1,4-dioxane by Method 8260B SIM. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limit was supported by the low point of the initial calibration and the laboratory MDL. Any result reported between the MDL and the reporting limit was

qualified as estimated, "J," and coded with "DNQ" 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.

## H. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: March 25, 2011

The sample listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Methods 120.1, 180.1, 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  $\geq 0.995$ . All initial and continuing calibration recoveries were within 90-110%.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- 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.
- 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 IUB1966

## *Analysis Method 8663*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.104	1	0.02	pCi/L	Jb	J	DNQ

## *Analysis Method 900*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.49	3	0.367	pCi/L	Jb	J	C, E, DNQ
Gross Beta	12587472	3.7	4	1.01	pCi/L	Jb	J	DNQ

## *Analysis Method 901.1*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.25	pCi/L	U	U	
Potassium-40	13966002	ND	25	29.1	pCi/L	U	U	

## *Analysis Method 903.1*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	-0.028	1	0.583	pCi/L	U	U	

## *Analysis Method 904*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** WATER **Validation Level:** IV

**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.13	1	0.493	pCi/L	U	U	

*Analysis Method 905*

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<b>Sample Name</b>	Outfall 018 (Composite)	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUB1966-03	<b>Sample Date:</b>	2/18/2011 3:31:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Strontium-90	10098972	-0.162	2	0.728	pCi/L	U	U	

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*Analysis Method 906*

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<b>Sample Name</b>	Outfall 018 (Composite)	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUB1966-03	<b>Sample Date:</b>	2/18/2011 3:31:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Tritium	10028178	-33.1	500	218	pCi/L	U	U	

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*Analysis Method EPA 120.1*

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<b>Sample Name</b>	Outfall 018 (Grab)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUB1966-01	<b>Sample Date:</b>	2/17/2011 3:30:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Specific Conductance	NA	250	1.0	1.0	umhos/c			

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*Analysis Method EPA 180.1*

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<b>Sample Name</b>	Outfall 018 (Composite)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUB1966-03	<b>Sample Date:</b>	2/18/2011 3:31:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Turbidity	Turb	3.1	1.0	0.040	NTU			

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*Analysis Method EPA 200.7*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 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	0.010	0.010	0.0060	mg/l			
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	0.055	0.050	0.020	mg/l			
Calcium	7440-70-2	33	0.10	0.050	mg/l			
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U	
Cobalt	7440-48-4	ND	10	2.0	ug/l		U	
Iron	7439-89-6	0.073	0.040	0.015	mg/l			
Magnesium	7439-95-4	7.7	0.020	0.012	mg/l			
Manganese	7439-96-5	49	20	7.0	ug/l			
Nickel	7440-02-0	2.3	10	2.0	ug/l	J	J	DNQ
Vanadium	7440-62-2	ND	10	3.0	ug/l		U	
Zinc	7440-66-6	6.72	20.0	6.00	ug/l	J	J	DNQ

*Analysis Method EPA 200.7-Diss*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 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	0.010	0.010	0.0060	mg/l			
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	0.060	0.050	0.020	mg/l			
Calcium	7440-70-2	32	0.10	0.050	mg/l			
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U	
Cobalt	7440-48-4	ND	10	2.0	ug/l		U	
Iron	7439-89-6	0.026	0.040	0.015	mg/l	J	J	DNQ
Magnesium	7439-95-4	7.6	0.020	0.012	mg/l			
Manganese	7439-96-5	ND	20	7.0	ug/l		U	
Nickel	7440-02-0	2.0	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*

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**Sample Name**    Outfall 018 (Composite)    **Matrix Type:**    Water    **Validation Level:**    IV

**Lab Sample Name:**    IUB1966-03    **Sample Date:**    2/18/2011 3:31:00 PM

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<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

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*Analysis Method*    *EPA 245.1-Diss*

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**Sample Name**    Outfall 018 (Composite)    **Matrix Type:**    Water    **Validation Level:**    IV

**Lab Sample Name:**    IUB1966-03    **Sample Date:**    2/18/2011 3:31:00 PM

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<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

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## Analysis Method EPA 625

**Sample Name** Outfall 018 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUB1966-03RE1 **Sample Date:** 2/18/2011 3:31:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	120-82-1	ND	1.00	0.100	ug/l		U	
1,2-Dichlorobenzene	95-50-1	ND	0.500	0.100	ug/l		U	
1,2-Diphenylhydrazine/Azobenzene	103-33-3	ND	1.00	0.100	ug/l	C	UJ	C
1,3-Dichlorobenzene	541-73-1	ND	0.500	0.100	ug/l		U	
1,4-Dichlorobenzene	106-46-7	ND	0.500	0.200	ug/l		U	
2,4,6-Trichlorophenol	88-06-2	ND	1.00	0.100	ug/l		U	
2,4-Dichlorophenol	120-83-2	ND	2.00	0.200	ug/l		U	
2,4-Dimethylphenol	105-67-9	ND	2.00	0.300	ug/l		U	
2,4-Dinitrophenol	51-28-5	ND	5.00	0.900	ug/l		U	
2,4-Dinitrotoluene	121-14-2	ND	5.00	0.200	ug/l		U	
2,6-Dinitrotoluene	606-20-2	ND	5.00	0.100	ug/l		U	
2-Chloronaphthalene	91-58-7	ND	0.500	0.100	ug/l		U	
2-Chlorophenol	95-57-8	ND	1.00	0.200	ug/l		U	
2-Nitrophenol	88-75-5	ND	2.00	0.100	ug/l		U	
3,3'-Dichlorobenzidine	91-94-1	ND	5.00	5.00	ug/l		U	
4,6-Dinitro-2-methylphenol	534-52-1	ND	5.00	0.200	ug/l		U	
4-Bromophenyl phenyl ether	101-55-3	ND	1.00	0.100	ug/l		U	
4-Chloro-3-methylphenol	59-50-7	ND	2.00	0.200	ug/l		U	
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.500	0.100	ug/l		U	
4-Nitrophenol	100-02-7	ND	5.00	2.50	ug/l		U	
Acenaphthene	83-32-9	ND	0.500	0.100	ug/l		U	
Acenaphthylene	208-96-8	ND	0.500	0.100	ug/l		U	
Anthracene	120-12-7	ND	0.500	0.100	ug/l		U	
Benzidine	92-87-5	ND	5.00	5.00	ug/l		U	
Benzo(a)anthracene	56-55-3	ND	5.00	0.100	ug/l		U	
Benzo(a)pyrene	50-32-8	ND	2.00	0.100	ug/l		U	
Benzo(b)fluoranthene	205-99-2	ND	2.00	0.100	ug/l		U	
Benzo(g,h,i)perylene	191-24-2	ND	5.00	0.100	ug/l		U	
Benzo(k)fluoranthene	207-08-9	ND	0.500	0.100	ug/l		U	
Bis(2-chloroethoxy)methane	111-91-1	ND	0.500	0.100	ug/l		U	
Bis(2-chloroethyl)ether	111-44-4	ND	0.500	0.100	ug/l		U	
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.500	0.100	ug/l		U	
Bis(2-ethylhexyl)phthalate	117-81-7	ND	5.00	1.70	ug/l		U	
Butyl benzyl phthalate	85-68-7	ND	5.00	0.700	ug/l	B, J	U	B
Chrysene	218-01-9	ND	0.500	0.100	ug/l		U	

*Analysis Method EPA 625*

Dibenz(a,h)anthracene	53-70-3	ND	0.500	0.100	ug/l		U	
Diethyl phthalate	84-66-2	0.200	1.00	0.100	ug/l	J	J	DNQ
Dimethyl phthalate	131-11-3	ND	0.500	0.100	ug/l		U	
Di-n-butyl phthalate	84-74-2	ND	2.00	0.200	ug/l		U	
Di-n-octyl phthalate	117-84-0	ND	5.00	0.100	ug/l		U	
Fluoranthene	206-44-0	ND	0.500	0.100	ug/l		U	
Fluorene	86-73-7	ND	0.500	0.100	ug/l		U	
Hexachlorobenzene	118-74-1	ND	1.00	0.100	ug/l		U	
Hexachlorobutadiene	87-68-3	ND	2.00	0.200	ug/l		U	
Hexachlorocyclopentadiene	77-47-4	ND	5.00	0.100	ug/l		U	
Hexachloroethane	67-72-1	ND	3.00	0.200	ug/l		U	
Indeno(1,2,3-cd)pyrene	193-39-5	ND	2.00	0.100	ug/l		U	
Isophorone	78-59-1	ND	1.00	0.100	ug/l		U	
Naphthalene	91-20-3	ND	1.00	0.100	ug/l		U	
Nitrobenzene	98-95-3	ND	1.00	0.100	ug/l		U	
N-Nitrosodimethylamine	62-75-9	ND	2.00	0.100	ug/l		U	
N-Nitroso-di-n-propylamine	621-64-7	ND	2.00	0.100	ug/l		U	
N-Nitrosodiphenylamine	86-30-6	ND	1.00	0.100	ug/l		U	
Pentachlorophenol	87-86-5	ND	2.00	0.100	ug/l		U	
Phenanthrene	85-01-8	ND	0.500	0.100	ug/l		U	
Phenol	108-95-2	ND	1.00	0.300	ug/l		U	
Pyrene	129-00-0	ND	0.500	0.100	ug/l		U	

*Analysis Method EPA 8015 Mod.*

<b>Sample Name</b>	Outfall 018 (Grab)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUB1966-01	<b>Sample Date:</b>	2/17/2011 3:30:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
GRO (C4 - C12)	8006-61-9	0.036	0.10	0.025	mg/l	J	J	DNQ

*Analysis Method EPA 8015B*

<b>Sample Name</b>	Outfall 018 (Grab)	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	IUB1966-01	<b>Sample Date:</b>	2/17/2011 3:30:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
DRO (C13 - C28)	C13-C28	ND	0.51	0.10	mg/l		U	

*Analysis Method EPA 8260B-SIM*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,4-Dioxane	123-91-1	ND	2.0	1.0	ug/l	J	U	B

*Analysis Method EPA-5 1613B*

**Sample Name** Outfall 018 (Composite) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 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	0.000004	0.000057	0.0000007	ug/L	J	J	DNQ
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.000002	0.000057	0.0000006	ug/L	J	J	DNQ
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000057	0.0000007	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000057	0.0000007	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000057	0.0000002	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDD	57653-85-7	0.000001	0.000057	0.0000006	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000057	0.0000002	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000057	0.0000006	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000057	0.0000002	ug/L	J, Q	UJ	*III
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000057	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000057	0.0000007	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000057	0.0000002	ug/L	J, Q	UJ	*III
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000057	0.0000007	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.000011	0.0000007	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.000011	0.0000009	ug/L		U	
OCDD	3268-87-9	ND	0.00011	0.0000012	ug/L	J, Ba	U	B
OCDF	39001-02-0	0.000005	0.00011	0.000001	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	0.000007	0.000057	0.0000007	ug/L	J	J	DNQ
Total HpCDF	38998-75-3	0.000003	0.000057	0.0000007	ug/L	J, Q	J	DNQ, *III
Total HxCDD	34465-46-8	0.000003	0.000057	0.0000006	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	0.000003	0.000057	0.0000002	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.000057	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000057	0.0000007	ug/L		U	
Total TCDD	41903-57-5	ND	0.000011	0.0000007	ug/L		U	
Total TCDF	55722-27-5	ND	0.000011	0.0000009	ug/L		U	



*Analysis Method SM2340B*

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**Sample Name** Outfall 018 (Composite) **Matrix Type:** Water **Validation Level:** IV

**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Hardness (as CaCO3)	NA	110	0.33	0.17	mg/l			

*Analysis Method SM5310B*

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**Sample Name** Outfall 018 (Composite) **Matrix Type:** Water **Validation Level:** IV

**Lab Sample Name:** IUB1966-03 **Sample Date:** 2/18/2011 3:31:00 PM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Total Organic Carbon	TOC	10	1.0	0.50	mg/l			

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

## REPORT

**Attention:** Debby Wilson  
**Sample:** Water / 1 Sample  
**Project Name:** IUB1966  
**Project Number:** IUB1966  
**Method Number:** EPA 8315 (Modified)  
**Investigation:** Hydrazines

**Laboratory No:** 993769  
**Report Date:** March 3, 2011  
**Sampling Date:** February 18, 2011  
**Receiving Date:** February 22, 2011  
**Extraction Date:** February 22, 2011  
**Analysis Date:** February 23, 2011  
**Units:** µg/L  
**Reported By:** JS

Outfall 018

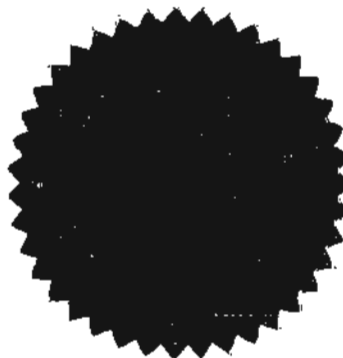
### Analytical Results

Sample ID	Sample Description	Sample Amount (mL)	Dilution Factor	Monomethyl Hydrazine	u-Dimethyl Hydrazine	Hydrazine	Qualifier Codes
709287-MB	Method Blank	100	1	ND	ND	ND	None
993769	IUB1966-03	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	

Level IV

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

Note: Sample was received after hold time.



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

## **APPENDIX G**

### **Section 50**

Outfall 018 – February 17 & 18, 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 018

Sampled: 02/17/11-02/18/11  
Received: 02/17/11  
Revised: 04/28/11 16:30

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:** All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

**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  
Sample: 1  
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.  
Revised report to correct carbon range and units for 8015.  
Revised report to include trichlorofluoromethane and xylenes per client request.

#### LABORATORY ID

IUB1966-01  
IUB1966-02  
IUB1966-03

#### CLIENT ID

Outfall 018 (Grab)  
Trip Blank  
Outfall 018 (Composite)

#### MATRIX

Water  
Water  
Water

**TestAmerica Irvine**

Debby Wilson  
Project Manager

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

**LABORATORY ID**

IUB1966-04

**CLIENT ID**

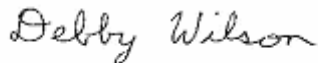
Trip Blank

**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

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**IUB1966 <Page 2 of 87>**

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## CORRECTIVE ACTION REPORT

Department: Pesticides

Date: 02/25/2011

Method: EPA 608

Matrix: Water

QC Batch: 11B2911

### Identification and Definition of Problem:

The surrogate recovery in the method blank for batch 11B2911 was below laboratory control limits.

### Determination of the Cause of the Problem:

A definitive cause for the QC failure has not been determined. The surrogate recovery was also low (but passing) in the LCS for this batch but all the associated samples had passing surrogate recoveries. It is suspected the problem was related to the laboratory's reagent water supply.

### Corrective Action Taken:

The presence of a non-detect sample has been used to demonstrate passing negative (blank) control. This is based on the fact that the laboratory water is used only for the batch QC (method blank and LCS), it would have no impact on sample results. The sample used as the blank has been reported in the batch as 11B2911-BLK2 and is referenced to this non-conformance report. Corrective action on the laboratory's water system is in progress.

Quality Assurance Approval:



Dave Dawes

Date: 04/05/2011 02:44 PM

### TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water)</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: mg/l</b>									
<b>GRO (C4 - C12)</b>	EPA 8015 Mod.	11C0087	0.025	0.10	<b>0.036</b>	1	IM	03/02/11	J
<i>Surrogate: 4-BFB (FID) (65-140%)</i>					<i>90 %</i>				

TestAmerica Irvine

Debby Wilson  
Project Manager

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**IUB1966 <Page 4 of 87>**

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water) - cont.</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: mg/l</b>									
DRO (C13 - C28)	EPA 8015B	11B3103	0.10	0.51	ND	1.02	CP	02/25/11	
<i>Surrogate: n-Octacosane (45-120%)</i>					47 %				

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Debby Wilson  
Project Manager

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**IUB1966 <Page 5 of 87>**



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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water) - cont.</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: ug/l</b>									
Benzene	EPA 624	11C0049	0.28	0.50	ND	1	ALE	03/02/11	
Bromodichloromethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
Bromoform	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
Bromomethane	EPA 624	11C0049	0.42	1.0	ND	1	ALE	03/02/11	
Carbon tetrachloride	EPA 624	11C0049	0.28	0.50	ND	1	ALE	03/02/11	
Chlorobenzene	EPA 624	11C0049	0.36	0.50	ND	1	ALE	03/02/11	
Chloroethane	EPA 624	11C0049	0.40	1.0	ND	1	ALE	03/02/11	
Chloroform	EPA 624	11C0049	0.33	0.50	ND	1	ALE	03/02/11	
Chloromethane	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
Dibromochloromethane	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
1,2-Dichlorobenzene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
1,3-Dichlorobenzene	EPA 624	11C0049	0.35	0.50	ND	1	ALE	03/02/11	
1,4-Dichlorobenzene	EPA 624	11C0049	0.37	0.50	ND	1	ALE	03/02/11	
1,1-Dichloroethane	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
1,2-Dichloroethane	EPA 624	11C0049	0.28	0.50	ND	1	ALE	03/02/11	
1,1-Dichloroethene	EPA 624	11C0049	0.42	0.50	ND	1	ALE	03/02/11	
cis-1,2-Dichloroethene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
trans-1,2-Dichloroethene	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
1,2-Dichloropropane	EPA 624	11C0049	0.35	0.50	ND	1	ALE	03/02/11	
cis-1,3-Dichloropropene	EPA 624	11C0049	0.22	0.50	ND	1	ALE	03/02/11	
trans-1,3-Dichloropropene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624	11C0049	1.1	2.0	ND	1	ALE	03/02/11	
Ethylbenzene	EPA 624	11C0049	0.25	0.50	ND	1	ALE	03/02/11	
Methylene chloride	EPA 624	11C0049	0.95	1.0	ND	1	ALE	03/02/11	
1,1,2,2-Tetrachloroethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
Tetrachloroethene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
1,1,1-Trichloroethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
1,1,2-Trichloroethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
Trichloroethene	EPA 624	11C0049	0.26	0.50	ND	1	ALE	03/02/11	
Trichlorofluoromethane	EPA 624	11C0049	0.34	0.50	ND	1	GCM	03/02/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11C0049	0.50	5.0	ND	1	ALE	03/02/11	
Vinyl chloride	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
Xylenes, Total	EPA 624	11C0049	0.90	1.5	ND	1	GCM	03/02/11	
Cyclohexane	EPA 624	11C0049	0.40	1.0	ND	1	ALE	03/02/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					<i>105 %</i>				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					<i>115 %</i>				
<i>Surrogate: Toluene-d8 (80-120%)</i>					<i>111 %</i>				

### 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 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-01RE1 (Outfall 018 (Grab) - Water) - cont.</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: ug/l</b>									
Toluene	EPA 624	11C0226	0.36	0.50	ND	1	GMK	03/02/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					92 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					101 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					105 %				

**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 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-02 (Trip Blank - Water)</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: ug/l</b>									
Benzene	EPA 624	11C0049	0.28	0.50	ND	1	ALE	03/02/11	
Bromodichloromethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
Bromoform	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
Bromomethane	EPA 624	11C0049	0.42	1.0	ND	1	ALE	03/02/11	
Carbon tetrachloride	EPA 624	11C0049	0.28	0.50	ND	1	ALE	03/02/11	
Chlorobenzene	EPA 624	11C0049	0.36	0.50	ND	1	ALE	03/02/11	
Chloroethane	EPA 624	11C0049	0.40	1.0	ND	1	ALE	03/02/11	
Chloroform	EPA 624	11C0049	0.33	0.50	ND	1	ALE	03/02/11	
Chloromethane	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
Dibromochloromethane	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
1,2-Dichlorobenzene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
1,3-Dichlorobenzene	EPA 624	11C0049	0.35	0.50	ND	1	ALE	03/02/11	
1,4-Dichlorobenzene	EPA 624	11C0049	0.37	0.50	ND	1	ALE	03/02/11	
1,1-Dichloroethane	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
1,2-Dichloroethane	EPA 624	11C0049	0.28	0.50	ND	1	ALE	03/02/11	
1,1-Dichloroethene	EPA 624	11C0049	0.42	0.50	ND	1	ALE	03/02/11	
cis-1,2-Dichloroethene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
trans-1,2-Dichloroethene	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
1,2-Dichloropropane	EPA 624	11C0049	0.35	0.50	ND	1	ALE	03/02/11	
cis-1,3-Dichloropropene	EPA 624	11C0049	0.22	0.50	ND	1	ALE	03/02/11	
trans-1,3-Dichloropropene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624	11C0049	1.1	2.0	ND	1	ALE	03/02/11	
Ethylbenzene	EPA 624	11C0049	0.25	0.50	ND	1	ALE	03/02/11	
Methylene chloride	EPA 624	11C0049	0.95	1.0	ND	1	ALE	03/02/11	
1,1,2,2-Tetrachloroethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
Tetrachloroethene	EPA 624	11C0049	0.32	0.50	ND	1	ALE	03/02/11	
1,1,1-Trichloroethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
1,1,2-Trichloroethane	EPA 624	11C0049	0.30	0.50	ND	1	ALE	03/02/11	
Trichloroethene	EPA 624	11C0049	0.26	0.50	ND	1	ALE	03/02/11	
Trichlorofluoromethane	EPA 624	11C0049	0.34	0.50	ND	1	GCM	03/02/11	
Trichlorotrifluoroethane (Freon 113)	EPA 624	11C0049	0.50	5.0	ND	1	ALE	03/02/11	
Vinyl chloride	EPA 624	11C0049	0.40	0.50	ND	1	ALE	03/02/11	
Xylenes, Total	EPA 624	11C0049	0.90	1.5	ND	1	GCM	03/02/11	
Cyclohexane	EPA 624	11C0049	0.40	1.0	ND	1	ALE	03/02/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					<i>103 %</i>				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					<i>115 %</i>				
<i>Surrogate: Toluene-d8 (80-120%)</i>					<i>111 %</i>				

**Sample ID: IUB1966-02RE1 (Trip Blank - Water)**

**Sampled: 02/17/11**

**Reporting Units: ug/l**

Toluene	EPA 624	11C0226	0.36	0.50	ND	1	GMK	03/02/11	
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### TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-02RE1 (Trip Blank - Water) - cont.</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: ug/l</b>									
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					95 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					102 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					104 %				

**TestAmerica Irvine**

Debby Wilson  
Project Manager

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**IUB1966 <Page 9 of 87>**

MWH-Pasadena/Boeing  
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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water)</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: ug/l</b>									
Acrolein	EPA 624	11B2518	4.0	5.0	ND	1	LB	02/19/11	C
Acrylonitrile	EPA 624	11B2518	1.2	2.0	ND	1	LB	02/19/11	
2-Chloroethyl vinyl ether	EPA 624	11B2518	1.8	5.0	ND	1	LB	02/19/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					101 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					109 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					111 %				
<b>Sample ID: IUB1966-02 (Trip Blank - Water)</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: ug/l</b>									
Acrolein	EPA 624	11B2518	4.0	5.0	ND	1	LB	02/19/11	C
Acrylonitrile	EPA 624	11B2518	1.2	2.0	ND	1	LB	02/19/11	
2-Chloroethyl vinyl ether	EPA 624	11B2518	1.8	5.0	ND	1	LB	02/19/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					102 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					105 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					111 %				

TestAmerica Irvine

Debby Wilson  
 Project Manager

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MWH-Pasadena/Boeing  
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Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: ug/l</b>									
<b>1,4-Dioxane</b>	EPA 8260B-SIM	11B3460	1.0	2.0	<b>1.4</b>	1	GMK	02/28/11	J
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					<i>115 %</i>				

**TestAmerica Irvine**

Debby Wilson  
Project Manager

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**IUB1966 <Page 11 of 87>**

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03RE1 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: ug/l</b>									
Acenaphthene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Acenaphthylene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Anthracene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Benzydine	EPA 625	11B3291	5.00	5.00	ND	1	up	03/02/11	
Benzo(a)anthracene	EPA 625	11B3291	0.100	5.00	ND	1	up	03/02/11	
Benzo(a)pyrene	EPA 625	11B3291	0.100	2.00	ND	1	up	03/02/11	
Benzo(b)fluoranthene	EPA 625	11B3291	0.100	2.00	ND	1	up	03/02/11	
Benzo(g,h,i)perylene	EPA 625	11B3291	0.100	5.00	ND	1	up	03/02/11	
Benzo(k)fluoranthene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
4-Bromophenyl phenyl ether	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
<b>Butyl benzyl phthalate</b>	EPA 625	11B3291	0.700	5.00	<b>0.820</b>	1	up	03/02/11	B, J
4-Chloro-3-methylphenol	EPA 625	11B3291	0.200	2.00	ND	1	up	03/02/11	
Bis(2-chloroethoxy)methane	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Bis(2-chloroethyl)ether	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Bis(2-chloroisopropyl)ether	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Bis(2-ethylhexyl)phthalate	EPA 625	11B3291	1.70	5.00	ND	1	up	03/02/11	
2-Chloronaphthalene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
2-Chlorophenol	EPA 625	11B3291	0.200	1.00	ND	1	up	03/02/11	
4-Chlorophenyl phenyl ether	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Chrysene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Dibenz(a,h)anthracene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Di-n-butyl phthalate	EPA 625	11B3291	0.200	2.00	ND	1	up	03/02/11	
1,2-Dichlorobenzene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
1,3-Dichlorobenzene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
1,4-Dichlorobenzene	EPA 625	11B3291	0.200	0.500	ND	1	up	03/02/11	
3,3'-Dichlorobenzidine	EPA 625	11B3291	5.00	5.00	ND	1	up	03/02/11	
2,4-Dichlorophenol	EPA 625	11B3291	0.200	2.00	ND	1	up	03/02/11	
<b>Diethyl phthalate</b>	EPA 625	11B3291	0.100	1.00	<b>0.200</b>	1	up	03/02/11	J
2,4-Dimethylphenol	EPA 625	11B3291	0.300	2.00	ND	1	up	03/02/11	
Dimethyl phthalate	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
4,6-Dinitro-2-methylphenol	EPA 625	11B3291	0.200	5.00	ND	1	up	03/02/11	
2,4-Dinitrophenol	EPA 625	11B3291	0.900	5.00	ND	1	up	03/02/11	
2,4-Dinitrotoluene	EPA 625	11B3291	0.200	5.00	ND	1	up	03/02/11	
2,6-Dinitrotoluene	EPA 625	11B3291	0.100	5.00	ND	1	up	03/02/11	
Di-n-octyl phthalate	EPA 625	11B3291	0.100	5.00	ND	1	up	03/02/11	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	C
Fluoranthene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Fluorene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Hexachlorobenzene	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
Hexachlorobutadiene	EPA 625	11B3291	0.200	2.00	ND	1	up	03/02/11	
Hexachlorocyclopentadiene	EPA 625	11B3291	0.100	5.00	ND	1	up	03/02/11	

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Debby Wilson  
Project Manager

