APPENDIX G

FIRST QUARTER 2013 ANALYTICAL LABORATORY REPORTS, CHAIN-OFCUSTODY, AND VALIDATION REPORTS

APPENDIX G

TABLE OF CONTENTS

Section No.

1 Outfall 009 – January 25, 2013 - MEC^X Data Validation Report

2 Outfall 009 – January 25 & 26, 2013 - Test America Analytical Laboratory Report

3 Outfall 009 – March 8, 2013 - MEC^X Data Validation Report

4 Outfall 009 – March 8, 2013 - Test America Analytical Laboratory Report

5 Outfall 019 – March 14, 2013 - MEC^X Data Validation Report

6 Outfall 019 – March 14 & 15, 2013 - Test America Analytical Laboratory Report

7 Arroyo Simi-Frontier Park – February 11, 2013 - MEC^X Data Validation Report

8 Arroyo Simi-Frontier Park – February 11, 2013 - Test America Analytical Laboratory Report

9 Arroyo Simi-Frontier Park – March 8, 2013 - MEC^X Data Validation Report

10 Arroyo Simi-Frontier Park – March 8, 2013 - Test America Analytical Laboratory Report

11 Arroyo Simi-Frontier Park – March 13, 2013 - Test America Analytical Laboratory Report

12 Arroyo Simi-Frontier Park – March 18, 2013 - Test America Analytical Laboratory Report

13 Arroyo Simi-Frontier Park – March 22, 2013 - Test America Analytical Laboratory Report

14 Arroyo Simi-Frontier Park – March 27, 2013 - Test America Analytical Laboratory Report

APPENDIX G

Section 1

Outfall 009 – January 25, 2013

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-36103-1

Prepared by

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

Task Order Title:	Boeing SSFL NPDES
Contract Task Order:	1261.100D.00
Sample Delivery Group:	440-36103-1
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009	440-36103-1	N/A	Water	1/25/2013 7:30:00 AM	1664A
Outfall 009	440-36149-1	S301089-01	Water	1/25/2013 7:51:00 PM	1613B, 200.8, 200.8 Diss, 245.1, 245.1 Diss, 300.0, 900, 901.1, 903.1, 904, 905, 906, ASTM D5174, SM2540C, SM2540D, SM4500

II. Sample Management

No anomalies were observed regarding sample management. The samples were received below the temperature limit upon receipt at TestAmerica-Sacramento, at 0.4°C; however, as the samples were not noted to be frozen or damaged, no qualifications were required. The temperature upon receipt at Eberline was nominally above 6°C; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at Test-America-Irvine within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvaine and Eberline, custody seals were not utilized. Custody seals were intact upon receipt at TestAmerica-Sacramento.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: March 7, 2013

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.

    - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.

    - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤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 reported detects reported for 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, OCDD, and totals for TCDD, HpCDD, and HpCDF. Sample detects below the reporting limits for 1,2,3,4,6,7,8-HpCDD and 1,2,3,4,6,7,8-HpCDF were qualified as nondetected, “U,” at the levels of contamination, and totals for HpCDD and HpCDF

were qualified as estimated, "J," as only a portion of the total was identified as method blank contamination. The method blank result for OCDD was insufficient to qualify the sample result, and total TCDD was not detected in the sample.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The labeled internal standard recoveries for 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 any reportable sample concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level 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.

  The result for OCDF was reported as an EMPC. The result was qualified as an estimated nondetect, "UJ," at the level of the EMPC. Totals for HxCDF, HpCDD, and HpCDF containing EMPC peaks were qualified as estimated, "J."

B. EPA METHODS 200.8 and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: March 7, 2013

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 200.8, 245.1*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: Analytical holding times, six months for ICP-MS metals and 28 days for mercury, were met.

- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were ≤5%, and all masses of interest were calibrated to ≤ 0.1 amu and ≤0.9 amu at 10% peak height.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. 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%. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.

- 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 sample in this SDG. Method accuracy was evaluated based on LCS results.

- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer

was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: March 7, 2013

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. All remaining aliquots were preserved within the five-day holding time.

- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

  The detector efficiencies were greater than 20%. The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: There were no analytes detected in the method blanks or the KPA CCBs.

- Blank Spikes and Laboratory Control Samples: Radium-228 was recovered above the control limit; however, as this analyte was not detected in the site sample, no qualifications were required. 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 gross beta RPD exceeded the control limit; therefore, gross beta detected in the sample was qualified as estimated, "J." All 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.

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: March 7, 2013

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Methods 300.0, 1664A, Standard Methods for the Examination of Water and Wastewater 2540C, 2540D, and 4500CN E*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: Analytical holding times, 28 days for the anions and HEM, 14 days for cyanide, and 7 days for TDS and TSS, 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%. Balance logs were reviewed and determined to be acceptable.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits and the HEM RPD was within the laboratory-established control limit.

- 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 440-36103-1

Analysis Method 1613B

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 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	0.000050	0.0000008	ug/L	J,DX q M	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000050	0.0000006	ug/L	J,DX MB	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000050	0.0000008	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000050	0.0000003	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000050	0.0000007	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000050	0.0000015	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000050	0.0000002	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000050	0.0000010	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000050	0.0000002	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000050	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000050	0.0000003	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000050	0.0000002	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000050	0.0000004	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.000010	0.0000003	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000011	ug/L		U	
OCDD	3268-87-9	0.00022	0.00010	0.0000014	ug/L	MB		
OCDF	39001-02-0	ND	0.00010	0.0000008	ug/L	J,DX q	UJ	*III
Total HpCDD	37871-00-4	0.000038	0.000050	0.0000008	ug/L	J,DX q M	J	B, DNQ, *III
Total HpCDF	38998-75-3	0.000012	0.000050	0.0000007	ug/L	J,DX q M	J	B, DNQ, *III
Total HxCDD	34465-46-8	ND	0.000050	0.0000003	ug/L		U	
Total HxCDF	55684-94-1	0.000002	0.000050	0.0000003	ug/L	J,DX q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.000050	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000050	0.0000003	ug/L		U	
Total TCDD	41903-57-5	ND	0.000010	0.0000003	ug/L		U	
Total TCDF	30402-14-3	ND	0.000010	0.0000011	ug/L		U	

Analysis Method 1664A

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36103-1 **Sample Date:** 1/25/2013 7:30:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
HEM	STL00181	ND	4.7	1.3	mg/L		U	

Analysis Method 200.8

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	0.66	2.0	0.30	ug/L	J,DX	J	DNQ
Antimony, Dissolved	7440-36-0	0.62	2.0	0.30	ug/L	J,DX	J	DNQ
Cadmium	7440-43-9	ND	1.0	0.10	ug/L		U	
Cadmium, Dissolved	7440-43-9	ND	1.0	0.10	ug/L		U	
Copper	7440-50-8	8.0	2.0	0.50	ug/L			
Copper, Dissolved	7440-50-8	3.0	2.0	0.50	ug/L			
Lead	7439-92-1	1.7	1.0	0.20	ug/L			
Lead, Dissolved	7439-92-1	0.47	1.0	0.20	ug/L	J,DX	J	DNQ
Thallium	7440-28-0	ND	1.0	0.20	ug/L		U	
Thallium, Dissolved	7440-28-0	ND	1.0	0.20	ug/L		U	

Analysis Method 245.1

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/L		U	
Mercury, Dissolved	7439-97-6	ND	0.20	0.10	ug/L		U	

Analysis Method 300.0

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	2.1	0.50	0.40	mg/L			
Nitrate Nitrite as N	STL00217	0.55	0.26	0.11	mg/L			
Sulfate	14808-79-8	3.8	0.50	0.40	mg/L			

Analysis Method Gamma Spec K-40 CS-137

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	0.44	20	1.38	pCi/L	U	U	
Potassium-40	13966002	-9.21	25	39.3	pCi/L	U	U	

Analysis Method Gross Alpha and Beta

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Beta	12587472	1.58	4	0.945	pCi/L	J	J	E, DNQ
GrossAlpha	12587461	0.532	3	0.28	pCi/L	J	J	DNQ

Analysis Method Radium 226

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.255	1	0.517	pCi/L	U	U	

Analysis Method Radium 228

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.073	1	0.532	pCi/L	U	U	

Analysis Method SM 2540C

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Dissolved Solids	STL00242	83	10	10	mg/L			

Analysis Method SM 2540D

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	STL00161	ND	10	10	mg/L		U	

Analysis Method SM 4500 CN E

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cyanide, Total	57-12-5	ND	5.0	3.0	ug/L		U	

Analysis Method Strontium 90

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.174	2	0.968	pCi/L	U	U	

Analysis Method Tritium

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	3.66	500	181	pCi/L	U	U	

Analysis Method Uranium, Combined

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-36149-1 **Sample Date:** 1/25/2013 7:51:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
U Total		0.056	1	0.014	pCi/L	J	J	DNQ

APPENDIX G

Section 2

Outfall 009 – January 25 & 26, 2013

Test America Analytical Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
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TestAmerica Job ID: 440-36103-1
Client Project/Site: Boeing SSFL NPDES Routine Outfall 009

For:
MWH Americas Inc
618 Michillinda Avenue, Suite 200
Arcadia, California 91007

Attn: Bronwyn Kelly

Debby Wilson

Authorized for release by:
2/22/2013 7:05:33 PM

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

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

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.

Debby Wilson
Project Manager I
2/22/2013 7:05:33 PM

Table of Contents

Cover Page 1
Table of Contents 3
Sample Summary 4
Case Narrative 5
Client Sample Results 6
Chronicle 10
QC Sample Results 12
QC Association 24
Definitions 28
Certification Summary 29
Subcontract Data 30
Chain of Custody 90
Receipt Checklists 92
Isotope Dilution Summary 95

Sample Summary

Client: MWH Americas Inc
Project/Site: Boeing SSFL NPDES Routine Outfall 009

TestAmerica Job ID: 440-36103-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-36103-1	Outfall 009	Water	01/25/13 07:30	01/25/13 17:30
440-36149-1	Outfall 009	Water	01/25/13 19:51	01/26/13 15:50
440-36149-2	Trip Blank-Eberline	Water	01/26/13 12:15	01/26/13 15:50

Job ID: 440-36103-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-36103-1

Comments
No additional comments.

Receipt
The samples were received on 1/25/2013 5:30 PM and 1/26/2013 3:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.8º C and 2.0º C.

HPLC
Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) nitrate/nitrite recoveries for batch 81078 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Dioxin
Method(s) 1613B: Ion abundance ratios are outside criteria for the following samples and in the MB: (MB 320-9630/1-A), Outfall 009 (440-36149-1). Quantitation is based on the theoretical ion abundance ratio; therefore, these analytes have been reported as an estimated maximum possible concentration (EMPC). The affected analytes have been flagged.

No other analytical or quality issues were noted.

Metals
No other analytical or quality issues were noted.

General Chemistry
Method(s) 1664A: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 83173. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

Subcontract non-Sister
No analytical or quality issues were noted.

Dioxin Prep
No analytical or quality issues were noted.

Client Sample ID: Outfall 009 — **Lab Sample ID: 440-36103-1**
Date Collected: 01/25/13 07:30 — **Matrix: Water**
Date Received: 01/25/13 17:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.7	1.3	mg/L		02/06/13 05:09	02/06/13 05:37	1

Client Sample ID: Outfall 009 — **Lab Sample ID: 440-36149-1**
Date Collected: 01/25/13 19:51 — **Matrix: Water**
Date Received: 01/26/13 15:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.1		0.50	0.40	mg/L			01/26/13 17:48	1
Nitrate Nitrite as N	0.55		0.26	0.11	mg/L			01/26/13 17:48	1
Sulfate	3.8		0.50	0.40	mg/L			01/26/13 17:48	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000036	ug/L		02/01/13 09:35	02/05/13 02:17	1
2,3,7,8-TCDF	ND		0.000010	0.0000011	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000062	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000039	ug/L		02/01/13 09:35	02/05/13 02:17	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000040	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,4,7,8-HxCDD	ND		0.000050	0.00000033	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000015	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000010	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000076	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000021	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000026	ug/L		02/01/13 09:35	02/05/13 02:17	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000020	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,4,6,7,8-HpCDD	0.000012	J,DX q MB	0.000050	0.00000089	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,4,6,7,8-HpCDF	0.0000053	J,DX MB	0.000050	0.00000063	ug/L		02/01/13 09:35	02/05/13 02:17	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000085	ug/L		02/01/13 09:35	02/05/13 02:17	1
OCDD	0.00022	MB	0.00010	0.0000014	ug/L		02/01/13 09:35	02/05/13 02:17	1
OCDF	0.000014	J,DX q	0.00010	0.00000086	ug/L		02/01/13 09:35	02/05/13 02:17	1
Total TCDD	ND		0.000010	0.00000036	ug/L		02/01/13 09:35	02/05/13 02:17	1
Total TCDF	ND		0.000010	0.0000011	ug/L		02/01/13 09:35	02/05/13 02:17	1
Total PeCDD	ND		0.000050	0.00000062	ug/L		02/01/13 09:35	02/05/13 02:17	1
Total PeCDF	ND		0.000050	0.00000039	ug/L		02/01/13 09:35	02/05/13 02:17	1
Total HxCDD	ND		0.000050	0.00000033	ug/L		02/01/13 09:35	02/05/13 02:17	1

Client Sample ID: Outfall 009
Date Collected: 01/25/13 19:51
Date Received: 01/26/13 15:50

Lab Sample ID: 440-36149-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HxCDF	0.0000024	J,DX q	0.000050	0.00000036	ug/L		02/01/13 09:35	02/05/13 02:17	1
Total HpCDD	0.000038	J,DX q MB	0.000050	0.00000089	ug/L		02/01/13 09:35	02/05/13 02:17	1
Total HpCDF	0.000012	J,DX q MB	0.000050	0.00000074	ug/L		02/01/13 09:35	02/05/13 02:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*25 - 164*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*25 - 181*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-2,3,4,7,8-PeCDF	*76*		*21 - 178*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*72*		*32 - 141*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*90*		*28 - 130*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*26 - 152*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*91*		*26 - 123*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*79*		*29 - 147*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*88*		*28 - 136*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*83*		*23 - 140*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*82*		*28 - 143*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*26 - 138*	*02/01/13 09:35*	*02/05/13 02:17*	*1*
13C-OCDD	*86*		*17 - 157*	*02/01/13 09:35*	*02/05/13 02:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*02/01/13 09:35*	*02/05/13 02:17*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		02/05/13 13:13	02/06/13 14:38	1
Copper	8.0		2.0	0.50	ug/L		02/05/13 13:13	02/06/13 14:38	1
Lead	1.7		1.0	0.20	ug/L		02/05/13 13:13	02/06/13 14:38	1
Antimony	0.66	J,DX	2.0	0.30	ug/L		02/05/13 13:13	02/06/13 14:38	1
Thallium	ND		1.0	0.20	ug/L		02/05/13 13:13	02/06/13 14:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		01/30/13 15:53	01/31/13 13:16	1
Copper	3.0		2.0	0.50	ug/L		01/30/13 15:53	01/31/13 13:16	1
Lead	0.47	J,DX	1.0	0.20	ug/L		01/30/13 15:53	01/31/13 13:16	1
Antimony	0.62	J,DX	2.0	0.30	ug/L		01/30/13 15:53	01/31/13 13:16	1
Thallium	ND		1.0	0.20	ug/L		01/30/13 15:53	01/31/13 13:16	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		02/05/13 14:05	02/05/13 19:37	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/31/13 10:10	01/31/13 16:11	1

Client: MWH Americas Inc
Project/Site: Boeing SSFL NPDES Routine Outfall 009

TestAmerica Job ID: 440-36103-1

Client Sample ID: Outfall 009

Lab Sample ID: 440-36149-1

Date Collected: 01/25/13 19:51
Matrix: Water
Date Received: 01/26/13 15:50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	83		10	10	mg/L			01/31/13 09:52	1
Total Suspended Solids	ND		10	10	mg/L			01/30/13 22:23	1
Cyanide, Total	ND		5.0	3.0	ug/L		01/29/13 10:26	01/29/13 16:36	1

Method: Gamma Spec K-40 CS-137 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	0.44	U	20		pCi/L		02/08/13 00:00	02/11/13 00:00	1
Potassium-40	-9.21	U	25		pCi/L		02/08/13 00:00	02/11/13 00:00	1

Method: Gross Alpha and Beta - % Lipids

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Beta	1.58	J	4		pCi/L		02/14/13 00:00	02/18/13 14:30	1
GrossAlpha	0.532	J	3		pCi/L		02/14/13 00:00	02/18/13 14:30	1

Method: Radium 226 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.255	U	1		pCi/L		02/19/13 00:00	02/19/13 12:28	1

Method: Radium 228 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.073	U	1		pCi/L		02/14/13 00:00	02/14/13 16:36	1

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.174	U	2		pCi/L		02/13/13 00:00	02/13/13 09:35	1

Method: Tritium - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	3.66	U	500		pCi/L		02/07/13 00:00	02/09/13 15:08	1

Method: Uranium, Combined - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
U Total	0.056	J	1		pCi/L		02/12/13 00:00	02/12/13 00:00	1

Client Sample ID: Trip Blank-Eberline

Lab Sample ID: 440-36149-2

Date Collected: 01/26/13 12:15
Matrix: Water
Date Received: 01/26/13 15:50

Method: Gamma Spec K-40 CS-137 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-0.351	U	20		pCi/L		02/08/13 00:00	02/11/13 00:00	1
Potassium-40	-2.35	U	25		pCi/L		02/08/13 00:00	02/11/13 00:00	1

Method: Gross Alpha and Beta - Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Beta	-0.124	U	4		pCi/L		02/14/13 00:00	02/18/13 14:30	1
GrossAlpha	-0.073	U	3		pCi/L		02/14/13 00:00	02/18/13 14:30	1

Method: Radium 226 - RAD-226-228 combined

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	-0.074	U	1		pCi/L		02/19/13 00:00	02/19/13 12:28	1

Client: MWH Americas Inc
Project/Site: Boeing SSFL NPDES Routine Outfall 009

TestAmerica Job ID: 440-36103-1

Client Sample ID: Trip Blank-Eberline
Date Collected: 01/26/13 12:15
Date Received: 01/26/13 15:50

Lab Sample ID: 440-36149-2
Matrix: Water

Method: Radium 228 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.164	U	1		pCi/L		02/14/13 00:00	02/14/13 16:36	1

Method: Strontium 90 - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	0.236	U	2		pCi/L		02/13/13 00:00	02/13/13 09:35	1

Method: Uranium, Combined - General Sub Contract Method

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
U Total	0	U	1		pCi/L		02/12/13 00:00	02/12/13 00:00	1

Client Sample ID: Outfall 009

Lab Sample ID: 440-36103-1

Date Collected: 01/25/13 07:30

Matrix: Water

Date Received: 01/25/13 17:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			1055 mL	1000 mL	83171	02/06/13 05:09	DA	TAL IRV
Total/NA	Analysis	1664A		1			83173	02/06/13 05:37	DA	TAL IRV