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03RE1 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: ug/l</b>									
Hexachloroethane	EPA 625	11B3291	0.200	3.00	ND	1	up	03/02/11	
Indeno(1,2,3-cd)pyrene	EPA 625	11B3291	0.100	2.00	ND	1	up	03/02/11	
Isophorone	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
Naphthalene	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
Nitrobenzene	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
2-Nitrophenol	EPA 625	11B3291	0.100	2.00	ND	1	up	03/02/11	
4-Nitrophenol	EPA 625	11B3291	2.50	5.00	ND	1	up	03/02/11	
N-Nitroso-di-n-propylamine	EPA 625	11B3291	0.100	2.00	ND	1	up	03/02/11	
N-Nitrosodimethylamine	EPA 625	11B3291	0.100	2.00	ND	1	up	03/02/11	
N-Nitrosodiphenylamine	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
Pentachlorophenol	EPA 625	11B3291	0.100	2.00	ND	1	up	03/02/11	
Phenanthrene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
Phenol	EPA 625	11B3291	0.300	1.00	ND	1	up	03/02/11	
Pyrene	EPA 625	11B3291	0.100	0.500	ND	1	up	03/02/11	
1,2,4-Trichlorobenzene	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
2,4,6-Trichlorophenol	EPA 625	11B3291	0.100	1.00	ND	1	up	03/02/11	
Surrogate: 2,4,6-Tribromophenol (40-120%)					81 %				
Surrogate: 2-Fluorobiphenyl (50-120%)					73 %				
Surrogate: 2-Fluorophenol (30-120%)					73 %				
Surrogate: Nitrobenzene-d5 (45-120%)					76 %				
Surrogate: Phenol-d6 (35-120%)					70 %				
Surrogate: Terphenyl-d14 (50-125%)					84 %				

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Arcadia, CA 91007  
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: ug/l</b>									
4,4'-DDD	EPA 608	11B2911	0.0043	0.0054	ND	1.08	CN	03/01/11	
4,4'-DDE	EPA 608	11B2911	0.0032	0.0054	ND	1.08	CN	03/01/11	
4,4'-DDT	EPA 608	11B2911	0.0043	0.011	ND	1.08	CN	03/01/11	
Aldrin	EPA 608	11B2911	0.0016	0.0054	ND	1.08	CN	03/01/11	
alpha-BHC	EPA 608	11B2911	0.0027	0.0054	ND	1.08	CN	03/01/11	
beta-BHC	EPA 608	11B2911	0.0043	0.011	ND	1.08	CN	03/01/11	
delta-BHC	EPA 608	11B2911	0.0038	0.0054	ND	1.08	CN	03/01/11	
Dieldrin	EPA 608	11B2911	0.0022	0.0054	ND	1.08	CN	03/01/11	
Endosulfan I	EPA 608	11B2911	0.0022	0.0054	ND	1.08	CN	03/01/11	
Endosulfan II	EPA 608	11B2911	0.0032	0.0054	ND	1.08	CN	03/01/11	
Endosulfan sulfate	EPA 608	11B2911	0.0032	0.011	ND	1.08	CN	03/01/11	
Endrin	EPA 608	11B2911	0.0022	0.0054	ND	1.08	CN	03/01/11	
Endrin aldehyde	EPA 608	11B2911	0.0022	0.011	ND	1.08	CN	03/01/11	
gamma-BHC (Lindane)	EPA 608	11B2911	0.0032	0.022	ND	1.08	CN	03/01/11	
Heptachlor	EPA 608	11B2911	0.0032	0.011	ND	1.08	CN	03/01/11	
Heptachlor epoxide	EPA 608	11B2911	0.0027	0.0054	ND	1.08	CN	03/01/11	L
Chlordane	EPA 608	11B2911	0.086	0.11	ND	1.08	CN	03/01/11	
Toxaphene	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	03/01/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					64 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					55 %				

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Project ID: Annual Outfall 018

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Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: ug/l</b>									
Aroclor 1016	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	02/25/11	
Aroclor 1221	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	02/25/11	
Aroclor 1232	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	02/25/11	
Aroclor 1242	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	02/25/11	
Aroclor 1248	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	02/25/11	
Aroclor 1254	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	02/25/11	
Aroclor 1260	EPA 608	11B2911	0.27	0.54	ND	1.08	CN	02/25/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					60 %				

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Received: 02/17/11

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water)</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C0598	1.3	4.7	ND	1	DA	03/04/11	

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Sampled: 02/17/11-02/18/11  
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## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: mg/l									
Hardness (as CaCO3)	SM2340B	[CALC]		0.33	110	1	LL	03/01/11	
Barium	EPA 200.7	11B3269	0.0060	0.010	0.010	1	LL	03/01/11	
Boron	EPA 200.7	11B3269	0.020	0.050	0.055	1	LL	03/01/11	
Calcium	EPA 200.7	11B3269	0.050	0.10	33	1	LL	03/01/11	
Iron	EPA 200.7	11B3269	0.015	0.040	0.073	1	LL	03/01/11	
Magnesium	EPA 200.7	11B3269	0.012	0.020	7.7	1	LL	03/01/11	
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: ug/l									
Mercury	EPA 245.1	11B2879	0.10	0.20	ND	1	DB	02/23/11	
Arsenic	EPA 200.7	11B3269	7.0	10	ND	1	LL	03/01/11	
Antimony	EPA 200.8	11B3277	0.30	2.0	0.33	1	RDC	02/25/11	J
Beryllium	EPA 200.7	11B3269	0.90	2.0	ND	1	LL	03/01/11	
Chromium	EPA 200.7	11B3269	2.0	5.0	ND	1	LL	03/01/11	
Cobalt	EPA 200.7	11B3269	2.0	10	ND	1	NH	03/02/11	
Manganese	EPA 200.7	11B3269	7.0	20	49	1	LL	03/01/11	
Nickel	EPA 200.7	11B3269	2.0	10	2.3	1	LL	03/01/11	J
Cadmium	EPA 200.8	11B3277	0.10	1.0	ND	1	RDC	02/25/11	
Vanadium	EPA 200.7	11B3269	3.0	10	ND	1	LL	03/01/11	
Zinc	EPA 200.7	11B3269	6.00	20.0	6.72	1	LL	03/01/11	J
Copper	EPA 200.8	11B3277	0.500	2.00	1.71	1	RDC	02/25/11	J
Lead	EPA 200.8	11B3277	0.20	1.0	ND	1	RDC	02/25/11	
Selenium	EPA 200.8	11B3277	0.50	2.0	ND	1	RDC	02/25/11	
Silver	EPA 200.8	11B3277	0.10	1.0	ND	1	RDC	02/25/11	
Thallium	EPA 200.8	11B3277	0.20	1.0	ND	1	RDC	02/25/11	

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Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]		0.33	110	1	NH	03/01/11	
Barium	EPA 200.7-Diss	11B2496	0.0060	0.010	0.010	1	NH	03/01/11	
Boron	EPA 200.7-Diss	11B2496	0.020	0.050	0.060	1	NH	03/01/11	
Calcium	EPA 200.7-Diss	11B2496	0.050	0.10	32	1	NH	03/01/11	
Iron	EPA 200.7-Diss	11B2496	0.015	0.040	0.026	1	NH	03/01/11	J
Magnesium	EPA 200.7-Diss	11B2496	0.012	0.020	7.6	1	NH	03/01/11	
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11B2762	0.10	0.20	ND	1	DB	02/23/11	
Arsenic	EPA 200.7-Diss	11B2496	7.0	10	ND	1	NH	03/01/11	
Antimony	EPA 200.8-Diss	11B2681	0.30	2.0	0.30	1	RDC	02/22/11	J
Beryllium	EPA 200.7-Diss	11B2496	0.90	2.0	ND	1	NH	03/01/11	
Chromium	EPA 200.7-Diss	11B2496	2.0	5.0	ND	1	NH	03/01/11	
Cobalt	EPA 200.7-Diss	11B2496	2.0	10	ND	1	LL	03/06/11	
Manganese	EPA 200.7-Diss	11B2496	7.0	20	ND	1	NH	03/01/11	
Nickel	EPA 200.7-Diss	11B2496	2.0	10	2.0	1	NH	03/01/11	J
Cadmium	EPA 200.8-Diss	11B2681	0.10	1.0	ND	1	RDC	02/22/11	
Vanadium	EPA 200.7-Diss	11B2496	3.0	10	ND	1	NH	03/01/11	
Zinc	EPA 200.7-Diss	11B2496	6.00	20.0	ND	1	NH	03/01/11	
Copper	EPA 200.8-Diss	11B2681	0.500	2.00	1.91	1	RDC	02/22/11	B, J
Lead	EPA 200.8-Diss	11B2681	0.20	1.0	ND	1	RDC	02/22/11	
Selenium	EPA 200.8-Diss	11B2681	0.50	2.0	ND	1	RDC	02/22/11	
Silver	EPA 200.8-Diss	11B2681	0.10	1.0	ND	1	RDC	02/22/11	
Thallium	EPA 200.8-Diss	11B2681	0.20	1.0	ND	1	RDC	02/22/11	

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## DISSOLVED INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: ug/l</b>									
Chromium VI	EPA 218.6	11B2432	0.250	1.00	ND	1	SLA	02/18/11	

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## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: mg/l</b>									
Ammonia-N (Distilled)	SM4500NH3-C	11B2727	0.500	0.500	ND	1	TMK	02/22/11	
<b>Biochemical Oxygen Demand</b>	SM5210B	11B2542	0.50	2.0	<b>2.2</b>	1	XL	02/24/11	
<b>Chloride</b>	EPA 300.0	11B2377	0.30	0.50	<b>11</b>	1	NN	02/18/11	
<b>Fluoride</b>	SM 4500-F-C	11B2818	0.020	0.10	<b>0.19</b>	1	FZ	02/23/11	
<b>Nitrate-N</b>	EPA 300.0	11B2377	0.060	0.11	<b>0.37</b>	1	NN	02/18/11	
Nitrite-N	EPA 300.0	11B2377	0.090	0.15	ND	1	NN	02/18/11	
<b>Nitrate/Nitrite-N</b>	EPA 300.0	11B2377	0.15	0.26	<b>0.37</b>	1	NN	02/18/11	
<b>Sulfate</b>	EPA 300.0	11B2377	1.5	2.5	<b>64</b>	5	NN	02/19/11	
<b>Surfactants (MBAS)</b>	SM5540-C	11B2469	0.050	0.10	<b>0.061</b>	1	SLA	02/18/11	J
<b>Total Dissolved Solids</b>	SM2540C	11B2988	1.0	10	<b>220</b>	1	MC	02/24/11	
<b>Total Organic Carbon</b>	SM5310B	11C0193	0.50	1.0	<b>10</b>	1	FZ	03/02/11	
Total Suspended Solids	SM 2540D	11B3172	1.0	10	ND	1	DC	02/24/11	

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Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water)</b>					<b>Sampled: 02/17/11</b>				
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	11B2487	0.10	0.10	0.10	1	AC1	02/18/11	
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: NTU									
Turbidity	EPA 180.1	11B2547	0.040	1.0	3.1	1	AC1	02/19/11	
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11B2817	0.90	1.0	ND	1	mn	02/23/11	
Total Cyanide	SM4500CN-E	11B2925	2.2	5.0	ND	1	HH	02/23/11	
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water)</b>					<b>Sampled: 02/17/11</b>				
Reporting Units: umhos/cm @ 25C									
Specific Conductance	EPA 120.1	11B3192	1.0	1.0	250	1	MC	02/25/11	

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618 Michillinda Avenue, Suite 200  
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Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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
<b>Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water) - cont.</b>					<b>Sampled: 02/17/11</b>				
<b>Reporting Units: MPN/100 ml</b>									
Fecal Coliform	SM9221 A,B,C,E	11B2543	2.00	2.00	ND	1	AK	02/20/11	
E. Coli	SM9221 A,B,C,E	11B2543	2.00	2.00	ND	1	AK	02/20/11	

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Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 8663

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: pCi/L									
Uranium, Total	8663	8663		1	0.104	1	TSC	03/04/11	Jb
<b>Sample ID: IUB1966-04 (Trip Blank - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: pCi/L									
Uranium, Total	8663	8663		1	ND	1	TSC	03/04/11	U

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Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## 900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: pCi/L									
Gross Alpha	900	8663		3	0.49	1	DVP	03/04/11	Jb
Gross Beta	900	8663		4	3.7	1	DVP	03/04/11	Jb
<b>Sample ID: IUB1966-04 (Trip Blank - Water)</b>					<b>Sampled: 02/18/11</b>				
Reporting Units: pCi/L									
Gross Alpha	900	8663		3	0.092	1	DVP	03/04/11	U
Gross Beta	900	8663		4	-0.145	1	DVP	03/04/11	U

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Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## 901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Cesium-137	901.1	8663		20	ND	1	LS	02/25/11	U
Potassium-40	901.1	8663		25	ND	1	LS	02/25/11	U
<b>Sample ID: IUB1966-04 (Trip Blank - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Cesium-137	901.1	8663		20	ND	1	LS	02/25/11	U
Potassium-40	901.1	8663		25	ND	1	LS	02/25/11	U

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Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Radium-226	903.1	8663		1	-0.028	1	TM	03/09/11	U
<b>Sample ID: IUB1966-04 (Trip Blank - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Radium-226	903.1	8663		1	<b>0.455</b>	1	TM	03/09/11	U

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Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Radium-228	904	8663		1	-0.13	1	ASM	03/09/11	U
<b>Sample ID: IUB1966-04 (Trip Blank - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Radium-228	904	8663		1	-0.221	1	ASM	03/09/11	U

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Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Strontium-90	905	8663		2	-0.162	1	WL	03/12/11	U
<b>Sample ID: IUB1966-04 (Trip Blank - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Strontium-90	905	8663		2	<b>0.027</b>	1	WL	03/12/11	U

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Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: pCi/L</b>									
Tritium	906	8663		500	-33.1	1	JO	03/10/11	U

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Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water) - cont.</b>					<b>Sampled: 02/18/11</b>				
<b>Reporting Units: ug/L</b>									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1054371	0.0000007	0.000057	<b>0.0000043</b>	1.13	SY	02/24/11	J
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1054371	0.00000061	0.000057	<b>0.0000025</b>	1.13	SY	02/24/11	J
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1054371	0.00000079	0.000057	<b>0.0000012</b>	1.13	SY	02/24/11	J, Q
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1054371	0.00000072	0.000057	<b>0.0000012</b>	1.13	SY	02/24/11	J, Q
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1054371	0.00000026	0.000057	<b>0.00000092</b>	1.13	SY	02/24/11	J, Q
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1054371	0.00000067	0.000057	<b>0.0000011</b>	1.13	SY	02/24/11	J
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1054371	0.00000024	0.000057	<b>0.00000084</b>	1.13	SY	02/24/11	J, Q
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1054371	0.00000061	0.000057	<b>0.00000088</b>	1.13	SY	02/24/11	J, Q
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1054371	0.00000029	0.000057	<b>0.00000085</b>	1.13	SY	02/24/11	J, Q
1,2,3,7,8-PeCDD	EPA-5 1613B	1054371	0.00000065	0.000057	ND	1.13	SY	02/24/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1054371	0.00000077	0.000057	ND	1.13	SY	02/24/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1054371	0.00000023	0.000057	<b>0.00000074</b>	1.13	SY	02/24/11	J, Q
2,3,4,7,8-PeCDD	EPA-5 1613B	1054371	0.00000078	0.000057	ND	1.13	SY	02/24/11	
2,3,7,8-TCDD	EPA-5 1613B	1054371	0.00000072	0.000011	ND	1.13	SY	02/24/11	
2,3,7,8-TCDF	EPA-5 1613B	1054371	0.00000096	0.000011	ND	1.13	SY	02/24/11	
OCDD	EPA-5 1613B	1054371	0.0000012	0.00011	<b>0.000035</b>	1.13	SY	02/24/11	J, Ba
OCDF	EPA-5 1613B	1054371	0.000001	0.00011	<b>0.000005</b>	1.13	SY	02/24/11	J
Total HpCDD	EPA-5 1613B	1054371	0.0000007	0.000057	<b>0.0000077</b>	1.13	SY	02/24/11	J
Total HpCDF	EPA-5 1613B	1054371	0.0000007	0.000057	<b>0.0000037</b>	1.13	SY	02/24/11	J, Q
Total HxCDD	EPA-5 1613B	1054371	0.00000066	0.000057	<b>0.0000032</b>	1.13	SY	02/24/11	J, Q
Total HxCDF	EPA-5 1613B	1054371	0.00000026	0.000057	<b>0.0000034</b>	1.13	SY	02/24/11	J, Q
Total PeCDD	EPA-5 1613B	1054371	0.00000065	0.000057	ND	1.13	SY	02/24/11	
Total PeCDF	EPA-5 1613B	1054371	0.00000077	0.000057	ND	1.13	SY	02/24/11	
Total TCDD	EPA-5 1613B	1054371	0.00000072	0.000011	ND	1.13	SY	02/24/11	
Total TCDF	EPA-5 1613B	1054371	0.00000096	0.000011	ND	1.13	SY	02/24/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	97 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	87 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	88 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	89 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	89 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	81 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	83 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	88 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	72 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	70 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	87 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	74 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	68 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	68 %
Surrogate: 13C-OCDD (17-157%)	82 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	82 %

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Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
<b>Sample ID: Outfall 018 (Grab) (IUB1966-01) - Water</b>					
EPA 624	3	02/17/2011 15:30	02/17/2011 19:30	02/19/2011 00:00	02/19/2011 14:45
SM2540F	2	02/17/2011 15:30	02/17/2011 19:30	02/18/2011 15:05	02/18/2011 15:05
SM9221 A,B,C,E	0	02/17/2011 15:30	02/17/2011 19:30	02/17/2011 19:34	02/20/2011 15:25
<b>Sample ID: Trip Blank (IUB1966-02) - Water</b>					
EPA 624	3	02/17/2011 15:30	02/17/2011 19:30	02/19/2011 00:00	02/19/2011 14:15
<b>Sample ID: Outfall 018 (Composite) (IUB1966-03) - Water</b>					
EPA 180.1	2	02/18/2011 15:31	02/17/2011 19:30	02/19/2011 11:00	02/19/2011 11:00
EPA 218.6	1	02/18/2011 15:31	02/17/2011 19:30	02/18/2011 21:30	02/18/2011 21:40
EPA 300.0	2	02/18/2011 15:31	02/17/2011 19:30	02/18/2011 20:00	02/18/2011 23:01
Filtration	1	02/18/2011 15:31	02/17/2011 19:30	02/19/2011 11:29	02/19/2011 11:31
SM5210B	2	02/18/2011 15:31	02/17/2011 19:30	02/19/2011 13:30	02/24/2011 10:00
SM5540-C	2	02/18/2011 15:31	02/17/2011 19:30	02/18/2011 21:09	02/18/2011 21:57

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Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## 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
<b>Batch: 11C0087 Extracted: 03/01/11</b>											
<b>Blank Analyzed: 03/01/2011 (11C0087-BLK1)</b>											
GRO (C4 - C12)	ND	0.10	0.025	mg/l							
Surrogate: 4-BFB (FID)	0.00998			mg/l	0.0100		100	65-140			
<b>LCS Analyzed: 03/01/2011 (11C0087-BS1)</b>											
GRO (C4 - C12)	0.781	0.10	0.025	mg/l	0.800		98	80-120			
Surrogate: 4-BFB (FID)	0.0132			mg/l	0.0100		132	65-140			
<b>Matrix Spike Analyzed: 03/01/2011 (11C0087-MS1) Source: IUB2645-02</b>											
GRO (C4 - C12)	0.267	0.10	0.025	mg/l	0.220	ND	121	65-140			
Surrogate: 4-BFB (FID)	0.0107			mg/l	0.0100		107	65-140			
<b>Matrix Spike Dup Analyzed: 03/02/2011 (11C0087-MSD1) Source: IUB2645-02</b>											
GRO (C4 - C12)	0.325	0.10	0.025	mg/l	0.220	ND	148	65-140	19	20	MI
Surrogate: 4-BFB (FID)	0.0106			mg/l	0.0100		106	65-140			

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 Received: 02/17/11

## 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
<b>Batch: 11B3103 Extracted: 02/24/11</b>											
<b>Blank Analyzed: 02/24/2011 (11B3103-BLK1)</b>											
DRO (C13 - C28)	ND	0.50	0.10	mg/l							
EFH (C10 - C28)	0.00202	NA	N/A	mg/l							
Surrogate: n-Octacosane	0.171			mg/l	0.200		85	45-120			
<b>LCS Analyzed: 02/24/2011 (11B3103-BS1)</b>											
EFH (C10 - C28)	0.734	NA	N/A	mg/l	1.00		73	40-115			MNR1
Surrogate: n-Octacosane	0.168			mg/l	0.200		84	45-120			
<b>LCS Dup Analyzed: 02/24/2011 (11B3103-BSD1)</b>											
EFH (C10 - C28)	0.735	NA	N/A	mg/l	1.00		73	40-115	0.03	25	
Surrogate: n-Octacosane	0.167			mg/l	0.200		83	45-120			

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Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## 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
<b>Batch: 11C0049 Extracted: 03/01/11</b>											
<b>Blank Analyzed: 03/01/2011 (11C0049-BLK1)</b>											
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							

**TestAmerica Irvine**

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 Project Manager

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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
<b>Batch: 11C0049 Extracted: 03/01/11</b>											
<b>Blank Analyzed: 03/01/2011 (11C0049-BLK1)</b>											
Surrogate: 4-Bromofluorobenzene	26.1			ug/l	25.0		105	80-120			
Surrogate: Dibromofluoromethane	27.4			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	27.7			ug/l	25.0		111	80-120			
<b>LCS Analyzed: 03/01/2011 (11C0049-BS1)</b>											
Benzene	22.8	0.50	0.28	ug/l	25.0		91	70-120			
Bromodichloromethane	26.6	0.50	0.30	ug/l	25.0		106	70-135			
Bromoform	21.1	0.50	0.40	ug/l	25.0		84	55-130			
Bromomethane	21.3	1.0	0.42	ug/l	25.0		85	65-140			
Carbon tetrachloride	24.5	0.50	0.28	ug/l	25.0		98	65-140			
Chlorobenzene	23.8	0.50	0.36	ug/l	25.0		95	75-120			
Chloroethane	23.1	1.0	0.40	ug/l	25.0		92	60-140			
Chloroform	24.5	0.50	0.33	ug/l	25.0		98	70-130			
Chloromethane	18.9	0.50	0.40	ug/l	25.0		76	50-140			
Dibromochloromethane	22.5	0.50	0.40	ug/l	25.0		90	70-140			
1,2-Dichlorobenzene	26.1	0.50	0.32	ug/l	25.0		105	75-120			
1,3-Dichlorobenzene	25.5	0.50	0.35	ug/l	25.0		102	75-120			
1,4-Dichlorobenzene	24.8	0.50	0.37	ug/l	25.0		99	75-120			
1,1-Dichloroethane	23.3	0.50	0.40	ug/l	25.0		93	70-125			
1,2-Dichloroethane	24.1	0.50	0.28	ug/l	25.0		96	60-140			
1,1-Dichloroethene	22.6	0.50	0.42	ug/l	25.0		90	70-125			
cis-1,2-Dichloroethene	25.1	0.50	0.32	ug/l	25.0		100	70-125			
trans-1,2-Dichloroethene	23.6	0.50	0.30	ug/l	25.0		94	70-125			
1,2-Dichloropropane	24.0	0.50	0.35	ug/l	25.0		96	70-125			
cis-1,3-Dichloropropene	25.9	0.50	0.22	ug/l	25.0		104	75-125			
trans-1,3-Dichloropropene	23.2	0.50	0.32	ug/l	25.0		93	70-125			
Ethylbenzene	24.5	0.50	0.25	ug/l	25.0		98	75-125			
Methylene chloride	21.6	1.0	0.95	ug/l	25.0		86	55-130			
1,1,2,2-Tetrachloroethane	24.3	0.50	0.30	ug/l	25.0		97	55-130			
Tetrachloroethene	23.1	0.50	0.32	ug/l	25.0		92	70-125			
Toluene	25.0	0.50	0.36	ug/l	25.0		100	70-120			
1,1,1-Trichloroethane	25.6	0.50	0.30	ug/l	25.0		102	65-135			
1,1,2-Trichloroethane	24.4	0.50	0.30	ug/l	25.0		98	70-125			
Trichloroethene	25.0	0.50	0.26	ug/l	25.0		100	70-125			
Trichlorofluoromethane	24.5	0.50	0.34	ug/l	25.0		98	65-145			
Vinyl chloride	20.9	0.50	0.40	ug/l	25.0		84	55-135			

**TestAmerica Irvine**

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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
<b>Batch: 11C0049 Extracted: 03/01/11</b>											
<b>LCS Analyzed: 03/01/2011 (11C0049-BS1)</b>											
Xylenes, Total	76.2	1.5	0.90	ug/l	75.0		102	70-125			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Surrogate: Dibromofluoromethane	27.1			ug/l	25.0		109	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			
<b>Matrix Spike Analyzed: 03/02/2011 (11C0049-MS1)</b>											
						<b>Source: IUB2188-03</b>					
Benzene	25.2	0.50	0.28	ug/l	25.0	2.15	92	65-125			
Bromodichloromethane	29.2	0.50	0.30	ug/l	25.0	ND	117	70-135			
Bromoform	21.7	0.50	0.40	ug/l	25.0	ND	87	55-135			
Bromomethane	22.0	1.0	0.42	ug/l	25.0	ND	88	55-145			
Carbon tetrachloride	25.1	0.50	0.28	ug/l	25.0	ND	100	65-140			
Chlorobenzene	25.8	0.50	0.36	ug/l	25.0	ND	103	75-125			
Chloroethane	23.9	1.0	0.40	ug/l	25.0	ND	96	55-140			
Chloroform	26.4	0.50	0.33	ug/l	25.0	ND	106	65-135			
Chloromethane	19.0	0.50	0.40	ug/l	25.0	ND	76	45-145			
Dibromochloromethane	23.7	0.50	0.40	ug/l	25.0	ND	95	65-140			
1,2-Dichlorobenzene	27.1	0.50	0.32	ug/l	25.0	ND	108	75-125			
1,3-Dichlorobenzene	26.3	0.50	0.35	ug/l	25.0	ND	105	75-125			
1,4-Dichlorobenzene	26.1	0.50	0.37	ug/l	25.0	ND	104	75-125			
1,1-Dichloroethane	25.2	0.50	0.40	ug/l	25.0	ND	101	65-130			
1,2-Dichloroethane	25.3	0.50	0.28	ug/l	25.0	ND	101	60-140			
1,1-Dichloroethene	29.1	0.50	0.42	ug/l	25.0	ND	116	60-130			
cis-1,2-Dichloroethene	29.5	0.50	0.32	ug/l	25.0	2.38	108	65-130			
trans-1,2-Dichloroethene	24.0	0.50	0.30	ug/l	25.0	ND	96	65-130			
1,2-Dichloropropane	26.2	0.50	0.35	ug/l	25.0	ND	105	65-130			
cis-1,3-Dichloropropene	28.5	0.50	0.22	ug/l	25.0	ND	114	70-130			
trans-1,3-Dichloropropene	24.8	0.50	0.32	ug/l	25.0	ND	99	65-135			
Ethylbenzene	31.2	0.50	0.25	ug/l	25.0	6.23	100	65-130			
Methylene chloride	23.8	1.0	0.95	ug/l	25.0	ND	95	50-135			
1,1,2,2-Tetrachloroethane	23.0	0.50	0.30	ug/l	25.0	ND	92	55-135			
Tetrachloroethene	24.0	0.50	0.32	ug/l	25.0	ND	96	65-130			
Toluene	26.1	0.50	0.36	ug/l	25.0	ND	105	70-125			
1,1,1-Trichloroethane	26.7	0.50	0.30	ug/l	25.0	ND	107	65-140			
1,1,2-Trichloroethane	28.4	0.50	0.30	ug/l	25.0	ND	114	65-130			
Trichloroethene	25.7	0.50	0.26	ug/l	25.0	ND	103	65-125			
Trichlorofluoromethane	22.5	0.50	0.34	ug/l	25.0	ND	90	60-145			