Client Sample ID: Outfall 009

Lab Sample ID: 440-36149-1

Date Collected: 01/25/13 19:51

Matrix: Water

Date Received: 01/26/13 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	1 mL		81078	01/26/13 17:48	KS	TAL IRV
Total/NA	Analysis	300.0		1	1 mL		81079	01/26/13 17:48	KS	TAL IRV
Total/NA	Prep	1613B			998.2 mL	20 uL	9630	02/01/13 09:35	EN	TAL WSC
Total/NA	Analysis	1613B		1			9834	02/05/13 02:17	NK	TAL WSC
Dissolved	Prep	200.2			50 mL	50 mL	81891	01/30/13 15:53	ND	TAL IRV
Dissolved	Analysis	200.8		1			82122	01/31/13 13:16	NH	TAL IRV
Dissolved	Prep	245.1			20 mL	20 mL	81885	01/31/13 10:10	MM	TAL IRV
Dissolved	Analysis	245.1		1			82204	01/31/13 16:11	DB	TAL IRV
Total/NA	Prep	245.1			20 mL	20 mL	82999	02/05/13 14:05	MM	TAL IRV
Total/NA	Analysis	245.1		1			83152	02/05/13 19:37	DB	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	83009	02/05/13 13:13	ND	TAL IRV
Total Recoverable	Analysis	200.8		1			83374	02/06/13 14:38	RC	TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	81491	01/29/13 10:26	BT	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			81638	01/29/13 16:36	BT	TAL IRV
Total/NA	Analysis	SM 2540D		1	100 mL	100 mL	81958	01/30/13 22:23	DK	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	82053	01/31/13 09:52	XL	TAL IRV
Total/NA	Prep	General Prep		1			8632_P	02/08/13 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8632	02/11/13 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/14/13 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8632	02/18/13 14:30		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/19/13 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8632	02/19/13 12:28		Eber-Rich
Total/NA	Analysis	Radium 228		1			8632	02/14/13 16:36		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/13/13 00:00		Eber-Rich
Total/NA	Analysis	Strontium 90		1			8632	02/13/13 09:35		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/07/13 00:00		Eber-Rich
Total/NA	Analysis	Tritium		1			8632	02/09/13 15:08		Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8632	02/12/13 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/12/13 00:00		Eber-Rich

Lab Chronicle

Client: MWH Americas Inc
Project/Site: Boeing SSFL NPDES Routine Outfall 009

TestAmerica Job ID: 440-36103-1

Client Sample ID: Trip Blank-Eberline

Lab Sample ID: 440-36149-2

Date Collected: 01/26/13 12:15

Matrix: Water

Date Received: 01/26/13 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	General Prep		1			8632_P	02/08/13 00:00		Eber-Rich
Total/NA	Analysis	Gamma Spec K-40 CS-137		1			8632	02/11/13 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/14/13 00:00		Eber-Rich
Total/NA	Analysis	Gross Alpha and Beta		1			8632	02/18/13 14:30		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/19/13 00:00		Eber-Rich
Total/NA	Analysis	Radium 226		1			8632	02/19/13 12:28		Eber-Rich
Total/NA	Analysis	Radium 228		1			8632	02/14/13 16:36		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/13/13 00:00		Eber-Rich
Total/NA	Analysis	Strontium 90		1			8632	02/13/13 09:35		Eber-Rich
Total/NA	Analysis	Uranium, Combined		1			8632	02/12/13 00:00		Eber-Rich
Total/NA	Prep	General Prep		1			8632_P	02/12/13 00:00		Eber-Rich

Laboratory References:

Eber-Rich = Eberline - Richmond, 2030 Wright Avenue, Richmond, CA 94804

SC0127 = Aquatic Testing Laboratories, 4350 Transport #107, Ventura, CA 93003

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

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-81078/4
Matrix: Water
Analysis Batch: 81078

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.26	0.11	mg/L			01/26/13 10:26	1

Lab Sample ID: LCS 440-81078/2
Matrix: Water
Analysis Batch: 81078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N			2.65	2.76		mg/L		104	90 - 110		

Lab Sample ID: 440-36111-G-1 MS
Matrix: Water
Analysis Batch: 81078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N	12	J,DX	53.0	87.2	LM	mg/L		142	80 - 120		

Lab Sample ID: 440-36111-G-1 MSD
Matrix: Water
Analysis Batch: 81078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	12	J,DX	53.0	80.0	LM	mg/L		128	80 - 120	9	20

Lab Sample ID: MB 440-81079/4
Matrix: Water
Analysis Batch: 81079

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.40	mg/L			01/26/13 10:26	1
Sulfate	ND		0.50	0.40	mg/L			01/26/13 10:26	1

Lab Sample ID: LCS 440-81079/2
Matrix: Water
Analysis Batch: 81079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	4.96		mg/L		99	90 - 110		
Sulfate			10.0	9.65		mg/L		96	90 - 110		

Lab Sample ID: 440-36111-G-1 MS
Matrix: Water
Analysis Batch: 81079

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	850		100	943	BB	mg/L		91	80 - 120		
Sulfate	470		200	677		mg/L		102	80 - 120		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-36111-G-1 MSD
Matrix: Water
Analysis Batch: 81079

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	850		100	972	BB	mg/L		120	80 - 120	3	20
Sulfate	470		200	686		mg/L		106	80 - 120	1	20

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

Lab Sample ID: MB 320-9630/1-A
Matrix: Water
Analysis Batch: 9834

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9630

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000044	ug/L		02/01/13 09:35	02/04/13 22:01	1
2,3,7,8-TCDF	ND		0.000010	0.0000014	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,7,8-PeCDD	ND		0.000050	0.00000053	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000049	ug/L		02/01/13 09:35	02/04/13 22:01	1
2,3,4,7,8-PeCDF	ND		0.000050	0.00000050	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,4,7,8-HxCDD	ND		0.000050	0.00000031	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.00000030	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000026	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.00000029	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.00000027	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.00000035	ug/L		02/01/13 09:35	02/04/13 22:01	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.00000027	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,4,6,7,8-HpCDD	0.00000114	J,DX q	0.000050	0.00000048	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,4,6,7,8-HpCDF	0.000000710	J,DX q	0.000050	0.00000046	ug/L		02/01/13 09:35	02/04/13 22:01	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.00000068	ug/L		02/01/13 09:35	02/04/13 22:01	1
OCDD	0.00000707	J,DX	0.00010	0.00000046	ug/L		02/01/13 09:35	02/04/13 22:01	1
OCDF	ND		0.00010	0.00000087	ug/L		02/01/13 09:35	02/04/13 22:01	1
Total TCDD	0.00000344	J,DX	0.000010	0.00000044	ug/L		02/01/13 09:35	02/04/13 22:01	1
Total TCDF	ND		0.000010	0.0000014	ug/L		02/01/13 09:35	02/04/13 22:01	1
Total PeCDD	ND		0.000050	0.00000053	ug/L		02/01/13 09:35	02/04/13 22:01	1
Total PeCDF	ND		0.000050	0.00000049	ug/L		02/01/13 09:35	02/04/13 22:01	1
Total HxCDD	ND		0.000050	0.00000026	ug/L		02/01/13 09:35	02/04/13 22:01	1

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

Lab Sample ID: MB 320-9630/1-A
Matrix: Water
Analysis Batch: 9834

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9630

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HxCDF	ND		0.000050	0.00000027	ug/L		02/01/13 09:35	02/04/13 22:01	1
Total HpCDD	0.00000328	J,DX q	0.000050	0.00000048	ug/L		02/01/13 09:35	02/04/13 22:01	1
Total HpCDF	0.000000710	J,DX q	0.000050	0.00000057	ug/L		02/01/13 09:35	02/04/13 22:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*25 - 164*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-2,3,7,8-TCDF	*83*		*24 - 169*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*25 - 181*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*24 - 185*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*21 - 178*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,4,7,8-HxCDD	*83*		*32 - 141*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*100*		*28 - 130*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*94*		*26 - 152*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,6,7,8-HxCDF	*102*		*26 - 123*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*29 - 147*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-2,3,4,6,7,8-HxCDF	*98*		*28 - 136*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*80*		*23 - 140*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*28 - 143*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*26 - 138*	*02/01/13 09:35*	*02/04/13 22:01*	*1*
13C-OCDD	*85*		*17 - 157*	*02/01/13 09:35*	*02/04/13 22:01*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*02/01/13 09:35*	*02/04/13 22:01*	*1*

Lab Sample ID: LCS 320-9630/2-A
Matrix: Water
Analysis Batch: 9834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9630

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000170		ug/L		85	67 - 158
2,3,7,8-TCDF	0.000200	0.000179		ug/L		90	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000891		ug/L		89	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000932		ug/L		93	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000837		ug/L		84	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000843		ug/L		84	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000895		ug/L		90	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000803		ug/L		80	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000842		ug/L		84	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000918		ug/L		92	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000928		ug/L		93	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000935		ug/L		94	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000911		ug/L		91	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000992		ug/L		99	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000857		ug/L		86	78 - 138
OCDD	0.00200	0.00181		ug/L		90	78 - 144
OCDF	0.00200	0.00188		ug/L		94	63 - 170

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

Lab Sample ID: LCS 320-9630/2-A
Matrix: Water
Analysis Batch: 9834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9630

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	82		20 - 175
13C-2,3,7,8-TCDF	86		22 - 152
13C-1,2,3,7,8-PeCDD	76		21 - 227
13C-1,2,3,7,8-PeCDF	78		21 - 192
13C-2,3,4,7,8-PeCDF	86		13 - 328
13C-1,2,3,4,7,8-HxCDD	83		21 - 193
13C-1,2,3,6,7,8-HxCDD	98		25 - 163
13C-1,2,3,4,7,8-HxCDF	89		19 - 202
13C-1,2,3,6,7,8-HxCDF	99		21 - 159
13C-1,2,3,7,8,9-HxCDF	84		17 - 205
13C-2,3,4,6,7,8-HxCDF	92		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	79		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	82		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	86		20 - 186
13C-OCDD	87		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	94		35 - 197

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-83009/1-A
Matrix: Water
Analysis Batch: 83374

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 83009

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		02/05/13 13:13	02/06/13 14:13	1
Copper	ND		2.0	0.50	ug/L		02/05/13 13:13	02/06/13 14:13	1
Lead	ND		1.0	0.20	ug/L		02/05/13 13:13	02/06/13 14:13	1
Antimony	ND		2.0	0.30	ug/L		02/05/13 13:13	02/06/13 14:13	1
Thallium	ND		1.0	0.20	ug/L		02/05/13 13:13	02/06/13 14:13	1

Lab Sample ID: LCS 440-83009/2-A
Matrix: Water
Analysis Batch: 83374

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 83009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	81.9		ug/L		102	85 - 115
Copper	80.0	86.2		ug/L		108	85 - 115
Lead	80.0	88.8		ug/L		111	85 - 115
Antimony	80.0	84.0		ug/L		105	85 - 115
Thallium	80.0	87.0		ug/L		109	85 - 115

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

Lab Sample ID: 440-36895-A-5-B MS ^5
Matrix: Water
Analysis Batch: 83374

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 83009

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	78.6		ug/L		98	70 - 130
Copper	4.4	J,DX	80.0	85.2		ug/L		101	70 - 130
Lead	1.4	J,DX	80.0	77.0		ug/L		94	70 - 130
Antimony	1.8	J,DX	80.0	80.7		ug/L		99	70 - 130
Thallium	ND		80.0	74.6		ug/L		93	70 - 130

Lab Sample ID: 440-36895-A-5-C MSD ^5
Matrix: Water
Analysis Batch: 83374

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 83009

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	81.1		ug/L		101	70 - 130	3	20
Copper	4.4	J,DX	80.0	85.1		ug/L		101	70 - 130	0	20
Lead	1.4	J,DX	80.0	77.8		ug/L		96	70 - 130	1	20
Antimony	1.8	J,DX	80.0	81.9		ug/L		100	70 - 130	1	20
Thallium	ND		80.0	75.7		ug/L		95	70 - 130	2	20

Lab Sample ID: MB 440-81581/1-C
Matrix: Water
Analysis Batch: 82122

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 81891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		01/30/13 15:53	01/31/13 12:26	1
Copper	ND		2.0	0.50	ug/L		01/30/13 15:53	01/31/13 12:26	1
Lead	ND		1.0	0.20	ug/L		01/30/13 15:53	01/31/13 12:26	1
Antimony	ND		2.0	0.30	ug/L		01/30/13 15:53	01/31/13 12:26	1
Thallium	ND		1.0	0.20	ug/L		01/30/13 15:53	01/31/13 12:26	1

Lab Sample ID: LCS 440-81581/2-C
Matrix: Water
Analysis Batch: 82122

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 81891

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	75.6		ug/L		94	85 - 115
Copper	80.0	74.9		ug/L		94	85 - 115
Lead	80.0	79.5		ug/L		99	85 - 115
Antimony	80.0	81.4		ug/L		102	85 - 115
Thallium	80.0	80.9		ug/L		101	85 - 115

Lab Sample ID: 440-35908-F-10-D MS
Matrix: Water
Analysis Batch: 82122

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 81891

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	75.1		ug/L		94	70 - 130
Copper	4.6		80.0	79.4		ug/L		94	70 - 130
Lead	3.2		80.0	81.6		ug/L		98	70 - 130
Antimony	0.53	J,DX	80.0	81.4		ug/L		101	70 - 130
Thallium	ND		80.0	81.8		ug/L		102	70 - 130

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

Lab Sample ID: 440-35908-F-10-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 82122 — **Prep Batch: 81891**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	74.8		ug/L		94	70 - 130	0	20
Copper	4.6		80.0	79.2		ug/L		93	70 - 130	0	20
Lead	3.2		80.0	82.6		ug/L		99	70 - 130	1	20
Antimony	0.53	J,DX	80.0	81.4		ug/L		101	70 - 130	0	20
Thallium	ND		80.0	81.5		ug/L		102	70 - 130	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-82999/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 83152 — **Prep Batch: 82999**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		02/05/13 14:05	02/05/13 19:20	1

Lab Sample ID: LCS 440-82999/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 83152 — **Prep Batch: 82999**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	7.84		ug/L		98	85 - 115

Lab Sample ID: 440-36074-E-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 83152 — **Prep Batch: 82999**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.10	J,DX	8.00	7.75		ug/L		96	70 - 130

Lab Sample ID: 440-36074-E-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 83152 — **Prep Batch: 82999**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.10	J,DX	8.00	7.64		ug/L		94	70 - 130	1	20

Lab Sample ID: MB 440-81581/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 82204 — **Prep Batch: 81885**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/31/13 10:10	01/31/13 15:28	1

Lab Sample ID: LCS 440-81581/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 82204 — **Prep Batch: 81885**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.56		ug/L		107	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-35908-E-2-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 82204 — **Prep Batch: 81885**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	8.06		ug/L		101	70 - 130

Lab Sample ID: 440-35908-E-2-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 82204 — **Prep Batch: 81885**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	8.41		ug/L		105	70 - 130	4	20

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-83171/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 83173 — **Prep Batch: 83171**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L		02/06/13 05:09	02/06/13 05:37	1

Lab Sample ID: LCS 440-83171/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 83173 — **Prep Batch: 83171**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	20.0	17.2		mg/L		86	78 - 114

Lab Sample ID: LCSD 440-83171/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 83173 — **Prep Batch: 83171**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	20.0	16.2		mg/L		81	78 - 114	6	11

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-82053/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 82053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			01/31/13 09:52	1

Lab Sample ID: LCS 440-82053/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 82053

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1020		mg/L		102	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 440-36301-A-1 DU
Matrix: Water
Analysis Batch: 82053

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	830		816		mg/L		1	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-81958/1
Matrix: Water
Analysis Batch: 81958

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		10	10	mg/L			01/30/13 22:23	1

Lab Sample ID: LCS 440-81958/2
Matrix: Water
Analysis Batch: 81958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1000		mg/L		100	85 - 115

Lab Sample ID: 440-36121-A-1 DU
Matrix: Water
Analysis Batch: 81958

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	200		202		mg/L		1	10

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-81491/1-A
Matrix: Water
Analysis Batch: 81638

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 81491

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	3.0	ug/L		01/29/13 10:26	01/29/13 16:35	1

Lab Sample ID: LCS 440-81491/2-A
Matrix: Water
Analysis Batch: 81638

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 81491

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	101		ug/L		101	90 - 110

Lab Sample ID: 440-35562-C-1-B MS
Matrix: Water
Analysis Batch: 81638

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 81491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	4.4	J,DX	100	115		ug/L		111	70 - 115

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: 440-35562-C-1-C MSD
Matrix: Water
Analysis Batch: 81638

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 81491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	4.4	J,DX	100	108		ug/L		104	70 - 115	6	15

Method: Gross Alpha and Beta - % Lipids

Lab Sample ID: S301089-04
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	-60.4	U	500		pCi/L		02/07/13 00:00	02/09/13 15:08	1

Lab Sample ID: S301089-04
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	-0.513	U	20		pCi/L		02/08/13 00:00	02/11/13 00:00	1
Potassium-40	-2.83	U	25		pCi/L		02/08/13 00:00	02/11/13 00:00	1

Lab Sample ID: S301089-04
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
U Total	0	U	1		pCi/L		02/12/13 00:00	02/12/13 00:00	1

Lab Sample ID: S301089-04
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	-0.01	U	2		pCi/L		02/13/13 00:00	02/13/13 09:35	1

Lab Sample ID: S301089-04
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.11	U	1		pCi/L		02/14/13 00:00	02/14/13 16:36	1

Lab Sample ID: S301089-04
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Beta	-0.132	U	4		pCi/L		02/14/13 00:00	02/19/13 07:47	1
GrossAlpha	-0.281	U	3		pCi/L		02/14/13 00:00	02/19/13 07:47	1

Method: Gross Alpha and Beta - % Lipids (Continued)

Lab Sample ID: S301089-04
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	-0.118	U	1		pCi/L		02/19/13 00:00	02/19/13 12:28	1

Lab Sample ID: S301089-03
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tritium	2120	2120		pCi/L		100	80 - 120

Lab Sample ID: S301089-03
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cesium-137	120	115		pCi/L		96	80 - 120
Cobalt-60	97	89.6		pCi/L		92	80 - 120

Lab Sample ID: S301089-03
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
U Total	62.5	62.5		pCi/L		100	80 - 120

Lab Sample ID: S301089-03
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium-90	16.7	15.6		pCi/L		93	80 - 120

Lab Sample ID: S301089-03
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-228	4.81	5.91		pCi/L		123	60 - 140

Lab Sample ID: S301089-03
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gross Beta	27.8	26.9		pCi/L		97	70 - 130
GrossAlpha	33.7	41.9		pCi/L		124	70 - 130

Method: Gross Alpha and Beta - % Lipids (Continued)

Lab Sample ID: S301089-03
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Radium-226			50.1	44.2		pCi/L		88	80 - 120		

Lab Sample ID: S301089-05
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: OUTFALL 009 (440-36149-1 DU
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Tritium	3.66	U		-32.4	U	pCi/L				0	

Lab Sample ID: S301089-05
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: OUTFALL 009 (440-36149-1 DU
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Cesium-137	0.44	U		-0.577	U	pCi/L				0	
Potassium-40	-9.21	U		10.4	U	pCi/L				0	

Lab Sample ID: S301089-05
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: OUTFALL 009 (440-36149-1 DU
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
U Total	0.056	J		0.059	J	pCi/L				5	

Lab Sample ID: S301089-05
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: OUTFALL 009 (440-36149-1 DU
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Strontium-90	0.174	U		0.01	U	pCi/L				0	

Lab Sample ID: S301089-05
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: OUTFALL 009 (440-36149-1 DU
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-228	-0.073	U		-0.006	U	pCi/L				0	

Lab Sample ID: S301089-05
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: OUTFALL 009 (440-36149-1 DU
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gross Beta	1.58	J		2.52	J	pCi/L				46	
GrossAlpha	0.532	J		0.539	J	pCi/L				1	