**TestAmerica Irvine**

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Received: 02/17/11

## 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
<b>Batch: 11C0049 Extracted: 03/01/11</b>											
<b>Matrix Spike Analyzed: 03/02/2011 (11C0049-MS1)</b>						<b>Source: IUB2188-03</b>					
Vinyl chloride	19.2	0.50	0.40	ug/l	25.0	ND	77	45-140			
Xylenes, Total	80.4	1.5	0.90	ug/l	75.0	ND	107	60-130			
Surrogate: 4-Bromofluorobenzene	27.6			ug/l	25.0		110	80-120			
Surrogate: Dibromofluoromethane	28.6			ug/l	25.0		114	80-120			
Surrogate: Toluene-d8	27.7			ug/l	25.0		111	80-120			
<b>Matrix Spike Dup Analyzed: 03/02/2011 (11C0049-MSD1)</b>						<b>Source: IUB2188-03</b>					
Benzene	24.8	0.50	0.28	ug/l	25.0	2.15	91	65-125	2	20	
Bromodichloromethane	29.1	0.50	0.30	ug/l	25.0	ND	117	70-135	0.2	20	
Bromoform	22.0	0.50	0.40	ug/l	25.0	ND	88	55-135	2	25	
Bromomethane	21.9	1.0	0.42	ug/l	25.0	ND	88	55-145	0.5	25	
Carbon tetrachloride	24.3	0.50	0.28	ug/l	25.0	ND	97	65-140	3	25	
Chlorobenzene	25.2	0.50	0.36	ug/l	25.0	ND	101	75-125	2	20	
Chloroethane	23.9	1.0	0.40	ug/l	25.0	ND	95	55-140	0.3	25	
Chloroform	26.1	0.50	0.33	ug/l	25.0	ND	104	65-135	1	20	
Chloromethane	18.0	0.50	0.40	ug/l	25.0	ND	72	45-145	6	25	
Dibromochloromethane	24.1	0.50	0.40	ug/l	25.0	ND	96	65-140	2	25	
1,2-Dichlorobenzene	26.7	0.50	0.32	ug/l	25.0	ND	107	75-125	1	20	
1,3-Dichlorobenzene	26.1	0.50	0.35	ug/l	25.0	ND	104	75-125	0.7	20	
1,4-Dichlorobenzene	25.8	0.50	0.37	ug/l	25.0	ND	103	75-125	1	20	
1,1-Dichloroethane	24.7	0.50	0.40	ug/l	25.0	ND	99	65-130	2	20	
1,2-Dichloroethane	25.2	0.50	0.28	ug/l	25.0	ND	101	60-140	0.5	20	
1,1-Dichloroethene	28.9	0.50	0.42	ug/l	25.0	ND	116	60-130	0.6	20	
cis-1,2-Dichloroethene	29.4	0.50	0.32	ug/l	25.0	2.38	108	65-130	0.3	20	
trans-1,2-Dichloroethene	24.0	0.50	0.30	ug/l	25.0	ND	96	65-130	0.3	20	
1,2-Dichloropropane	25.5	0.50	0.35	ug/l	25.0	ND	102	65-130	3	20	
cis-1,3-Dichloropropene	28.2	0.50	0.22	ug/l	25.0	ND	113	70-130	1	20	
trans-1,3-Dichloropropene	25.0	0.50	0.32	ug/l	25.0	ND	100	65-135	0.6	25	
Ethylbenzene	30.4	0.50	0.25	ug/l	25.0	6.23	96	65-130	3	20	
Methylene chloride	23.4	1.0	0.95	ug/l	25.0	ND	94	50-135	1	20	
1,1,2,2-Tetrachloroethane	24.1	0.50	0.30	ug/l	25.0	ND	96	55-135	4	30	
Tetrachloroethene	23.6	0.50	0.32	ug/l	25.0	ND	94	65-130	2	20	
Toluene	25.6	0.50	0.36	ug/l	25.0	ND	103	70-125	2	20	
1,1,1-Trichloroethane	26.2	0.50	0.30	ug/l	25.0	ND	105	65-140	2	20	
1,1,2-Trichloroethane	28.7	0.50	0.30	ug/l	25.0	ND	115	65-130	0.8	25	
Trichloroethene	25.6	0.50	0.26	ug/l	25.0	ND	103	65-125	0.2	20	

#### TestAmerica Irvine

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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
<b>Batch: 11C0049 Extracted: 03/01/11</b>											
<b>Matrix Spike Dup Analyzed: 03/02/2011 (11C0049-MSD1)</b>						<b>Source: IUB2188-03</b>					
Trichlorofluoromethane	22.2	0.50	0.34	ug/l	25.0	ND	89	60-145	1	25	
Vinyl chloride	18.7	0.50	0.40	ug/l	25.0	ND	75	45-140	3	30	
Xylenes, Total	79.2	1.5	0.90	ug/l	75.0	ND	106	60-130	2	20	
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			
Surrogate: Dibromofluoromethane	28.4			ug/l	25.0		113	80-120			
Surrogate: Toluene-d8	27.4			ug/l	25.0		110	80-120			
<b>Batch: 11C0226 Extracted: 03/02/11</b>											
<b>Blank Analyzed: 03/02/2011 (11C0226-BLK1)</b>											
Toluene	ND	0.50	0.36	ug/l							
Surrogate: 4-Bromofluorobenzene	23.4			ug/l	25.0		93	80-120			
Surrogate: Dibromofluoromethane	26.4			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	25.4			ug/l	25.0		102	80-120			
<b>LCS Analyzed: 03/02/2011 (11C0226-BS1)</b>											
Toluene	27.1	0.50	0.36	ug/l	25.0		108	70-120			
Surrogate: 4-Bromofluorobenzene	24.2			ug/l	25.0		97	80-120			
Surrogate: Dibromofluoromethane	26.8			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	26.1			ug/l	25.0		105	80-120			
<b>Matrix Spike Analyzed: 03/02/2011 (11C0226-MS1)</b>						<b>Source: IUB2542-08</b>					
Toluene	27.8	0.50	0.36	ug/l	25.0	1.07	107	70-125			
Surrogate: 4-Bromofluorobenzene	23.5			ug/l	25.0		94	80-120			
Surrogate: Dibromofluoromethane	25.9			ug/l	25.0		104	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			

TestAmerica Irvine

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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
<b>Batch: 11C0226 Extracted: 03/02/11</b>											
<b>Matrix Spike Dup Analyzed: 03/02/2011 (11C0226-MSD1)</b>						<b>Source: IUB2542-08</b>					
Toluene	29.0	0.50	0.36	ug/l	25.0	1.07	112	70-125	4	20	
Surrogate: 4-Bromofluorobenzene	24.1			ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	25.0			ug/l	25.0		100	80-120			
Surrogate: Toluene-d8	26.0			ug/l	25.0		104	80-120			

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## METHOD BLANK/QC DATA

### PURGEABLES-- GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B2518 Extracted: 02/19/11</b>											
<b>Blank Analyzed: 02/19/2011 (11B2518-BLK1)</b>											
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	25.2			ug/l	25.0		101	80-120			
Surrogate: Dibromofluoromethane	26.4			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	27.7			ug/l	25.0		111	80-120			
<b>LCS Analyzed: 02/19/2011 (11B2518-BS1)</b>											
2-Chloroethyl vinyl ether	33.1	5.0	1.8	ug/l	25.0		133	25-170			
Surrogate: 4-Bromofluorobenzene	26.6			ug/l	25.0		107	80-120			
Surrogate: Dibromofluoromethane	27.2			ug/l	25.0		109	80-120			
Surrogate: Toluene-d8	28.0			ug/l	25.0		112	80-120			
<b>Matrix Spike Analyzed: 02/19/2011 (11B2518-MS1)</b>											
						<b>Source: IUB1396-14</b>					
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l	25.0	ND		25-170			M13
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			
Surrogate: Dibromofluoromethane	28.6			ug/l	25.0		115	80-120			
Surrogate: Toluene-d8	28.2			ug/l	25.0		113	80-120			
<b>Matrix Spike Dup Analyzed: 02/19/2011 (11B2518-MSD1)</b>											
						<b>Source: IUB1396-14</b>					
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l	25.0	ND		25-170		25	M13
Surrogate: 4-Bromofluorobenzene	26.9			ug/l	25.0		108	80-120			
Surrogate: Dibromofluoromethane	28.3			ug/l	25.0		113	80-120			
Surrogate: Toluene-d8	27.8			ug/l	25.0		111	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	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B3460 Extracted: 02/28/11</b>											
<b>Blank Analyzed: 02/28/2011 (11B3460-BLK1)</b>											
1,4-Dioxane	ND	2.0	1.0	ug/l							
Surrogate: Dibromofluoromethane	1.10			ug/l	1.00		110	80-120			
<b>LCS Analyzed: 02/28/2011 (11B3460-BS1)</b>											
1,4-Dioxane	10.1	2.0	1.0	ug/l	10.0		101	70-125			
Surrogate: Dibromofluoromethane	1.07			ug/l	1.00		107	80-120			
<b>Matrix Spike Analyzed: 02/28/2011 (11B3460-MS1) Source: IUB2220-02</b>											
1,4-Dioxane	10.4	2.0	1.0	ug/l	10.0	ND	104	70-130			
Surrogate: Dibromofluoromethane	1.13			ug/l	1.00		113	80-120			
<b>Matrix Spike Dup Analyzed: 02/28/2011 (11B3460-MSD1) Source: IUB2220-02</b>											
1,4-Dioxane	10.4	2.0	1.0	ug/l	10.0	ND	104	70-130	0.4	30	
Surrogate: Dibromofluoromethane	1.14			ug/l	1.00		114	80-120			

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Debby Wilson  
 Project Manager

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>Blank Analyzed: 03/02/2011 (11B3291-BLK1)</b>											
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	0.700	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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## METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>Blank Analyzed: 03/02/2011 (11B3291-BLK1)</b>											
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	17.5			ug/l	20.0		87	40-120			
Surrogate: 2-Fluorobiphenyl	7.54			ug/l	10.0		75	50-120			
Surrogate: 2-Fluorophenol	14.8			ug/l	20.0		74	30-120			
Surrogate: Nitrobenzene-d5	7.26			ug/l	10.0		73	45-120			
Surrogate: Phenol-d6	15.7			ug/l	20.0		79	35-120			
Surrogate: Terphenyl-d14	8.56			ug/l	10.0		86	50-125			

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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 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>LCS Analyzed: 03/02/2011 (11B3291-BS1)</b>											
Acenaphthene	8.60	0.500	0.100	ug/l	10.0		86	60-120			
Acenaphthylene	9.66	0.500	0.100	ug/l	10.0		97	60-120			
Anthracene	9.04	0.500	0.100	ug/l	10.0		90	65-120			
Benzdine	ND	5.00	5.00	ug/l	10.0			30-160			L6
Benzo(a)anthracene	9.64	5.00	0.100	ug/l	10.0		96	65-120			
Benzo(a)pyrene	9.08	2.00	0.100	ug/l	10.0		91	55-130			
Benzo(b)fluoranthene	9.58	2.00	0.100	ug/l	10.0		96	55-125			
Benzo(g,h,i)perylene	8.82	5.00	0.100	ug/l	10.0		88	45-135			
Benzo(k)fluoranthene	9.34	0.500	0.100	ug/l	10.0		93	50-125			
4-Bromophenyl phenyl ether	9.08	1.00	0.100	ug/l	10.0		91	60-120			
Butyl benzyl phthalate	9.54	5.00	0.700	ug/l	10.0		95	55-130			
4-Chloro-3-methylphenol	9.14	2.00	0.200	ug/l	10.0		91	60-120			
Bis(2-chloroethoxy)methane	9.54	0.500	0.100	ug/l	10.0		95	55-120			
Bis(2-chloroethyl)ether	8.46	0.500	0.100	ug/l	10.0		85	50-120			
Bis(2-chloroisopropyl)ether	8.48	0.500	0.100	ug/l	10.0		85	45-120			
Bis(2-ethylhexyl)phthalate	10.1	5.00	1.70	ug/l	10.0		101	65-130			
2-Chloronaphthalene	8.86	0.500	0.100	ug/l	10.0		89	60-120			
2-Chlorophenol	8.18	1.00	0.200	ug/l	10.0		82	45-120			
4-Chlorophenyl phenyl ether	9.08	0.500	0.100	ug/l	10.0		91	65-120			
Chrysene	8.92	0.500	0.100	ug/l	10.0		89	65-120			
Dibenz(a,h)anthracene	8.76	0.500	0.100	ug/l	10.0		88	50-135			
Di-n-butyl phthalate	9.02	2.00	0.200	ug/l	10.0		90	60-125			
1,2-Dichlorobenzene	7.36	0.500	0.100	ug/l	10.0		74	40-120			
1,3-Dichlorobenzene	6.92	0.500	0.100	ug/l	10.0		69	35-120			
1,4-Dichlorobenzene	7.02	0.500	0.200	ug/l	10.0		70	35-120			
3,3'-Dichlorobenzidine	7.22	5.00	5.00	ug/l	10.0		72	45-135			
2,4-Dichlorophenol	8.56	2.00	0.200	ug/l	10.0		86	55-120			
Diethyl phthalate	8.70	1.00	0.100	ug/l	10.0		87	55-120			
2,4-Dimethylphenol	7.62	2.00	0.300	ug/l	10.0		76	40-120			
Dimethyl phthalate	8.44	0.500	0.100	ug/l	10.0		84	30-120			
4,6-Dinitro-2-methylphenol	9.08	5.00	0.200	ug/l	10.0		91	45-120			
2,4-Dinitrophenol	8.72	5.00	0.900	ug/l	10.0		87	40-120			
2,4-Dinitrotoluene	8.70	5.00	0.200	ug/l	10.0		87	65-120			
2,6-Dinitrotoluene	8.80	5.00	0.100	ug/l	10.0		88	65-120			
Di-n-octyl phthalate	10.1	5.00	0.100	ug/l	10.0		101	65-135			

#### TestAmerica Irvine

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Project Manager

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Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## 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
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>LCS Analyzed: 03/02/2011 (11B3291-BS1)</b>											
1,2-Diphenylhydrazine/Azobenzene	7.62	1.00	0.100	ug/l	10.0		76	60-120			
Fluoranthene	9.48	0.500	0.100	ug/l	10.0		95	60-120			
Fluorene	9.14	0.500	0.100	ug/l	10.0		91	65-120			
Hexachlorobenzene	8.50	1.00	0.100	ug/l	10.0		85	60-120			
Hexachlorobutadiene	6.80	2.00	0.200	ug/l	10.0		68	40-120			
Hexachlorocyclopentadiene	6.76	5.00	0.100	ug/l	10.0		68	25-120			
Hexachloroethane	6.54	3.00	0.200	ug/l	10.0		65	35-120			
Indeno(1,2,3-cd)pyrene	9.54	2.00	0.100	ug/l	10.0		95	45-135			
Isophorone	9.72	1.00	0.100	ug/l	10.0		97	50-120			
Naphthalene	8.02	1.00	0.100	ug/l	10.0		80	55-120			
Nitrobenzene	8.38	1.00	0.100	ug/l	10.0		84	55-120			
2-Nitrophenol	8.28	2.00	0.100	ug/l	10.0		83	50-120			
4-Nitrophenol	10.1	5.00	2.50	ug/l	10.0		101	45-120			
N-Nitroso-di-n-propylamine	9.28	2.00	0.100	ug/l	10.0		93	45-120			
N-Nitrosodimethylamine	8.74	2.00	0.100	ug/l	10.0		87	45-120			
N-Nitrosodiphenylamine	9.62	1.00	0.100	ug/l	10.0		96	60-120			
Pentachlorophenol	6.70	2.00	0.100	ug/l	10.0		67	24-121			
Phenanthrene	8.74	0.500	0.100	ug/l	10.0		87	65-120			
Phenol	8.48	1.00	0.300	ug/l	10.0		85	40-120			
Pyrene	9.26	0.500	0.100	ug/l	10.0		93	55-125			
1,2,4-Trichlorobenzene	7.30	1.00	0.100	ug/l	10.0		73	45-120			
2,4,6-Trichlorophenol	9.34	1.00	0.100	ug/l	10.0		93	55-120			
Surrogate: 2,4,6-Tribromophenol	17.1			ug/l	20.0		86	40-120			
Surrogate: 2-Fluorobiphenyl	8.16			ug/l	10.0		82	50-120			
Surrogate: 2-Fluorophenol	15.3			ug/l	20.0		76	30-120			
Surrogate: Nitrobenzene-d5	8.46			ug/l	10.0		85	45-120			
Surrogate: Phenol-d6	17.6			ug/l	20.0		88	35-120			
Surrogate: Terphenyl-d14	9.06			ug/l	10.0		91	50-125			

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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
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>Matrix Spike Analyzed: 03/02/2011 (11B3291-MS1)</b>						<b>Source: IUB2628-01</b>					
Acenaphthene	6.99	0.478	0.0957	ug/l	9.57	ND	73	60-120			
Acenaphthylene	7.39	0.478	0.0957	ug/l	9.57	ND	77	60-120			
Anthracene	7.20	0.478	0.0957	ug/l	9.57	ND	75	65-120			
Benzdine	ND	4.78	4.78	ug/l	9.57	ND		30-160			M8
Benzo(a)anthracene	8.27	4.78	0.0957	ug/l	9.57	ND	86	65-120			
Benzo(a)pyrene	7.27	1.91	0.0957	ug/l	9.57	ND	76	55-130			
Benzo(b)fluoranthene	8.82	1.91	0.0957	ug/l	9.57	ND	92	55-125			
Benzo(g,h,i)perylene	9.45	4.78	0.0957	ug/l	9.57	ND	99	45-135			
Benzo(k)fluoranthene	8.10	0.478	0.0957	ug/l	9.57	ND	85	55-125			
4-Bromophenyl phenyl ether	8.19	0.957	0.0957	ug/l	9.57	ND	86	60-120			
Butyl benzyl phthalate	8.96	4.78	0.670	ug/l	9.57	0.762	86	55-130			
4-Chloro-3-methylphenol	7.29	1.91	0.191	ug/l	9.57	ND	76	60-120			
Bis(2-chloroethoxy)methane	7.35	0.478	0.0957	ug/l	9.57	ND	77	50-120			
Bis(2-chloroethyl)ether	6.49	0.478	0.0957	ug/l	9.57	ND	68	50-120			
Bis(2-chloroisopropyl)ether	6.41	0.478	0.0957	ug/l	9.57	ND	67	45-120			
Bis(2-ethylhexyl)phthalate	10.1	4.78	1.63	ug/l	9.57	ND	105	65-130			
2-Chloronaphthalene	7.16	0.478	0.0957	ug/l	9.57	ND	75	60-120			
2-Chlorophenol	5.89	0.957	0.191	ug/l	9.57	ND	62	45-120			
4-Chlorophenyl phenyl ether	7.83	0.478	0.0957	ug/l	9.57	ND	82	65-120			
Chrysene	7.41	0.478	0.0957	ug/l	9.57	ND	77	65-120			
Dibenz(a,h)anthracene	9.03	0.478	0.0957	ug/l	9.57	ND	94	45-135			
Di-n-butyl phthalate	8.52	1.91	0.191	ug/l	9.57	ND	89	60-125			
1,2-Dichlorobenzene	7.20	0.478	0.0957	ug/l	9.57	ND	75	40-120			
1,3-Dichlorobenzene	5.51	0.478	0.0957	ug/l	9.57	ND	58	35-120			
1,4-Dichlorobenzene	5.72	0.478	0.191	ug/l	9.57	ND	60	35-120			
3,3'-Dichlorobenzidine	ND	4.78	4.78	ug/l	9.57	ND		45-135			M2
2,4-Dichlorophenol	6.07	1.91	0.191	ug/l	9.57	ND	63	55-120			
Diethyl phthalate	8.61	0.957	0.0957	ug/l	9.57	ND	90	55-120			
2,4-Dimethylphenol	ND	1.91	0.287	ug/l	9.57	ND		40-120			M2
Dimethyl phthalate	7.64	0.478	0.0957	ug/l	9.57	ND	80	30-120			
4,6-Dinitro-2-methylphenol	8.23	4.78	0.191	ug/l	9.57	ND	86	45-120			
2,4-Dinitrophenol	10.6	4.78	0.861	ug/l	9.57	ND	111	40-120			
2,4-Dinitrotoluene	8.04	4.78	0.191	ug/l	9.57	ND	84	65-120			
2,6-Dinitrotoluene	8.73	4.78	0.0957	ug/l	9.57	ND	91	65-120			
Di-n-octyl phthalate	9.13	4.78	0.0957	ug/l	9.57	ND	95	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
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>Matrix Spike Analyzed: 03/02/2011 (11B3291-MS1)</b>						<b>Source: IUB2628-01</b>					
1,2-Diphenylhydrazine/Azobenzene	6.85	0.957	0.0957	ug/l	9.57	ND	72	60-120			
Fluoranthene	8.40	0.478	0.0957	ug/l	9.57	ND	88	60-120			
Fluorene	7.81	0.478	0.0957	ug/l	9.57	ND	82	65-120			
Hexachlorobenzene	6.91	0.957	0.0957	ug/l	9.57	ND	72	60-120			
Hexachlorobutadiene	5.57	1.91	0.191	ug/l	9.57	ND	58	40-120			
Hexachlorocyclopentadiene	6.53	4.78	0.0957	ug/l	9.57	ND	68	25-120			
Hexachloroethane	5.44	2.87	0.191	ug/l	9.57	ND	57	35-120			
Indeno(1,2,3-cd)pyrene	9.74	1.91	0.0957	ug/l	9.57	ND	102	40-135			
Isophorone	8.10	0.957	0.0957	ug/l	9.57	ND	85	50-120			
Naphthalene	6.14	0.957	0.0957	ug/l	9.57	ND	64	55-120			
Nitrobenzene	9.42	0.957	0.0957	ug/l	9.57	ND	98	55-120			
2-Nitrophenol	6.95	1.91	0.0957	ug/l	9.57	ND	73	50-120			
4-Nitrophenol	11.5	4.78	2.39	ug/l	9.57	ND	120	45-120			
N-Nitroso-di-n-propylamine	7.14	1.91	0.0957	ug/l	9.57	ND	75	45-120			
N-Nitrosodimethylamine	7.00	1.91	0.0957	ug/l	9.57	ND	73	45-120			
N-Nitrosodiphenylamine	7.48	0.957	0.0957	ug/l	9.57	ND	78	60-120			
Pentachlorophenol	8.63	1.91	0.0957	ug/l	9.57	ND	90	24-121			
Phenanthrene	7.43	0.478	0.0957	ug/l	9.57	ND	78	65-120			
Phenol	10.2	0.957	0.287	ug/l	9.57	ND	107	40-120			
Pyrene	8.77	0.478	0.0957	ug/l	9.57	ND	92	55-125			
1,2,4-Trichlorobenzene	5.88	0.957	0.0957	ug/l	9.57	ND	61	45-120			
2,4,6-Trichlorophenol	7.71	0.957	0.0957	ug/l	9.57	ND	81	55-120			
Surrogate: 2,4,6-Tribromophenol	14.9			ug/l	19.1		78	40-120			
Surrogate: 2-Fluorobiphenyl	6.45			ug/l	9.57		67	50-120			
Surrogate: 2-Fluorophenol	10.1			ug/l	19.1		53	30-120			
Surrogate: Nitrobenzene-d5	6.72			ug/l	9.57		70	45-120			
Surrogate: Phenol-d6	12.0			ug/l	19.1		63	35-120			
Surrogate: Terphenyl-d14	8.46			ug/l	9.57		88	50-125			

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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
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>Matrix Spike Dup Analyzed: 03/02/2011 (11B3291-MSD1)</b>						<b>Source: IUB2628-01</b>					
Acenaphthene	8.00	0.478	0.0957	ug/l	9.57	ND	84	60-120	14	25	
Acenaphthylene	9.07	0.478	0.0957	ug/l	9.57	ND	95	60-120	20	25	
Anthracene	7.56	0.478	0.0957	ug/l	9.57	ND	79	65-120	5	25	
Benzidine	ND	4.78	4.78	ug/l	9.57	ND		30-160		35	M8
Benzo(a)anthracene	9.01	4.78	0.0957	ug/l	9.57	ND	94	65-120	9	20	
Benzo(a)pyrene	7.52	1.91	0.0957	ug/l	9.57	ND	79	55-130	3	25	
Benzo(b)fluoranthene	9.34	1.91	0.0957	ug/l	9.57	ND	98	55-125	6	25	
Benzo(g,h,i)perylene	10.0	4.78	0.0957	ug/l	9.57	ND	105	45-135	6	30	
Benzo(k)fluoranthene	8.92	0.478	0.0957	ug/l	9.57	ND	93	55-125	10	30	
4-Bromophenyl phenyl ether	8.78	0.957	0.0957	ug/l	9.57	ND	92	60-120	7	25	
Butyl benzyl phthalate	9.49	4.78	0.670	ug/l	9.57	0.762	91	55-130	6	25	
4-Chloro-3-methylphenol	7.64	1.91	0.191	ug/l	9.57	ND	80	60-120	5	25	
Bis(2-chloroethoxy)methane	8.80	0.478	0.0957	ug/l	9.57	ND	92	50-120	18	25	
Bis(2-chloroethyl)ether	7.77	0.478	0.0957	ug/l	9.57	ND	81	50-120	18	25	
Bis(2-chloroisopropyl)ether	7.81	0.478	0.0957	ug/l	9.57	ND	82	45-120	20	25	
Bis(2-ethylhexyl)phthalate	10.2	4.78	1.63	ug/l	9.57	ND	107	65-130	1	25	
2-Chloronaphthalene	8.29	0.478	0.0957	ug/l	9.57	ND	87	60-120	15	20	
2-Chlorophenol	7.35	0.957	0.191	ug/l	9.57	ND	77	45-120	22	25	
4-Chlorophenyl phenyl ether	8.54	0.478	0.0957	ug/l	9.57	ND	89	65-120	9	25	
Chrysene	8.17	0.478	0.0957	ug/l	9.57	ND	85	65-120	10	25	
Dibenz(a,h)anthracene	9.82	0.478	0.0957	ug/l	9.57	ND	103	45-135	8	30	
Di-n-butyl phthalate	9.00	1.91	0.191	ug/l	9.57	ND	94	60-125	5	25	
1,2-Dichlorobenzene	9.44	0.478	0.0957	ug/l	9.57	ND	99	40-120	27	25	R
1,3-Dichlorobenzene	6.91	0.478	0.0957	ug/l	9.57	ND	72	35-120	22	25	
1,4-Dichlorobenzene	7.00	0.478	0.191	ug/l	9.57	ND	73	35-120	20	25	
3,3'-Dichlorobenzidine	ND	4.78	4.78	ug/l	9.57	ND		45-135		25	M2
2,4-Dichlorophenol	7.44	1.91	0.191	ug/l	9.57	ND	78	55-120	20	25	
Diethyl phthalate	8.82	0.957	0.0957	ug/l	9.57	ND	92	55-120	2	30	
2,4-Dimethylphenol	ND	1.91	0.287	ug/l	9.57	ND		40-120		25	M2
Dimethyl phthalate	8.11	0.478	0.0957	ug/l	9.57	ND	85	30-120	6	30	
4,6-Dinitro-2-methylphenol	9.63	4.78	0.191	ug/l	9.57	ND	101	45-120	16	25	
2,4-Dinitrophenol	11.6	4.78	0.861	ug/l	9.57	ND	121	40-120	9	25	MI
2,4-Dinitrotoluene	8.75	4.78	0.191	ug/l	9.57	ND	91	65-120	8	25	
2,6-Dinitrotoluene	9.67	4.78	0.0957	ug/l	9.57	ND	101	65-120	10	20	
Di-n-octyl phthalate	10.1	4.78	0.0957	ug/l	9.57	ND	106	65-135	10	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
<b>Batch: 11B3291 Extracted: 02/25/11</b>											
<b>Matrix Spike Dup Analyzed: 03/02/2011 (11B3291-MSD1)</b>						<b>Source: IUB2628-01</b>					
1,2-Diphenylhydrazine/Azobenzene	7.10	0.957	0.0957	ug/l	9.57	ND	74	60-120	4	25	
Fluoranthene	9.13	0.478	0.0957	ug/l	9.57	ND	95	60-120	8	25	
Fluorene	8.59	0.478	0.0957	ug/l	9.57	ND	90	65-120	10	25	
Hexachlorobenzene	7.62	0.957	0.0957	ug/l	9.57	ND	80	60-120	10	25	
Hexachlorobutadiene	7.18	1.91	0.191	ug/l	9.57	ND	75	40-120	25	25	
Hexachlorocyclopentadiene	8.19	4.78	0.0957	ug/l	9.57	ND	86	25-120	23	30	
Hexachloroethane	7.00	2.87	0.191	ug/l	9.57	ND	73	35-120	25	25	
Indeno(1,2,3-cd)pyrene	10.4	1.91	0.0957	ug/l	9.57	ND	108	40-135	6	30	
Isophorone	10.0	0.957	0.0957	ug/l	9.57	ND	105	50-120	22	25	
Naphthalene	7.64	0.957	0.0957	ug/l	9.57	ND	80	55-120	22	25	
Nitrobenzene	10.8	0.957	0.0957	ug/l	9.57	ND	113	55-120	14	25	
2-Nitrophenol	8.77	1.91	0.0957	ug/l	9.57	ND	92	50-120	23	25	
4-Nitrophenol	11.8	4.78	2.39	ug/l	9.57	ND	123	45-120	2	30	MI
N-Nitroso-di-n-propylamine	9.19	1.91	0.0957	ug/l	9.57	ND	96	45-120	25	25	
N-Nitrosodimethylamine	8.02	1.91	0.0957	ug/l	9.57	ND	84	45-120	14	25	
N-Nitrosodiphenylamine	7.98	0.957	0.0957	ug/l	9.57	ND	83	60-120	6	25	
Pentachlorophenol	9.68	1.91	0.0957	ug/l	9.57	ND	101	24-121	11	25	
Phenanthrene	8.19	0.478	0.0957	ug/l	9.57	ND	86	65-120	10	25	
Phenol	12.2	0.957	0.287	ug/l	9.57	ND	128	40-120	18	25	MI
Pyrene	9.24	0.478	0.0957	ug/l	9.57	ND	97	55-125	5	25	
1,2,4-Trichlorobenzene	7.08	0.957	0.0957	ug/l	9.57	ND	74	45-120	19	20	
2,4,6-Trichlorophenol	8.90	0.957	0.0957	ug/l	9.57	ND	93	55-120	14	30	
Surrogate: 2,4,6-Tribromophenol	16.9			ug/l	19.1		88	40-120			
Surrogate: 2-Fluorobiphenyl	7.71			ug/l	9.57		81	50-120			
Surrogate: 2-Fluorophenol	13.1			ug/l	19.1		68	30-120			
Surrogate: Nitrobenzene-d5	7.96			ug/l	9.57		83	45-120			
Surrogate: Phenol-d6	14.8			ug/l	19.1		78	35-120			
Surrogate: Terphenyl-d14	9.01			ug/l	9.57		94	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	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B2911 Extracted: 02/23/11</b>											
<b>Blank Analyzed: 02/24/2011 (11B2911-BLK1)</b>											
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	0.202			ug/l	0.500		40	45-120			Z6
Surrogate: Tetrachloro-m-xylene	0.467			ug/l	0.500		93	35-115			