Method: Gross Alpha and Beta - % Lipids (Continued)

Lab Sample ID: S301089-05
Matrix: WATER
Analysis Batch: 8632

Client Sample ID: OUTFALL 009 (440-36149-1 DU
Prep Type: Total/NA
Prep Batch: 8632_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-226	0.255	U		0.127	U	pCi/L				0	

HPLC/IC

Analysis Batch: 81078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36111-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-36111-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-36149-1	Outfall 009	Total/NA	Water	300.0	
LCS 440-81078/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-81078/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 81079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36111-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-36111-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-36149-1	Outfall 009	Total/NA	Water	300.0	
LCS 440-81079/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-81079/4	Method Blank	Total/NA	Water	300.0	

Specialty Organics

Prep Batch: 9630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total/NA	Water	1613B	
LCS 320-9630/2-A	Lab Control Sample	Total/NA	Water	1613B	
MB 320-9630/1-A	Method Blank	Total/NA	Water	1613B	

Analysis Batch: 9834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total/NA	Water	1613B	9630
LCS 320-9630/2-A	Lab Control Sample	Total/NA	Water	1613B	9630
MB 320-9630/1-A	Method Blank	Total/NA	Water	1613B	9630

Metals

Prep Batch: 81885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-35908-E-2-C MS	Matrix Spike	Dissolved	Water	245.1	
440-35908-E-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	
440-36149-1	Outfall 009	Dissolved	Water	245.1	
LCS 440-81581/2-B	Lab Control Sample	Dissolved	Water	245.1	
MB 440-81581/1-B	Method Blank	Dissolved	Water	245.1	

Prep Batch: 81891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-35908-F-10-D MS	Matrix Spike	Dissolved	Water	200.2	
440-35908-F-10-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
440-36149-1	Outfall 009	Dissolved	Water	200.2	
LCS 440-81581/2-C	Lab Control Sample	Dissolved	Water	200.2	
MB 440-81581/1-C	Method Blank	Dissolved	Water	200.2	

Analysis Batch: 82122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-35908-F-10-D MS	Matrix Spike	Dissolved	Water	200.8	81891
440-35908-F-10-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	81891

Metals (Continued)

Analysis Batch: 82122 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Dissolved	Water	200.8	81891
LCS 440-81581/2-C	Lab Control Sample	Dissolved	Water	200.8	81891
MB 440-81581/1-C	Method Blank	Dissolved	Water	200.8	81891

Analysis Batch: 82204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-35908-E-2-C MS	Matrix Spike	Dissolved	Water	245.1	81885
440-35908-E-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	81885
440-36149-1	Outfall 009	Dissolved	Water	245.1	81885
LCS 440-81581/2-B	Lab Control Sample	Dissolved	Water	245.1	81885
MB 440-81581/1-B	Method Blank	Dissolved	Water	245.1	81885

Prep Batch: 82999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36074-E-1-C MS	Matrix Spike	Total/NA	Water	245.1	
440-36074-E-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
440-36149-1	Outfall 009	Total/NA	Water	245.1	
LCS 440-82999/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 440-82999/1-A	Method Blank	Total/NA	Water	245.1	

Prep Batch: 83009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total Recoverable	Water	200.2	
440-36895-A-5-B MS ^5	Matrix Spike	Total Recoverable	Water	200.2	
440-36895-A-5-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.2	
LCS 440-83009/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-83009/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 83152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36074-E-1-C MS	Matrix Spike	Total/NA	Water	245.1	82999
440-36074-E-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	82999
440-36149-1	Outfall 009	Total/NA	Water	245.1	82999
LCS 440-82999/2-A	Lab Control Sample	Total/NA	Water	245.1	82999
MB 440-82999/1-A	Method Blank	Total/NA	Water	245.1	82999

Analysis Batch: 83374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total Recoverable	Water	200.8	83009
440-36895-A-5-B MS ^5	Matrix Spike	Total Recoverable	Water	200.8	83009
440-36895-A-5-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	200.8	83009
LCS 440-83009/2-A	Lab Control Sample	Total Recoverable	Water	200.8	83009
MB 440-83009/1-A	Method Blank	Total Recoverable	Water	200.8	83009

General Chemistry

Prep Batch: 81491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-35562-C-1-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
440-35562-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

General Chemistry (Continued)

Prep Batch: 81491 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total/NA	Water	Distill/CN	
LCS 440-81491/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-81491/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 81638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-35562-C-1-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	81491
440-35562-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	81491
440-36149-1	Outfall 009	Total/NA	Water	SM 4500 CN E	81491
LCS 440-81491/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	81491
MB 440-81491/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	81491

Analysis Batch: 81958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36121-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	
440-36149-1	Outfall 009	Total/NA	Water	SM 2540D	
LCS 440-81958/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-81958/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 82053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total/NA	Water	SM 2540C	
440-36301-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 440-82053/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-82053/1	Method Blank	Total/NA	Water	SM 2540C	

Prep Batch: 83171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36103-1	Outfall 009	Total/NA	Water	1664A	
LCS 440-83171/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-83171/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-83171/1-A	Method Blank	Total/NA	Water	1664A	

Analysis Batch: 83173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36103-1	Outfall 009	Total/NA	Water	1664A	83171
LCS 440-83171/2-A	Lab Control Sample	Total/NA	Water	1664A	83171
LCSD 440-83171/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	83171
MB 440-83171/1-A	Method Blank	Total/NA	Water	1664A	83171

Subcontract

Analysis Batch: 8632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total/NA	Water	Gamma Spec	8632_P
440-36149-1	Outfall 009	Total/NA	Water	K-40 CS-137 Gross Alpha and Beta	8632_P
440-36149-1	Outfall 009	Total/NA	Water	Radium 226	8632_P
440-36149-1	Outfall 009	Total/NA	Water	Radium 228	8632_P
440-36149-1	Outfall 009	Total/NA	Water	Strontium 90	8632_P

Subcontract (Continued)

Analysis Batch: 8632 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total/NA	Water	Tritium	8632_P
440-36149-1	Outfall 009	Total/NA	Water	Uranium, Combined	8632_P
440-36149-2	Trip Blank-Eberline	Total/NA	Water	Gamma Spec K-40 CS-137	8632_P
440-36149-2	Trip Blank-Eberline	Total/NA	Water	Gross Alpha and Beta	8632_P
440-36149-2	Trip Blank-Eberline	Total/NA	Water	Radium 226	8632_P
440-36149-2	Trip Blank-Eberline	Total/NA	Water	Radium 228	8632_P
440-36149-2	Trip Blank-Eberline	Total/NA	Water	Strontium 90	8632_P
440-36149-2	Trip Blank-Eberline	Total/NA	Water	Uranium, Combined	8632_P
S301089-03	Lab Control Sample	Total/NA	WATER	Gross Alpha and Beta	8632_P
S301089-04	Method Blank	Total/NA	WATER	Gross Alpha and Beta	8632_P
S301089-05	OUTFALL 009 (440-36149-1 DU	Total/NA	WATER	Gross Alpha and Beta	8632_P

Prep Batch: 8632_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-36149-1	Outfall 009	Total/NA	Water	General Prep	
440-36149-2	Trip Blank-Eberline	Total/NA	Water	General Prep	
S301089-03	Lab Control Sample	Total/NA	WATER	General Prep	
S301089-04	Method Blank	Total/NA	WATER	General Prep	
S301089-05	OUTFALL 009 (440-36149-1 DU	Total/NA	WATER	General Prep	

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
BB	Sample > 4X spike concentration
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The isomer is qualified as positively identified, but at an estimated quantity because the quantitation is based on the theoretical ratio for these samples.

Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Subcontract

Qualifier	Qualifier Description
U	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
J	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: MWH Americas Inc
Project/Site: Boeing SSFL NPDES Routine Outfall 009

TestAmerica Job ID: 440-36103-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-13
Arizona	State Program	9	AZ0671	10-13-13
California	LA Cty Sanitation Districts	9	10256	01-31-14
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	02-28-13
Hawaii	State Program	9	N/A	02-28-13
Nevada	State Program	9	CA015312007A	07-31-13
New Mexico	State Program	6	N/A	02-28-13
Northern Mariana Islands	State Program	9	MP0002	02-28-13
Oregon	NELAP	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-14
Alaska (UST)	State Program	10	UST-055	12-18-13
Arizona	State Program	9	AZ0708	08-11-13
Arkansas DEQ	State Program	6	88-0691	06-17-13
California	NELAP	9	1119CA	01-31-14
Colorado	State Program	8	N/A	08-31-13
Connecticut	State Program	1	PH-0691	06-30-13
Florida	NELAP	4	E87570	06-30-13
Guam	State Program	9	N/A	08-31-13
Hawaii	State Program	9	N/A	01-31-14
Illinois	NELAP	5	200060	03-17-14
Kansas	NELAP	7	E-10375	10-31-13
Louisiana	NELAP	6	30612	06-30-13
Michigan	State Program	5	9947	01-31-14
Nevada	State Program	9	CA44	07-31-13
New Jersey	NELAP	2	CA005	06-30-13
New York	NELAP	2	11666	04-01-13
Northern Mariana Islands	State Program	9	MP0007	02-01-14
Oregon	NELAP	10	CA200005	03-28-14
Pennsylvania	NELAP	3	68-01272	03-31-13
South Carolina	State Program	4	87014	06-30-13
Texas	NELAP	6	T104704399-08-TX	05-31-13
US Fish & Wildlife	Federal		LE148388-0	12-31-13
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	01-31-14
Washington	State Program	10	C581	05-05-13
West Virginia	State Program	3	9930C	12-31-13
West Virginia DEP	State Program	3	334	07-31-13
Wyoming	State Program	8	8TMS-Q	01-31-14

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 5, 2013

Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Jonathan Bousselaire

Laboratory No.: A-13012604-001
Job No.: 440-36149-1
Sample I.D.: Outfall 009 (440-36149-1)

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:	01/25/13
Date Received:	01/26/13
Temp. Received:	5.8°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	01/26/13 to 02/02/13

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. All testing was conducted under the direct supervision of Joseph A. LeMay. Daily test readings were taken by Joseph A. LeMay (initialed: JAL) and Jacob LeMay (initialed: J).

Result Summary:

Chronic:	NOEC	TUc
Ceriodaphnia Survival:	100%	1.0
Ceriodaphnia Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of the Laboratory's name for advertising or publicity purpose without authorization is prohibited.

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0

Aquatic Testing Laboratories

Lab No.: A-13012604-001
Client/ID: TestAmerica - Outfall 009

Date Tested: 01/26/13 to 02/02/13

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-130104.

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: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	27.9
100% Sample	100%	32.6
Sample not statistically significantly less than Control for either endpoint.		

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 (27.9 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 7.5%)
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-7 Day Survival

Start Date:	1/26/2013 13:00	Test ID:	13012604c	Sample ID:	Outfall 009
End Date:	2/2/2013 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	1/25/2013 19:51	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

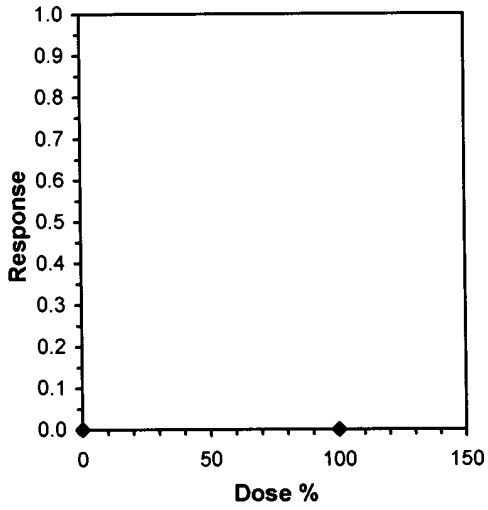
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	Isotonic 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:	1/26/2013 13:00	Test ID:	13012604c	Sample ID:	Outfall 009
End Date:	2/2/2013 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	1/25/2013 19:51	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

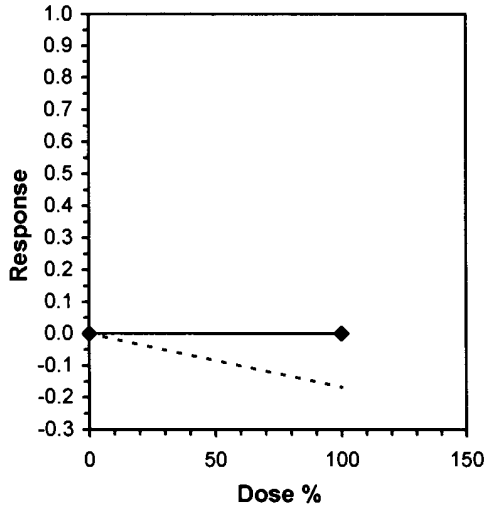
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	29.000	28.000	30.000	26.000	26.000	32.000	31.000	28.000	23.000	26.000
100	34.000	32.000	35.000	37.000	28.000	34.000	30.000	33.000	33.000	30.000

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	27.900	1.0000	27.900	23.000	32.000	9.772	10				30.250	1.0000
100	32.600	1.1685	32.600	28.000	37.000	8.205	10	-3.891	1.734	2.094	30.250	1.0000

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.97033		0.905		-0.1835	-0.5646
F-Test indicates equal variances (p = 0.96)	1.03882		6.54109			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	2.09448	0.07507	110.45	7.29444	0.00107	1, 18
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

Aquatic Testing Laboratories

Lab No.: A-13012604-001
Client ID: TestAmerica - Outfall 009
Start Date: 01/26/2013

		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:															
Time of Readings:		1300	1300	1300	1230	1230	1230	1230	1230	1230	1230	1230	1300	1300	1400
Control	DO	9.0	9.2	9.3	8.7	8.6	9.0	9.2	8.8	9.0	8.5	9.0	8.6	9.1	8.0
	pH	8.1	7.9	7.9	8.1	8.2	7.9	7.9	7.7	8.1	7.9	7.7	7.8	7.7	7.7
	Temp	24.5	24.6	24.4	24.2	24.3	24.3	24.6	24.5	24.3	24.7	24.9	24.7	24.4	24.4
100%	DO	9.3	9.2	9.4	8.4	9.3	9.2	9.1	9.3	9.8	8.0	9.5	9.1	9.7	8.0
	pH	8.0	8.1	8.1	8.1	8.1	8.0	8.1	8.0	8.0	8.1	7.8	7.8	7.8	7.8
	Temp	24.6	24.5	24.6	24.2	24.3	24.5	24.5	24.5	24.7	24.5	25.0	24.7	24.3	24.6

Additional Parameters	Control	100% Sample
Conductivity (umohms)	307	72
Alkalinity (mg/l $CaCO_3$)	64	29
Hardness (mg/l $CaCO_3$)	96	42
Ammonia (mg/l NH_3-N)	<0.1	0.3

Source of Neonates

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

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	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	3	0	0	0	0	0	0	0	0	0	3	10	
	4	0	3	4	5	7	5	4	3	4	3	33	10	
	5	8	8	9	9	11	10	9	9	7	9	89	10	
	6	0	0	0	0	0	17	0	0	0	0	17	10	
	7	18	17	17	12	13	0	18	16	12	14	137	10	
	Total	29	28	30	26	26	32	31	28	23	26	279	10	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	3	4	0	0	0	0	0	0	0	0	7	10	
	4	0	0	5	5	4	4	5	5	5	3	36	10	
	5	11	10	12	13	10	12	10	12	9	10	109	10	
	6	20	18	0	0	0	0	15	16	19	17	105	10	
	7	(16)	(17)	18	19	14	18	0	0	0	0	69	10	
	Total	34	32	35	37	28	34	30	33	33	30	326	10	

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

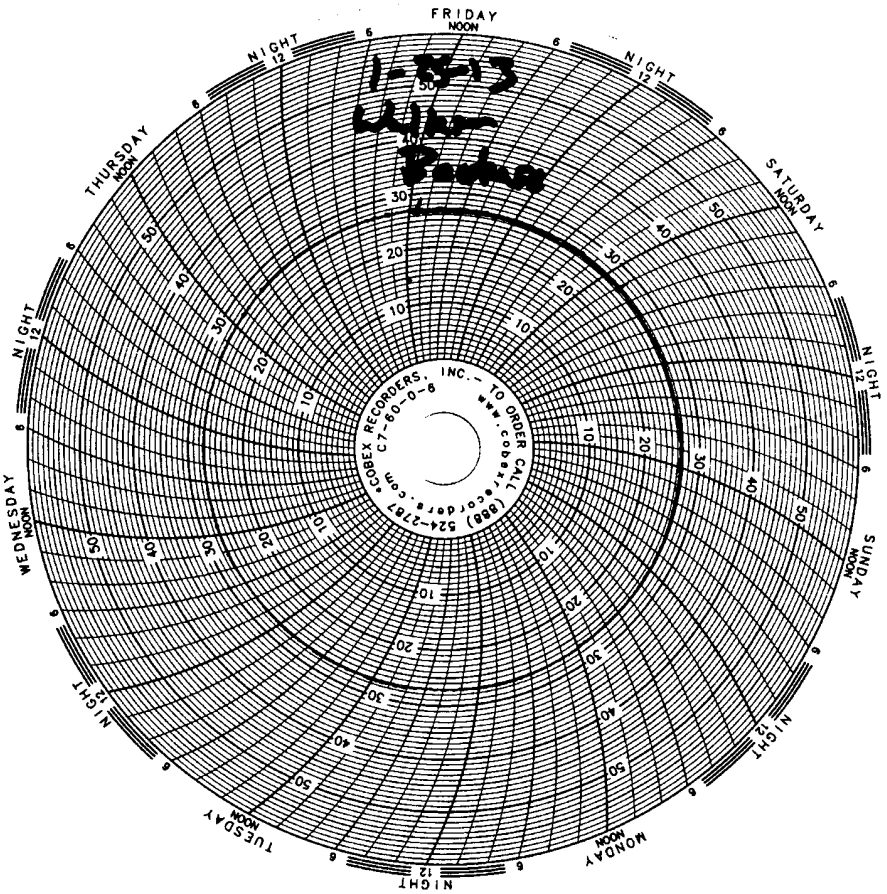
Aquatic Testing Laboratories

Test Temperature Chart

Test No: A-13012604

Date Tested: 01/26/13 to 02/02/13

Acceptable Range: 25 +/- 1°C



Aquatic Testing Laboratories

CHAIN OF CUSTODY

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 009** **COMPOSITE** /HSGIT Stormwater at SW-13
Project Manager: Bronwyn Kelly Sampler: [illegible]	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide							Comments
Outfall 009	W	1L Poly	1	1-25-13 1451	HNO_3	2A	X														
Outfall 009 Dup	W	1L Poly	1	"	HNO_3	2B	X														
Outfall 009	W	1L Amber	2	"	None	3A, 3B		X													
Outfall 009	W	500 mL Poly	2	"	None	4A, 4B			X												
Outfall 009	W	500 mL Poly	1	"	None	5				X											
Outfall 009	W	1L Poly	1	"	None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1	"	None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1	"	None	7B															
Outfall 009	W	1 Gal Poly	1	"	None	8							X								**Only test if first or second rain events of the year**
Outfall 009	W	500 mL Poly	1	1-25-13 1451	NaOH	9								X							

ANALYSIS REQUIRED

COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	1/26/13 1050	[illegible] TAI	1/26/13 1050
[illegible] TAI	1/26/13 1200	[illegible]	1-26-13 1200

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: _____
48 Hour: _____ 5 Day: _____ Normal: X