#### Blank Analyzed: 02/24/2011 (11B2911-BLK2)

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							

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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
<b>Batch: 11B2911 Extracted: 02/23/11</b>											
<b>Blank Analyzed: 02/24/2011 (11B2911-BLK2)</b>											
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	0.428			ug/l	0.500		86	45-120			N2
Surrogate: Tetrachloro-m-xylene	0.451			ug/l	0.500		90	35-115			N2
<b>LCS Analyzed: 02/24/2011 (11B2911-BS1)</b>											
4,4'-DDD	0.466	0.0050	0.0040	ug/l	0.500		93	55-120			
4,4'-DDE	0.500	0.0050	0.0030	ug/l	0.500		100	50-120			
4,4'-DDT	0.492	0.010	0.0040	ug/l	0.500		98	55-120			
Aldrin	0.403	0.0050	0.0015	ug/l	0.500		81	40-115			
alpha-BHC	0.463	0.0050	0.0025	ug/l	0.500		93	45-115			
beta-BHC	0.476	0.010	0.0040	ug/l	0.500		95	55-115			
delta-BHC	0.496	0.0050	0.0035	ug/l	0.500		99	55-115			
Dieldrin	0.496	0.0050	0.0020	ug/l	0.500		99	55-115			
Endosulfan I	0.502	0.0050	0.0020	ug/l	0.500		100	55-115			
Endosulfan II	0.517	0.0050	0.0030	ug/l	0.500		103	55-120			
Endosulfan sulfate	0.440	0.010	0.0030	ug/l	0.500		88	60-120			
Endrin	0.463	0.0050	0.0020	ug/l	0.500		93	55-115			
Endrin aldehyde	0.475	0.010	0.0020	ug/l	0.500		95	50-120			
gamma-BHC (Lindane)	0.490	0.020	0.0030	ug/l	0.500		98	45-115			
Heptachlor	0.455	0.010	0.0030	ug/l	0.500		91	45-115			
Heptachlor epoxide	0.503	0.0050	0.0025	ug/l	0.500		101	55-115			
Surrogate: Decachlorobiphenyl	0.253			ug/l	0.500		51	45-120			
Surrogate: Tetrachloro-m-xylene	0.406			ug/l	0.500		81	35-115			
<b>LCS Dup Analyzed: 02/24/2011 (11B2911-BS1)</b>											
4,4'-DDD	0.514	0.0050	0.0040	ug/l	0.500		103	55-120	10	30	
4,4'-DDE	0.557	0.0050	0.0030	ug/l	0.500		111	50-120	11	30	
4,4'-DDT	0.554	0.010	0.0040	ug/l	0.500		111	55-120	12	30	
Aldrin	0.451	0.0050	0.0015	ug/l	0.500		90	40-115	11	30	
alpha-BHC	0.515	0.0050	0.0025	ug/l	0.500		103	45-115	11	30	
beta-BHC	0.526	0.010	0.0040	ug/l	0.500		105	55-115	10	30	
delta-BHC	0.555	0.0050	0.0035	ug/l	0.500		111	55-115	11	30	
Dieldrin	0.545	0.0050	0.0020	ug/l	0.500		109	55-115	9	30	

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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
<b>Batch: 11B2911 Extracted: 02/23/11</b>											
<b>LCS Dup Analyzed: 02/24/2011 (11B2911-BSD1)</b>											
Endosulfan I	0.543	0.0050	0.0020	ug/l	0.500		109	55-115	8	30	
Endosulfan II	0.564	0.0050	0.0030	ug/l	0.500		113	55-120	9	30	
Endosulfan sulfate	0.482	0.010	0.0030	ug/l	0.500		96	60-120	9	30	
Endrin	0.506	0.0050	0.0020	ug/l	0.500		101	55-115	9	30	
Endrin aldehyde	0.524	0.010	0.0020	ug/l	0.500		105	50-120	10	30	
gamma-BHC (Lindane)	0.546	0.020	0.0030	ug/l	0.500		109	45-115	11	30	
Heptachlor	0.508	0.010	0.0030	ug/l	0.500		102	45-115	11	30	
Heptachlor epoxide	0.606	0.0050	0.0025	ug/l	0.500		121	55-115	19	30	L
Surrogate: Decachlorobiphenyl	0.316			ug/l	0.500		63	45-120			
Surrogate: Tetrachloro-m-xylene	0.455			ug/l	0.500		91	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
<b>Batch: 11B2911 Extracted: 02/23/11</b>											
<b>Blank Analyzed: 02/24/2011 (11B2911-BLK1)</b>											
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	0.184			ug/l	0.500		37	45-120			Z6
<b>Blank Analyzed: 02/25/2011 (11B2911-BLK2)</b>											
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	0.377			ug/l	0.500		75	45-120			N2
<b>LCS Analyzed: 02/24/2011 (11B2911-BS2)</b>											
Aroclor 1016	2.92	0.50	0.25	ug/l	4.00		73	50-115			MNR1
Aroclor 1260	3.12	0.50	0.25	ug/l	4.00		78	60-120			
Surrogate: Decachlorobiphenyl	0.351			ug/l	0.500		70	45-120			
<b>LCS Dup Analyzed: 02/24/2011 (11B2911-BSD2)</b>											
Aroclor 1016	3.09	0.50	0.25	ug/l	4.00		77	50-115	6	30	
Aroclor 1260	3.09	0.50	0.25	ug/l	4.00		77	60-120	0.9	25	
Surrogate: Decachlorobiphenyl	0.350			ug/l	0.500		70	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
<b>Batch: 11C0598 Extracted: 03/04/11</b>											
<b>Blank Analyzed: 03/04/2011 (11C0598-BLK1)</b>											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
<b>LCS Analyzed: 03/04/2011 (11C0598-BS1)</b>											
Hexane Extractable Material (Oil & Grease)	18.9	5.0	1.4	mg/l	20.0		94	78-114			MNR1
<b>LCS Dup Analyzed: 03/04/2011 (11C0598-BSD1)</b>											
Hexane Extractable Material (Oil & Grease)	19.2	5.0	1.4	mg/l	20.0		96	78-114	2	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
<b><u>Batch: 11B2879 Extracted: 02/23/11</u></b>											
<b>Blank Analyzed: 02/23/2011 (11B2879-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 02/23/2011 (11B2879-BS1)</b>											
Mercury	8.11	0.20	0.10	ug/l	8.00		101	85-115			
<b>Matrix Spike Analyzed: 02/23/2011 (11B2879-MS1)</b>											
						<b>Source: IUB1955-02</b>					
Mercury	1.76	0.20	0.10	ug/l	8.00	0.605	14	70-130			M2
<b>Matrix Spike Dup Analyzed: 02/23/2011 (11B2879-MSD1)</b>											
						<b>Source: IUB1955-02</b>					
Mercury	1.59	0.20	0.10	ug/l	8.00	0.605	12	70-130	10	20	M2
<b><u>Batch: 11B3269 Extracted: 02/25/11</u></b>											
<b>Blank Analyzed: 02/28/2011 (11B3269-BLK1)</b>											
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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MWH-Pasadena/Boeing  
 618 Michillinda Avenue, Suite 200  
 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B3269 Extracted: 02/25/11</b>											
<b>LCS Analyzed: 02/28/2011 (11B3269-BS1)</b>											
Arsenic	477	10	7.0	ug/l	500		95	85-115			
Barium	0.498	0.010	0.0060	mg/l	0.500		100	85-115			
Beryllium	480	2.0	0.90	ug/l	500		96	85-115			
Boron	0.515	0.050	0.020	mg/l	0.500		103	85-115			
Calcium	2.46	0.10	0.050	mg/l	2.50		98	85-115			
Chromium	509	5.0	2.0	ug/l	500		102	85-115			
Cobalt	461	10	2.0	ug/l	500		92	85-115			
Iron	0.474	0.040	0.015	mg/l	0.500		95	85-115			
Magnesium	2.58	0.020	0.012	mg/l	2.50		103	85-115			
Manganese	493	20	7.0	ug/l	500		99	85-115			
Nickel	473	10	2.0	ug/l	500		95	85-115			
Vanadium	492	10	3.0	ug/l	500		98	85-115			
Zinc	495	20.0	6.00	ug/l	500		99	85-115			

### Matrix Spike Analyzed: 02/28/2011 (11B3269-MS1)

Source: IUB2067-05

Arsenic	502	10	7.0	ug/l	500	ND	100	70-130			
Barium	0.647	0.010	0.0060	mg/l	0.500	0.156	98	70-130			
Beryllium	492	2.0	0.90	ug/l	500	ND	98	70-130			
Boron	1.93	0.050	0.020	mg/l	0.500	1.44	98	70-130			
Calcium	121	0.10	0.050	mg/l	2.50	121	1	70-130			MHA
Chromium	516	5.0	2.0	ug/l	500	2.20	103	70-130			
Cobalt	453	10	2.0	ug/l	500	ND	91	70-130			
Iron	0.490	0.040	0.015	mg/l	0.500	ND	98	70-130			
Magnesium	62.9	0.020	0.012	mg/l	2.50	61.0	77	70-130			MHA
Manganese	548	20	7.0	ug/l	500	52.8	99	70-130			
Nickel	467	10	2.0	ug/l	500	14.4	90	70-130			
Vanadium	504	10	3.0	ug/l	500	ND	101	70-130			
Zinc	493	20.0	6.00	ug/l	500	ND	99	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
<b>Batch: 11B3269 Extracted: 02/25/11</b>											
<b>Matrix Spike Analyzed: 02/28/2011 (11B3269-MS2)</b>						<b>Source: IUB1977-03</b>					
Arsenic	474	10	7.0	ug/l	500	ND	95	70-130			
Barium	0.498	0.010	0.0060	mg/l	0.500	ND	100	70-130			
Beryllium	478	2.0	0.90	ug/l	500	ND	96	70-130			
Boron	0.698	0.050	0.020	mg/l	0.500	0.200	100	70-130			
Calcium	2.40	0.10	0.050	mg/l	2.50	ND	96	70-130			
Chromium	505	5.0	2.0	ug/l	500	ND	101	70-130			
Cobalt	455	10	2.0	ug/l	500	ND	91	70-130			
Iron	0.466	0.040	0.015	mg/l	0.500	ND	93	70-130			
Magnesium	2.53	0.020	0.012	mg/l	2.50	ND	101	70-130			
Manganese	491	20	7.0	ug/l	500	ND	98	70-130			
Nickel	457	10	2.0	ug/l	500	ND	91	70-130			
Vanadium	484	10	3.0	ug/l	500	ND	97	70-130			
Zinc	478	20.0	6.00	ug/l	500	ND	96	70-130			
<b>Matrix Spike Dup Analyzed: 02/28/2011 (11B3269-MSD1)</b>						<b>Source: IUB2067-05</b>					
Arsenic	483	10	7.0	ug/l	500	ND	97	70-130	4	20	
Barium	0.642	0.010	0.0060	mg/l	0.500	0.156	97	70-130	0.8	20	
Beryllium	481	2.0	0.90	ug/l	500	ND	96	70-130	2	20	
Boron	1.93	0.050	0.020	mg/l	0.500	1.44	98	70-130	0.07	20	
Calcium	121	0.10	0.050	mg/l	2.50	121	2	70-130	0.005	20	MHA
Chromium	501	5.0	2.0	ug/l	500	2.20	100	70-130	3	20	
Cobalt	440	10	2.0	ug/l	500	ND	88	70-130	3	20	
Iron	0.479	0.040	0.015	mg/l	0.500	ND	96	70-130	2	20	
Magnesium	63.8	0.020	0.012	mg/l	2.50	61.0	112	70-130	1	20	MHA
Manganese	533	20	7.0	ug/l	500	52.8	96	70-130	3	20	
Nickel	455	10	2.0	ug/l	500	14.4	88	70-130	3	20	
Vanadium	489	10	3.0	ug/l	500	ND	98	70-130	3	20	
Zinc	482	20.0	6.00	ug/l	500	ND	96	70-130	2	20	

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### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B3277 Extracted: 02/25/11</b>											
<b>Blank Analyzed: 02/25/2011 (11B3277-BLK1)</b>											
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							
<b>LCS Analyzed: 02/25/2011 (11B3277-BS1)</b>											
Antimony	84.3	2.0	0.30	ug/l	80.0		105	85-115			
Cadmium	85.4	1.0	0.10	ug/l	80.0		107	85-115			
Copper	84.5	2.00	0.500	ug/l	80.0		106	85-115			
Lead	81.4	1.0	0.20	ug/l	80.0		102	85-115			
Selenium	84.5	2.0	0.50	ug/l	80.0		106	85-115			
Silver	83.9	1.0	0.10	ug/l	80.0		105	85-115			
Thallium	81.2	1.0	0.20	ug/l	80.0		101	85-115			
<b>Matrix Spike Analyzed: 02/25/2011 (11B3277-MS1) Source: IUB2432-01</b>											
Antimony	85.2	2.0	0.30	ug/l	80.0	ND	107	70-130			
Cadmium	81.4	1.0	0.10	ug/l	80.0	ND	102	70-130			
Copper	75.7	2.00	0.500	ug/l	80.0	0.668	94	70-130			
Lead	75.3	1.0	0.20	ug/l	80.0	ND	94	70-130			
Selenium	83.6	2.0	0.50	ug/l	80.0	ND	105	70-130			
Silver	78.3	1.0	0.10	ug/l	80.0	ND	98	70-130			
Thallium	76.6	1.0	0.20	ug/l	80.0	ND	96	70-130			
<b>Matrix Spike Analyzed: 02/25/2011 (11B3277-MS2) Source: IUB2352-01</b>											
Antimony	84.2	2.0	0.30	ug/l	80.0	0.426	105	70-130			
Cadmium	79.2	1.0	0.10	ug/l	80.0	0.127	99	70-130			
Copper	81.5	2.00	0.500	ug/l	80.0	9.87	90	70-130			
Lead	75.6	1.0	0.20	ug/l	80.0	2.40	91	70-130			
Selenium	86.7	2.0	0.50	ug/l	80.0	1.50	106	70-130			
Silver	75.8	1.0	0.10	ug/l	80.0	ND	95	70-130			
Thallium	75.1	1.0	0.20	ug/l	80.0	ND	94	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
<b>Batch: 11B3277 Extracted: 02/25/11</b>											
<b>Matrix Spike Dup Analyzed: 02/25/2011 (11B3277-MSD1)</b>						<b>Source: IUB2432-01</b>					
Antimony	84.9	2.0	0.30	ug/l	80.0	ND	106	70-130	0.4	20	
Cadmium	81.4	1.0	0.10	ug/l	80.0	ND	102	70-130	0.04	20	
Copper	74.8	2.00	0.500	ug/l	80.0	0.668	93	70-130	1	20	
Lead	74.1	1.0	0.20	ug/l	80.0	ND	93	70-130	2	20	
Selenium	82.3	2.0	0.50	ug/l	80.0	ND	103	70-130	2	20	
Silver	77.9	1.0	0.10	ug/l	80.0	ND	97	70-130	0.5	20	
Thallium	76.3	1.0	0.20	ug/l	80.0	ND	95	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	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B2496 Extracted: 02/19/11</b>											
<b>Blank Analyzed: 02/19/2011-02/24/2011 (11B2496-BLK1)</b>											
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							
<b>LCS Analyzed: 02/19/2011-02/24/2011 (11B2496-BS1)</b>											
Arsenic	479	10	7.0	ug/l	500		96	85-115			
Barium	0.501	0.010	0.0060	mg/l	0.500		100	85-115			
Beryllium	489	2.0	0.90	ug/l	500		98	85-115			
Boron	0.516	0.050	0.020	mg/l	0.500		103	85-115			
Calcium	2.48	0.10	0.050	mg/l	2.50		99	85-115			
Chromium	507	5.0	2.0	ug/l	500		101	85-115			
Cobalt	491	10	2.0	ug/l	500		98	85-115			
Iron	0.491	0.040	0.015	mg/l	0.500		98	85-115			
Magnesium	2.62	0.020	0.012	mg/l	2.50		105	85-115			
Manganese	497	20	7.0	ug/l	500		99	85-115			
Nickel	474	10	2.0	ug/l	500		95	85-115			
Vanadium	502	10	3.0	ug/l	500		100	85-115			
Zinc	480	20.0	6.00	ug/l	500		96	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
<b>Batch: 11B2496 Extracted: 02/19/11</b>											
<b>Matrix Spike Analyzed: 02/19/2011-02/24/2011 (11B2496-MS1)</b>						<b>Source: IUB1866-02</b>					
Arsenic	492	10	7.0	ug/l	500	ND	98	70-130			
Barium	0.531	0.010	0.0060	mg/l	0.500	0.0439	97	70-130			
Beryllium	491	2.0	0.90	ug/l	500	ND	98	70-130			
Boron	0.644	0.050	0.020	mg/l	0.500	0.146	100	70-130			
Calcium	64.2	0.10	0.050	mg/l	2.50	61.3	115	70-130			MHA
Chromium	501	5.0	2.0	ug/l	500	ND	100	70-130			
Cobalt	491	10	2.0	ug/l	500	ND	98	70-130			
Iron	0.499	0.040	0.015	mg/l	0.500	ND	100	70-130			
Magnesium	13.7	0.020	0.012	mg/l	2.50	11.2	101	70-130			MHA
Manganese	522	20	7.0	ug/l	500	34.2	97	70-130			
Nickel	474	10	2.0	ug/l	500	15.3	92	70-130			
Vanadium	503	10	3.0	ug/l	500	5.66	99	70-130			
Zinc	492	20.0	6.00	ug/l	500	15.0	95	70-130			
<b>Matrix Spike Analyzed: 02/19/2011-02/24/2011 (11B2496-MS2)</b>						<b>Source: IUB1624-01</b>					
Arsenic	521	10	7.0	ug/l	500	22.5	100	70-130			
Barium	0.904	0.010	0.0060	mg/l	0.500	0.421	97	70-130			
Beryllium	493	2.0	0.90	ug/l	500	ND	99	70-130			
Boron	3.86	0.050	0.020	mg/l	0.500	3.35	101	70-130			MHA
Calcium	432	0.10	0.050	mg/l	2.50	429	130	70-130			MHA
Chromium	502	5.0	2.0	ug/l	500	2.46	100	70-130			
Cobalt	470	10	2.0	ug/l	500	ND	94	70-130			
Iron	34.8	0.040	0.015	mg/l	0.500	34.3	109	70-130			MHA
Magnesium	143	0.020	0.012	mg/l	2.50	137	250	70-130			MHA
Manganese	2060	20	7.0	ug/l	500	1560	98	70-130			
Nickel	792	10	2.0	ug/l	500	352	88	70-130			
Vanadium	498	10	3.0	ug/l	500	ND	100	70-130			
Zinc	469	20.0	6.00	ug/l	500	ND	94	70-130			

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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
<b>Batch: 11B2496 Extracted: 02/19/11</b>											
<b>Matrix Spike Dup Analyzed: 02/19/2011-02/24/2011 (11B2496-MSD1)</b>						<b>Source: IUB1866-02</b>					
Arsenic	496	10	7.0	ug/l	500	ND	99	70-130	0.8	20	
Barium	0.537	0.010	0.0060	mg/l	0.500	0.0439	99	70-130	1	20	
Beryllium	495	2.0	0.90	ug/l	500	ND	99	70-130	0.7	20	
Boron	0.652	0.050	0.020	mg/l	0.500	0.146	101	70-130	1	20	
Calcium	64.5	0.10	0.050	mg/l	2.50	61.3	127	70-130	0.5	20	MHA
Chromium	505	5.0	2.0	ug/l	500	ND	101	70-130	0.8	20	
Cobalt	490	10	2.0	ug/l	500	ND	98	70-130	0.08	20	
Iron	0.501	0.040	0.015	mg/l	0.500	ND	100	70-130	0.4	20	
Magnesium	13.6	0.020	0.012	mg/l	2.50	11.2	97	70-130	0.7	20	MHA
Manganese	527	20	7.0	ug/l	500	34.2	99	70-130	1	20	
Nickel	478	10	2.0	ug/l	500	15.3	93	70-130	1	20	
Vanadium	509	10	3.0	ug/l	500	5.66	101	70-130	1	20	
Zinc	495	20.0	6.00	ug/l	500	15.0	96	70-130	0.6	20	

### Batch: 11B2681 Extracted: 02/22/11

#### Blank Analyzed: 02/22/2011 (11B2681-BLK1)

Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	1.26	2.00	0.500	ug/l							J
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: 02/22/2011 (11B2681-BS1)

Antimony	79.4	2.0	0.30	ug/l	80.0		99	85-115			
Cadmium	79.5	1.0	0.10	ug/l	80.0		99	85-115			
Copper	78.2	2.00	0.500	ug/l	80.0		98	85-115			
Lead	80.4	1.0	0.20	ug/l	80.0		100	85-115			
Selenium	80.1	2.0	0.50	ug/l	80.0		100	85-115			
Silver	78.0	1.0	0.10	ug/l	80.0		97	85-115			
Thallium	80.7	1.0	0.20	ug/l	80.0		101	85-115			

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### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 11B2681 Extracted: 02/22/11</u></b>											
<b>Matrix Spike Analyzed: 02/22/2011 (11B2681-MS1)</b>						<b>Source: IUB1622-03</b>					
Antimony	81.0	2.0	0.30	ug/l	80.0	0.949	100	70-130			
Cadmium	78.1	1.0	0.10	ug/l	80.0	ND	98	70-130			
Copper	77.6	2.00	0.500	ug/l	80.0	1.35	95	70-130			
Lead	70.2	1.0	0.20	ug/l	80.0	ND	88	70-130			
Selenium	75.6	2.0	0.50	ug/l	80.0	ND	95	70-130			
Silver	75.0	1.0	0.10	ug/l	80.0	ND	94	70-130			
Thallium	70.3	1.0	0.20	ug/l	80.0	0.222	88	70-130			
<b>Matrix Spike Dup Analyzed: 02/22/2011 (11B2681-MSD1)</b>						<b>Source: IUB1622-03</b>					
Antimony	82.1	2.0	0.30	ug/l	80.0	0.949	101	70-130	1	20	
Cadmium	78.4	1.0	0.10	ug/l	80.0	ND	98	70-130	0.4	20	
Copper	76.5	2.00	0.500	ug/l	80.0	1.35	94	70-130	1	20	
Lead	71.2	1.0	0.20	ug/l	80.0	ND	89	70-130	1	20	
Selenium	76.7	2.0	0.50	ug/l	80.0	ND	96	70-130	1	20	
Silver	74.9	1.0	0.10	ug/l	80.0	ND	94	70-130	0.09	20	
Thallium	71.3	1.0	0.20	ug/l	80.0	0.222	89	70-130	1	20	
<b><u>Batch: 11B2762 Extracted: 02/22/11</u></b>											
<b>Blank Analyzed: 02/23/2011 (11B2762-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 02/23/2011 (11B2762-BS1)</b>											
Mercury	8.48	0.20	0.10	ug/l	8.00		106	85-115			
<b>Matrix Spike Analyzed: 02/23/2011 (11B2762-MS1)</b>						<b>Source: IUB1943-01</b>					
Mercury	8.04	0.20	0.10	ug/l	8.00	ND	101	70-130			

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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
<b>Batch: 11B2762 Extracted: 02/22/11</b>											
<b>Matrix Spike Dup Analyzed: 02/23/2011 (11B2762-MSD1)</b>						<b>Source: IUB1943-01</b>					
Mercury	8.01	0.20	0.10	ug/l	8.00	ND	100	70-130	0.4	20	

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
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## METHOD BLANK/QC DATA

### DISSOLVED INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 11B2432 Extracted: 02/18/11</b>											
<b>Blank Analyzed: 02/18/2011 (11B2432-BLK1)</b>											
Chromium VI	ND	1.00	0.250	ug/l							
<b>LCS Analyzed: 02/18/2011 (11B2432-BS1)</b>											
Chromium VI	48.1	1.00	0.250	ug/l	50.0		96	90-110			
<b>Matrix Spike Analyzed: 02/18/2011 (11B2432-MS1)</b>											
						<b>Source: IUB2102-07</b>					
Chromium VI	54.9	1.00	0.250	ug/l	50.0	3.24	103	90-110			
<b>Matrix Spike Dup Analyzed: 02/18/2011 (11B2432-MSD1)</b>											
						<b>Source: IUB2102-07</b>					
Chromium VI	55.5	1.00	0.250	ug/l	50.0	3.24	105	90-110	1	10	

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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
<b>Batch: 11B2377 Extracted: 02/18/11</b>											
<b>Blank Analyzed: 02/18/2011 (11B2377-BLK1)</b>											
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							
<b>LCS Analyzed: 02/18/2011 (11B2377-BS1)</b>											
Chloride	4.72	0.50	0.30	mg/l	5.00		94	90-110			
Nitrate-N	1.05	0.11	0.060	mg/l	1.13		93	90-110			
Nitrite-N	1.42	0.15	0.090	mg/l	1.52		94	90-110			
Sulfate	9.39	0.50	0.30	mg/l	10.0		94	90-110			
<b>Matrix Spike Analyzed: 02/18/2011 (11B2377-MS1)</b>						<b>Source: IUB1964-05</b>					
Chloride	137	10	6.0	mg/l	50.0	101	72	80-120			M2
Nitrate-N	18.3	2.2	1.2	mg/l	11.3	9.76	76	80-120			M2
Nitrite-N	14.6	3.0	1.8	mg/l	15.2	ND	96	80-120			
Sulfate	321	10	6.0	mg/l	100	247	73	80-120			M2
<b>Matrix Spike Analyzed: 02/18/2011 (11B2377-MS2)</b>						<b>Source: IUB1965-05</b>					
Chloride	114	10	6.0	mg/l	50.0	71.7	85	80-120			
Nitrate-N	16.0	2.2	1.2	mg/l	11.3	6.15	87	80-120			
Nitrite-N	15.8	3.0	1.8	mg/l	15.2	ND	104	80-120			
Sulfate	213	10	6.0	mg/l	100	121	92	80-120			
<b>Matrix Spike Dup Analyzed: 02/18/2011 (11B2377-MSD1)</b>						<b>Source: IUB1964-05</b>					
Chloride	141	10	6.0	mg/l	50.0	101	79	80-120	3	20	M2
Nitrate-N	19.0	2.2	1.2	mg/l	11.3	9.76	82	80-120	4	20	
Nitrite-N	14.6	3.0	1.8	mg/l	15.2	ND	96	80-120	0.2	20	
Sulfate	332	10	6.0	mg/l	100	247	84	80-120	3	20	

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### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 11B2469 Extracted: 02/18/11</u></b>											
<b>Blank Analyzed: 02/18/2011 (11B2469-BLK1)</b>											
Surfactants (MBAS)	ND	0.10	0.050	mg/l							
<b>LCS Analyzed: 02/18/2011 (11B2469-BS1)</b>											
Surfactants (MBAS)	0.261	0.10	0.050	mg/l	0.250		104	90-110			
<b>Matrix Spike Analyzed: 02/18/2011 (11B2469-MS1)</b>											
						<b>Source: IUB1926-01</b>					
Surfactants (MBAS)	0.270	0.10	0.050	mg/l	0.250	ND	108	50-125			
<b>Matrix Spike Dup Analyzed: 02/18/2011 (11B2469-MSD1)</b>											
						<b>Source: IUB1926-01</b>					
Surfactants (MBAS)	0.261	0.10	0.050	mg/l	0.250	ND	105	50-125	3	20	
<b><u>Batch: 11B2542 Extracted: 02/19/11</u></b>											
<b>Blank Analyzed: 02/24/2011 (11B2542-BLK1)</b>											
Biochemical Oxygen Demand	ND	2.0	0.50	mg/l							
<b>LCS Analyzed: 02/24/2011 (11B2542-BS1)</b>											
Biochemical Oxygen Demand	204	100	25	mg/l	198		103	85-115			
<b>LCS Dup Analyzed: 02/24/2011 (11B2542-BSD1)</b>											
Biochemical Oxygen Demand	204	100	25	mg/l	198		103	85-115	0	20	
<b><u>Batch: 11B2547 Extracted: 02/19/11</u></b>											
<b>Blank Analyzed: 02/19/2011 (11B2547-BLK1)</b>											
Turbidity	ND	1.0	0.040	NTU							

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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
<b><u>Batch: 11B2547 Extracted: 02/19/11</u></b>											
<b>Duplicate Analyzed: 02/19/2011 (11B2547-DUP1)</b>						<b>Source: IUB2032-01</b>					
Turbidity	0.120	1.0	0.040	NTU		0.130			8	20	J
<b><u>Batch: 11B2727 Extracted: 02/22/11</u></b>											
<b>Blank Analyzed: 02/22/2011 (11B2727-BLK1)</b>											
Ammonia-N (Distilled)	ND	0.500	0.500	mg/l							
<b>LCS Analyzed: 02/22/2011 (11B2727-BS1)</b>											
Ammonia-N (Distilled)	10.1	0.500	0.500	mg/l	10.0		101	80-115			
<b>Matrix Spike Analyzed: 02/22/2011 (11B2727-MS1)</b>						<b>Source: IUB1966-03</b>					
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0	ND	98	70-120			
<b>Matrix Spike Dup Analyzed: 02/22/2011 (11B2727-MSD1)</b>						<b>Source: IUB1966-03</b>					
Ammonia-N (Distilled)	9.80	0.500	0.500	mg/l	10.0	ND	98	70-120	0	15	
<b><u>Batch: 11B2817 Extracted: 02/23/11</u></b>											
<b>Blank Analyzed: 02/23/2011 (11B2817-BLK1)</b>											
Perchlorate	ND	1.0	0.90	ug/l							
<b>LCS Analyzed: 02/23/2011 (11B2817-BS1)</b>											
Perchlorate	26.1	1.0	0.90	ug/l	25.0		104	85-115			
<b>Matrix Spike Analyzed: 02/23/2011 (11B2817-MS1)</b>						<b>Source: IUB2211-15</b>					
Perchlorate	26.5	1.0	0.90	ug/l	25.0	ND	106	80-120			

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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
<b><u>Batch: 11B2817 Extracted: 02/23/11</u></b>											
<b>Matrix Spike Dup Analyzed: 02/23/2011 (11B2817-MSD1)</b>						<b>Source: IUB2211-15</b>					
Perchlorate	27.8	1.0	0.90	ug/l	25.0	ND	111	80-120	5	20	
<b><u>Batch: 11B2818 Extracted: 02/23/11</u></b>											
<b>Blank Analyzed: 02/23/2011 (11B2818-BLK1)</b>											
Fluoride	ND	0.10	0.020	mg/l							
<b>LCS Analyzed: 02/23/2011 (11B2818-BS1)</b>											
Fluoride	0.978	0.10	0.020	mg/l	1.00		98	90-110			
<b>Matrix Spike Analyzed: 02/23/2011 (11B2818-MS1)</b>						<b>Source: IUB1930-01</b>					
Fluoride	1.06	0.10	0.020	mg/l	1.00	0.0439	102	80-120			
<b>Matrix Spike Dup Analyzed: 02/23/2011 (11B2818-MSD1)</b>						<b>Source: IUB1930-01</b>					
Fluoride	1.05	0.10	0.020	mg/l	1.00	0.0439	100	80-120	1	20	
<b><u>Batch: 11B2925 Extracted: 02/23/11</u></b>											
<b>Blank Analyzed: 02/23/2011 (11B2925-BLK1)</b>											
Total Cyanide	ND	5.0	2.2	ug/l							
<b>LCS Analyzed: 02/23/2011 (11B2925-BS1)</b>											
Total Cyanide	185	5.0	2.2	ug/l	200		92	90-110			
<b>Matrix Spike Analyzed: 02/23/2011 (11B2925-MS1)</b>						<b>Source: IUB1828-01</b>					
Total Cyanide	185	5.0	2.2	ug/l	200	ND	92	70-115			

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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
<b><u>Batch: 11B2925 Extracted: 02/23/11</u></b>											
<b>Matrix Spike Dup Analyzed: 02/23/2011 (11B2925-MSD1)</b>						<b>Source: IUB1828-01</b>					
Total Cyanide	184	5.0	2.2	ug/l	200	ND	92	70-115	0.3	15	
<b><u>Batch: 11B2988 Extracted: 02/24/11</u></b>											
<b>Blank Analyzed: 02/24/2011 (11B2988-BLK1)</b>											
Total Dissolved Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 02/24/2011 (11B2988-BS1)</b>											
Total Dissolved Solids	1010	10	1.0	mg/l	1000		101	90-110			
<b>Duplicate Analyzed: 02/24/2011 (11B2988-DUP1)</b>						<b>Source: IUB2188-01</b>					
Total Dissolved Solids	1390	10	1.0	mg/l		1380			0.4	10	
<b><u>Batch: 11B3172 Extracted: 02/24/11</u></b>											
<b>Blank Analyzed: 02/24/2011 (11B3172-BLK1)</b>											
Total Suspended Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 02/24/2011 (11B3172-BS1)</b>											
Total Suspended Solids	997	10	1.0	mg/l	1000		100	85-115			
<b>Duplicate Analyzed: 02/24/2011 (11B3172-DUP1)</b>						<b>Source: IUB2278-01</b>					
Total Suspended Solids	46.0	10	1.0	mg/l		46.0			0	10	
<b><u>Batch: 11B3192 Extracted: 02/25/11</u></b>											
<b>Blank Analyzed: 02/25/2011 (11B3192-BLK1)</b>											
Specific Conductance	ND	1.0	1.0	hos/cm @ 2							

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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
<b><u>Batch: 11B3192 Extracted: 02/25/11</u></b>											
<b>LCS Analyzed: 02/25/2011 (11B3192-BS1)</b>											
Specific Conductance	1390	1.0	1.0	hos/cm @ 2	1410		99	90-110			
<b>Duplicate Analyzed: 02/25/2011 (11B3192-DUP1)</b>											
Specific Conductance	831	1.0	1.0	hos/cm @ 2		822			1	5	
<b><u>Batch: 11C0193 Extracted: 03/02/11</u></b>											
<b>Blank Analyzed: 03/02/2011 (11C0193-BLK1)</b>											
Total Organic Carbon	ND	1.0	0.50	mg/l							
<b>LCS Analyzed: 03/02/2011 (11C0193-BS1)</b>											
Total Organic Carbon	9.35	1.0	0.50	mg/l	10.0		93	90-110			
<b>Matrix Spike Analyzed: 03/02/2011 (11C0193-MS1)</b>											
Total Organic Carbon	14.3	1.0	0.50	mg/l	5.00	10.1	84	80-120			
<b>Matrix Spike Dup Analyzed: 03/02/2011 (11C0193-MSD1)</b>											
Total Organic Carbon	14.3	1.0	0.50	mg/l	5.00	10.1	84	80-120	0.1	20	

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## METHOD BLANK/QC DATA

### 900

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8663 Extracted: 03/02/11</b>											
<b>LCS Analyzed: 03/04/2011 (S102233-03)</b>											
Gross Alpha	103	3	N/A	pCi/L	101		102	70-130			
Gross Beta	82.5	4	N/A	pCi/L	87.3		94	70-130			
<b>Blank Analyzed: 03/04/2011 (S102233-04)</b>											
Gross Alpha	-0.182	3	N/A	pCi/L				-			U
Gross Beta	-1.43	4	N/A	pCi/L				-			U
<b>Duplicate Analyzed: 03/05/2011 (S102233-05)</b>											
Gross Alpha	-0.039	3	N/A	pCi/L		0.49		-	200		U
Gross Beta	4.29	4	N/A	pCi/L		3.7		-	15		

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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
<b>Batch: 8663 Extracted: 02/23/11</b>											
<b>LCS Analyzed: 02/28/2011 (S102233-03)</b>											
Cobalt-60	120	10	N/A	pCi/L	126		95	80-120			
Cesium-137	110	20	N/A	pCi/L	110		100	80-120			
<b>Blank Analyzed: 02/28/2011 (S102233-04)</b>											
Cesium-137	ND	20	N/A	pCi/L				-			U
Potassium-40	ND	25	N/A	pCi/L				-			U
<b>Duplicate Analyzed: 02/28/2011 (S102233-05)</b>											
Cesium-137	ND	20	N/A	pCi/L		0		-	0		U
Potassium-40	ND	25	N/A	pCi/L		0		-	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
<b>Batch: 8663 Extracted: 03/09/11</b>											
<b>LCS Analyzed: 03/09/2011 (S102233-03)</b>											
Radium-226	51.7	1	N/A	pCi/L	55.7		93	80-120			
<b>Blank Analyzed: 03/09/2011 (S102233-04)</b>											
Radium-226	-0.08	1	N/A	pCi/L				-			U
<b>Duplicate Analyzed: 03/09/2011 (S102233-05)</b>											
Radium-226	-0.111	1	N/A	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
<b>Batch: 8663 Extracted: 03/09/11</b>											
<b>LCS Analyzed: 03/09/2011 (S102233-03)</b>											
Radium-228	15.3	1	N/A	pCi/L	15.2		101	60-140			
<b>Blank Analyzed: 03/09/2011 (S102233-04)</b>											
Radium-228	-0.353	1	N/A	pCi/L				-			U
<b>Duplicate Analyzed: 03/09/2011 (S102233-05)</b>											
Radium-228	-0.087	1	N/A	pCi/L				-	0		U

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## METHOD BLANK/QC DATA

### 905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8663 Extracted: 03/12/11</b>											
<b>Blank Analyzed: 03/12/2011 (S102233-06)</b>											
Strontium-90	-0.036	2	N/A	pCi/L							U
<b>Duplicate Analyzed: 03/12/2011 (S102233-07)</b>											
Strontium-90	-0.117	2	N/A	pCi/L		-0.162			0		U
<b>LCS Analyzed: 03/12/2011 (S102233-08)</b>											
Strontium-90	17.5	2	N/A	pCi/L	17.4		101	80-120			

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## METHOD BLANK/QC DATA

### 906

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8663 Extracted: 03/09/11</b>											
<b>LCS Analyzed: 03/10/2011 (S102233-03)</b>											
Tritium	2040	500	N/A	pCi/L	2220		92	80-120			
<b>Blank Analyzed: 03/10/2011 (S102233-04)</b>											
Tritium	-74.3	500	N/A	pCi/L							U
<b>Duplicate Analyzed: 03/10/2011 (S102233-05)</b>											
Tritium	-9.08	500	N/A	pCi/L							U

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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
<b>Batch: 1054371 Extracted: 02/23/11</b>											
<b>Blank Analyzed: 02/24/2011 (G1B230000371B)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	0.0000022	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	0.0000015	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000022	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	0.0000017	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	0.0000016	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	0.0000016	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	0.0000014	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	0.0000014	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.0000019	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.0000033	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000039	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.0000014	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000041	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000022	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.0000033	ug/L				-			
OCDD	4.8e-006	0.0001	0.0000035	ug/L				-			J, Q
OCDF	ND	0.0001	0.0000021	ug/L				-			
Total HpCDD	ND	0.00005	0.0000022	ug/L				-			
Total HpCDF	ND	0.00005	0.0000015	ug/L				-			
Total HxCDD	ND	0.00005	0.0000014	ug/L				-			
Total HxCDF	ND	0.00005	0.0000014	ug/L				-			
Total PeCDD	ND	0.00005	0.0000033	ug/L				-			
Total PeCDF	ND	0.00005	0.0000039	ug/L				-			
Total TCDD	ND	0.00001	0.0000022	ug/L				-			
Total TCDF	ND	0.00001	0.0000033	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0019			ug/L	0.002		96	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0019			ug/L	0.002		96	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.002			ug/L	0.002		98	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0017			ug/L	0.002		86	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0018			ug/L	0.002		88	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0017			ug/L	0.002		85	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0018			ug/L	0.002		89	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0019			ug/L	0.002		96	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0017			ug/L	0.002		85	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0016			ug/L	0.002		78	24-185			

**TestAmerica Irvine**

Debby Wilson  
 Project Manager

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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
<b>Batch: 1054371 Extracted: 02/23/11</b>											
<b>Blank Analyzed: 02/24/2011 (G1B230000371B)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0018			ug/L	0.002		91	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0016			ug/L	0.002		81	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0014			ug/L	0.002		70	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0013			ug/L	0.002		67	24-169			
Surrogate: 13C-OCDD	0.0036			ug/L	0.004		90	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00068			ug/L	0		85	35-197			
<b>LCS Analyzed: 02/24/2011 (G1B230000371C)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00105	0.00005	0.0000063	ug/L	0.001		105	70-140			
1,2,3,4,6,7,8-HpCDF	0.00106	0.00005	0.0000036	ug/L	0.001		106	82-122			
1,2,3,4,7,8,9-HpCDF	0.00107	0.00005	0.0000052	ug/L	0.001		107	78-138			
1,2,3,4,7,8-HxCDD	0.001	0.00005	0.0000014	ug/L	0.001		100	70-164			
1,2,3,4,7,8-HxCDF	0.00111	0.00005	0.0000017	ug/L	0.001		111	72-134			
1,2,3,6,7,8-HxCDD	0.00126	0.00005	0.0000013	ug/L	0.001		126	76-134			
1,2,3,6,7,8-HxCDF	0.00103	0.00005	0.0000016	ug/L	0.001		103	84-130			
1,2,3,7,8,9-HxCDD	0.00121	0.00005	0.0000011	ug/L	0.001		121	64-162			
1,2,3,7,8,9-HxCDF	0.00109	0.00005	0.0000021	ug/L	0.001		109	78-130			
1,2,3,7,8-PeCDD	0.00105	0.00005	0.0000041	ug/L	0.001		105	70-142			
1,2,3,7,8-PeCDF	0.00106	0.00005	0.0000006	ug/L	0.001		106	80-134			
2,3,4,6,7,8-HxCDF	0.00107	0.00005	0.0000016	ug/L	0.001		107	70-156			
2,3,4,7,8-PeCDF	0.00107	0.00005	0.0000061	ug/L	0.001		107	68-160			
2,3,7,8-TCDD	0.000207	0.00001	0.0000022	ug/L	0.0002		104	67-158			
2,3,7,8-TCDF	0.000211	0.00001	0.0000033	ug/L	0.0002		105	75-158			
OCDD	0.00221	0.0001	0.0000071	ug/L	0.002		110	78-144			Ba
OCDF	0.00224	0.0001	0.0000049	ug/L	0.002		112	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00196			ug/L	0.002		98	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00189			ug/L	0.002		94	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00191			ug/L	0.002		95	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00185			ug/L	0.002		92	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00175			ug/L	0.002		88	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00159			ug/L	0.002		79	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00182			ug/L	0.002		91	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00194			ug/L	0.002		97	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00174			ug/L	0.002		87	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00165			ug/L	0.002		83	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00186			ug/L	0.002		93	22-176			

#### TestAmerica Irvine

Debby Wilson  
Project Manager

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

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
 Received: 02/17/11

## 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
<b>Batch: 1054371 Extracted: 02/23/11</b>											
<b>LCS Analyzed: 02/24/2011 (G1B230000371C)</b>											
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00167			ug/L	0.002		84	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.00158			ug/L	0.002		79	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.0015			ug/L	0.002		75	22-152			
Surrogate: 13C-OCDD	0.00362			ug/L	0.004		90	13-199			
Surrogate: 37C14-2,3,7,8-TCDD	0.000692			ug/L	0.0008		87	31-191			

TestAmerica Irvine

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 Project Manager

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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
IUB1966-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15
IUB1966-01	624-Reg-X-2+c12DCE, LOW	1,1-Dichloroethene	ug/l	0	0.50	6
IUB1966-01	624-Reg-X-2+c12DCE, LOW	1,2-Dichloroethane	ug/l	0	0.50	0.5
IUB1966-01	624-Reg-X-2+c12DCE, LOW	Trichloroethene	ug/l	0	0.50	5
IUB1966-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0.100	0.10	0.3

## Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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## Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUB1966-02	624-Reg-X-2+c12DCE, LOW	1,1-Dichloroethene	ug/l	0	0.50	6
IUB1966-02	624-Reg-X-2+c12DCE, LOW	1,2-Dichloroethane	ug/l	0	0.50	0.5
IUB1966-02	624-Reg-X-2+c12DCE, LOW	Trichloroethene	ug/l	0	0.50	5

## Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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## Compliance Check

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TestAmerica Irvine

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUB1966-03	608-Pesticides (LL)	alpha-BHC	ug/l	0	0.0054	0.03
IUB1966-03	Ammonia-N, Titr 4500NH3-C (w/di:Ammonia-N (Distilled)	Ammonia-N	mg/l	0	0.500	1.96
IUB1966-03	Antimony-200.8	Antimony	ug/l	0.33	2.0	6
IUB1966-03	Arsenic-200.7	Arsenic	ug/l	0	10	10
IUB1966-03	Barium-200.7	Barium	mg/l	0.010	0.010	1
IUB1966-03	Beryllium-200.7	Beryllium	ug/l	0.031	2.0	4
IUB1966-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	2.23	2.0	30
IUB1966-03	Cadmium-200.8	Cadmium	ug/l	0.022	1.0	3.1
IUB1966-03	Chloride - 300.0	Chloride	mg/l	11	0.50	150
IUB1966-03	Chromium VI-218.6	Chromium VI	ug/l	0	1.00	16
IUB1966-03	Copper-200.8	Copper	ug/l	1.71	2.00	14
IUB1966-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-4	5.0	8.5
IUB1966-03	Fluoride SM4500F,C	Fluoride	mg/l	0.19	0.10	1.6
IUB1966-03	Iron-200.7	Iron	mg/l	0.073	0.040	0.3
IUB1966-03	Lead-200.8	Lead	ug/l	0.058	1.0	5.2
IUB1966-03	Manganese-200.7	Manganese	ug/l	49	20	50
IUB1966-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.061	0.10	0.5
IUB1966-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1
IUB1966-03	Nickel-200.7	Nickel	ug/l	2.25	10	96
IUB1966-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.37	0.11	8
IUB1966-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
IUB1966-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.37	0.26	8
IUB1966-03	Perchlorate 314.0 (1ppb_IC6)	Perchlorate	ug/l	0	1.0	6
IUB1966-03	Silver-200.8	Silver	ug/l	0.072	1.0	4.1
IUB1966-03	Sulfate-300.0	Sulfate	mg/l	64	2.5	300
IUB1966-03	TDS - SM2540C	Total Dissolved Solids	mg/l	222	10	950
IUB1966-03	Thallium-200.8	Thallium	ug/l	0.0029	1.0	2
IUB1966-03	TSS - SM2540D	Total Suspended Solids	mg/l	0	10	45
IUB1966-03	Zinc-200.7	Zinc	ug/l	6.72	20.0	119

## Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUB1966-03RE1	625+NDMA, LL	2,4,6-Trichlorophenol	ug/l	0	1.00	13
IUB1966-03RE1	625+NDMA, LL	2,4-Dinitrotoluene	ug/l	0	5.00	18
IUB1966-03RE1	625+NDMA, LL	Bis(2-ethylhexyl)phthalate	ug/l	1.66	5.00	4
IUB1966-03RE1	625+NDMA, LL	N-Nitrosodimethylamine	ug/l	0	2.00	16
IUB1966-03RE1	625+NDMA, LL	Pentachlorophenol	ug/l	0	2.00	16.5

### TestAmerica Irvine

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Project Manager

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Report Number: IUB1966

Sampled: 02/17/11-02/18/11  
Received: 02/17/11

## 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.

<b>LabNumber</b>	<b>Analysis</b>	<b>Analyte</b>	<b>Units</b>	<b>Result</b>	<b>MRL</b>	<b>Compliance Limit</b>
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**TestAmerica Irvine**

Debby Wilson  
Project Manager

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**IUB1966 <Page 83 of 87>**

MWH-Pasadena/Boeing  
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## DATA QUALIFIERS AND DEFINITIONS

<b>B</b>	Analyte was detected in the associated Method Blank.
<b>Ba</b>	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
<b>C</b>	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
<b>J</b>	Estimated result. Result is less than the reporting limit.
<b>Jb</b>	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
<b>L</b>	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
<b>L6</b>	Per the EPA methods, benzidine is known to be subject to oxidative losses during solvent concentration.
<b>M1</b>	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
<b>M13</b>	The sample spiked had a pH of less than 2. 2-Chloroethylvinylether degrades under acidic conditions.
<b>M2</b>	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
<b>M8</b>	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
<b>MHA</b>	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
<b>MNR1</b>	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
<b>N2</b>	See corrective action report.
<b>Q</b>	Estimated maximum possible concentration (EMPC).
<b>R</b>	The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.
<b>U</b>	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
<b>Z6</b>	Surrogate recovery was below acceptance limits.
<b>ND</b>	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
<b>RPD</b>	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**

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## 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
Level 4	Water		
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](http://www.testamericainc.com)*

### Subcontracted Laboratories

### TestAmerica Irvine

Debby Wilson  
Project Manager



MWH-Pasadena/Boeing  
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Sampled: 02/17/11-02/18/11  
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**Aquatic Testing Laboratories-SUB** *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chnric  
Samples: IUB1966-03

Analysis Performed: Bioassay-Acute 96hr  
Samples: IUB1966-01

**Eberline Services - SUB**

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec  
Samples: IUB1966-03, IUB1966-04

Analysis Performed: Gross Alpha  
Samples: IUB1966-03, IUB1966-04

Analysis Performed: Gross Beta  
Samples: IUB1966-03, IUB1966-04

Analysis Performed: Radium, Combined  
Samples: IUB1966-03, IUB1966-04

Analysis Performed: Strontium 90  
Samples: IUB1966-03, IUB1966-04

Analysis Performed: Tritium  
Samples: IUB1966-03, IUB1966-04

Analysis Performed: Uranium, Combined  
Samples: IUB1966-03, IUB1966-04

**TestAmerica Irvine**

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## TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8663  
Samples: IUB1966-03, IUB1966-04

Method Performed: 900  
Samples: IUB1966-03, IUB1966-04

Method Performed: 901.1  
Samples: IUB1966-03, IUB1966-04

Method Performed: 903.1  
Samples: IUB1966-03, IUB1966-04

Method Performed: 904  
Samples: IUB1966-03, IUB1966-04

Method Performed: 905  
Samples: IUB1966-03, IUB1966-04

Method Performed: 906  
Samples: IUB1966-03

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B  
Samples: IUB1966-03

## Truesdail Laboratories-SUB *California Cert #1237*

14201 Franklin Avenue - Tustin, CA 92680

Analysis Performed: Hydrazine  
Samples: IUB1966-03

Analysis Performed: Level 4 Data Package  
Samples: IUB1966-03

## TestAmerica Irvine

Debby Wilson  
Project Manager



Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007				Project: Boeing-SSFL NPDES Annual Outfall 018 COMPOSITE			ANALYSIS REQUIRED												Comments
Test America Contact: Debby Wilson				Phone Number: (626) 568-6691			Total Recoverable Metals: Cu, Pb, Hg, B, Ba, Fe, Mn, Sb, As, Be, Cd, Ni, Se, Ag, Ti, Zn, Co, V, Hardness as CaCO <sub>3</sub>	TCDD (and all congeners)	BOD <sub>5</sub> (20 degrees C)	Surfactants (MBAS)	Cl <sup>-</sup> , SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N, F, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608) + Pesticides + PP	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625) + PP			
Project Manager: Bronwyn Kelly				Fax Number: (626) 568-6515															
Sampler: <b>Rick BANAGA</b>																			
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #													
Outfall 018	W	1L Poly	1	2-18-2011 1531	HNO <sub>3</sub>	13A	X												
Outfall 018 Dup	W	1L Poly	1		HNO <sub>3</sub>	13B	X												
Outfall 018	W	1L Amber	2		None	14A, 14B		X											
Outfall 018	W	1L Poly	1		None	15			X										
Outfall 018	W	500 mL Poly	2		None	16A, 16B			X										
Outfall 018	W	500 mL Poly	2		None	17A, 17B			X										
Outfall 018	W	500 mL Poly	1		None	18			X										
Outfall 018	W	500 mL Poly	2		None	19A, 19B				X									
Outfall 018	W	500 mL Poly	1		H <sub>2</sub> SO <sub>4</sub>	20					X								
Outfall 018	W	1L Amber	2		None	21A, 21B						X							
Outfall 018	W	1L Amber	2	2-18-2011 1531	None	22A, 22B							X						

2/18/11  
2/18/11  
MR

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 018 for this storm event.  
These must be added to the same work order for COC Page 1 of 3 for Outfall 018 for the same event.