Sample Integrity: (Check)
Intact: _____ On Ice: X 5.6°

Data Requirements: (Check)
No Level IV: _____ All Level IV: _____ NPDES Level IV: X

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bousselaire, Jonathan	Carrier Tracking No(s):	COC No: 440-17410.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jonathan.bousselaire@testamericainc.com		Page: Page 1 of 1
Company: Aquatic Testing Laboratories		Analysis Requested		Job #: 440-36149-1
Address: 4350 Transport #107, ,	Due Date Requested: 2/7/2013			Preservation Codes:
City: Ventura	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: CA, 93003				Other:
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL outfalls	Project #: 44002624			
Site: Boeing SSFL	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		SUBCONTRACT/ Chronic Cerio, EPA/821-R02-013	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
Outfall 009 (440-36149-1)	1/25/13	19:51 Pacific		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: -See attached	Date/Time:	Company	Received by:	Date/Time: 1-26-13 1200	Company ATL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.5°

2/22/2013

Aquatic Testing Laboratories

REFERENCE TOXICANT DATA

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-130104

Date Tested: 01/04/13 to 01/11/13

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: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		23.4	
0.25 g/l	100%		23.1	
0.5 g/l	100%		21.5	
1.0 g/l	90%		11.9	*
2.0 g/l	90%		4.3	*
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	0.71 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (23.4 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 10.9%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 49.1%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date:	1/4/2013 13:30	Test ID:	RT130104c	Sample ID:	REF-Ref Toxicant
End Date:	1/11/2013 13:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	1/4/2013	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

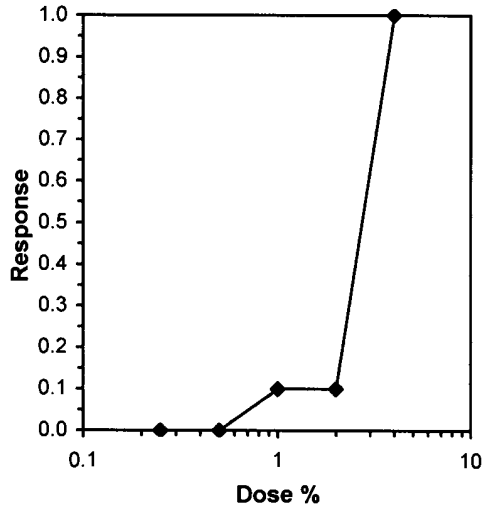
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	0.0000	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-%	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	50
Treatments vs D-Control				

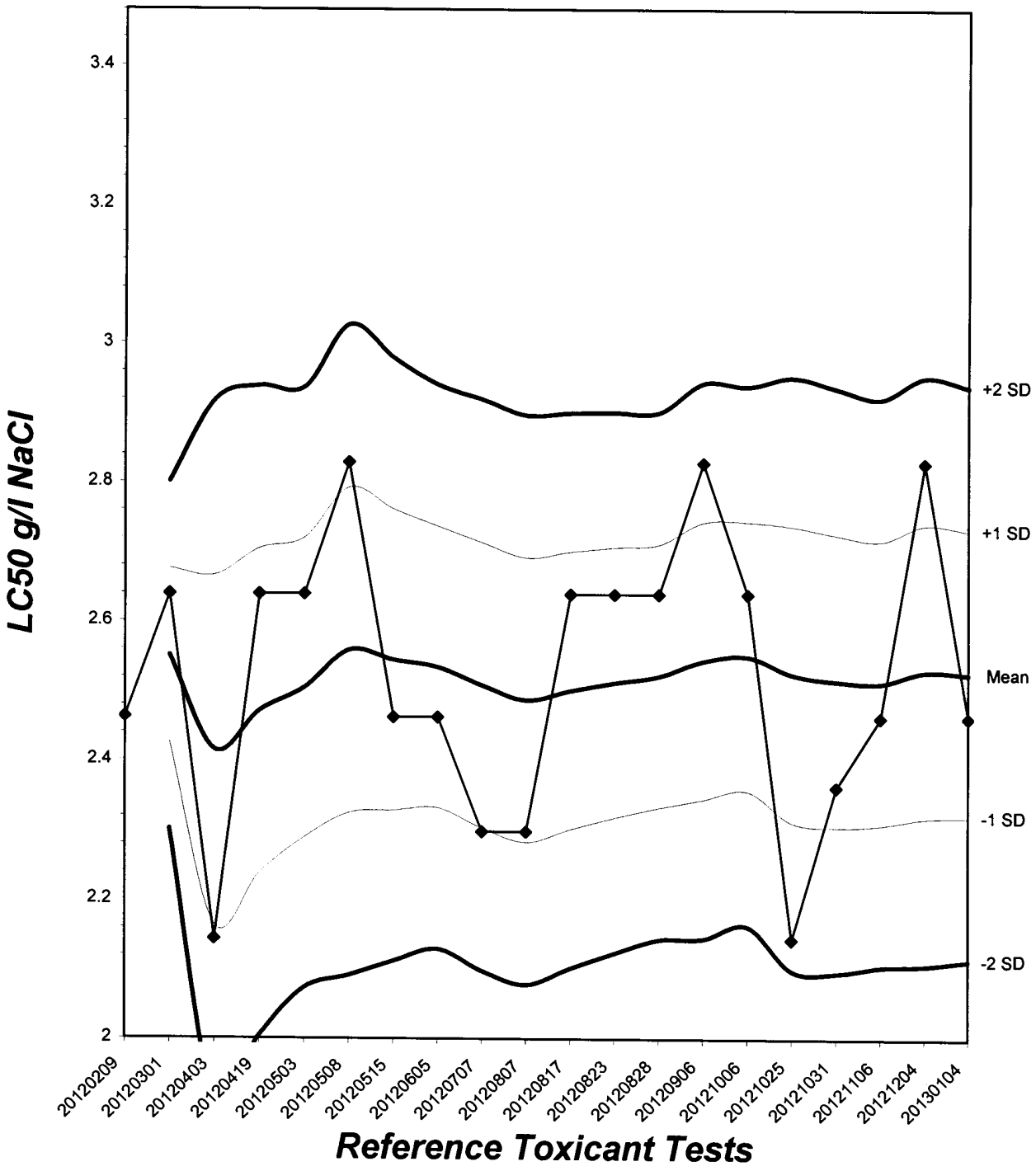
Trimmed Spearman-Karber

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 Chronic Survival Laboratory Control Chart

CV% = 8.16



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	1/4/2013 13:30	Test ID: RT130104c	Sample ID: REF-Ref Toxicant
End Date:	1/11/2013 13:30	Lab ID: CAATL-Aquatic Testing Labs	Sample Type: NACL-Sodium chloride
Sample Date:	1/4/2013	Protocol: FWCH-EPA-821-R-02-013	Test Species: CD-Ceriodaphnia dubia
Comments:			

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	28.000	26.000	21.000	18.000	25.000	20.000	26.000	24.000	23.000
0.25	22.000	23.000	26.000	19.000	23.000	23.000	21.000	25.000	24.000	25.000
0.5	18.000	20.000	21.000	23.000	26.000	21.000	22.000	21.000	20.000	23.000
1	7.000	10.000	16.000	16.000	16.000	7.000	9.000	13.000	12.000	13.000
2	6.000	2.000	3.000	5.000	4.000	7.000	4.000	4.000	4.000	4.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

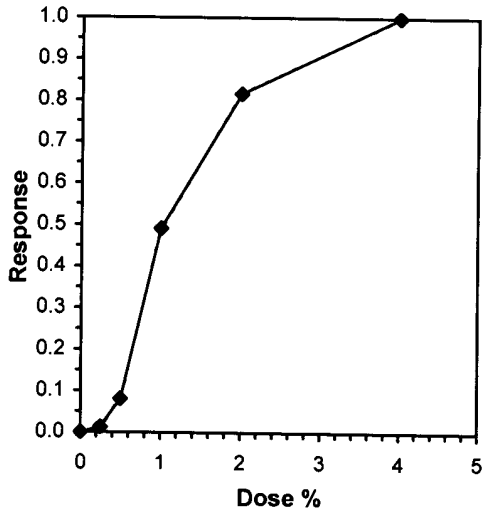
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	23.400	1.0000	23.400	18.000	28.000	13.087	10				23.400	1.0000
0.25	23.100	0.9872	23.100	19.000	26.000	9.000	10	0.261	2.223	2.554	23.100	0.9872
0.5	21.500	0.9188	21.500	18.000	26.000	10.107	10	1.654	2.223	2.554	21.500	0.9188
*1	11.900	0.5085	11.900	7.000	16.000	29.763	10	10.013	2.223	2.554	11.900	0.5085
*2	4.300	0.1838	4.300	2.000	7.000	32.980	10	16.630	2.223	2.554	4.300	0.1838
4	0.000	0.0000	0.000	0.000	0.000	0.000	10				0.000	0.0000

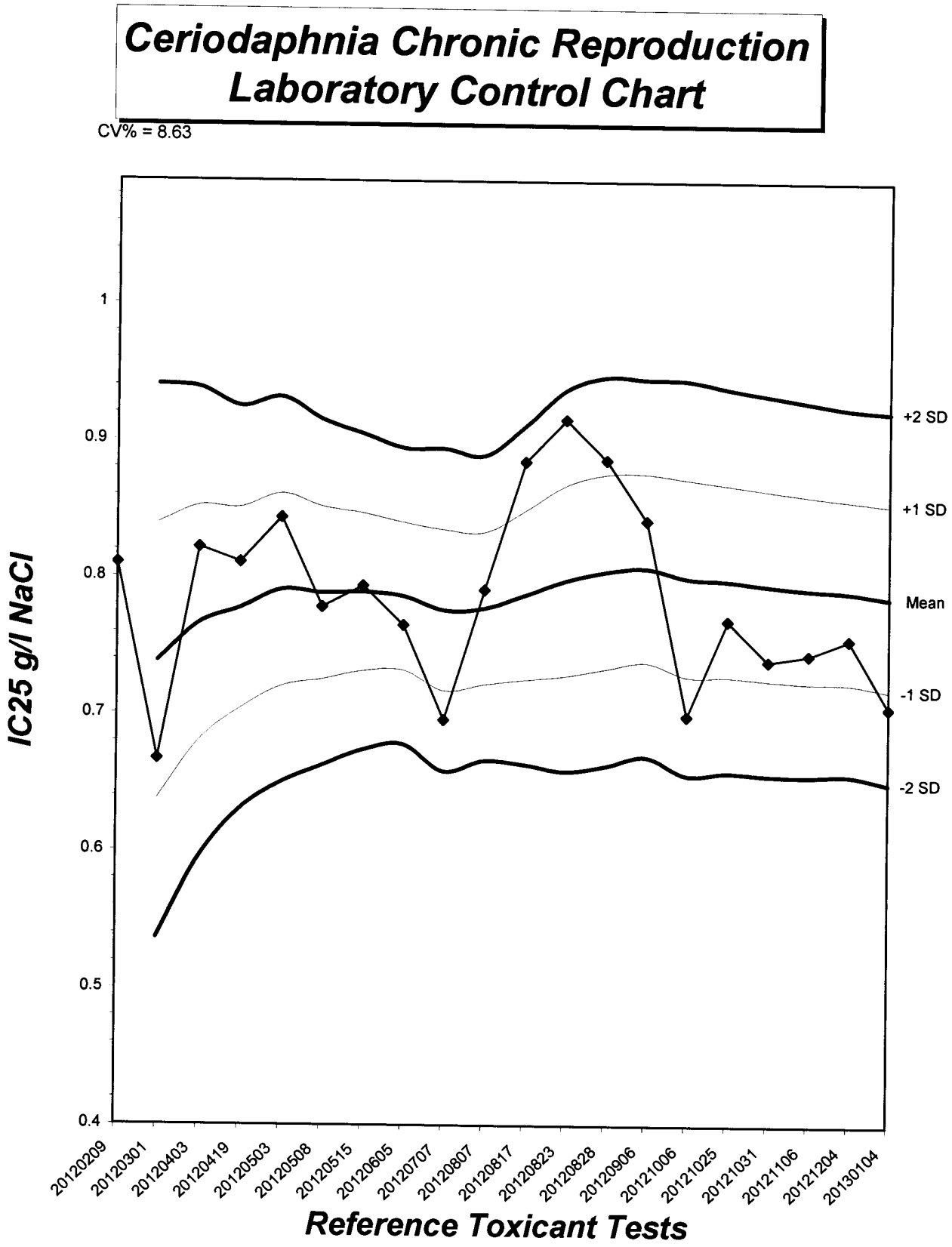
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96693	0.947	-0.1615	-0.2223
Bartlett's Test indicates equal variances (p = 0.09)	8.18292	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.5	1	0.70711	200	2.55356	0.10913	713.98	6.59556	1.7E-22	4, 45

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL		Skew
IC05	0.3859	0.1207	0.1270	0.5467	-0.2499
IC10	0.5229	0.0835	0.2609	0.6010	-1.2306
IC15	0.5839	0.0466	0.4814	0.6552	-0.3452
IC20	0.6448	0.0428	0.5562	0.7191	-0.0562
IC25	0.7057	0.0434	0.6233	0.7876	0.0500
IC40	0.8885	0.0582	0.8042	1.0390	0.7683
IC50	1.0263	0.1009	0.9097	1.2579	0.6092




Ceriodaphnia Chronic Reproduction
Laboratory Control Chart
CV% = 8.63
IC25 g/l NaCl
1
0.9
0.8
0.7
0.6
0.5
0.4
+2 SD
+1 SD
Mean
-1 SD
-2 SD
20120209
20120301
20120403
20120419
20120503
20120508
20120515
20120605
20120707
20120807
20120817
20120823
20120828
20120906
20121006
20121025
20121031
20121106
20121204
20130104
Reference Toxicant Tests

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

Aquatic Testing Laboratories

QA/QC No.: RT-130104

Start Date:01/04/2013

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	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	5	4	0	3	5	3	4	4	5	33	10	
	4	3	0	0	4	0	0	0	0	0	0	7	10	
	5	0	7	6	0	5	7	7	8	7	6	53	10	
	6	6	16	0	5	0	0	0	0	0	0	27	10	
	7	14	0	16	12	10	13	10	14	13	12	114	10	
	Total	23	28	26	21	18	25	20	26	24	23	234	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	4	5	0	3	4	3	4	3	5	31	10	
	4	3	0	0	3	0	0	0	0	0	0	6	10	
	5	0	6	7	0	7	7	8	7	6	6	54	10	
	6	7	0	14	6	0	0	0	0	15	14	56	10	
	7	12	13	0	10	13	12	10	14	0	0	84	10	
	Total	22	23	26	19	23	23	21	25	24	25	231	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	4	4	0	3	5	4	3	5	3	31	10	
	4	2	0	0	3	0	0	0	0	0	0	5	10	
	5	0	6	5	0	7	6	6	5	5	7	47	10	
	6	6	0	0	5	0	0	0	0	0	0	11	10	
	7	10	10	12	15	16	10	12	13	10	13	121	10	
	Total	18	20	21	23	26	21	22	21	20	23	215	10	

Circled fourth brood not used in statistical analysis.
7th 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

Aquatic Testing Laboratories

QA/QC No.: RT-130104

Start Date:01/04/2013

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	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	3	3	2	0	3	2	0	3	2	3	21	10	
	4	0	0	0	3	0	0	3	0	0	0	6	10	
	5	4	3	0	0	4	0	0	4	3	4	22	10	
	6	0	0	4	5	0	5	6	0	0	0	20	10	
	7	X	4	10	8	9	0	0	6	7	6	50	9	
	Total	7	10	16	16	16	7	9	13	12	13	119	9	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	2	0	0	3	2	2	2	2	0	3	15	10	
	4	0	0	0	0	0	0	0	0	0	0	0	10	
	5	2	2	3	0	0	2	0	0	2	0	11	10	
	6	0	0	0	2	2	0	0	2	0	2	8	10	
	7	2	0	X	0	0	3	2	0	2	0	9	9	
	Total	6	2	3	5	4	7	4	4	4	4	43	9	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	—	—	—	—	—	—	—	—	—	—	—	—	—
	3	—	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Circled fourth brood not used in statistical analysis.
7th 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

Aquatic Testing Laboratories

QA/QC No.: RT-130104 Start Date:01/04/2013

		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:		T	F	T	T	T	[illegible]	[illegible]	T	T	T	T	T	T	T
Time of Readings:		1330	1330	1330	1330	1330	[illegible]	1330	1330	1330	1330	1330	1330	1330	1330
Control	DO	9.2	8.5	9.0	8.6	9.0	8.5	8.8	8.0	9.1	8.5	9.1	8.7	9.2	8.4
	pH	8.2	8.0	8.1	8.2	8.1	8.1	8.2	8.3	8.2	8.3	8.2	8.2	8.2	8.1
	Temp	24.5	24.5	24.5	24.4	24.4	24.4	24.7	24.6	24.5	24.6	24.5	24.5	24.3	24.4
0.25 g/l	DO	9.2	8.6	9.0	8.3	9.0	8.4	8.4	8.0	9.0	8.6	8.8	8.8	9.1	8.4
	pH	8.2	8.0	8.1	8.2	8.1	8.1	8.2	8.3	8.2	8.2	8.2	8.2	8.2	8.1
	Temp	24.4	24.5	24.5	24.4	24.5	24.4	24.9	24.6	24.5	24.6	24.6	24.6	24.4	24.3
0.5 g/l	DO	9.3	8.7	9.1	8.4	8.9	8.5	8.6	8.1	9.0	8.4	8.8	8.6	9.1	8.6
	pH	8.2	8.1	8.1	8.2	8.1	8.1	8.2	8.2	8.2	8.3	8.2	8.3	8.2	8.1
	Temp	24.4	24.5	24.5	24.4	24.4	24.3	24.8	24.6	24.5	24.6	24.6	24.6	24.6	24.3
1.0 g/l	DO	9.1	8.7	9.0	8.7	8.9	8.4	8.7	7.9	8.9	8.4	8.9	8.5	9.1	8.7
	pH	8.2	8.1	8.1	8.2	8.1	8.1	8.1	8.2	8.2	8.3	8.1	8.2	8.2	8.1
	Temp	24.4	24.5	24.5	24.4	24.4	24.6	24.7	24.6	24.5	24.6	24.5	24.6	24.4	24.4
2.0 g/l	DO	9.1	8.6	9.0	8.6	8.8	8.5	8.5	8.0	8.8	8.3	8.7	8.6	9.0	9.0
	pH	8.1	8.1	8.1	8.2	8.2	8.2	8.1	8.2	8.2	8.3	8.1	8.2	8.2	8.1
	Temp	24.4	24.5	24.5	24.4	24.4	24.3	24.9	24.5	24.5	24.6	24.4	24.4	24.4	24.5
4.0 g/l	DO	9.0	9.0	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.0	8.0	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.5	24.5	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O_2; 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)	318	328	334	4380	2260	2850
Alkalinity (mg/l $CaCO_3$)	65	64	62	65	66	63
Hardness (mg/l $CaCO_3$)	93	92	93	94	92	95

Source of Neonates

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

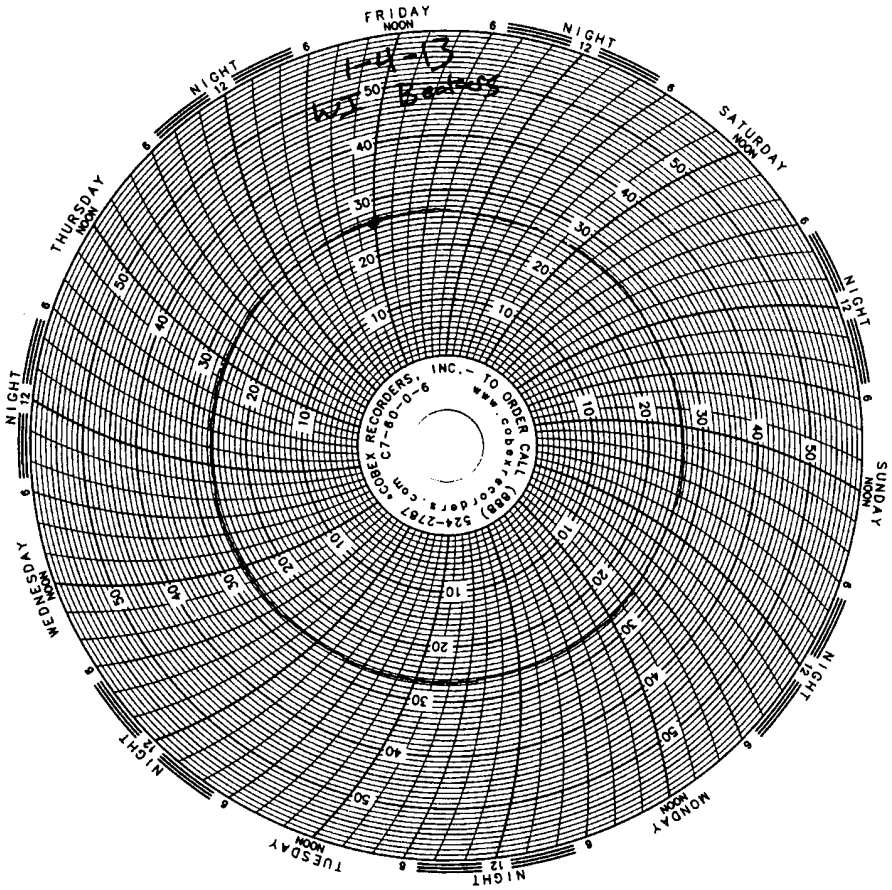
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-130104

Date Tested: 01/04/13 to 01/11/13

Acceptable Range: 25 +/- 1°C



EBERLINE SERVICES

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www.eberlineservices.com

February 22, 2013

Mr. Jonathan Bousselaire
Test America Irvine
17461 Derian Ave., Ste. 100
Irvine, CA 92614

Reference: Test America-Irvine Project #44002624, Job #440-36149-1
Eberline Analytical Report S301089-8632
Sample Delivery Group 8632

Dear Mr. Bousselaire:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Project No. 44002624. The samples were received on January 29, 2013.