Relinquished By <i>Rick Banaga</i>	Date/Time: 2-18-2011 1620	Received By <i>John TAC</i>	Date/Time: 2/18/11 1620	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: _____ Normal: <b>X</b>
Relinquished By <i>John TAC</i>	Date/Time: 2/18/11 1950	Received By <i>John TAC</i>	Date/Time: 2/18/11 1950	Sample Integrity: (Check) Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/> 3.4
Relinquished By <i>John TAC</i>	Date/Time: 2-18-2011 1950	Received By <i>John TAC</i>	Date/Time: 2-18-2011 1950	Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <b>X</b>

#145



# 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:** February 22, 2011

**Client:** Test America - Irvine  
17461 Derian Ave., Suite 100  
Irvine, CA 92614  
Attn: Debby Wilson

**Laboratory No.:** A-11021802-001  
**Sample ID.:** IUB1966-01

**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: 02/17/11  
Date Received: 02/18/11  
Temp. Received: 2.4°C  
Chlorine (TRC): 0.0 mg/l  
Date Tested: 02/18/11 to 02/22/11

**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>
IUB1966-01	100% Survival (TUa = 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-11021802-001

Client/ID: TestAmerica IUB1966-01

Start Date: 02/18/2011

**TEST SUMMARY**

Species: *Pimephales promelas*.

Age: 13 (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-110201.

**TEST DATA**

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.0	7.8	8.0	0	0	1200
	100%	19.9	8.5	7.3	0	0	
24 Hr	Control	20.0	8.0	7.8	0	0	1200
	100%	19.9	8.2	7.6	0	0	
48 Hr	Control	19.9	8.2	7.8	0	0	1200
	100%	19.7	8.0	7.6	0	0	
Renewal	Control	19.9	8.1	8.0	0	0	1200
	100%	20.0	8.4	7.3	0	0	
72 Hr	Control	19.8	8.0	7.8	0	0	1200
	100%	19.7	7.4	7.5	0	0	
96 Hr	Control	19.8	7.4	7.7	0	0	1200
	100%	19.7	7.9	7.6	0	0	

**Comments:**

Sample as received: Chlorine: 0.0 mg/l; pH: 7.3; Conductivity: 263 umho; Temp: 2.4°C;

DO: 7.4 mg/l; Alkalinity: 47 mg/l; Hardness: 83 mg/l; NH<sub>3</sub>-N: 0.5 mg/l.

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

Control: Alkalinity: 68 mg/l; Hardness: 90 mg/l; Conductivity: 346 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 O<sub>2</sub>.

**RESULTS**

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

# Subcontract Order - TestAmerica Irvine (IUB1966)

**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: 24 °C      Ice: Y N

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


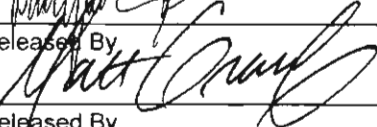
Analysis	Units	Expires	Comments
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Sample ID: IUB1966-01 (Outfall 018 - Water)


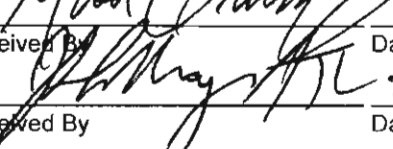
Sampled: 02/17/11 15:30

Bioassay-Acute 96hr	% Survival	02/19/11 03:30	FH minnow, EPA/821-R02-012, Sub to AqTox Labs
---------------------	------------	----------------	---

Containers Supplied:  
 1 gal Poly (S)

  
 Released By \_\_\_\_\_  
  
 Released By \_\_\_\_\_

2-18-11/7:30  
 Date/Time  
2-18-11/11:25  
 Date/Time

  
 Received By \_\_\_\_\_  
  
 Received By \_\_\_\_\_

2-18-11/7:30  
 Date/Time  
2-18-11 11:25  
 Date/Time





***REFERENCE  
TOXICANT  
DATA***

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



QA/QC Batch No.: RT-110201

**TEST SUMMARY**

Species: *Pimephales promelas*.  
 Age: 13 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>2-1-11 1100</u>			<u>2-2-11 1030</u>					<u>2-3-11 1030</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	19.2	9.2	8.2	19.2	7.9	8.0	0	0	19.2	8.2	7.8	0	0
1.0 mg/l	19.2	9.1	8.2	19.1	7.9	8.0	0	0	19.1	8.4	7.8	0	0
2.0 mg/l	19.3	9.1	8.2	19.2	8.1	7.9	0	0	19.2	8.5	7.8	0	0
4.0 mg/l	19.3	9.2	8.2	19.1	8.2	7.9	2	4	19.1	8.2	7.9	0	0
8.0 mg/l	19.3	9.2	8.2	19.2	7.9	7.8	10	10	-	-	-	-	-

Date/Time: Analyst:	RENEWAL			72 Hr					96 Hr				
	<u>2-3-11 1030</u>			<u>2-4-11 1100</u>					<u>2-5-11 1030</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	19.1	8.8	8.1	20.2	7.9	8.0	0	0	20.5	7.3	8.0	0	0
1.0 mg/l	19.2	9.1	8.1	20.2	8.0	8.0	0	0	20.5	7.7	8.0	0	0
2.0 mg/l	19.1	9.0	8.1	20.2	8.1	8.0	0	0	20.4	7.9	8.0	0	0
4.0 mg/l	19.2	9.2	8.2	20.2	8.1	8.0	0	0	20.3	7.9	8.0	0	0
8.0 mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments: Control: Alkalinity: 66 mg/l; Hardness: 92 mg/l; Conductivity: 325 umho.  
 SDS: Alkalinity: 66 mg/l; Hardness: 93 mg/l; Conductivity: 329 umho.

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

Yes (response curve normal)  
 No (dose interrupted indicated or non-normal)

# TEST ORGANISM LOG



## FATHEAD MINNOW - LARVAL (*Pimephales promelas*)

QA/QC BATCH NO.: RT-110201

SOURCE: In-Lab Culture

DATE HATCHED: (-18-11

APPROXIMATE QUANTITY: 400

GENERAL APPEARANCE: good

# MORTALITIES 48 HOURS PRIOR TO  
TO USE IN TESTING: 0

DATE USED IN LAB: 2/1/11

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.: 19.2°C      pH: 8.2      Ammonia: <0.1 mg/l NH<sub>3</sub>-N

DO: 9.2 mg/l      Alkalinity: 66 mg/l      Hardness: 2 mg/l

READINGS RECORDED BY: [Signature]      DATE: 2-2-11

**Acute Fish Test-96 Hr Survival**

Start Date: 2/1/2011 11:00      Test ID: RT110201      Sample ID: REF-Ref Toxicant  
 End Date: 2/5/2011 10:00      Lab ID: CAATL-Aquatic Testing Labs      Sample Type: SDS-Sodium dodecyl sulfate  
 Sample Date: 2/1/2011      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	Mean	N-Mean	Transform: Arcsin Square Root				CV%	N	Number Resp	Total Number
			Mean	Min	Max					
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	

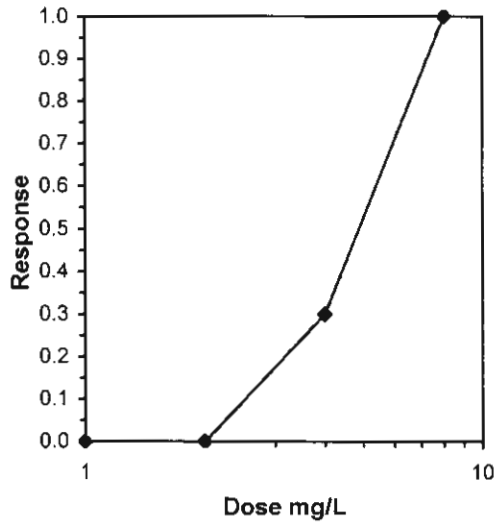
Auxiliary Tests	Statistic	Critical	Skew	Kurt
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Normality of the data set cannot be confirmed

Equality of variance cannot be confirmed

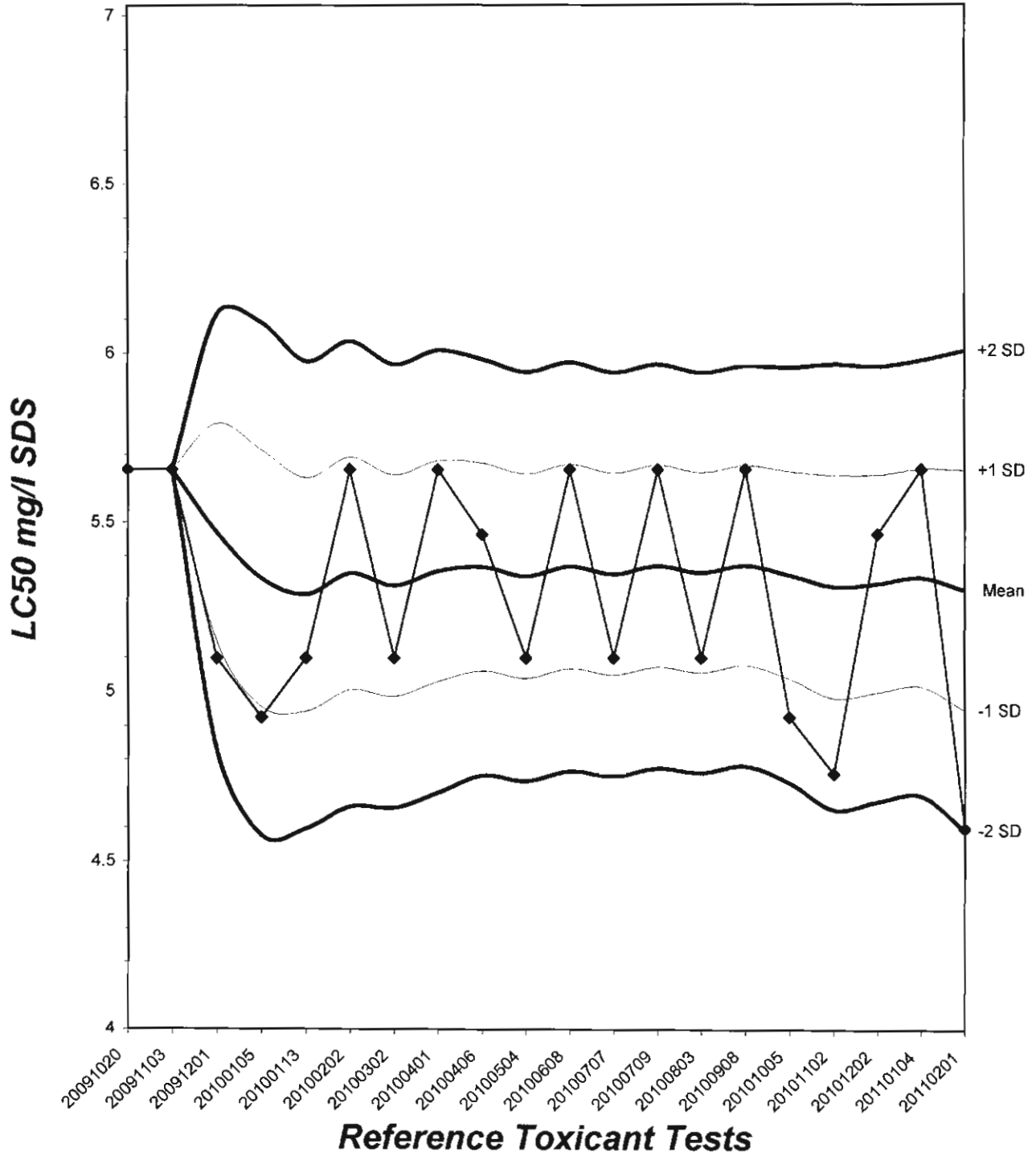
**Trimmed Spearman-Kärber**

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% = 6.7

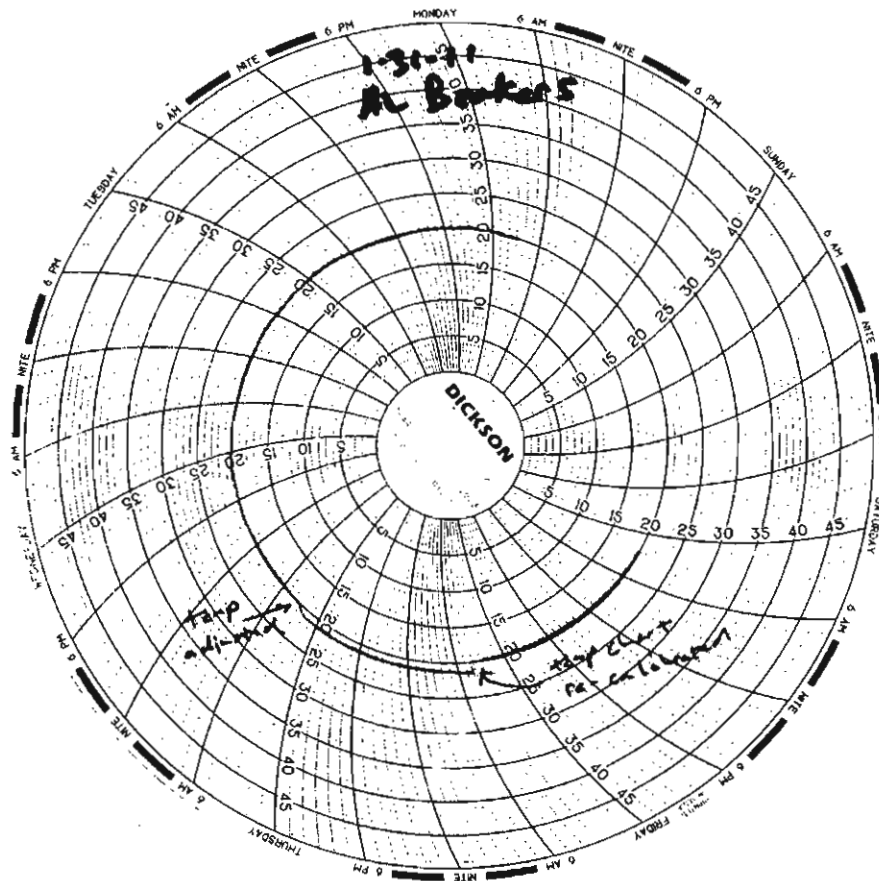


# Test Temperature Chart

Test No: RT-110201

Date Tested: 02/01/11 to 02/05/11

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



# LABORATORY REPORT



**Aquatic  
Testing  
Laboratories**

*"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:** February 25, 2011

**Client:** TestAmerica, Irvine  
17461 Derian Ave., Suite 100  
Irvine, CA 92614  
Attn: Debby Wilson

**Laboratory No.:** A-11021903-001  
**Sample I.D.:** IUB1966-03 (Outfall 018)

**Sample Control:** The sample was received by ATL chilled, within the recommended hold time and with the chain of custody record attached. Testing conducted on only one sample per client instruction (rain runoff sample).

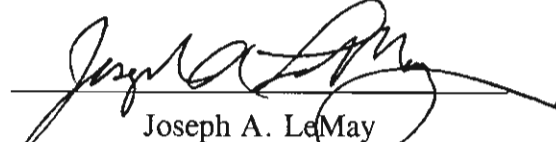
Date Sampled: 02/18/11  
Date Received: 02/19/11  
Temp. Received: 2.0°C  
Chlorine (TRC): 0.0 mg/l  
Date Tested: 02/19/11 to 02/25/11

**Sample Analysis:** The following analyses were performed on your sample:  
*Ceriodaphnia dubia* Survival and Reproduction Test (EPA Method 1002).  
Attached are the test data generated from the analysis of your sample.

## Result Summary:

<b>Chronic:</b>	<u>NOEC</u>	<u>TUc</u>
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

**Quality Control:** Reviewed and approved by:

  
Joseph A. LeMay  
Laboratory Director

# CERIODAPHNIA CHRONIC BIOASSAY EPA METHOD 1002.0



Lab No.: A-11021903-001  
Client/ID: Test America – IUB1966-03 (Outfall 018)

Date Tested: 02/19/11 to 02/25/11

## TEST SUMMARY

Test type: Daily static-renewal.  
Species: *Ceriodaphnia dubia*.  
Age: < 24 hrs; all released within 8 hrs.  
Test vessel size: 30 ml.  
Number of test organisms per vessel: 1.  
Temperature: 25 +/- 1°C.  
Dilution water: Mod. hard reconstituted (MHRW).  
QA/QC Batch No.: RT-110208.

Endpoints: Survival and Reproduction.  
Source: In-laboratory culture.  
Food: .1 ml YTC, algae per day.  
Test solution volume: 15 ml.  
Number of replicates: 10.  
Photoperiod: 16/8 hrs. light/dark cycle.  
Test duration: 6 days.  
Statistics: ToxCalc computer program.

## RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	23.5
100% Sample	100%	29.2
* Sample not statistically significantly less than Control.		

## CHRONIC TOXICITY

Survival NOEC	100%
Survival T <sub>Uc</sub>	1.0
Reproduction NOEC	100%
Reproduction T <sub>Uc</sub>	1.0

## QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (23.5 young)
≥60% surviving controls had 3 broods	Pass (90% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 13.9%)
Statistically significantly different concentrations relative difference > 13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)



**Ceriodaphnia Survival and Reproduction Test-Survival Day 6**

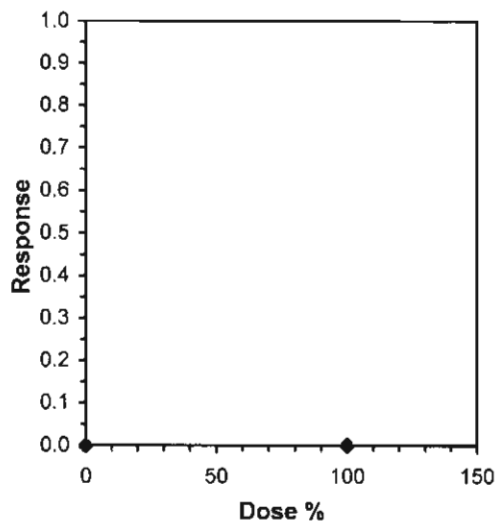
Start Date: 2/19/2011 12:00 Test ID: 11021903c Sample ID: TA IUB1966-03  
 End Date: 2/25/2011 12:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial  
 Sample Date: 2/18/2011 15:31 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia  
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1
Treatments vs D-Control				

Point	%	SD	Linear Interpolation (200 Resamples)	
			95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



**Ceriodaphnia Survival and Reproduction Test-Reproduction**

Start Date: 2/19/2011 12:00 Test ID: 11021903c Sample ID: TA IUB1966-03  
 End Date: 2/25/2011 12:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial  
 Sample Date: 2/18/2011 15:31 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia  
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	10.000	27.000	22.000	28.000	25.000	19.000	27.000	23.000	25.000	29.000
100	29.000	29.000	30.000	31.000	29.000	30.000	27.000	30.000	25.000	32.000

Conc-%	Mean	N-Mean	Transform: Untransformed					Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%	N			Mean	N-Mean
D-Control	23.500	1.0000	23.500	10.000	29.000	23.925	10	145.50	82.00	26.350	1.0000
100	29.200	1.2426	29.200	25.000	32.000	6.811	10			26.350	1.0000

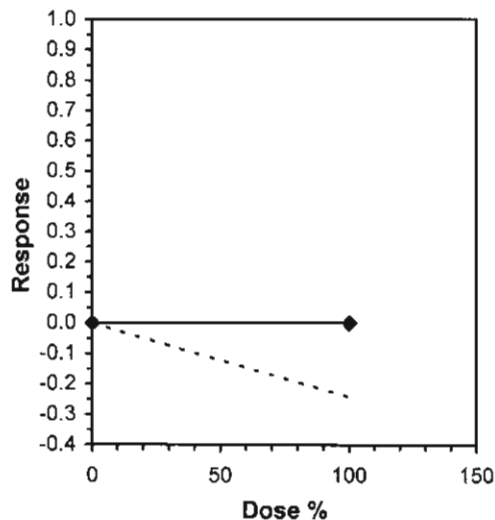
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.84178	0.905	-1.9116	5.54014
F-Test indicates unequal variances (p = 4.85E-03)	7.99157	6.54109		

**Hypothesis Test (1-tail, 0.05)**

Wilcoxon Two-Sample Test indicates no significant differences  
 Treatments vs D-Control

**Linear Interpolation (200 Resamples)**

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



**CERIODAPHNIA DUBIA CHRONIC BIOASSAY**  
**EPA METHOD 1002.0 Raw Data Sheet**



Lab No.: A-11021903-001

Client ID: TestAmerica - IUB1966-03 (Outfall 018)

Start Date: 02/19/2011

	DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:	[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]	
Time of Readings:	1200	1230	1230	1200	1200	1230	1230	1230	1230	1300	1300	1300	1200	—
Control	DO	8.8	8.8	9.3	8.6	8.6	8.2	8.6	7.8	9.0	9.2	9.2	7.8	—
	pH	8.1	8.1	8.1	8.0	8.1	8.0	8.1	8.1	8.0	8.1	8.0	8.1	—
	Temp	25.0	24.9	24.4	24.2	24.4	24.5	24.3	24.2	24.3	24.7	24.6	24.6	—
100%	DO	9.8	8.6	9.8	9.2	9.8	8.3	9.6	7.5	9.5	8.2	9.0	7.9	—
	pH	7.4	8.0	7.6	7.9	7.4	7.8	7.3	7.6	7.3	7.8	7.4	7.8	—
	Temp	25.2	25.2	24.4	24.3	24.4	24.4	24.4	24.3	24.5	24.5	24.7	24.7	—

Additional Parameters	Control	100% Sample
Conductivity (umohms)	333	315
Alkalinity (mg/l CaCO <sub>3</sub> )	72	61
Hardness (mg/l CaCO <sub>3</sub> )	93	108
Ammonia (mg/l NH <sub>3</sub> -N)	<0.1	0.2

Source of Neonates										
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	3A	3B	3C	3D	3E	3F	3G	3H	3I	3J

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials	
		A	B	C	D	E	F	G	H	I	J				
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	3	3	0	0	0	4	0	0	4	0	0	11	10	[Signature]	
	4	0	4	4	5	0	3	4	0	5	4	29	10	[Signature]	
	5	7	8	6	9	8	6	8	6	9	9	76	10	[Signature]	
	6	0	15	12	14	13	10	15	13	11	16	119	10	[Signature]	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—	[Signature]
	Total	10	27	22	28	25	19	27	23	25	29	235	10	[Signature]	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	3	5	4	4	4	2	0	3	5	0	5	32	10	[Signature]	
	4	8	0	0	0	0	5	8	8	4	0	33	10	[Signature]	
	5	16	10	9	12	10	9	0	0	6	12	84	10	[Signature]	
	6	0	15	17	15	17	16	16	17	15	15	143	10	[Signature]	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—	[Signature]
	Total	29	29	30	31	29	30	27	30	25	32	292	10	[Signature]	

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.

# Subcontract Order - TestAmerica Irvine (IUB1966)

**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: 20 °C

Ice: (Y) / N

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

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

Sample ID: IUB1966-01 (Outfall 018 (Grab) - Water)

Sampled: 02/17/11 15:30

<del>Bioassay-Acute 96hr</del>	<del>% Survival</del>	02/19/11 03:30	FH minnow, EPA/821-R02-012, Sub to AqTox Labs
--------------------------------	-----------------------	----------------	---



~~Containers Supplied:  
 1 gal Poly (S)~~


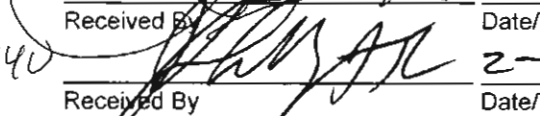
Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)

Sampled: 02/18/11 15:31

Bioassay-7 dy Chmic	N/A	02/20/11 03:31	Cerio, EPA/821-R02-013, Sub to AqTox Labs
---------------------	-----	----------------	---

Containers Supplied:  
 1 gal Poly (AB)

  
 Released By \_\_\_\_\_  
 Date/Time 2/19/11  
  
 Released By \_\_\_\_\_  
 Date/Time 2/19/11

  
 Received By \_\_\_\_\_  
 Date/Time 2/19/11  
  
 Received By \_\_\_\_\_  
 Date/Time 2-19-11

1040

1040



***REFERENCE  
TOXICANT  
DATA***



*Ceriodaphnia dubia*  
*Chronic Toxicity Test*  
*Reference*  
*Toxicant*  
*Data*

**CERIODAPHNIA CHRONIC BIOASSAY**  
**EPA METHOD 1002.0**  
**REFERENCE TOXICANT - NaCl**



QA/QC Batch No.: RT-110208

Date Tested: 02/08/11 to 02/14/11

**TEST SUMMARY**

Test type: Daily static-renewal.  
 Species: *Ceriodaphnia dubia*.  
 Age: < 24 hrs; all released within 8 hrs.  
 Test vessel size: 30 ml.  
 Number of test organisms per vessel: 1.  
 Temperature: 25 +/- 1°C.  
 Dilution water: Mod. hard reconstituted (MHRW).  
 Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.  
 Source: In-laboratory culture.  
 Food: .1 ml YTC, algae per day.  
 Test solution volume: 20 ml.  
 Number of replicates: 10.  
 Photoperiod: 16/8 hrs. light/dark cycle.  
 Test duration: 6 days.  
 Statistics: ToxCalc computer program.