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

Sincerely,

Joseph Verville
Client Services Manager

NJV/

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8632 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 samples were 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.

2.0 Quality Control

Quality Control Samples consisted of laboratory control samples (LCS), method blanks, and duplicate analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

3.0 Method Errors

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

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

4.0 Analysis Notes

4.1 Gross Alpha/Gross Beta Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.2 Tritium Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.3 Strontium-90 Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.4 Radium-226 Analysis -. No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.5 Radium-228 Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits

4.6 Total Uranium Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

4.7 Gamma Spectroscopy - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

5.0 Case Narrative Certification Statement

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

2/22/13

Joseph Verville
Client Services Manager

Date

SDG 8632	Client Test America, Inc.
Contact Joseph Verville	Contract 44002624

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
Sample Summaries	3
Prep Batch Summary	5
Work Summary	6
Method Blanks	8
Lab Control Samples	9
Duplicates	10
Data Sheets	11
Method Summaries	13
Report Guides	21
End of Section	35

Prepared by

Reviewed by

Lab id	EAC
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	02/22/13

SDG 8632
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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.

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB SAMPLE SUMMARY

SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S301089-01	OUTFALL 009 (440-36149-1	SSFL	WATER			440-17431.1	01/25/13 19:51
S301089-02	TRIP BLANK (440-36149-2)		WATER			440-17431.1	01/26/13 12:15
S301089-03	Lab Control Sample		WATER				
S301089-04	Method Blank		WATER				
S301089-05	Duplicate (S301089-01)	SSFL	WATER				01/25/13 19:51

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 02/22/13

LAB SUMMARY
Page 1
SUMMARY DATA SECTION
Page 3

SDG 8632
Contact Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract 44002624

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS RECEIVED	DAYS COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8632	440-17431.1	OUTFALL 009 (440-36149-1	WATER		10 L		01/29/13	4	S301089-01	8632-001
		TRIP BLANK (440-36149-2)	WATER		10 L		01/29/13	3	S301089-02	8632-002
		Method Blank	WATER						S301089-04	8632-004
		Lab Control Sample	WATER						S301089-03	8632-003
		Duplicate (S301089-01)	WATER		10 L		01/29/13	4	S301089-05	8632-005

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

PREP BATCH SUMMARY

SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7271-196	10.4	2			1	1	1/1		
SR	WATER	Strontium-90 in Water	7271-196	10.4	2			1	1	1/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7271-196	20.6	2			1	1	1/1		
80B	WATER	Gross Beta in Water	7271-196	11.0	2			1	1	1/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7271-196	7.0	2			1	1	1/1		
Kinetic Phosphorimetry												
U_T	WATER	Uranium, Total	7271-196		2			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7271-196	10.0	1			1	1	1/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7271-196	16.4	2			1	1	1/1		

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

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB WORK SUMMARY

SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S301089-01	OUTFALL 009 (440-36149-1		8632-001	80A/80		02/18/13	02/19/13	BW	Gross Alpha in Water
01/25/13	SSFL	WATER	8632-001	80B/80		02/18/13	02/19/13	BW	Gross Beta in Water
01/29/13	440-17431.1		8632-001	AC		02/14/13	02/15/13	BW	Radium-228 in Water
			8632-001	GAM		02/11/13	02/13/13	MWT	Gamma Emitters in Water
			8632-001	H		02/09/13	02/12/13	BW	Tritium in Water
			8632-001	RA		02/19/13	02/20/13	BW	Radium-226 in Water
			8632-001	SR		02/13/13	02/14/13	BW	Strontium-90 in Water
			8632-001	U_T		02/12/13	02/12/13	TC	Uranium, Total
S301089-02	TRIP BLANK (440-36149-2)		8632-002	80A/80		02/18/13	02/19/13	BW	Gross Alpha in Water
01/26/13		WATER	8632-002	80B/80		02/18/13	02/19/13	BW	Gross Beta in Water
01/29/13	440-17431.1		8632-002	AC		02/14/13	02/15/13	BW	Radium-228 in Water
			8632-002	GAM		02/11/13	02/13/13	MWT	Gamma Emitters in Water
			8632-002	RA		02/19/13	02/20/13	BW	Radium-226 in Water
			8632-002	SR		02/13/13	02/14/13	BW	Strontium-90 in Water
			8632-002	U_T		02/12/13	02/12/13	TC	Uranium, Total
S301089-03	Lab Control Sample		8632-003	80A/80		02/19/13	02/19/13	BW	Gross Alpha in Water
		WATER	8632-003	80B/80		02/19/13	02/19/13	BW	Gross Beta in Water
			8632-003	AC		02/14/13	02/15/13	BW	Radium-228 in Water
			8632-003	GAM		02/11/13	02/13/13	MWT	Gamma Emitters in Water
			8632-003	H		02/09/13	02/12/13	BW	Tritium in Water
			8632-003	RA		02/19/13	02/20/13	BW	Radium-226 in Water
			8632-003	SR		02/13/13	02/14/13	BW	Strontium-90 in Water
			8632-003	U_T		02/12/13	02/12/13	TC	Uranium, Total
S301089-04	Method Blank		8632-004	80A/80		02/19/13	02/19/13	BW	Gross Alpha in Water
		WATER	8632-004	80B/80		02/19/13	02/19/13	BW	Gross Beta in Water
			8632-004	AC		02/14/13	02/15/13	BW	Radium-228 in Water
			8632-004	GAM		02/11/13	02/13/13	MWT	Gamma Emitters in Water
			8632-004	H		02/09/13	02/12/13	BW	Tritium in Water
			8632-004	RA		02/19/13	02/20/13	BW	Radium-226 in Water
			8632-004	SR		02/13/13	02/14/13	BW	Strontium-90 in Water
			8632-004	U_T		02/12/13	02/12/13	TC	Uranium, Total

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/22/13

WORK SUMMARY
Page 1
SUMMARY DATA SECTION
Page 6

SDG 8632
Contact Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract 44002624

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S301089-05	Duplicate (S301089-01)			8632-005	80A/80		02/19/13	02/19/13	BW	Gross Alpha in Water
01/25/13	SSFL		WATER	8632-005	80B/80		02/19/13	02/19/13	BW	Gross Beta in Water
01/29/13				8632-005	AC		02/14/13	02/15/13	BW	Radium-228 in Water
				8632-005	GAM		02/11/13	02/13/13	MWT	Gamma Emitters in Water
				8632-005	H		02/09/13	02/12/13	BW	Tritium in Water
				8632-005	RA		02/19/13	02/20/13	BW	Radium-226 in Water
				8632-005	SR		02/13/13	02/14/13	BW	Strontium-90 in Water
				8632-005	U_T		02/12/13	02/12/13	TC	Uranium, Total

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	2			1	1	1	5
80B/80		Gross Beta in Water	900.0	2			1	1	1	5
AC		Radium-228 in Water	904.0	2			1	1	1	5
GAM		Gamma Emitters in Water	901.1	2			1	1	1	5
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	2			1	1	1	5
SR		Strontium-90 in Water	905.0	2			1	1	1	5
U_T		Uranium, Total	5174	2			1	1	1	5
TOTALS				15			8	8	8	39

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/22/13

METHOD BLANK

SDG	8632	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S301089-04	Client sample id	Method Blank
Dept sample id	8632-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
GrossAlpha	12587461	-0.281	0.30	0.629	3.00	U	80A
Gross Beta	12587472	-0.132	0.69	1.13	4.00	U	80B
Tritium	10028178	-60.4	100	181	500	U	H
Radium-226	13982633	-0.118	0.24	0.483	1.00	U	RA
Radium-228	15262201	-0.110	0.19	0.528	1.00	U	AC
Strontium-90	10098972	-0.010	0.43	0.984	2.00	U	SR
U Total		0	0.006	0.014	1.00	U	U_T
Potassium-40	13966002	-2.83	23	36.5	25.0	U	GAM
Cesium-137	10045973	-0.513	1.3	2.31	20.0	U	GAM

QC-BLANK #83317

METHOD BLANKS
Page 1
SUMMARY DATA SECTION
Page 8

Lab id	EAC
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/22/13

LAB CONTROL SAMPLE

SDG 8632
Contact Joseph Verville
Client Test America, Inc.
Contract 44002624

Lab sample id S301089-03
Dept sample id 8632-003
Client sample id Lab Control Sample
Material/Matrix WATER

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
GrossAlpha	41.9	2.3	0.627	3.00		80A	33.7	1.3	124	73-127	70-130
Gross Beta	26.9	1.2	0.932	4.00		80B	27.8	1.1	97	88-112	70-130
Tritium	2120	160	176	500		H	2120	85	100	87-113	80-120
Radium-226	44.2	1.8	0.530	1.00		RA	50.1	2.0	88	85-115	80-120
Radium-228	5.91	0.49	0.731	1.00		AC	4.81	0.19	123	83-117	60-140
Strontium-90	15.6	1.3	0.571	2.00		SR	16.7	0.67	93	87-113	80-120
U Total	62.5	7.3	0.144	1.00		U_T	62.5	2.5	100	88-112	80-120
Cobalt-60	89.6	16	6.74	10.0		GAM	97.0	3.9	92	82-118	80-120
Cesium-137	115	13	7.77	20.0		GAM	120	4.8	96	87-113	80-120

QC-LCS #83316

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

8632-005

OUTFALL 009 (440-36149-1

DUPLICATE

SDG 8632
Contact Joseph Verville

DUPLICATE
Lab sample id S301089-05
Dept sample id 8632-005

ORIGINAL
Lab sample id S301089-01
Dept sample id 8632-001
Received 01/29/13

Client Test America, Inc.
Contract 44002624

Client sample id OUTFALL 009 (440-36149-1
Location/Matrix SSFL WATER
Collected/Volume 01/25/13 19:51 10 L
Chain of custody id 440-17431.1

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
GrossAlpha	0.539	0.30	0.392	3.00	J	80A	0.532	0.24	0.280	J	1	116	0
Gross Beta	2.52	0.62	0.902	4.00	J	80B	1.58	0.60	0.945	J	46	68	2.0
Tritium	-32.4	100	179	500	U	H	3.66	110	181	U	-		0.5
Radium-226	0.127	0.29	0.508	1.00	U	RA	0.255	0.31	0.517	U	-		0.6
Radium-228	-0.006	0.21	0.560	1.00	U	AC	-0.073	0.20	0.532	U	-		0.5
Strontium-90	0.010	0.38	0.901	2.00	U	SR	0.174	0.45	0.968	U	-		0.6
U Total	0.059	0.009	0.014	1.00	J	U_T	0.056	0.009	0.014	J	5	33	0.5
Potassium-40	10.4	40	34.8	25.0	U	GAM	-9.21	22	39.3	U	-		0.9
Cesium-137	-0.577	1.3	2.30	20.0	U	GAM	0.440	0.76	1.38	U	-		1.4

QC-DUP#1 83318

Job #440-36149-1

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 02/22/13

DUPLICATES
Page 1
SUMMARY DATA SECTION
Page 10

EBERLINE ANALYTICAL

SDG 8632

8632-001 OUTFALL 009 (440-36149-1

DATA SHEET

SDG	8632	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S301089-01	Client sample id	OUTFALL 009 (440-36149-1
Dept sample id	8632-001	Location/Matrix	SSFL WATER
Received	01/29/13	Collected/Volume	01/25/13 19:51 10 L
		Chain of custody id	440-17431.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
GrossAlpha	12587461	0.532	0.24	0.280	3.00	J	80A
Gross Beta	12587472	1.58	0.60	0.945	4.00	J	80B
Tritium	10028178	3.66	110	181	500	U	H
Radium-226	13982633	0.255	0.31	0.517	1.00	U	RA
Radium-228	15262201	-0.073	0.20	0.532	1.00	U	AC
Strontium-90	10098972	0.174	0.45	0.968	2.00	U	SR
U Total		0.056	0.009	0.014	1.00	J	U_T
Potassium-40	13966002	-9.21	22	39.3	25.0	U	GAM
Cesium-137	10045973	0.440	0.76	1.38	20.0	U	GAM

Job #440-36149-1

Lab id	EAC
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/22/13

DATA SHEETS
Page 1
SUMMARY DATA SECTION
Page 11

EBERLINE ANALYTICAL

SDG 8632

8632-002 TRIP BLANK (440-36149-2)

DATA SHEET

SDG	8632	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S301089-02	Client sample id	TRIP BLANK (440-36149-2)
Dept sample id	8632-002	Location/Matrix	WATER
Received	01/29/13	Collected/Volume	01/26/13 12:15 10 L
		Chain of custody id	440-17431.1

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
GrossAlpha	12587461	-0.073	0.14	0.320	3.00	U	80A
Gross Beta	12587472	-0.124	0.47	0.826	4.00	U	80B
Radium-226	13982633	-0.074	0.28	0.532	1.00	U	RA
Radium-228	15262201	-0.164	0.17	0.502	1.00	U	AC
Strontium-90	10098972	0.236	0.49	1.02	2.00	U	SR
U Total		0	0.006	0.014	1.00	U	U_T
Potassium-40	13966002	-2.35	17	36.3	25.0	U	GAM
Cesium-137	10045973	-0.351	0.88	2.16	20.0	U	GAM

Job #440-36149-1

DATA SHEETS
Page 2
SUMMARY DATA SECTION
Page 12

Lab id	EAC
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7271-196						
S301089-01			8632-001	OUTFALL 009 (440-36149-1	U	
S301089-02			8632-002	TRIP BLANK (440-36149-2)	U	
S301089-03			8632-003	Lab Control Sample	ok	
S301089-04			8632-004	Method Blank	U	
S301089-05			8632-005	Duplicate (S301089-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-196			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.196												
S301089-01			OUTFALL 009 (440-36149-1	0.532	1.80			84		150			20	02/14/13	02/14	GRB-227
S301089-02			TRIP BLANK (440-36149-2)	0.502	1.80			83		150			19	02/14/13	02/14	GRB-228
S301089-03			Lab Control Sample	0.731	1.80			84		150				02/14/13	02/14	GRB-229
S301089-04			Method Blank	0.528	1.80			81		150				02/14/13	02/14	GRB-230
S301089-05			Duplicate (S301089-01)	0.560	1.80			84		150			20	02/14/13	02/14	GRB-231
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 FOR 5 SAMPLES
MDA 0.571 ± 0.184
YIELD 83 ± 3

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7271-196						
S301089-01			8632-001	OUTFALL 009 (440-36149-1	U	
S301089-02			8632-002	TRIP BLANK (440-36149-2)	U	
S301089-03			8632-003	Lab Control Sample	ok	
S301089-04			8632-004	Method Blank	U	
S301089-05			8632-005	Duplicate (S301089-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-196			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.196												
S301089-01			OUTFALL 009 (440-36149-1	0.968	0.500			86		50			19	02/13/13	02/13	GRB-225
S301089-02			TRIP BLANK (440-36149-2)	1.02	0.500			79		50			18	02/13/13	02/13	GRB-227
S301089-03			Lab Control Sample	0.571	0.500			81		50				02/13/13	02/13	GRB-202
S301089-04			Method Blank	0.984	0.500			82		50				02/13/13	02/13	GRB-227
S301089-05			Duplicate (S301089-01)	0.901	0.500			84		50			19	02/13/13	02/13	GRB-228
Nominal values and limits from method				2.00	0.500			30-105		50			180			

PROCEDURES REFERENCE 905.0
CP-380 Strontium in Water Samples, rev 5

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.889 ± 0.366
YIELD 82 ± 5

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

Test 80A Matrix WATER
SDG 8632
Contact Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER
GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	GrossAlpha	
Preparation batch 7271-196						
S301089-01	80		8632-001	OUTFALL 009 (440-36149-1	0.532	J
S301089-02	80		8632-002	TRIP BLANK (440-36149-2)	U	
S301089-03	80		8632-003	Lab Control Sample	ok	
S301089-04	80		8632-004	Method Blank	U	
S301089-05	80		8632-005	Duplicate (S301089-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-196			2σ prep error 20.6 %	Reference Lab Notebook No. 7271 pg.196												
S301089-01	80		OUTFALL 009 (440-36149-1	0.280	0.300			14		400			24	02/14/13	02/18	GRB-215
S301089-02	80		TRIP BLANK (440-36149-2)	0.320	0.300			0		400			23	02/14/13	02/18	GRB-216
S301089-03	80		Lab Control Sample	0.627	0.300			60		400				02/14/13	02/19	GRB-105
S301089-04	80		Method Blank	0.629	0.300			61		400				02/14/13	02/19	GRB-107
S301089-05	80		Duplicate (S301089-01)	0.392	0.300			14		400			25	02/14/13	02/19	GRB-109
Nominal values and limits from method				3.00	0.300			0-250		100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.450 ± 0.335
RESIDUE 30 ± 57

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

METHOD SUMMARIES
Page 3
SUMMARY DATA SECTION
Page 15

EBERLINE ANALYTICAL

SDG 8632

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7271-196						
S301089-01	80		8632-001	OUTFALL 009 (440-36149-1	1.58	J
S301089-02	80		8632-002	TRIP BLANK (440-36149-2)	U	
S301089-03	80		8632-003	Lab Control Sample	ok	
S301089-04	80		8632-004	Method Blank	U	
S301089-05	80		8632-005	Duplicate (S301089-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-196			2σ prep error 11.0 %	Reference Lab Notebook No. 7271 pg.196												
S301089-01	80		OUTFALL 009 (440-36149-1	0.945	0.300			14		400			24	02/14/13	02/18	GRB-215
S301089-02	80		TRIP BLANK (440-36149-2)	0.826	0.300			0		400			23	02/14/13	02/18	GRB-216
S301089-03	80		Lab Control Sample	0.932	0.300			60		400				02/14/13	02/19	GRB-105
S301089-04	80		Method Blank	1.13	0.300			61		400				02/14/13	02/19	GRB-107
S301089-05	80		Duplicate (S301089-01)	0.902	0.300			14		400			25	02/14/13	02/19	GRB-109
Nominal values and limits from method				4.00	0.300			0-250		100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.947 ± 0.224
RESIDUE 30 ± 57

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-196							
S301089-01			8632-001	OUTFALL 009 (440-36149-1		U	
S301089-02			8632-002	TRIP BLANK (440-36149-2)		U	
S301089-03			8632-003	Lab Control Sample	ok	ok	
S301089-04			8632-004	Method Blank		U	
S301089-05			8632-005	Duplicate (S301089-01)		-	U
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-196			2σ prep error 7.0 %		Reference Lab Notebook No. 7271 pg.196											
S301089-01			OUTFALL 009 (440-36149-1		2.00					400			17	02/08/13	02/11	MB,G6,0
S301089-02			TRIP BLANK (440-36149-2)		2.00					400			16	02/08/13	02/11	MB,G2,0
S301089-03			Lab Control Sample		2.00					400				02/08/13	02/11	MB,G5,0
S301089-04			Method Blank		2.00					400				02/08/13	02/11	MB,G4,0
S301089-05			Duplicate (S301089-01)		2.00					400			17	02/08/13	02/11	MB,G2,0
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 EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY

Test U T Matrix WATER
SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	U Total
Preparation batch 7271-196					
S301089-01			8632-001	OUTFALL 009 (440-36149-1	0.056 J
S301089-02			8632-002	TRIP BLANK (440-36149-2)	U
S301089-03			8632-003	Lab Control Sample	ok
S301089-04			8632-004	Method Blank	U
S301089-05			8632-005	Duplicate (S301089-01)	ok J
Nominal values and limits from method				RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-196			2σ prep error		Reference Lab Notebook No. 7271 pg.196											
S301089-01			OUTFALL 009 (440-36149-1	0.014	0.0200								18	02/12/13	02/12	KPA-001
S301089-02			TRIP BLANK (440-36149-2)	0.014	0.0200								17	02/12/13	02/12	KPA-001
S301089-03			Lab Control Sample	0.144	0.0200									02/12/13	02/12	KPA-001
S301089-04			Method Blank	0.014	0.0200									02/12/13	02/12	KPA-001
S301089-05			Duplicate (S301089-01)	0.014	0.0200								18	02/12/13	02/12	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE 5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.040 ± 0.116
YIELD _____ ± _____

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium
Preparation batch 7271-196					
S301089-01			8632-001	OUTFALL 009 (440-36149-1	U
S301089-03			8632-003	Lab Control Sample	ok
S301089-04			8632-004	Method Blank	U
S301089-05			8632-005	Duplicate (S301089-01)	- U
Nominal values and limits from method				RDLs (pCi/L)	500

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-196			2σ prep error 10.0 %	Reference Lab Notebook No. 7271 pg.196												
S301089-01			OUTFALL 009 (440-36149-1	181	0.0100			100		150			15	02/07/13	02/09	LSC-006
S301089-03			Lab Control Sample	176	0.100			10		150				02/07/13	02/09	LSC-006
S301089-04			Method Blank	181	0.100			10		150				02/07/13	02/09	LSC-006
S301089-05			Duplicate (S301089-01)	179	0.0100			100		150			15	02/07/13	02/09	LSC-006
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 FOR 4 SAMPLES
MDA 179 ± 4.73
YIELD 55 ± 104

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

EBERLINE ANALYTICAL

SDG 8632

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8632
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7271-196						
S301089-01			8632-001	OUTFALL 009 (440-36149-1	U	
S301089-02			8632-002	TRIP BLANK (440-36149-2)	U	
S301089-03			8632-003	Lab Control Sample	ok	
S301089-04			8632-004	Method Blank	U	
S301089-05			8632-005	Duplicate (S301089-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-196			2σ prep error 16.4 %	Reference Lab Notebook No. 7271 pg.196												
S301089-01			OUTFALL 009 (440-36149-1	0.517	0.100			100		125			25	02/19/13	02/19	RN-011
S301089-02			TRIP BLANK (440-36149-2)	0.532	0.100			100		125			24	02/19/13	02/19	RN-012
S301089-03			Lab Control Sample	0.530	0.100			100		125				02/19/13	02/19	RN-016
S301089-04			Method Blank	0.483	0.100			100		125				02/19/13	02/19	RN-014
S301089-05			Duplicate (S301089-01)	0.508	0.100			100		125			25	02/19/13	02/19	RN-015
Nominal values and limits from method				1.00	0.100					50			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.514 ± 0.040
YIELD 100 ± 0

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

SDG 8632
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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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.

SDG 8632
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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

SDG 8632
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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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.

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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.

SDG 8632
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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

SDG 8632
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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.

SDG 8632
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REPORT GUIDE

Client Test America, Inc.
Contract 44002624

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'

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.

* Prepareation 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

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.

SDG 8632
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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.

Lab id EAC
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/22/13

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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bousselaire, Jonathan	Carrier Tracking No(s):	COC No: 440-17431.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jonathan.bousselaire@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services		Analysis Requested		Job #: 440-36149-1
Address: 2030 Wright Avenue,	Due Date Requested: 2/11/2013			Preservation Codes:
City: Richmond	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)
State, Zip: CA, 94804				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing SSFL outfalls	Project #: 44002624			
Site: Boeing SSFL	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT/ Gross Alpha	SUBCONTRACT/ Strontium 90	SUBCONTRACT/ Tritium	SUBCONTRACT/ Gamma Spec K-40 CS-137	SUBCONTRACT/ Radium Combined	SUBCONTRACT/ Gross Beta	SUBCONTRACT/ Uranium, Combined	Total Number of containers	Special Instructions/Note:
			Preservation Codes:												
Outfall 009 (440-36149-1)	1/25/13	19:51 Pacific		Water			X	X	X	X	X	X	X	2	Boeing Permit; DO NOT FILTER!
Trip Blank-Eberline (440-36149-2)	1/26/13	12:15 Pacific		Water			X	X	X	X	X	X	X		Boeing Permit; DO NOT FILTER!

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible]	1/28/13 17:00	TAI	Fed Ex	1/28/13 17:00	
Relinquished by: FED EX	Date/Time: 01/29/13	Company FED EX	Received by:	Date/Time: 01/29/13 09:20	Company EBERLINE
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: 678243

Cooler Temperature(s) °C and Other Remarks: 6.8 °C PARTIALLY MELTED

2/22/2013

EBERLINE

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 01/29/13 0920 CoC No. JOB# 440-36149-1

Container I.D. No. LECTEST Requested TAT (Days) — P.O. Received Yes [ ] No [ ]

INSPECTION

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

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by [signature] Date: 01/29/13 Time: 10:30

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
ALL SAMPLES	<80						

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 00482 Calibration date 03JAN13

Form SCP-02, 07-30-07

"over 55 years of quality nuclear services"

CHAIN OF CUSTODY FORM

446-36103

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 009** **GRAB** Stormwater at SW-13
Project Manager: Bronwyn Kelly Sampler: M Garretson	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)	ANALYSIS REQUIRED	Comments
Outfall 009	W	1L Amber	2	1-25-13 0730	HCl	1A, 1B	X		

Field readings:
(Log in and include in report Temp and pH)

Temp °F = 11.94

pH = 6.70

Time of readings = 0730

These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	1-25-13 14:15	[signature]	1-25-13 14:15
[signature]	1-25-13 17:30		
		[signature]	01/25/13 17:30

Turn-around time: (Check)

24 Hour: _____ 72 Hour: _____ 10 Day: _____

48 Hour: _____ 5 Day: _____ Normal: X

Sample Integrity: (Check)

Intact: ✓ On Ice: X

Data Requirements: (Check)

No Level IV: _____ All Level IV: _____ NPDES Level IV: X

2.5.0

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 009** **COMPOSITE** /HSGT Stormwater at SW-13
Project Manager: Bronwyn Kelly Sampler: H. Gruenberg	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide							Comments
Outfall 009	W	1L Poly	1	1-25-13 1451	HNO_3	2A	X														
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X														
Outfall 009	W	1L Amber	2		None	3A, 3B		X													
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 009	W	500 mL Poly	1		None	5				X											
Outfall 009	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 009	W	1 Gal Poly	1		None	8							X								Only test if first or second rain events of the year
Outfall 009	W	500 mL Poly	1	1-24-13 1451	NaOH	9								X							

COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
	1/26/13 1050		1/26/13 1050
Relinquished By	Date/Time:	Received By	Date/Time:
	1/26/13 1550		
Relinquished By	Date/Time:	Received By	Date/Time:
			01/26/13 15:50

Turn-around time: (Check)

24 Hour: ____ 48 Hour: ____ 72 Hour: ____ 5 Day: ____ 10 Day: ____ Normal: X

Sample Integrity: (Check)

Intact: X On Ice: X

Data Requirements: (Check)

No Level IV: ____ All Level IV: ____ NPDES Level IV: X

2.4°

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-36103-1

Login Number: 36103

List Source: TestAmerica Irvine

List Number: 1

Creator: Perez, Angel

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	A. Goldenberg
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-36103-1

Login Number: 36149

List Source: TestAmerica Irvine

List Number: 1

Creator: Perez, Angel

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	A. Goldenberg
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-36103-1

Login Number: 36149
List Number: 1
Creator: Tecson, Jeffrey

List Source: TestAmerica Sacramento
List Creation: 01/30/13 10:47 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	seal
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	0.4
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

Isotope Dilution Summary

Client: MWH Americas Inc
Project/Site: Boeing SSFL NPDES Routine Outfall 009

TestAmerica Job ID: 440-36103-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF1 (24-185)	PeCDF2 (21-178)	HxCDD1 (32-141)	HxCDD2 (28-130)	HxCDF1 (26-152)
440-36149-1	Outfall 009	72	75	68	71	76	72	90	81
MB 320-9630/1-A	Method Blank	78	83	76	74	81	83	100	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxCDF2 (26-123)	HxCDF4 (29-147)	HxCDF3 (28-136)	HpCDD (23-140)	HpCDF1 (28-143)	HpCDF2 (26-138)	OCDD (17-157)	
440-36149-1	Outfall 009	91	79	88	83	82	84	86	
MB 320-9630/1-A	Method Blank	102	84	98	80	83	85	85	

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF1 = 13C-1,2,3,7,8-PeCDF
PeCDF2 = 13C-2,3,4,7,8-PeCDF
HxCDD1 = 13C-1,2,3,4,7,8-HxCDD
HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
HxCDF2 = 13C-1,2,3,6,7,8-HxCDF
HxCDF4 = 13C-1,2,3,7,8,9-HxCDF
HxCDF3 = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF1 (21-192)	PeCDF2 (13-328)	HxCDD1 (21-193)	HxCDD2 (25-163)	HxCDF1 (19-202)
LCS 320-9630/2-A	Lab Control Sample	82	86	76	78	86	83	98	89

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HxCDF2 (21-159)	HxCDF4 (17-205)	HxCDF3 (22-176)	HpCDD (26-166)	HpCDF1 (21-158)	HpCDF2 (20-186)	OCDD (13-199)	
LCS 320-9630/2-A	Lab Control Sample	99	84	92	79	82	86	87	

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF1 = 13C-1,2,3,7,8-PeCDF
PeCDF2 = 13C-2,3,4,7,8-PeCDF
HxCDD1 = 13C-1,2,3,4,7,8-HxCDD
HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
HxCDF2 = 13C-1,2,3,6,7,8-HxCDF
HxCDF4 = 13C-1,2,3,7,8,9-HxCDF
HxCDF3 = 13C-2,3,4,6,7,8-HxCDF

Isotope Dilution Summary

Client: MWH Americas Inc
Project/Site: Boeing SSFL NPDES Routine Outfall 009

TestAmerica Job ID: 440-36103-1

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

APPENDIX G

Section 3

Outfall 009 – March 8, 2013

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-40332-1

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL NPDES
Contract Task Order:	1261.100D.00
Sample Delivery Group:	440-40332-1
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009	440-40332-1	N/A	Water	3/8/2013 12:10:00 PM	1613B, 200.7, 200.7 Diss, 245.1, 245.1 Diss, 314.0, 625, 900.0, 901.1, 903.0, 904.0, 905, 906.0

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the 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. As the samples were couriered to TestAmerica-Irvine, custody seals were not utilized. Custody seals were intact upon receipt at TestAmerica-Sacramento and TestAmerica-St. Louis.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: April 11, 2013

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.

    - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.

    - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤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 the analytical sequence. The VER was 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 reported detects for OCDD and OCDF. The sample detect below the reporting limit for OCDF was qualified as nondetected, “U,” at the level of contamination. The method blank result for OCDD was insufficient to qualify the sample result.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The labeled internal standard recoveries for 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 any reportable sample concentrations. The laboratory calculated and reported compound-specific detection limits. 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. Totals for TCDD and HpCDF containing EMPC peaks were qualified as estimated, "J."

B. EPA METHODS 200.7 and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: April 11, 2013

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 200.7, 245.1*, 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.

- 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. CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Boron was detected in a bracketing CCB at 0.023 mg/L; therefore, dissolved

boron detected in the sample was qualified as nondetected, "U," at the level of contamination. Method blanks and CCBs had no other applicable detects.

- Interference Check Samples: Recoveries were within 80-120%. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the method-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed. On the sample in this SDG

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for the total analytes. Both aluminum recoveries were above the control limit (130%, 126%); therefore, total aluminum detected in the sample was qualified as estimated, "J." All remaining recoveries and all RPDs were within the method-established QC limits.

- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.

- 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.

  Dissolved zinc was detected nominally above the MDL but total zinc was not detected in the site sample. Due to the inherent variability below the RL, these results are considered to be in agreement.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: April 11, 2013

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (10/04).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Calibration criteria were met. The initial calibration r^2 values were ≥0.995. the initial and opening continuing calibration recoveries were within 90-110%. The closing continuing calibration recovery was above the control limit; however, as perchlorate was not detected in the site sample, no qualifications were required. IPC recoveries were within the method-established control limit of 80-120%. The ICCS was recovered with 75-125%.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was within the method-established QC limits of 85-115%.

- 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 result reported on the sample result summary was verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit.

- 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 11, 2013

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, A-01-R,* and the *National Functional Guidelines for Inorganic Data Review* (10/04).

- Holding Times: The tritium sample was analyzed within 180 days of collection. All remaining aliquots were preserved within the five-day holding time.

- Calibration: The laboratory calibration information included the standard identifications and the laboratory reagent traceability information included the reagent identifier, source, preparation date (if applicable), analyte activity, and expiration date. All initial calibration verifications and daily checks were acceptable.

  The gross alpha and radium-226 detector efficiencies were less than 20%; therefore, the nondetected results for these analytes were qualified as estimated, "J." The remaining detector efficiencies were greater than 20%. All tracer and carrier recoveries were within the reasonable laboratory-established control limits. The gamma spectroscopy analytes were determined at the maximum photopeak energy.

- Blanks: Radium-228 was detected in the method blank but was not detected in the site sample. There were no other 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 except gross alpha and gross beta. All results were within ±2-sigma error.

- Matrix Spike/Matrix Spike Duplicate: A matrix spike analysis was performed on the sample in this SDG for tritium. The recovery was within the laboratory-established control limits. Method accuracy for the remaining analytes 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.

- 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 (Low Level)—Semivolatile Organic Compounds (SVOCs)

Reviewed By: L. Calvin
Date Reviewed: April 11, 2013

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 625*, and the *National Functional Guidelines for Organic Data Review* (2/99).

- 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: Most calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥0.05 for all target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.995. The ICV and CCV %Ds were ≤20%, with the exception of the ICV %Ds for hexachlorocyclopentadiene, 4,6-dinitro-2-methylphenol, and benzidine, and the CCV %D for 1,2-diphenylhydrazine. Results for the %D outliers, all nondetects, were qualified as estimated, "UJ."

- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample in this SDG. Method accuracy and precision was evaluated based on LCS/LCSD results.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times.

- Compound Identification: Compound identification was verified. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review of the raw data indicated no problems with system performance.