**RESULTS SUMMARY**

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		22.7	
0.25 g/l	100%		24.5	
0.5 g/l	100%		21.7	
1.0 g/l	90%		12.8	*
2.0 g/l	90%		3.5	*
4.0 g/l	0%	*	0	**

\* Statistically significantly less than control at P = 0.05 level  
 \*\* Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

**CHRONIC TOXICITY**

Survival LC50	2.5 g/l
Reproduction IC25	0.72 mg/l

**QA/QC TEST ACCEPTABILITY**

Parameter	Result
Control survival ≥ 80%	Pass (100% Survival)
≥ 15 young per surviving control female	Pass (22.7 young)
≥ 60% surviving controls had 3 broods	Pass (90% with 3 broods)
PMSD < 47% for reproduction	Pass (PMSD = 14.2%)
Stat. sig. diff. conc. relative difference > 13%	Pass (Stat. sig. diff. conc. Relative difference = 43.6%)
Concentration response relationship acceptable	Pass (Response curve normal)

**Ceriodaphnia Survival and Reproduction Test-Survival Day 6**

Start Date: 2/8/2011 14:00    Test ID: RT110208c    Sample ID: REF-Ref Toxicant  
 End Date: 2/14/2011 14:00    Lab ID: CAATL-Aquatic Testing Labs    Sample Type: NACL-Sodium chloride  
 Sample Date: 2/8/2011    Protocol: FWCH EPA    Test Species: CD-Ceriodaphnia dubia  
 Comments:

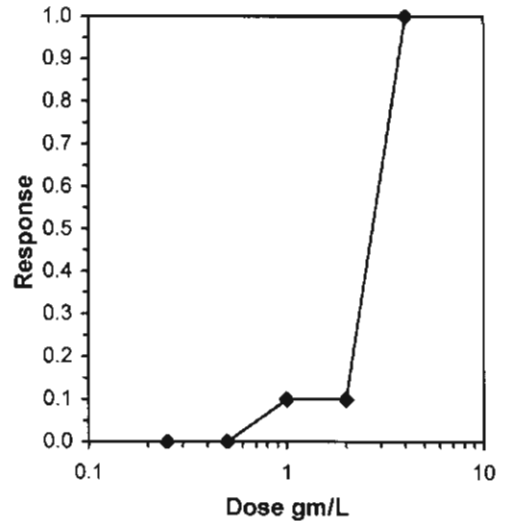
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	0.9000	0.9000	1	9	10	10	0.5000	0.0500	1	10
2	0.9000	0.9000	1	9	10	10	0.5000	0.0500	1	10
4	0.0000	0.0000	10	0	10	10			10	10

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	2	4	2.82843	
Treatments vs D-Control				

**Trimmed Spearman-Kärber**

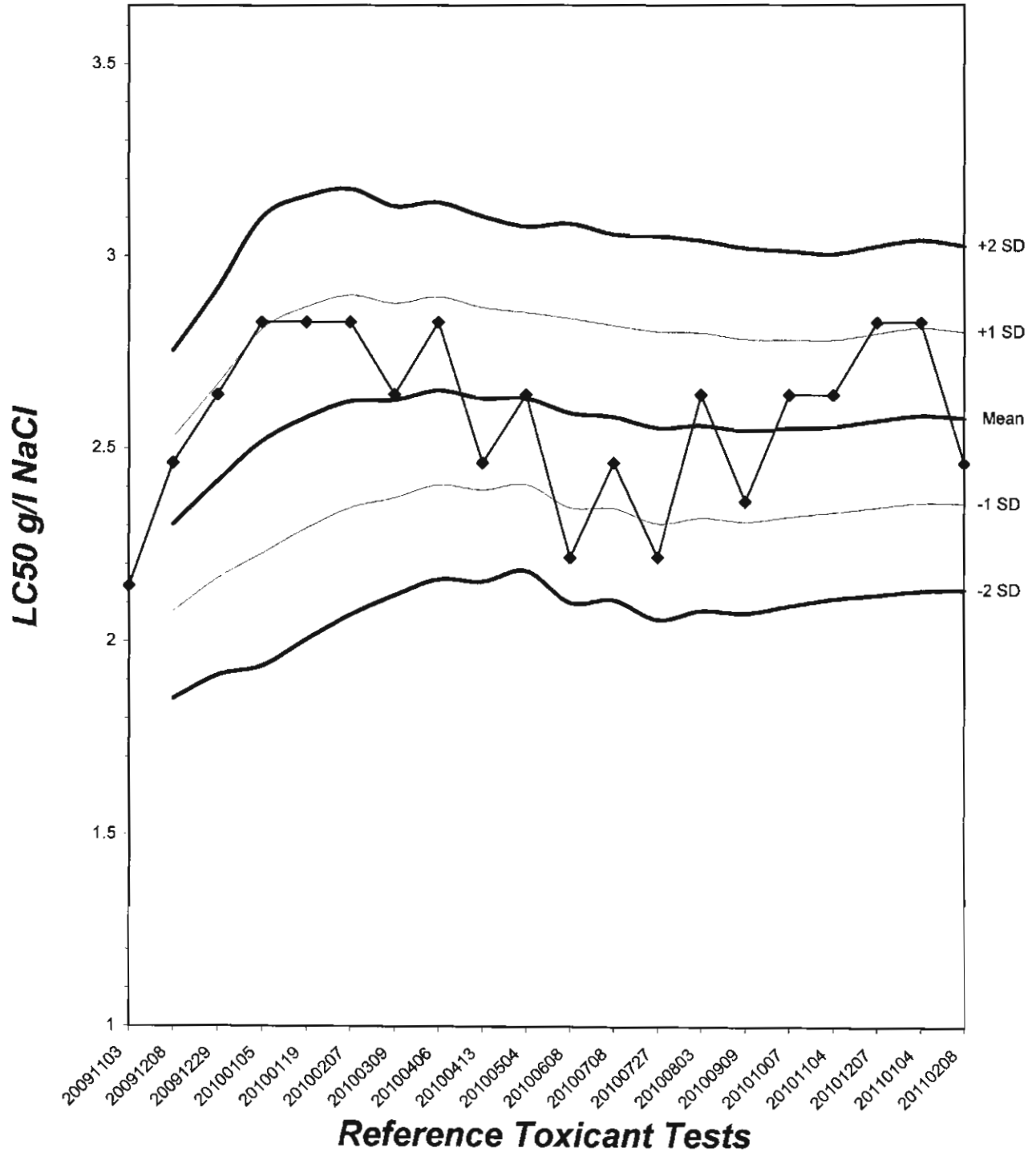
Trim Level	EC50	95% CL
0.0%	2.4623	2.0444 2.9656
5.0%	2.5965	2.1386 3.1523
10.0%	2.7216	2.5094 2.9517
20.0%	2.7216	2.5094 2.9517
Auto-0.0%	2.4623	2.0444 2.9656





# Ceriodaphnia dubia Chronic Survival Laboratory Control Chart

CV% = 8.66



**Ceriodaphnia Survival and Reproduction Test-Reproduction**

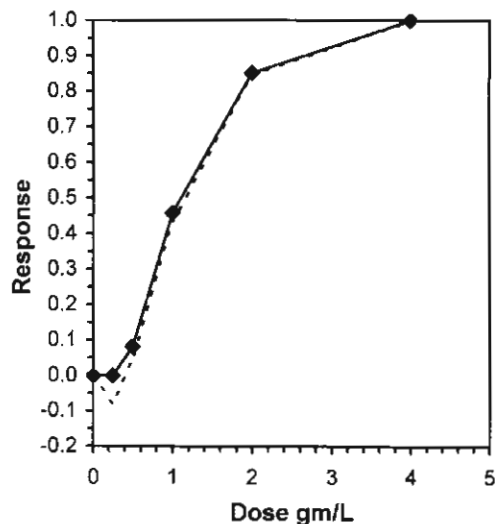
Start Date: 2/8/2011 14:00    Test ID: RT110208c    Sample ID: REF-Ref Toxicant  
 End Date: 2/14/2011 14:00    Lab ID: CAATL-Aquatic Testing Labs    Sample Type: NACL-Sodium chloride  
 Sample Date: 2/8/2011    Protocol: FWCH EPA    Test Species: CD-Ceriodaphnia dubia  
 Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	22.000	22.000	27.000	21.000	22.000	22.000	23.000	26.000	18.000	24.000
0.25	25.000	26.000	27.000	25.000	27.000	25.000	21.000	24.000	23.000	22.000
0.5	26.000	20.000	22.000	24.000	24.000	21.000	23.000	12.000	22.000	23.000
1	3.000	14.000	17.000	10.000	10.000	20.000	9.000	16.000	17.000	12.000
2	0.000	3.000	4.000	5.000	3.000	3.000	6.000	3.000	3.000	5.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Conc-gm/L	Mean	N-Mean	Transform: Untransformed				N	Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%				Mean	N-Mean
D-Control	22.700	1.0000	22.700	18.000	27.000	11.193	10			23.600	1.0000
0.25	24.500	1.0793	24.500	21.000	27.000	8.220	10	126.00	76.00	23.600	1.0000
0.5	21.700	0.9559	21.700	12.000	26.000	17.521	10	102.00	76.00	21.700	0.9195
*1	12.800	0.5639	12.800	3.000	20.000	39.115	10	56.00	76.00	12.800	0.5424
*2	3.500	0.1542	3.500	0.000	6.000	47.140	10	55.00	76.00	3.500	0.1483
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

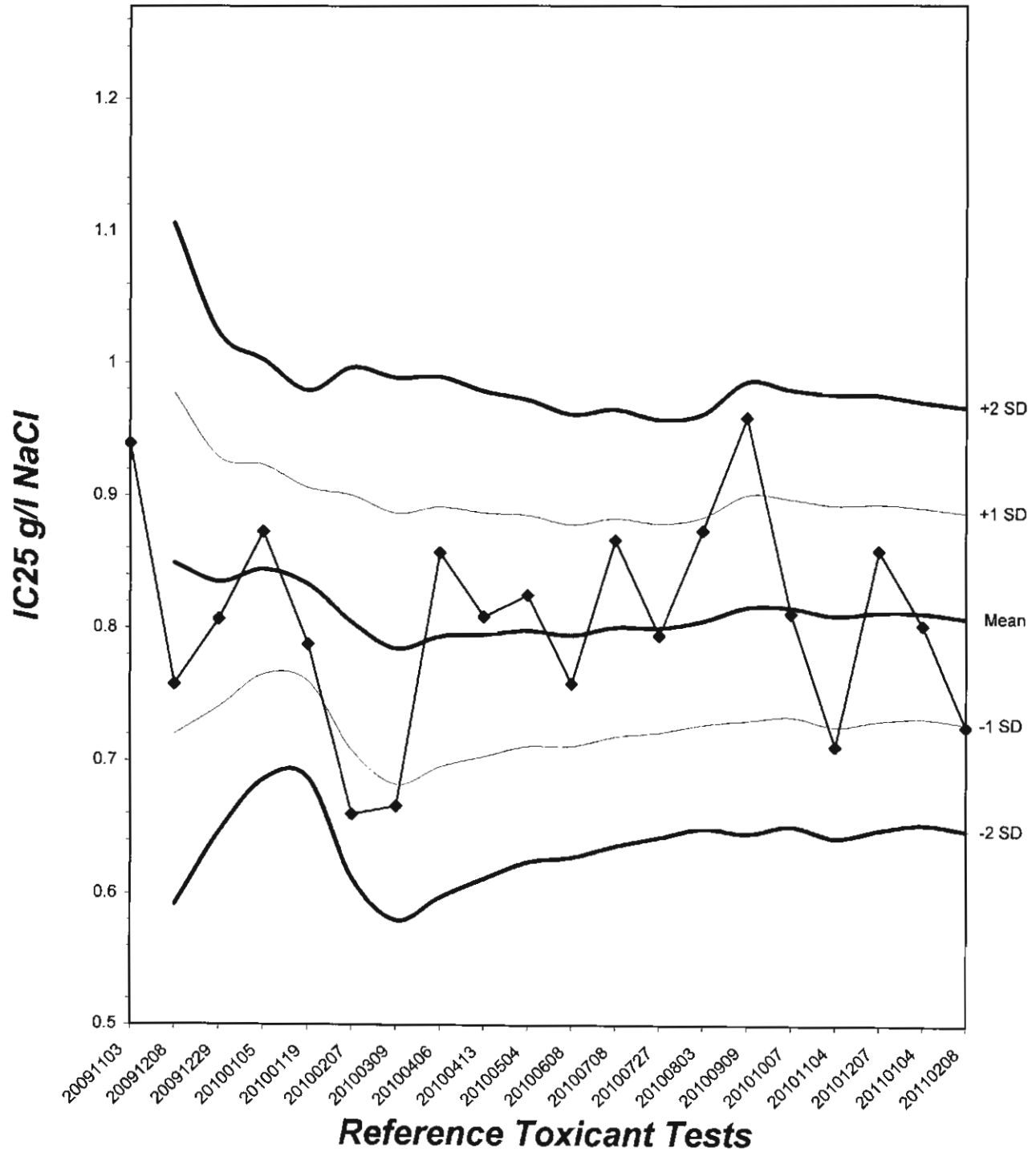
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.93185	0.947	-0.9406	2.62377
Bartlett's Test indicates unequal variances (p = 7.37E-03)	13.9773	13.2767		
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	
Treatments vs D-Control				

Linear Interpolation (200 Resamples)					
Point	gm/L	SD	95% CL		Skew
IC05	0.4053	0.0808	0.3089	0.5614	0.1046
IC10	0.5258	0.0669	0.3923	0.6229	-0.4943
IC15	0.5921	0.0605	0.4653	0.6927	-0.5050
IC20	0.6584	0.0577	0.5400	0.7643	-0.3444
IC25	0.7247	0.0565	0.6167	0.8564	0.0715
IC40	0.9236	0.0739	0.8175	1.1269	0.8628
IC50	1.1075	0.1074	0.9314	1.3257	0.1508



# ***Ceriodaphnia dubia* Chronic Reproduction Laboratory Control Chart**

CV% = 9.91



**CERIODAPHNIA DUBIA CHRONIC BIOASSAY**  
**Reference Toxicant - NaCl**  
**Reproduction and Survival Raw Data Sheet**



QA/QC No.: RT-110208

Start Date: 02/08/2011

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	3	0	0	4	4	0	5	3	0	4	23	10	
	4	7	3	4	7	6	3	7	0	4	0	41	10	
	5	12	8	8	0	0	9	0	9	0	8	54	10	
	6	0	11	15	10	12	10	11	14	14	12	109	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	22	22	27	21	22	22	23	26	18	24	227	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	10		
	3	4	0	5	4	4	0	0	0	5	4	26		10
	4	7	5	7	8	0	4	4	5	7	0	47		10
	5	14	9	15	0	8	7	7	9	0	8	77		10
	6	0	12	0	13	15	14	10	10	11	10	95		10
	7	-	-	-	-	-	-	-	-	-	-	-		-
	Total	25	26	27	25	27	25	21	24	23	22	245		10
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	10		
	3	5	0	0	4	3	0	0	0	0	4	16		10
	4	6	3	4	0	7	4	3	5	4	0	36		10
	5	15	7	7	8	14	7	7	7	6	9	87		10
	6	0	10	11	12	0	10	13	0	12	10	78		10
	7	-	-	-	-	-	-	-	-	-	-	-		-
	Total	26	20	22	24	24	21	23	12	22	23	217		10

Circled fourth brood not used in statistical analysis.

7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.

**CERIODAPHNIA DUBIA CHRONIC BIOASSAY**  
**Reference Toxicant - NaCl**  
**Reproduction and Survival Raw Data Sheet**



QA/QC No.: RT-110208

Start Date:02/08/2011

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials	
		A	B	C	D	E	F	G	H	I	J				
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	0	10	h
	2	0	0	0	0	0	0	0	0	0	0	0	0	10	h
	3	0	0	0	0	0	0	0	3	3	0	6	10	h	
	4	3	4	3	5	3	4	4	0	0	4	30	10	h	
	5	0	4	6	5	0	6	0	7	7	0	35	10	h	
	6	X	6	8	0	7	10	5	6	7	8	57	9	h	
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	3	14	17	10	10	20	9	16	17	12	129	9	h	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	h	
	2	0	0	0	0	0	0	0	0	0	0	0	10	h	
	3	0	0	0	0	0	0	0	0	0	0	0	10	h	
	4	0	0	2	3	0	0	3	0	3	3	14	10	h	
	5	0	3	0	0	3	0	3	3	0	0	12	10	h	
	6	X	0	2	2	0	3	0	0	0	2	9	9	h	
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	0	3	4	5	3	3	6	3	3	5	35	9	h	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	0	h	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0	h

Circled fourth brood not used in statistical analysis.  
 7<sup>th</sup> day only used if <60% of the surviving control females have produced their third brood.

# CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

## Water Chemistries Raw Data Sheet



QA/QC No.: RT-110208

Start Date: 02/08/2011

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst Initials:		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		— —	
Time of Readings:		1400 1400		1400 1330		1330 1330		1330 1300		1300 1300		1300 1400		— —	
Control	DO	8.3	8.4	7.9	8.2	8.6	8.1	9.0	8.2	8.4	8.1	8.4	8.2	—	—
	pH	8.2	8.3	8.2	8.1	8.1	8.1	8.0	8.0	7.9	7.9	7.9	7.4	—	—
	Temp	24.7	24.7	25.0	24.2	24.7	24.4	25.6	24.2	24.6	24.4	25.1	24.9	—	—
0.25 g/l	DO	8.6	8.8	8.4	8.1	8.7	8.2	8.8	8.3	8.5	8.4	8.5	8.4	—	—
	pH	8.2	8.3	8.3	8.1	8.1	8.1	8.0	8.0	8.0	7.9	8.0	7.4	—	—
	Temp	24.7	24.4	24.8	24.3	24.8	24.4	25.6	24.5	25.2	24.3	24.7	24.6	—	—
0.5 g/l	DO	8.5	8.7	8.4	8.1	8.7	8.6	8.0	8.5	8.5	8.8	8.7	8.6	—	—
	pH	8.2	8.4	8.3	8.1	8.1	8.0	8.0	7.9	8.0	7.9	8.0	7.6	—	—
	Temp	24.6	24.3	25.0	24.2	24.8	24.6	25.6	24.8	25.4	24.3	24.6	25.1	—	—
1.0 g/l	DO	8.5	8.6	8.5	8.2	8.8	8.6	9.2	8.4	8.6	8.6	8.9	8.6	—	—
	pH	8.2	8.3	8.3	8.1	8.1	7.9	8.0	7.9	8.0	7.9	8.0	7.7	—	—
	Temp	24.8	24.2	24.9	24.3	25.0	24.4	25.6	24.9	25.0	24.4	24.3	25.0	—	—
2.0 g/l	DO	8.4	8.8	8.4	8.2	8.6	8.4	9.1	8.2	8.4	8.5	8.2	8.0	—	—
	pH	8.2	8.3	8.2	8.0	8.1	7.9	8.0	7.9	8.0	7.9	7.9	7.7	—	—
	Temp	24.9	24.3	24.9	24.2	25.1	24.5	25.6	24.7	24.8	24.1	24.5	25.1	—	—
4.0 g/l	DO	7.6	8.2	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.2	8.3	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	25.6	24.3	25	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O<sub>2</sub>; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	332	343	350	6880	4340	4200
Alkalinity (mg/l CaCO <sub>3</sub> )	68	70	71	70	70	71
Hardness (mg/l CaCO <sub>3</sub> )	92	92	91	92	92	92

Source of Neonates

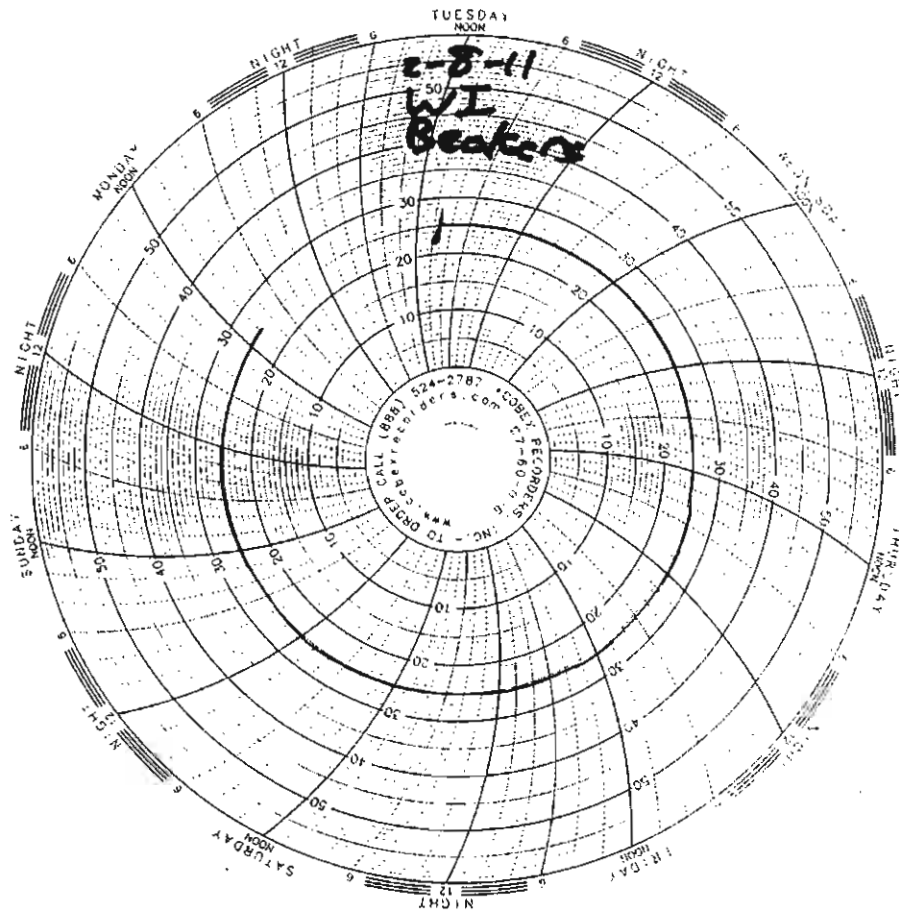
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	2A	3B	1C	4D	1E	1F	2G	3H	1I	3J

# Test Temperature Chart

Test No: RT-110208

Date Tested: 02/08/11 to 02/14/11

Acceptable Range: 25 $\pm$  1 $^{\circ}$ C





# EBERLINE

SERVICES

EBERLINE ANALYTICAL CORPORATION  
2030 Wright Avenue  
Richmond, California 94804-3849  
Phone (510) 235-2633 Fax (510) 235-8438  
Toll Free (800) 841-5487  
[www.eberlineservices.com](http://www.eberlineservices.com)

March 18, 2011

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

**Reference: Test America-Irvine IUB1966  
Eberline Analytical Report S102233-8663  
Sample Delivery Group 8663**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUB1966. The samples were received on February 22, 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 8663 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 volumes.

### 2.0 Quality Control

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  $2\sigma$  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** – The tritium analysis for sample IUB1966-04 (Trip Blank) was cancelled. See attached client email. 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** – Due to low chemical yield for the duplicate analysis of sample IUB1966-03, the entire analytical batch was realiquoted and reanalyzed. No other 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** – The K-40 MDA for the sample IUB1966-03 was 29.1 pCi/L, greater than the required detection limit of 25 pCi/L. 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

3/18/11  
\_\_\_\_\_  
Date

E B E R L I N E    A N A L Y T I C A L  
SDG 8663

SDG 8663  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUB1966

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

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*VB*

Prepared by \_\_\_\_\_

Reviewed by \_\_\_\_\_

*N. Joseph Verville*

Lab id	<u>EAS</u>
Protocol	<u>TA</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-TOC</u>
Version	<u>3.06</u>
Report date	<u>03/17/11</u>

EBERLINE ANALYTICAL

SDG 8663

SDG 8663  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract IUB1966

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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GUIDE , c o n t .

Client Test America, Inc.  
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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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EBERLINE ANALYTICAL

SDG 8663

LAB SAMPLE SUMMARY

SDG 8663  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUB1966

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S102233-01	IUB1966-03	Boeing - SSFL	WATER			IUB1966	02/18/11 15:31
S102233-02	IUB1966-04 (TRIP-BLANK)	Boeing - SSFL	WATER			IUB1966	02/18/11 00:00
S102233-03	Lab Control Sample		WATER				
S102233-04	Method Blank		WATER				
S102233-05	Duplicate (S102233-01)	Boeing - SSFL	WATER				02/18/11 15:31
S102233-06	Method Blank		WATER				
S102233-07	Duplicate (S102233-01)	Boeing - SSFL	WATER				02/18/11 15:31
S102233-08	Lab Control Sample		WATER				

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EBERLINE ANALYTICAL

SDG 8663

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 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUB1966

QC SUMMARY

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
8663	IUB1966	IUB1966-03	WATER		10.0 L		02/22/11	4	S102233-01	8663-001
		IUB1966-04 (TRIP-BLANK)	WATER		10.0 L		02/22/11	4	S102233-02	8663-002
		Method Blank	WATER						S102233-04	8663-004
		Method Blank	WATER						S102233-06	8663-006
		Lab Control Sample	WATER						S102233-03	8663-003
		Lab Control Sample	WATER						S102233-08	8663-008
		Duplicate (S102233-01)	WATER		10.0 L		02/22/11	4	S102233-05	8663-005
		Duplicate (S102233-01)	WATER		10.0 L		02/22/11	4	S102233-07	8663-007

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 Protocol TA  
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**EBERLINE ANALYTICAL**

SDG 8663

SDG 8663  
 Contact N. Joseph Verville

**PREP BATCH SUMMARY**

Client Test America, Inc.  
 Contract IUB1966

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI- FIERS	
			BATCH	2σ %	CLIENT	MORE	RE	BLANK		LCS
<b>Beta Counting</b>										
AC	WATER	Radium-228 in Water	7281-033	10.4	2			1	1	1/1
SR	WATER	Strontium-90 in Water	7281-033	10.4	2			1	1	1/1
<b>Gas Proportional Counting</b>										
80A	WATER	Gross Alpha in Water	7281-033	20.6	2			1	1	1/1
80B	WATER	Gross Beta in Water	7281-033	11.0	2			1	1	1/1
<b>Gamma Spectroscopy</b>										
GAM	WATER	Gamma Emitters in Water	7281-033	7.0	2			1	1	1/1
<b>Kinetic Phosphorimetry, ug</b>										
U_T	WATER	Uranium, Total	7281-033		2			1	1	1/1
<b>Liquid Scintillation Counting</b>										
H	WATER	Tritium in Water	7281-033	10.0	1			1	1	1/1
<b>Radon Counting</b>										
RA	WATER	Radium-226 in Water	7281-033	16.4	2			1	1	1/1

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

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**EBERLINE ANALYTICAL**

SDG 8663

**LAB WORK SUMMARY**

SDG 8663

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUB1966

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX			SUF-					
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S102233-01	IUB1966-03		8663-001	80A/80		03/04/11	03/07/11	BW	Gross Alpha in Water	
02/18/11	Boeing - SSFL	WATER	8663-001	80B/80		03/04/11	03/07/11	BW	Gross Beta in Water	
02/22/11	IUB1966		8663-001	AC		03/09/11	03/16/11	BW	Radium-228 in Water	
			8663-001	GAM		02/25/11	03/05/11	MWT	Gamma Emitters in Water	
			8663-001	H		03/10/11	03/14/11	BW	Tritium in Water	
			8663-001	RA		03/09/11	03/11/11	BW	Radium-226 in Water	
			8663-001	SR	A1	03/12/11	03/17/11	BW	Strontium-90 in Water	
			8663-001	U_T		03/04/11	03/07/11	BW	Uranium, Total	
S102233-02	IUB1966-04 (TRIP-BLANK)		8663-002	80A/80		03/04/11	03/07/11	BW	Gross Alpha in Water	
02/18/11	Boeing - SSFL	WATER	8663-002	80B/80		03/04/11	03/07/11	BW	Gross Beta in Water	
02/22/11	IUB1966		8663-002	AC		03/09/11	03/16/11	BW	Radium-228 in Water	
			8663-002	GAM		02/25/11	03/05/11	MWT	Gamma Emitters in Water	
			8663-002	RA		03/09/11	03/11/11	BW	Radium-226 in Water	
			8663-002	SR	A1	03/12/11	03/17/11	BW	Strontium-90 in Water	
			8663-002	U_T		03/04/11	03/07/11	BW	Uranium, Total	
S102233-03	Lab Control Sample		8663-003	80A/80		03/04/11	03/07/11	BW	Gross Alpha in Water	
		WATER	8663-003	80B/80		03/04/11	03/07/11	BW	Gross Beta in Water	
			8663-003	AC		03/09/11	03/16/11	BW	Radium-228 in Water	
			8663-003	GAM		02/28/11	03/05/11	MWT	Gamma Emitters in Water	
			8663-003	H		03/10/11	03/14/11	BW	Tritium in Water	
			8663-003	RA		03/09/11	03/11/11	BW	Radium-226 in Water	
			8663-003	U_T		03/04/11	03/07/11	BW	Uranium, Total	
S102233-04	Method Blank		8663-004	80A/80		03/04/11	03/07/11	BW	Gross Alpha in Water	
		WATER	8663-004	80B/80		03/04/11	03/07/11	BW	Gross Beta in Water	
			8663-004	AC		03/09/11	03/16/11	BW	Radium-228 in Water	
			8663-004	GAM		02/28/11	03/05/11	MWT	Gamma Emitters in Water	
			8663-004	H		03/10/11	03/14/11	BW	Tritium in Water	
			8663-004	RA		03/09/11	03/11/11	BW	Radium-226 in Water	
			8663-004	U_T		03/04/11	03/07/11	BW	Uranium, Total	