Validated Sample Result Forms 440-40332-1

Analysis Method 1613B

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 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	0.000017	0.000050	0.0000017	ug/L	J,DX	J	DNQ
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.000003	0.000050	0.0000010	ug/L	J,DX	J	DNQ
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000050	0.0000016	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000050	0.0000005	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000050	0.0000004	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000050	0.0000009	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000050	0.0000004	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000050	0.0000007	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000050	0.0000005	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000050	0.0000007	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000050	0.0000005	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000050	0.0000004	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000050	0.0000006	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.000010	0.0000004	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000004	ug/L		U	
OCDD	3268-87-9	0.00025	0.00010	0.000010	ug/L	MB		
OCDF	39001-02-0	ND	0.00010	0.0000012	ug/L	J,DX MB	U	B
Total HpCDD	37871-00-4	0.000042	0.000050	0.0000017	ug/L	J,DX	J	DNQ
Total HpCDF	38998-75-3	0.000007	0.000050	0.0000013	ug/L	J,DX q	J	DNQ, *III
Total HxCDD	34465-46-8	ND	0.000050	0.0000005	ug/L		U	
Total HxCDF	55684-94-1	0.000001	0.000050	0.0000004	ug/L	J,DX	J	DNQ
Total PeCDD	36088-22-9	ND	0.000050	0.0000007	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000050	0.0000005	ug/L		U	
Total TCDD	41903-57-5	0.000000	0.000010	0.0000004	ug/L	J,DX q	J	DNQ, *III
Total TCDF	30402-14-3	ND	0.000010	0.0000004	ug/L		U	

Analysis Method 200.7 Rev 4.4

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	370	50	40	ug/L		J	Q
Aluminum, Dissolved	7429-90-5	99	50	40	ug/L			
Arsenic	7440-38-2	ND	10	7.0	ug/L		U	
Arsenic, Dissolved	7440-38-2	ND	10	7.0	ug/L		U	
Beryllium	7440-41-7	ND	2.0	0.90	ug/L		U	
Beryllium, Dissolved	7440-41-7	ND	2.0	0.90	ug/L		U	
Boron	7440-42-8	0.041	0.050	0.020	mg/L	J,DX	J	DNQ
Boron, Dissolved	7440-42-8	ND	0.056	0.020	mg/L		U	B
Calcium	7440-70-2	8.4	0.10	0.050	mg/L			
Calcium, Dissolved	7440-70-2	8.2	0.10	0.050	mg/L			
Chromium	7440-47-3	ND	5.0	2.0	ug/L		U	
Chromium, Dissolved	7440-47-3	ND	5.0	2.0	ug/L		U	
Hardness, as CaCO3	STL00009	32	0.33	0.17	mg/L			
Hardness, as CaCO3, Dissolved	STL00009	30	0.33	0.17	mg/L			
Iron	7439-89-6	0.46	0.040	0.015	mg/L			
Iron, Dissolved	7439-89-6	0.11	0.040	0.015	mg/L			
Magnesium	7439-95-4	2.6	0.020	0.012	mg/L			
Magnesium, Dissolved	7439-95-4	2.4	0.020	0.012	mg/L			
Nickel	7440-02-0	2.3	10	2.0	ug/L	J,DX	J	DNQ
Nickel, Dissolved	7440-02-0	ND	10	2.0	ug/L		U	
Silver	7440-22-4	ND	10	6.0	ug/L		U	
Silver, Dissolved	7440-22-4	ND	10	6.0	ug/L		U	
Vanadium	7440-62-2	ND	10	3.0	ug/L		U	
Vanadium, Dissolved	7440-62-2	ND	10	3.0	ug/L		U	
Zinc	7440-66-6	ND	20	9.0	ug/L		U	
Zinc, Dissolved	7440-66-6	9.7	20	9.0	ug/L	J,DX	J	DNQ

Analysis Method 245.1

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/L		U	
Mercury, Dissolved	7439-97-6	ND	0.20	0.10	ug/L		U	

Analysis Method 314.0

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	ND	4.0	0.95	ug/L		U	

Analysis Method 625

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	120-82-1	ND	0.948	0.0948	ug/L		U	
1,2-Dichlorobenzene	95-50-1	ND	0.474	0.0948	ug/L		U	
1,2-Diphenylhydrazine(as Azobenzene)	122-66-7	ND	0.948	0.190	ug/L		UJ	C
1,3-Dichlorobenzene	541-73-1	ND	0.474	0.0948	ug/L		U	
1,4-Dichlorobenzene	106-46-7	ND	0.474	0.190	ug/L		U	
2,4,6-Trichlorophenol	88-06-2	ND	0.948	0.0948	ug/L		U	
2,4-Dichlorophenol	120-83-2	ND	1.90	0.190	ug/L		U	
2,4-Dimethylphenol	105-67-9	ND	1.90	0.284	ug/L		U	
2,4-Dinitrophenol	51-28-5	ND	4.74	0.853	ug/L		U	
2,4-Dinitrotoluene	121-14-2	ND	4.74	0.190	ug/L		U	
2,6-Dinitrotoluene	606-20-2	ND	4.74	0.0948	ug/L		U	
2-Chloronaphthalene	91-58-7	ND	0.474	0.0948	ug/L		U	
2-Chlorophenol	95-57-8	ND	0.948	0.190	ug/L		U	
2-Methylnaphthalene	91-57-6	ND	0.948	0.190	ug/L		U	
2-Methylphenol	95-48-7	ND	1.90	0.0948	ug/L		U	
2-Nitroaniline	88-74-4	ND	4.74	0.0948	ug/L		U	
2-Nitrophenol	88-75-5	ND	1.90	0.0948	ug/L		U	
3,3'-Dichlorobenzidine	91-94-1	ND	4.74	0.474	ug/L		U	
3-Nitroaniline	99-09-2	ND	4.74	0.948	ug/L		U	
4,6-Dinitro-2-methylphenol	534-52-1	ND	4.74	0.284	ug/L		UJ	C
4-Bromophenyl phenyl ether	101-55-3	ND	0.948	0.190	ug/L		U	
4-Chloro-3-methylphenol	59-50-7	ND	1.90	0.190	ug/L		U	
4-Chloroaniline	106-47-8	ND	1.90	0.284	ug/L		U	
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.474	0.190	ug/L		U	
4-Methylphenol	106-44-5	ND	4.74	0.190	ug/L		U	
4-Nitroaniline	100-01-6	ND	4.74	0.474	ug/L		U	
4-Nitrophenol	100-02-7	ND	4.74	2.37	ug/L		U	
Acenaphthene	83-32-9	ND	0.474	0.190	ug/L		U	
Acenaphthylene	208-96-8	ND	0.474	0.190	ug/L		U	
Aniline	62-53-3	ND	9.48	0.284	ug/L		U	
Anthracene	120-12-7	ND	0.474	0.0948	ug/L		U	
Benzidine	92-87-5	ND	4.74	0.948	ug/L		UJ	C
Benzo[a]anthracene	56-55-3	ND	4.74	0.0948	ug/L		U	
Benzo[a]pyrene	50-32-8	ND	1.90	0.0948	ug/L		U	
Benzo[b]fluoranthene	205-99-2	ND	1.90	0.0948	ug/L		U	

Analysis Method 625

Benzo[g,h,i]perylene	191-24-2	ND	4.74	0.0948	ug/L		U	
Benzo[k]fluoranthene	207-08-9	ND	0.474	0.190	ug/L		U	
Benzoic acid	65-85-0	ND	4.74	2.84	ug/L		U	
Benzyl alcohol	100-51-6	ND	4.74	0.0948	ug/L		U	
bis (2-chloroisopropyl) ether	108-60-1	ND	0.474	0.0948	ug/L		U	
Bis(2-chloroethoxy)methane	111-91-1	ND	0.474	0.0948	ug/L		U	
Bis(2-chloroethyl)ether	111-44-4	ND	0.474	0.0948	ug/L		U	
Bis(2-ethylhexyl) phthalate	117-81-7	ND	4.74	1.61	ug/L		U	
Butyl benzyl phthalate	85-68-7	ND	4.74	0.664	ug/L		U	
Chrysene	218-01-9	ND	0.474	0.0948	ug/L		U	
Dibenz(a,h)anthracene	53-70-3	ND	0.474	0.0948	ug/L		U	
Dibenzofuran	132-64-9	ND	0.474	0.0948	ug/L		U	
Diethyl phthalate	84-66-2	0.257	0.948	0.0948	ug/L	J,DX	J	DNQ
Dimethyl phthalate	131-11-3	ND	0.474	0.190	ug/L		U	
Di-n-butyl phthalate	84-74-2	ND	1.90	0.284	ug/L		U	
Di-n-octyl phthalate	117-84-0	ND	4.74	0.190	ug/L		U	
Fluoranthene	206-44-0	ND	0.474	0.0948	ug/L		U	
Fluorene	86-73-7	ND	0.474	0.0948	ug/L		U	
Hexachlorobenzene	118-74-1	ND	0.948	0.0948	ug/L		U	
Hexachlorobutadiene	87-68-3	ND	1.90	0.190	ug/L		U	
Hexachlorocyclopentadiene	77-47-4	ND	4.74	0.0948	ug/L		UJ	C
Hexachloroethane	67-72-1	ND	2.84	0.190	ug/L		U	
Indeno[1,2,3-cd]pyrene	193-39-5	ND	1.90	0.0948	ug/L		U	
Isophorone	78-59-1	ND	0.948	0.0948	ug/L		U	
Naphthalene	91-20-3	ND	0.948	0.0948	ug/L		U	
Nitrobenzene	98-95-3	ND	0.948	0.0948	ug/L		U	
N-Nitrosodimethylamine	62-75-9	ND	1.90	0.0948	ug/L		U	
N-Nitrosodi-n-propylamine	621-64-7	ND	1.90	0.0948	ug/L		U	
N-Nitrosodiphenylamine	86-30-6	ND	0.948	0.0948	ug/L		U	
Pentachlorophenol	87-86-5	ND	1.90	0.379	ug/L		U	
Phenanthrene	85-01-8	ND	0.474	0.0948	ug/L		U	
Phenol	108-95-2	ND	0.948	0.284	ug/L		U	
Pyrene	129-00-0	ND	0.474	0.0948	ug/L		U	

Analysis Method 900.0

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	0.672	3.00	0.981	pCi/L	U	UJ	C
Gross Beta	12587-47-2	0.900	4.00	0.973	pCi/L	U	U	

Analysis Method 901.1

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045-97-3	0.0224	20.0	8.75	pCi/L	U	U	
Potassium-40	13966-00-2	-31.6		194	pCi/L	U	U	

Analysis Method 903.0

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982-63-3	0.0700	1.00	0.157	pCi/L	U	UJ	C

Analysis Method 904.0

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262-20-1	0.297	1.00	0.419	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098-97-2	-0.0854	3.00	0.342	pCi/L	U	U	

Analysis Method 906.0

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028-17-8	79.7	500	108	pCi/L	U	U	

Analysis Method A-01-R

Sample Name Outfall 009 **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-40332-1 **Sample Date:** 3/8/2013 12:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.0836	1.00	0.140	pCi/L	U	U	

APPENDIX G

Section 4

Outfall 009 – March 8, 2013

Test America Analytical Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
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TestAmerica Job ID: 440-40332-1
Client Project/Site: Boeing SSFL NPDES
Revision: 2

For:
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Attn: Bronwyn Kelly

Debby Wilson

Authorized for release by:
4/19/2013 11:11:07 AM

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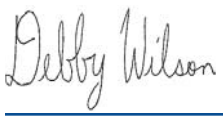
This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

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.



Debby Wilson
Project Manager I
4/19/2013 11:11:07 AM

Table of Contents

Cover Page 1
Table of Contents 3
Sample Summary 4
Case Narrative 5
Client Sample Results 7
Method Summary 16
Chronicle 17
QC Sample Results 19
QC Association 52
Definitions 60
Certification Summary 61
Subcontract Data 63
Chain of Custody 79
Receipt Checklists 81
Tracer Carrier Summary 86
Isotope Dilution Summary 87

Sample Summary

56%Ä7!.(89:("#Ä$%&' (,7&
;$*<Ä&!=>%!Ä.(?*Ä%7@(*C;AB>

ĀÄ !"#Ä$%&'()*+(,-.(//01/022314

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
//01/022314	E F!G'66(00H	9 ' !Ä$	02=0I=42(43.40	02=0I=42(4J./K
//01/022313	Ā$%L(?6'7M	9 '!Ä$	02=0I=42(43.40	02=0I=42(4J./K

ĀÄ !"#Ä$%&'(,$N%7Ä

Job ID: 440-40332-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-40332-1

Receipt
0E!%.-*FÄ!.%G!+!%+!,! H!I%2"%8=J=96:8%5$5K%;&L%#E!%.-*FÄ!I%-!%@22I%,2"I # 2"M%F+2F!+ÀN%F+!.!+H!I%-"IM%GE!+!%2"%OJFQ%M%
0E!%#!*F!+-#P+!.%2R%#E!%9%,22Ä!+.%-#%+!,! F#%# *!%G!+!%5Q5S%Ā%-

GC/MS VOA
C2%-"-ÀN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

GC/MS Semi VOA
&!#E2IU.V%K9KQ9$%0E!%*-#+ W%.F X!%U&>V%+!,2H!+N%-..%3#!E%G%#KJK%G!+!%2P#. I!%,2"#+2Ä%Ä * #.%R2+%4 -Z "2$7%U$5%7%%
&-#+ W% "#!+R!+!",!% .%.P.F!,#!IQ

&!#E2IU.V%K9KQ9$%0E!%.P++2@-#!%+!,2H!+N%R2+%#E!%3Ä2'X%!%GB%-#,E%Y6KJK%G-.%2P#. I!%+!,2H!+N%Ä * #.Q%#!)ÀÄ%-.
.-*FÄ!%.P++2@-#!.%R!ÄÄ%G #E "%-,,!F#-",!%,+ #!+ -L%#E!%2#!M%#!%3!!"%+!F2+#!IQ

&!#E2IU.V%[9K$%/"R!"#%.-*FÄ!%H2ÀP*!%G-.%-H- Ä-3Ä!%#2%3#,E%*-#+ W%.F X!%+ W%.F X!%IPFÄ ,-#!%U&>=&>4V%-..2%G #E%
3-#,E%Y:[6Q%%0E!%Ä-32+-#2+N%,2"#+2Ä%.-*FÄ!%UBĀ>V%G-%%P%IR2Ä*!#!%#2%F+2H I!%F+!, . 2"%I-#-%R2+%#E .%3-#,EQ

&!#E2IU.V%[9K$%0E!%,2"# "P "@%,-Ä 3+-# 2"%H!+ R ,-# 2"%%ĀĀ97%#E2"NÄENI+-Z "!%-"I%"72,#-I!,-"!%-..2, -#!I%G #E%3-#,E9% 9%
+!,2H!+!I%-32H!%#E!%PFF!+%,2"#+2Ä%Ä * #Q%%0E!%.-*FÄ!.%G2#E#%#E .%ĀÄ\%G!+!%#2#%R2+%#ER%#RI%-"-ÄN#!.L%#E!R2+!M%#E!%
I-#-%E-H!%3!!"%+!F2+#!IQ

C2%2#E!+%-"-ÄN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

HPLC
&!#E2IU.V%8:5Q6$%0E!%*-#+ W%.F X!%=%*-#+ W%.F X!%IR%ÄV%!%U2I>=!.%R2+%3-#,E%Y88JK%G!+!%2P#. I!%,2"#+2Ä%Ä+*E%2R#Q%%
0E!%-..2, -#!I%Ä-32+-#2+N%,2"#+2Ä%.-*FÄ!%UBĀ>V%+!,2H!+N%#!%„+ #!+ -Q

C2%2#E!+%-"-ÄN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

GC Semi VOA
C2%-"-ÄN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

Dioxin
&!#E2IU.V%:[:8?$%/2"%-3P"I-",!%+-# 2.%-+!%2P#. I!%,+ #!+ -#ER%R2ÄÄ2G "@%.-*FÄ!.%-"I%R2+%#E!%&?$%%U&?%8967:9Ä9%66YM%]P#R
U5567568897:VQ%%^P-"# #-# 2"% .%3-.!I%2"%#E!%#E!2+!#P"-Ä%2+%#-2L%#E!+!R2+!M%#E!.!%-"-ÀN#!.%E-H!%3!!"%+!F2+#%-.%
!.# *-#!I%*-W *P*%F2.. 3Ä!%,2",!"#+-# 2"%UD&;ĀVQ%E%-R!,#!I%"-ÄN#!.%E-H!%3!!"%RÄ-@@!I

C2%2#E!+%-"-ÄN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

RAD
0E!%R2ÄÄ2G "@%.-*FÄ!%G-.%"2#%F+!.!+H!I% "%#E!%R !ÀI$%5567568897%66YVQ%%0E!%9QK%@-ÄÄ2"%,2"#- "!+%G-.%#F+!%+H!I%G #E%"
-, I!%#2%-%F(%2R%#%8!%#)*!+ ,-%>#%B2P .%Ä-32+-#2+N%2%8Q

Metals
&!#E2IU.V%966QJ$%P,PR#%.-*FÄ!%H2ÀP*!%G-.%-H- Ä-3Ä!%#2%3-#,E%*-#+ W%F#X!W%.F X!%IPFÄ ,-#!%U&>=&>4V%-#2%G #E%
3-#,E%5567Y9586Q%%0E!%Ä-32+-#2+N%,2"#+2Ä%.-*FÄ!%UBĀ>V%G%PFÄ!R2!%#2%F+2H I!%F+!, . 2"%I-#-%R2+%#E .%3-#,EQ

C2%2#E!+%-"-ÄN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

General Chemistry
&!#E2IU.V%:[[5)$%/".PR, !"#%.-*FÄ!%H2ÀP*!%G-.%-H- Ä-3Ä!%#2%F!*%3-#,E%*-#+ W%F#X!W%.F X!%IPFÄ ,-#!%U&>=&>4V%-#2%
G #E%3-#,E%Y:YTYQ%%0E!%Ä-32+-#2+N%,2"#+2Ä%.-*FÄ!%UBĀ>V%G%PFÄ!R%#2%F+2H I!%F+!, . 2"%I-#-%R2+%#E .%3-#,EQ

Job ID: 440-40332-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

C2%2#E!+%-"-ÀN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

Biology
C2%-"-ÀN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

Subcontract non-Sister
C2%-"-ÀN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

Organic Prep
C2%-"-ÀN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

Dioxin Prep
C2%-"-ÀN# ,-Ä%2+%OP-Ä #N% ..P!.%G!+!%"2#!IQ

Client Sample ID: Outfall 009
Date Collected: 03/08/13 12:10
Date Received: 03/08/13 16:45

Lab Sample ID: 440-40332-1
Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4E4E4 $%&F6*$*Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.0H	4
315F6*$*Ä!FL6(M%7L6(Ä!FÄ$	C-		3G0	4GJ	I@=B			02=40=42(4K.4H	4
4E4E3E3Ä$%&F6*$*Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.0H	4
"&$*6Ä%7	C-		HG0	/ G0	I@=B			02=40=42(4K.4H	4
4E4E3 $%&F6*$*Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.0H	4
"&$L6*7%!$%6Ä	C-		3G0	4G3	I@=B			02=40=42(4K.4H	4
4E41-%&F6*$*Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
4E41-%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G/3	I@=B			02=4J=42(4/.0H	4
4E31-%&F6*$*+Ä7NÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.0H	4
4E31-%&F6*$*Ä!F'7Ä	C-		0GH0	0G3J	I@=B			02=4J=42(4/.0H	4
4E31-%&F6*$*O$*O'7Ä	C-		0GH0	0G2H	I@=B			02=4J=42(4/.0H	4
4E21-%&F6*$*+Ä7NÄ7Ä	C-		0GH0	0G2H	I@=B			02=4J=42(4/.0H	4
4E3E2 $%&F6*$*O$*O'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
4E/1-%&F6*$*+Ä7NÄ7Ä	C-		0GH0	0G2K	I@=B			02=4J=42(4/.0H	4
?Ä7NÄ7Ä	C-		0GH0	0G3J	I@=B			02=4J=42(4/.0H	4
?$*#*P*$#	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
?$*#*#Ä!F'7Ä	C-		0GH0	0G/3	I@=B			02=4J=42(4/.0H	4
5'$+*7(!Ä!$'&F6*$%QÄ	C-		0GH0	0G3J	I@=B			02=4J=42(4/.0H	4
5F6*$*+Ä7NÄ7Ä	C-		0GH0	0G2R	I@=B			02=4J=42(4/.0H	4
-%+$*#*&F6*$*#Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
5F6*$*Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
5F6*$*P*$#	C-		0GH0	0G22	I@=B			02=4J=42(4/.0H	4
5F6*$*#Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
&% 14E21-%&F6*$*O$*OÄ7Ä	C-		0GH0	0G33	I@=B			02=4J=42(4/.0H	4
?$*#*Q%&F6*$*#Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.0H	4
D!FL6+Ä7NÄ7Ä	C-		0GH0	0G3H	I@=B			02=4J=42(4/.0H	4
8Ä!FL6Ä7Ä(5F6*$%QÄ	C-		4G0	0GSH	I @=B			02=4J=42(4/.0H	4
ĀÄ!$'&F6*$*Ä!FÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.0H	4
Ā*6IÄ7Ä	C-		0GH0	0G2R	I@=B			02=4J=42(4/.0H	4
!$'7 14E31-%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.0H	4
!Ä$!1?I!'7*6	C-		40	RGH	I @=B			02=4J=42(4/.0H	4
!$'7 14E21-%&F6*$*O$*OÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.0H	4
Ā$%&F6*$*P6I*$*#Ä!F'7Ä	C-		0GH0	0G2/	I@=B			02=4J=42(4/.0H	4
T%7L6(&F6*$%QÄ	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
Ā$%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G3R	I@=B			02=4J=42(4/.0H	4
&% 14E31-%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.0H	4
4E31-%+$*#*Ä!F'7Ä(UD-?V	C-		0GH0	0G/0	I@=B			02=4J=42(4/.0H	4
-%% *O$*OL6(Ä!FÄ$	C-		0GH0	0G3H	I@=B			02=4J=42(4/.0H	4
8Ä!FL6(!Ä$!1+I!L6(Ä!FÄ$	C-		0GH0	0G23	I@=B			02=4J=42(4/.0H	4
C'OF!F'6Ä7Ä	C-		0GH0	0G/4	I@=B			02=4J=42(4/.0H	4
ĀÄ$!1'#L6(#Ä!FL6(Ä!FÄ$	C-		0GH0	0G22	I@=B			02=4J=42(4/.0H	4
D!FL6(!Ä$!1+I!L6(Ä!FÄ$	C-		0GH0	0G3J	I@=B			02=4J=42(4/.0H	4
WL6Ä7Ä Æ(!'6	C-		4G0	0GS0	I @=B			02=4J=42(4/.0H	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*03/10/13 17:15*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*03/10/13 17:15*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*03/18/13 14:05*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*03/18/13 14:05*	*1*