WORK SUMMARY

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**EBERLINE ANALYTICAL**

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SDG 8663  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUB1966

**WORK SUMMARY, cont.**

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	PIX	ANALYZED	REVIEWED	BY	METHOD	
S102233-05	Duplicate (S102233-01)		8663-005	80A/80		03/05/11	03/07/11	BW	Gross Alpha in Water	
02/18/11	Boeing - SSFL	WATER	8663-005	80B/80		03/05/11	03/07/11	BW	Gross Beta in Water	
02/22/11			8663-005	AC		03/09/11	03/16/11	BW	Radium-228 in Water	
			8663-005	GAM		02/28/11	03/05/11	MWT	Gamma Emitters in Water	
			8663-005	H		03/10/11	03/14/11	BW	Tritium in Water	
			8663-005	RA		03/09/11	03/11/11	BW	Radium-226 in Water	
			8663-005	U_T		03/04/11	03/07/11	BW	Uranium, Total	
S102233-06	Method Blank		8663-006	SR		03/12/11	03/17/11	BW	Strontium-90 in Water	
		WATER								
S102233-07	Duplicate (S102233-01)		8663-007	SR		03/12/11	03/17/11	BW	Strontium-90 in Water	
02/18/11	Boeing - SSFL	WATER								
02/22/11										
S102233-08	Lab Control Sample		8663-008	SR		03/12/11	03/17/11	BW	Strontium-90 in Water	
		WATER								

**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
<b>TOTALS</b>					<b>15</b>		<b>8</b>	<b>8</b>	<b>8</b>		<b>39</b>

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EBERLINE ANALYTICAL

SDG 8663

8663-004

Method Blank

METHOD BLANK

SDG <u>8663</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUB1966</u>
Lab sample id <u>S102233-04</u>	Client sample id <u>Method Blank</u>
Dept sample id <u>8663-004</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	-0.182	0.52	1.25	3.00	U	80A
Gross Beta	12587472	-1.43	1.6	2.81	4.00	U	80B
Tritium	10028178	-74.3	120	215	500	U	H
Radium-226	13982633	-0.080	0.31	0.585	1.00	U	RA
Radium-228	15262201	-0.353	0.39	0.768	1.00	U	AC
Uranium, Total		0	0.009	0.020	1.00	U	U_T
Potassium-40	13966002	U		17.4	25.0	U	GAM
Cesium-137	10045973	U		1.50	20.0	U	GAM

QC-BLANK #77479
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Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
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EBERLINE ANALYTICAL

SDG 8663

8663-005

IUB1966-03

DUPLICATE

SDG <u>8663</u>	Client <u>Test America, Inc.</u>	
Contact <u>N. Joseph Verville</u>	Contract <u>IUB1966</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S102233-05</u>	Lab sample id <u>S102233-01</u>	Client sample id <u>IUB1966-03</u>
Dept sample id <u>8663-005</u>	Dept sample id <u>8663-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
	Received <u>02/22/11</u>	Collected/Volume <u>02/18/11 15:31</u> <u>10.0 L</u>
		Chain of custody id <u>IUB1966</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	-0.039	0.27	0.575	3.00	U	80A	0.490	0.30	0.367	J	200	236	2.5
Gross Beta	4.29	0.67	0.948	4.00		80B	3.70	0.71	1.01	J	15	43	1.0
Tritium	-9.08	130	219	500	U	H	-33.1	130	218	U	-		0.3
Radium-226	-0.111	0.25	0.490	1.00	U	RA	-0.028	0.32	0.583	U	-		0.4
Radium-228	-0.087	0.23	0.542	1.00	U	AC	-0.130	0.20	0.493	U	-		0.3
Uranium, Total	0.111	0.015	0.020	1.00	J	U_T	0.104	0.015	0.020	J	7	30	0.7
Potassium-40	U		22.1	25.0	U	GAM	U		<u>29.1</u>	U	-		0.4
Cesium-137	U		1.35	20.0	U	GAM	U		1.25	U	-		0.1

QC-DUP#1 77480

DUPLICATES

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EBERLINE ANALYTICAL

SDG 8663

8663-007

IUB1966-03

DUPLICATE

SDG <u>8663</u>	Client <u>Test America, Inc.</u>	
Contact <u>N. Joseph Verville</u>	Contract <u>IUB1966</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S102233-07</u>	Lab sample id <u>S102233-01</u>	Client sample id <u>IUB1966-03</u>
Dept sample id <u>8663-007</u>	Dept sample id <u>8663-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
	Received <u>02/22/11</u>	Collected/Volume <u>02/18/11 15:31</u> <u>10.0 L</u>
		Chain of custody id <u>IUB1966</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
Strontium-90	-0.117	0.30	0.744	2.00	U	SR	-0.162	0.29	0.728	U	-		0.2

QC-DUP#1 77702

DUPLICATES

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EBERLINE ANALYTICAL

SDG 8663

8663-001

IUB1966-03

DATA SHEET

SDG <u>8663</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUB1966</u>
Lab sample id <u>S102233-01</u>	Client sample id <u>IUB1966-03</u>
Dept sample id <u>8663-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>02/22/11</u>	Collected/Volume <u>02/18/11 15:31</u> <u>10.0 L</u>
	Chain of custody id <u>IUB1966</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.490	0.30	0.367	3.00	J	80A
Gross Beta	12587472	3.70	0.71	1.01	4.00	J	80B
Tritium	10028178	-33.1	130	218	500	U	H
Radium-226	13982633	-0.028	0.32	0.583	1.00	U	RA
Radium-228	15262201	-0.130	0.20	0.493	1.00	U	AC
Strontium-90	10098972	-0.162	0.29	0.728	2.00	U	SR
Uranium, Total		0.104	0.015	0.020	1.00	J	U_T
Potassium-40	13966002	U		<u>29.1</u>	25.0	U	GAM
Cesium-137	10045973	U		1.25	20.0	U	GAM

Lab id <u>EAS</u>
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EBERLINE ANALYTICAL

SDG 8663

8663-002

IUB1966-04 (TRIP-BLANK)

DATA SHEET

SDG <u>8663</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUB1966</u>
Lab sample id <u>S102233-02</u>	Client sample id <u>IUB1966-04 (TRIP-BLANK)</u>
Dept sample id <u>8663-002</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>02/22/11</u>	Collected/Volume <u>02/18/11 00:00</u> <u>10.0 L</u>
	Chain of custody id <u>IUB1966</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.092	0.13	0.259	3.00	U	80A
Gross Beta	12587472	-0.145	0.45	0.758	4.00	U	80B
Radium-226	13982633	0.455	0.33	0.510	1.00	U	RA
Radium-228	15262201	-0.221	0.27	0.666	1.00	U	AC
Strontium-90	10098972	0.027	0.31	0.720	2.00	U	SR
Uranium, Total		0	0.009	0.020	1.00	U	U_T
Potassium-40	13966002	U		17.2	25.0	U	GAM
Cesium-137	10045973	U		1.18	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>03/17/11</u>

**EBERLINE ANALYTICAL**

SDG 8663

**LAB METHOD SUMMARY**

RADIUM-228 IN WATER  
BETA COUNTING

Test AC Matrix WATER  
SDG 8663  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUB1966

**RESULTS**

<b>LAB</b>	<b>RAW</b>	<b>SUF-</b>		
<b>SAMPLE ID</b>	<b>TEST FIX</b>	<b>PLANCHET</b>	<b>CLIENT SAMPLE ID</b>	<b>Radium-228</b>

Preparation batch 7281-033

S102233-01	8663-001	IUB1966-03	U
S102233-02	8663-002	IUB1966-04 (TRIP-BLANK)	U
S102233-03	8663-003	Lab Control Sample	ok
S102233-04	8663-004	Method Blank	U
S102233-05	8663-005	Duplicate (S102233-01)	- U

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

**METHOD PERFORMANCE**

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

Preparation batch 7281-033      2σ prep error 10.4 %      Reference Lab Notebook No. 7281 pg 033

S102233-01	IUB1966-03	0.493	1.80	72	150	19	03/09/11	03/09	GRB-222
S102233-02	IUB1966-04 (TRIP-BLANK)	0.666	1.80	71	150	19	03/09/11	03/09	GRB-223
S102233-03	Lab Control Sample	0.801	1.80	69	150		03/09/11	03/09	GRB-224
S102233-04	Method Blank	0.768	1.80	71	150		03/09/11	03/09	GRB-229
S102233-05	Duplicate (S102233-01)	0.542	1.80	74	150	19	03/09/11	03/09	GRB-230

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 0.654 ± 0.271  
FOR 5 SAMPLES      YIELD 71 ± 4

Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 03/17/11

EBERLINE ANALYTICAL

SDG 8663

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER  
 SDG 8663  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUB1966

RESULTS

LAB	RAW	SUF-			Strontium-90
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID		
Preparation batch 7281-033					
S102233-01	A1	8663-001	IUB1966-03		U
S102233-02	A1	8663-002	IUB1966-04 (TRIP-BLANK)		U
S102233-06		8663-006	Method Blank		U
S102233-07		8663-007	Duplicate (S102233-01)	-	U
S102233-08		8663-008	Lab Control Sample		ok

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

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EPF	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 7281-033 2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg 033															
S102233-01	A1	IUB1966-03	0.728	0.500			96		50			22	03/12/11	03/12	GRB-201
S102233-02	A1	IUB1966-04 (TRIP-BLANK)	0.720	0.500			87		50			22	03/12/11	03/12	GRB-202
S102233-06		Method Blank	0.718	0.500			88		50				03/12/11	03/12	GRB-203
S102233-07		Duplicate (S102233-01)	0.744	0.500			87		50			22	03/12/11	03/12	GRB-204
S102233-08		Lab Control Sample	0.704	0.500			89		50				03/12/11	03/12	GRB-225

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 0.723 ± 0.029  
 FOR 5 SAMPLES YIELD 89 ± 8

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 03/17/11

EBERLINE ANALYTICAL

SDG 8663

LAB METHOD SUMMARY

GROSS ALPHA IN WATER  
GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER  
SDG 8663  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUB1966

RESULTS

LAB	RAW	SUF-			
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
Preparation batch 7281-033					
S102233-01	80		8663-001	IUB1966-03	0.490 J
S102233-02	80		8663-002	IUB1966-04 (TRIP-BLANK)	U
S102233-03	80		8663-003	Lab Control Sample	ok
S102233-04	80		8663-004	Method Blank	U
S102233-05	80		8663-005	Duplicate (S102233-01)	ok U
Nominal values and limits from method			RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EPF	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 7281-033			2σ prep error 20.6 % Reference Lab Notebook No. 7281 pg 033													
S102233-01	80		IUB1966-03	0.367	0.300			57	400			14	03/02/11	03/04		GRB-103
S102233-02	80		IUB1966-04 (TRIP-BLANK)	0.259	0.300			1	400			14	03/02/11	03/04		GRB-104
S102233-03	80		Lab Control Sample	1.78	0.100			60	400				03/02/11	03/04		GRB-214
S102233-04	80		Method Blank	1.25	0.100			58	400				03/02/11	03/04		GRB-216
S102233-05	80		Duplicate (S102233-01)	0.575	0.300			57	400			15	03/02/11	03/05		GRB-214
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 0.846 ± 1.30  
FOR 5 SAMPLES RESIDUE 47 ± 51

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 03/17/11

**EBERLINE ANALYTICAL**

SDG 8663

**LAB METHOD SUMMARY**

GROSS BETA IN WATER  
GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER  
SDG 8663  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUB1966

**RESULTS**

LAB	RAW	SUF-			
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 7281-033					
S102233-01	80		8663-001	IUB1966-03	3.70 J
S102233-02	80		8663-002	IUB1966-04 (TRIP-BLANK)	U
S102233-03	80		8663-003	Lab Control Sample	ok
S102233-04	80		8663-004	Method Blank	U
S102233-05	80		8663-005	Duplicate (S102233-01)	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	PAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-033      2σ prep error 11.0 %      Reference Lab Notebook No. 7281 pg 033																
S102233-01	80		IUB1966-03	1.01	0.300			57	400			14	03/02/11	03/04		GRB-103
S102233-02	80		IUB1966-04 (TRIP-BLANK)	0.758	0.300			1	400			14	03/02/11	03/04		GRB-104
S102233-03	80		Lab Control Sample	2.85	0.100			60	400				03/02/11	03/04		GRB-214
S102233-04	80		Method Blank	2.81	0.100			58	400				03/02/11	03/04		GRB-216
S102233-05	80		Duplicate (S102233-01)	0.948	0.300			57	400			15	03/02/11	03/05		GRB-214
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 1.68 ± 2.12  
FOR 5 SAMPLES      RESIDUE 47 ± 51

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 03/17/11

**EBERLINE ANALYTICAL**

SDG 8663

**LAB METHOD SUMMARY**

GAMMA EMITTERS IN WATER  
GAMMA SPECTROSCOPY

Test GAM Matrix WATER  
SDG 8663  
Contact N. Joseph Verville

Client Test America, Inc.  
Contract IUB1966

**RESULTS**

LAB	RAW	SUF-			
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137
Preparation batch 7281-033					
S102233-01		8663-001	IUB1966-03		U
S102233-02		8663-002	IUB1966-04 (TRIP-BLANK)		U
S102233-03		8663-003	Lab Control Sample	ok	ok
S102233-04		8663-004	Method Blank		U
S102233-05		8663-005	Duplicate (S102233-01)		- U

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

**METHOD PERFORMANCE**

LAB	RAW	SUF-	MOA	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 7281-033      2σ prep error 7.0 %      Reference Lab Notebook No. 7281 pg 033															
S102233-01		IUB1966-03		2.00					822			7	02/23/11	02/25	01,04,00
S102233-02		IUB1966-04 (TRIP-BLANK)		2.00					822			7	02/23/11	02/25	01,03,00
S102233-03		Lab Control Sample		2.00					727				02/23/11	02/28	01,03,00
S102233-04		Method Blank		2.00					712				02/23/11	02/28	01,01,00
S102233-05		Duplicate (S102233-01)		2.00					712			10	02/23/11	02/28	01,04,00

Nominal values and limits from method      6.00      2.00      400      180

PROCEDURES REFERENCE 901.1  
DWP-100 Preparation of Drinking Water Samples for Gamma Spectroscopy, rev 5

METHOD SUMMARIES

Page 5

SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 03/17/11

EBERLINE ANALYTICAL

SDG 8663

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER  
 SDG 8663  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUB1966

RESULTS

LAB	RAW	SUF-		Uranium,
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7281-033				
S102233-01		8663-001	IUB1966-03	0.104 J
S102233-02		8663-002	IUB1966-04 (TRIP-BLANK)	U
S102233-03		8663-003	Lab Control Sample	ok
S102233-04		8663-004	Method Blank	U
S102233-05		8663-005	Duplicate (S102233-01)	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 7281-033			2σ prep error		Reference Lab Notebook No. 7281 pg 033										
S102233-01		IUB1966-03	0.020	0.0200								14	03/04/11	03/04	KPA-001
S102233-02		IUB1966-04 (TRIP-BLANK)	0.020	0.0200								14	03/04/11	03/04	KPA-001
S102233-03		Lab Control Sample	0.205	0.0200									03/04/11	03/04	KPA-001
S102233-04		Method Blank	0.020	0.0200									03/04/11	03/04	KPA-001
S102233-05		Duplicate (S102233-01)	0.020	0.0200								14	03/04/11	03/04	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.057 ± 0.165  
 FOR 5 SAMPLES YIELD \_\_\_\_\_ ± \_\_\_\_\_

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 03/17/11



EBERLINE ANALYTICAL

SDG 8663

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H        Matrix WATER  
 SDG 8663  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUB1966

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Tritium
Preparation batch 7281-033				
S102233-01		8663-001	IUB1966-03	U
S102233-03		8663-003	Lab Control Sample	ok
S102233-04		8663-004	Method Blank	U
S102233-05		8663-005	Duplicate (S102233-01)	- 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 7281-033 2σ prep error 10.0 % Reference Lab Notebook No. 7281 pg 033															
S102233-01		IUB1966-03	218	0.0100			100			75		20	03/09/11	03/10	LSC-007
S102233-03		Lab Control Sample	211	0.100			10			75			03/09/11	03/10	LSC-007
S102233-04		Method Blank	215	0.100			10			75			03/09/11	03/10	LSC-007
S102233-05		Duplicate (S102233-01)	219	0.0100			100			75		20	03/09/11	03/10	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 216 ± 7.19  
 FOR 4 SAMPLES YIELD 55 ± 104

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 03/17/11

**EBERLINE ANALYTICAL**

SDG 8663

**LAB METHOD SUMMARY**

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER  
 SDG 8663  
 Contact N. Joseph Verville

Client Test America, Inc.  
 Contract IUB1966

**RESULTS**

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

Preparation batch 7281-033

S102233-01			8663-001	IUB1966-03	U
S102233-02			8663-002	IUB1966-04 (TRIP-BLANK)	U
S102233-03			8663-003	Lab Control Sample	ok
S102233-04			8663-004	Method Blank	U
S102233-05			8663-005	Duplicate (S102233-01)	- 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 7281-033 2σ prep error 16.4 % Reference Lab Notebook No. 7281 pg 033

S102233-01			IUB1966-03	0.583	0.100			100	152	19	03/09/11	03/09	RN-011
S102233-02			IUB1966-04 (TRIP-BLANK)	0.510	0.100			100	152	19	03/09/11	03/09	RN-013
S102233-03			Lab Control Sample	0.800	0.100			100	152		03/09/11	03/09	RN-009
S102233-04			Method Blank	0.585	0.100			100	152		03/09/11	03/09	RN-010
S102233-05			Duplicate (S102233-01)	0.490	0.100			100	152	19	03/09/11	03/09	RN-012

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 0.594 ± 0.246  
 FOR 5 SAMPLES YIELD 100 ± 0

Lab id EAS  
 Protocol TA  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 03/17/11

EBERLINE ANALYTICAL

SDG 8663

SDG 8663  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract IUB1966

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.

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 03/17/11

EBERLINE ANALYTICAL

SDG 8663

SDG 8663  
 Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
 Contract IUB1966

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.

EBERLINE ANALYTICAL

SDG 8663

SDG 8663  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract IUB1966

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.

REPORT GUIDES

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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-RG</u>
Version	<u>3.06</u>
Report date	<u>03/17/11</u>

EBERLINE ANALYTICAL

SDG 8663

SDG 8663  
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.  
Contract IUB1966

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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Lab id EAS  
Protocol TA  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 03/17/11

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- 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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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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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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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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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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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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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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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 (IUB1966)

8663

**SENDING LABORATORY:**

**RECEIVING LABORATORY:**

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

Eberline Services - SUB  
 2030 Wright Avenue  
 Richmond, CA 94804  
 Phone: (510) 235-2633  
 Fax: (510) 235-0438  
 Project Location: California  
 Receipt Temperature: 7.5 °C

Ice: Y N

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

Analysis	Units	Expires	Comments
<b>Sample ID: IUB1966-03 (Outfall 018 (Composite) - Water)</b>			
		Sampled: 02/18/11 15:31	
Gamma Spec-O	pCi/L	02/18/12 15:31	OutSt Louis, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	08/17/11 15:31	Out eberline Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	08/17/11 15:31	Out eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	02/18/12 15:31	Out eberline, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	02/18/12 15:31	Out eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	02/18/12 15:31	Out eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	02/18/12 15:31	Out eberline, Boeing permit, DO NOT FILTER!

*Containers Supplied:*

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

**Sample ID: IUB1966-04 (Trip Blank - Water)**

Sampled: 02/18/11 00:00

Gamma Spec-O	pCi/L	02/18/12 00:00	Outeberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	08/17/11 00:00	Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	08/17/11 00:00	Out eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	02/18/12 00:00	Outeberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	02/18/12 00:00	Out eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	02/18/12 00:00	Out eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	02/18/12 00:00	Out eberline, Boeing permit, DO NOT FILTER!

*Containers Supplied:*

2.5 gal Poly (A)      500 mL Amber (B)

Released By \_\_\_\_\_

Date/Time \_\_\_\_\_

Received By \_\_\_\_\_

Date/Time \_\_\_\_\_

Released By \_\_\_\_\_

Date/Time \_\_\_\_\_

Received By \_\_\_\_\_

Date/Time \_\_\_\_\_



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA IRVINE City IRVINE State CA

Date/Time received 02/22/11 0930 CoC No. IUB1966

Container I.D. No. 14 CTEST 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: 3 (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/N/A Preservative HNO3
13. Describe any anomalies:  
500 ML AMBER BOTTLE, TRIP BLANK SAMPLE - MISSING

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

15. Inspected by M. [Signature] Date: 02/22/11 Time: 1030

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
IUB1966	<60						

Ion Chamber Ser. No.           
 Alpha Meter Ser. No.           
 Beta/Gamma Meter Ser. No. 102442

Calibration date           
 Calibration date           
 Calibration date 24 SEP 10

**RE: Eberline Analytical - Questions on CoCs**

Wilson, Debby [Debby.Wilson@testamericainc.com]

**Sent:** Monday, February 28, 2011 2:54 PM**To:** Joe Verville; Laura Bralts

---

What about ice preservation? Is that needed for all analyses?  
thanks

**DEBBY WILSON**

---

**From:** Joe Verville [mailto:joe.verville@eberlineservices.com]**Sent:** Monday, February 28, 2011 10:53 AM**To:** Wilson, Debby; Laura Bralts**Subject:** RE: Eberline Analytical - Questions on CoCs

Hello Debby,

The tritium fraction should NOT be preserved. The acid will really mess with the distillation.

Regards,

Joseph Verville  
Client Services Manager  
Eberline Analytical Corp. Richmond Lab  
(510) 235-2633 x264

---

**From:** Wilson, Debby [Debby.Wilson@testamericainc.com]**Sent:** Monday, February 28, 2011 10:44 AM**To:** Laura Bralts**Cc:** Joe Verville**Subject:** RE: Eberline Analytical - Questions on CoCs

Laura or Joe,

Boeing has requested that we start the preparation process by acidifying the samples before we send them to you since they are not allowed to acidify in the field and to help meet the 28 day TAT. They requested we prepare a trip blank with the same acid we are using and send it with the sample. We have not been acidifying the glass amber for tritium analysis. Can you confirm that tritium does not need the acidification with nitric acid? If it does, we will start acidifying that bottle too and send a corresponding trip blank in a glass container. If it doesn't, then tritium is not needed on trip blank so cancel the analysis and we will continue with the current process. Hope this makes sense. If not, call me to discuss.

Also, do any of the analyses need to ship on ice?

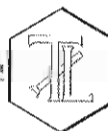
Thanks

**DEBBY WILSON**

---

**From:** Laura Bralts [mailto:laura.bralts@eberlineservices.com]**Sent:** Friday, February 25, 2011 8:14 AM**To:** Wilson, Debby**Cc:** Joe Verville**Subject:** Eberline Analytical - Questions on CoCs

Hello,



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

**REPORT**

**Attention:** Debby Wilson  
**Sample:** Water / 1 Sample  
**Project Name:** IUB1966  
**Project Number:** IUB1966  
**Method Number:** EPA 8315 (Modified)  
**Investigation:** Hydrazines

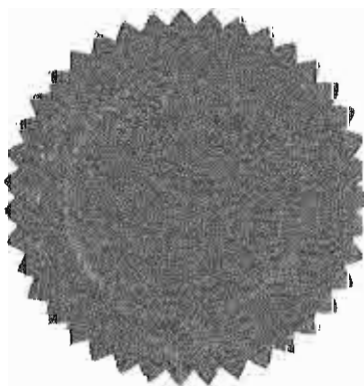
**Laboratory No:** 993769  
**Report Date:** March 3, 2011  
**Sampling Date:** February 18, 2011  
**Receiving Date:** February 22, 2011  
**Extraction Date:** February 22, 2011  
**Analysis Date:** February 23, 2011  
**Units:** µg/L  
**Reported By:** JS

**Analytical Results**

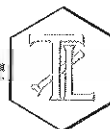
Sample ID	Sample Description	Sample Amount (mL)	Dilution Factor	Monomethyl Hydrazine	u-Dimethyl Hydrazine	Hydrazine	Qualifier Codes
709287-MB	Method Blank	100	1	ND	ND	ND	None
993769	IUB1966-03	100	1	ND	ND	ND	None
MDL				1.77	1.13	0.439	
PQL				5.0	5.0	1.00	
Sample Reporting Limits				5.0	5.0	1.00	

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

Note: Sample was received after hold time.



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



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

**Client Contact:** Debby Wilson  
**Sample:** Water / 1 Sample  
**Project Number:** IUB1966  
**Method Number:** EPA 8315 (Modified)  
**Investigation:** Hydrazines  
**Run Batch No.:** Extraction: 5463; Analysis: 697

**QC Lab. No.:** 709287  
**Project Lab. No.:** 993769  
**Spiked Sample ID:** 993770  
**Report Date:** March 3, 2011  
**Sampling Date:** February 18, 2011  
**Receiving Date:** February 22, 2011  
**Extraction Date:** February 22, 2011  
**Analysis Date:** February 23, 2011  
**Reported By:** JS

## Quality Control/Quality Assurance Calibration Report

### ICV

Parameter	Theoretical Value (ug/L)	Measured Value (ug/L)	Percent Recovery	Control Limits	Flag
Monomethyl Hydrazine	25.0	24.3	97.3	85-115	PASS
u-Dimethyl Hydrazine	25.0	24.8	99.3	85-115	PASS
Hydrazine	5.0	4.91	98.3	85-115	PASS

### QCS

Parameter	Theoretical Value (ug/L)	Measured Value (ug/L)	Percent Recovery	Control Limits	Flag
Monomethyl Hydrazine	50.0	45.5	91.0	85-115	PASS
u-Dimethyl Hydrazine	50.0	48.7	97.4	85-115	PASS
Hydrazine	10.0	10.1	101	85-115	PASS

## Quality Control/Quality Assurance Spikes Report

### LCS/LCSD

Parameter	Spiked Conc. ug/L	Recovered Concentration			Percent Recovery (%)		LCS/LCSD RPD	Flag	Control Limits	
		LCS	LCSD	MB	LCS	LCSD			%D	% Rec.
Monomethyl Hydrazine	50.0	45.6	48.5	0.0	91.2	97.0	6.17%	PASS	20	50-150
u-Dimethyl Hydrazine	50.0	46.6	51.0	0.0	93.2	102	8.98%	PASS	20	50-150
Hydrazine	10.0	10.0	11.1	0.0	100	111	10.0%	PASS	20	50-150

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

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