Client Sample ID: Outfall 009
Date Collected: 03/08/13 12:10
Date Received: 03/08/13 16:45

Lab Sample ID: 440-40332-1
Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	108		80 - 120		03/18/13 14:05	1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5F6*OL%P*	C-		0GSK	0G0KK	I@=B		02=0S=42(0K.0J	02=43=42(4S.3S	4
-%'N%7*7	C-		0G3/	0G0SK	I@=B		02=0S=42(0K.0J	02=43=42(4S.3S	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dimethyl-2-nitrobenzene	92		70 - 130	03/09/13 07:08	03/12/13 19:29	1
Perylene-d12	94		70 - 130	03/09/13 07:08	03/12/13 19:29	1
Triphenylphosphate	105		70 - 130	03/09/13 07:08	03/12/13 19:29	1

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"&Ä7'OF!FÄ7Ä	C-		0G/K/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
"&Ä7'OF!FL6Ä7Ä	C-		0G/K/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
"7%6%7Ä	C-		SG/J	0G3J/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
"7!F$'&Ä7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7N%Q%7Ä	C-		/GK/	0GS/J	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7N*X'Y'7!F$'&Ä7Ä	C-		/GK/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7N*X+YP6I*$'7!FÄ7Ä	C-		4GS0	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7N*XZYP6I*$'7!FÄ7Ä	C-		0G/K/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7N*%&('&%Q	C-		/GK/	3GJ/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7N*X'YOL$Ä7Ä	C-		4GS0	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?% U31&F6*$*Ä!F*[LV#Ä!F'7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?% U31&F6*$*Ä!FL6VÄ!FÄ$	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?% U31Ä!FL6FÄ[L6V(OF!F'6'!Ä	C-		/GK/	4GR4	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/1?$*#*OFÄ7L6(OFÄ7L6(Ä!FÄ$	C-		0GS/J	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?I!L6(+Ä7NL6(OF!F'6'!Ä	C-		/GK/	0GRR/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/15F6*$*121#Ä!FL6OFÄ7*6	C-		4GS0	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
315F6*$*7'OF!F'6Ä7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
315F6*$*OFÄ7*6	C-		0GS/J	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/15F6*$*OFÄ7L6(OFÄ7L6(Ä!FÄ$	C-		0G/K/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
5F$L Ä7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
-%+Ä7NU'EFV'7!F$'&Ä7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
-%171+I!L6(OF!F'6'!Ä	C-		4GS0	0G3J/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
4E31-%&F6*$*+Ä7NÄ7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
4E21-%&F6*$*+Ä7NÄ7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
4E/1-%&F6*$*+Ä7NÄ7Ä	C-		0G/K/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
2E2\1-%&F6*$*+Ä7N%Q%7Ä	C-		/GK/	0G/K/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
3E/1-%&F6*$*OFÄ7*6	C-		4GS0	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
Diethyl phthalate	**0.257**	**J,DX**	0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
3E/1-%#Ä!FL6OFÄ7*6	C-		4GS0	0G3J/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
-%#Ä!FL6(OF!F'6'!Ä	C-		0G/K/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/ER1-%7%!$*131#Ä!FL6OFÄ7*6	C-		/GK/	0G3J/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
3E/1-%7%!$*OFÄ7*6	C-		/GK/	0GJH2	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
3E/1-%7%!$*!*6IÄ7Ä	C-		/GK/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
3ER1-%7%!$*!*6IÄ7Ä	C-		/GK/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
-%171*&!L6(OF!F'6'!Ä	C-		/GK/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4

Client Sample ID: Outfall 009
Date Collected: 03/08/13 12:10
Date Received: 03/08/13 16:45

Lab Sample ID: 440-40332-1
Matrix: Water

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4E31-%OFÄ7L6FLQ$'N%7ÀU' ("N*+Ä7NÄ7ÀV	C-		0GS/J	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
A6I*$'7!FÄ7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
A6I*$Ä7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
:Ä['&F6*$*+Ä7NÄ7Ä	C-		0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
:Ä['&F6*$*+I!'Q%Ä7Ä	C-		4GS0	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
:Ä['&F6*$*Ä!F'7Ä	C-		3GJ/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
:Ä['&F6*$*&L&6*OÄ7!'Q%Ä7Ä	C-		/GK/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
,7QÄ7*X4E3E21&QYOL$Ä7Ä	C-		4GS0	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
, *OF*$*7Ä	C-		0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/18Ä!FL6OFÄ7*6	C-		/GK/	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
C'OF!F'6Ä7Ä	C-		0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
C%!$*+Ä7NÄ7Ä	C-		0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
31C%!$*OFÄ7*6	C-		4GS0	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/1C%!$*OFÄ7*6	C-		/GK/	3G2K	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
C1C%!$* *Q%#Ä!FL6'#%7Ä	C-		4GS0	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
C1C%!$* *Q%OFÄ7L6'#%7Ä	C-		0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
C1C%!$* *Q%171O$*OL6'#%7Ä	C-		4GS0	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
;Ä7!'&F6*$*OFÄ7*6	C-		4GS0	0G2KS	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
;FÄ7'7!F$Ä7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
;FÄ7*6	C-		0GS/J	0G3J/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
;L$Ä7Ä	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
4E3E/1 &F6*$*+Ä7NÄ7Ä	C-		0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
3E/ER &F6*$*OFÄ7*6	C-		0GS/J	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
318Ä!FL6OFÄ7*6	C-		4GS0	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/15F6*$*'7%6%7Ä	C-		4GS0	0G3J/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
318Ä!FL67'OF!F'6Ä7Ä	C-		0GS/J	0G4S0	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
31C%!$*'7%6%7Ä	C-		/GK/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
21C%!$*'7%6%7Ä	C-		/GK/	0GS/J	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
-%+Ä7N*PI$'7	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
/1C%!$*'7%6%7Ä	C-		/GK/	0G/K/	I@=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7N*X@EFE%YOÄ$L6Ä7Ä	C-		/GK/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
?Ä7NL6('6&*F*6	C-		/GK/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4
+% (U31&F6*$*% *O$*OL6V(Ä!FÄ$	C-		0G/K/	0G0S/J	I @=B		02=43=42(42.H3	02=4R=42(0S.HK	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*50 - 120*	*03/12/13 13:52*	*03/16/13 09:57*	*1*
2-Fluorophenol	*72*		*30 - 120*	*03/12/13 13:52*	*03/16/13 09:57*	*1*
2,4,6-Tribromophenol	*112*		*40 - 120*	*03/12/13 13:52*	*03/16/13 09:57*	*1*
Nitrobenzene-d5	*90*		*45 - 120*	*03/12/13 13:52*	*03/16/13 09:57*	*1*
Terphenyl-d14	*97*		*50 - 125*	*03/12/13 13:52*	*03/16/13 09:57*	*1*
Phenol-d6	*83*		*35 - 120*	*03/12/13 13:52*	*03/16/13 09:57*	*1*

Method: 608 PCB LL - Polychlorinated Biphenyls (PCBs) Low level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"$*&6*$(404R	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4/=42(4H.H/	4
"$*&6*$(4334	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4/=42(4H.H/	4
"$*&6*$(4323	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4/=42(4H.H/	4
"$*&6*$(43/3	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4/=42(4H.H/	4
"$*&6*$(43/J	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4/=42(4H.H/	4

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Lab Sample ID: 440-40332-1
Matrix: Water

Method: 608 PCB LL - Polychlorinated Biphenyls (PCBs) Low level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"$*&6*$(43H/	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4/=42(4H.H/	4
"$*&6*$(43R0	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4/=42(4H.H/	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*62*		*45 - 120*	*03/13/13 12:55*	*03/14/13 15:54*	*1*

Method: 608 Pesticides - Organochlorine Pesticides Low level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"6Q$%7	C-		0G00/J	0G004/	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
'6OF'1?:5	C-		0G00/J	0G003/	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
+Ä!'1?:5	C-		0G00SH	0G002J	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
5F6*$Q'7Ä(U!Ä&F7%&'6V	C-		0G0SH	0G0KR	I@=B		02=42=42(43.HH	02=4H=42(02.0S	4
QÄ6!'1?:5	C-		0G00/J	0G0022	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
-%Ä6Q$%7	C-		0G00/J	0G004S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
D7Q* I6P'7(,	C-		0G00/J	0G003S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
D7Q* I6P'7(,,	C-		0G00/J	0G004S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
D7Q* I6P'7(I6P'!Ä	C-		0G00SH	0G003S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
D7Q$%7	C-		0G00/J	0G004S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
D7Q$%7('6QÄFLQÄ	C-		0G00SH	0G004S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
@'##'1?:5(UB%7Q'7ÄV	C-		0G00SH	0G003S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
:ÄO!'&F6*$	C-		0G00SH	0G003S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
:ÄO!'&F6*$(ÄO*[%QÄ	C-		0G00/J	0G003/	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
Ā* ['OFÄ7Ä	C-		0G/J	0G3/	I@=B		02=42=42(43.HH	02=4H=42(02.0S	4
/E/\1---	C-		0G00/J	0G002J	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
/E/\1--D	C-		0G00/J	0G003S	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4
/E/\1--Ā	C-		0G00SH	0G002J	I @=B		02=42=42(43.HH	02=4H=42(02.0S	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*69*		*35 - 115*	*03/13/13 12:55*	*03/15/13 03:09*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5F$*#%I#E(FÄ['M'6Ä7!	C-		4G0	0G3H	I @=B			02=0S=42(02.42	4

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.3**		0GH0	0G/0	#@=B			02=0J=42(33.4	4
Nitrate Nitrite as N	**0.59**		0G3R	0G4	#@=B			02=0J=42(33.4	4
Sulfate	**6.0**		0GH0	0G/0	#@=B			02=0J=42(33.4	4

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
;Ä$&F6*$'!Ä	C-		/ G0	0GSH	I@=B			02=33=42(0K.24	4

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
3E2EKEJ1Ā5--	C-		0G000040	0G000000/S	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
3E2EKEJ1Ā5-A	C-		0G000040	0G000000/3	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2EKEJ1;Ä5--	C-		0G0000H0	0G000000KJ	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4

Client Sample ID: Outfall 009
Date Collected: 03/08/13 12:10
Date Received: 03/08/13 16:45

Lab Sample ID: 440-40332-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
4E3E2EKEJ1;Ã5-A	C-		0G0000H0	0G000000HJ	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
3E2E/EKEJ1;Ã5-A	C-		0G0000H0	0G000000R4	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2E/EKEJ1:[5--	C-		0G0000H0	0G000000HH	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2EREKEJ1:[5--	C-		0G0000H0	0G000000SJ	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2EKEJES1:[5--	C-		0G0000H0	0G000000KJ	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2E/EKEJ1:[5-A	C-		0G0000H0	0G000000/R	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2EREKEJ1:[5-A	C-		0G0000H0	0G000000/0	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2EKEJES1:[5-A	C-		0G0000H0	0G000000HK	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
3E2E/EREKEJ1:[5-A	C-		0G0000H0	0G000000/0	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
1,2,3,4,6,7,8-HpCDD	**0.000017**	**J,DX**	0G0000H0	0G000004K	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
1,2,3,4,6,7,8-HpCDF	**0.0000033**	**J,DX**	0G0000H0	0G0000040	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
4E3E2E/EKEJES1:O5-A	C-		0G0000H0	0G000004R	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
OCDD	**0.00025**	**MB**	0G00040	0G000040	I @=B		02=4/=42(0J.HR	02=4R=42(43.04	4
OCDF	**0.000012**	**J,DX MB**	0G00040	0G0000043	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Total TCDD	**0.00000070**	**J,DX q**	0G000040	0G000000/S	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Ã* !'6(Ã5-A	C-		0G000040	0G000000/3	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Ã* !'6(;Ã5--	C-		0G0000H0	0G000000KJ	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Ã* !'6(;Ã5-A	C-		0G0000H0	0G000000HJ	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Ã* !'6(:[5--	C-		0G0000H0	0G000000HH	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Total HxCDF	**0.0000019**	**J,DX**	0G0000H0	0G000000/R	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Total HpCDD	**0.000042**	**J,DX**	0G0000H0	0G000004K	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4
Total HpCDF	**0.0000077**	**J,DX q**	0G0000H0	0G0000042	I@=B		02=4/=42(0J.HR	02=4R=42(43.04	4

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*25 - 181*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*24 - 185*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-2,3,4,7,8-PeCDF	*68*		*21 - 178*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,4,7,8-HxCDD	*67*		*32 - 141*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*28 - 130*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*64*		*26 - 152*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*26 - 123*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,7,8,9-HxCDF	*63*		*29 - 147*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-2,3,4,6,7,8-HxCDF	*73*		*28 - 136*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*23 - 140*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*64*		*28 - 143*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*54*		*26 - 138*	*03/14/13 08:56*	*03/16/13 12:01*	*1*
13C-OCDD	*53*		*17 - 157*	*03/14/13 08:56*	*03/16/13 12:01*	*1*

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Lab Sample ID: 440-40332-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		35 - 197	03/14/13 08:56	03/16/13 12:01	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	370		H0	/0	I@=B		02=4J=42(0S./0	02=4J=42(42./3	4
"$ Ä7%&	C-		40	KG0	I @=B		02=4J=42(0S./0	02=4J=42(42./3	4
Boron	0.041	J,DX	0G0H0	0G030	#@=B		02=4J=42(0S./0	02=4J=42(42./3	4
?Ä$L66%I#	C-		3G0	0GS0	I @=B		02=4J=42(0S./0	02=4J=42(42./3	4
Calcium	8.4		0G40	0G0H0	#@=B		02=4J=42(0S./0	02=4J=42(42./3	4
5F$*#%I#	C-		HG0	3G0	I@=B		02=4J=42(0S./0	02=4J=42(42./3	4
Iron	0.46		0G0/0	0G04H	#@=B		02=4J=42(0S./0	02=4J=42(42./3	4
Magnesium	2.6		0G030	0G043	#@=B		02=4J=42(0S./0	02=4J=42(42./3	4
Nickel	2.3	J,DX	40	3G0	I @=B		02=4J=42(0S./0	02=4J=42(42./3	4
T'7'Q%I#	C-		40	2G0	I @=B		02=4J=42(0S./0	02=4J=42(42./3	4
]%7&	C-		30	SG0	I @=B		02=4J=42(0S./0	02=4J=42(42./3	4
>%6MÄ$	C-		40	RG0	I @=B		02=4J=42(0S./0	02=4J=42(42./3	4
Hardness, as CaCO3	32		0G22	0G4K	#@=B		02=4J=42(0S./0	02=4J=42(42./3	4

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	99		H0	/0	I@=B		02=4J=42(0J.30	02=4J=42(4S.02	4
"$ Ä7%&	C-		40	KG0	I @=B		02=4J=42(0J.30	02=4J=42(4S.02	4
Boron	0.056		0G0H0	0G030	#@=B		02=4J=42(0J.30	02=4J=42(4S.02	4
?Ä$L66%I#	C-		3G0	0GS0	I @=B		02=4J=42(0J.30	02=4J=42(4S.02	4
Calcium	8.2		0G40	0G0H0	#@=B		02=4J=42(0J.30	02=4J=42(4S.02	4
5F$*#%I#	C-		HG0	3G0	I@=B		02=4J=42(0J.30	02=4J=42(4S.02	4
Iron	0.11		0G0/0	0G04H	#@=B		02=4J=42(0J.30	02=4J=42(4S.02	4
Magnesium	2.4		0G030	0G043	#@=B		02=4J=42(0J.30	02=4J=42(4S.02	4
C%&ZÄ6	C-		40	3G0	I @=B		02=4J=42(0J.30	02=4J=42(4S.02	4
T'7'Q%I#	C-		40	2G0	I @=B		02=4J=42(0J.30	02=4J=42(4S.02	4
Zinc	9.7	J,DX	30	SG0	I @=B		02=4J=42(0J.30	02=4J=42(4S.02	4
>%6MÄ$	C-		40	RG0	I @=B		02=4J=42(0J.30	02=4J=42(4S.02	4
Hardness, as CaCO3	30		0G22	0G4K	#@=B		02=4J=42(0J.30	02=4J=42(4S.02	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.43	J,DX	4G0	0G40	I @=B		02=4J=42(0S.4J	02=4J=42(4/.0S	4
Copper	5.1		3G0	0GH0	I @=B		02=4J=42(0S.4J	02=4J=42(4/.0S	4
Lead	1.5		4G0	0G30	I @=B		02=4J=42(0S.4J	02=4J=42(4/.0S	4
Antimony	0.79	J,DX	3G0	0G20	I @=B		02=4J=42(0S.4J	02=4J=42(4/.0S	4
>Ä6Ä7%I#	C-		3G0	0GH0	I @=B		02=4J=42(0S.4J	02=4J=42(4/.0S	4
Thallium	0.43	J,DX	4G0	0G30	I @=B		02=4J=42(0S.4J	02=4J=42(4/.0S	4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5'Q#%I#	C-		4G0	0G40	I @=B		02=4J=42(40.23	02=4J=42(42.HJ	4
Copper	3.0		3G0	0GH0	I @=B		02=4J=42(40.23	02=4J=42(42.HJ	4
Lead	0.35	J,DX	4G0	0G30	I @=B		02=4J=42(40.23	02=4J=42(42.HJ	4
Antimony	0.45	J,DX	3G0	0G20	I @=B		02=4J=42(40.23	02=4J=42(42.HJ	4
Selenium	0.64	J,DX	3G0	0GH0	I @=B		02=4J=42(40.23	02=4J=42(42.HJ	4
ĀF'66%I#	C-		4G0	0G30	I @=B		02=4J=42(40.23	02=4J=42(42.HJ	4

Client Sample ID: Outfall 009
Date Collected: 03/08/13 12:10
Date Received: 03/08/13 16:45

Lab Sample ID: 440-40332-1
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8Ä$&I$L	C-		0G30	0G40	I@=B		02=30=42(43.3K	02=30=42(4S.2K	4

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8Ä$&I$L	C-		0G30	0G40	I@=B		02=30=42(43.3K	02=30=42(4R.3K	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
:D8	C-		/ GK	4G2	# @=B		02=4H=42(0K.04	02=4H=42(0K44	4
Total Dissolved Solids	**87**		40	40	#@=B			02=4/=42(0J.3/	4
Ā* !'6(>I OÄ7QÄQ(>*6%Q	C-		40	40	#@=B			02=43=42(30.0S	4
5L'7%QÄ!'6	C-		HG0	2G0	I@=B		02=4=42(4H.0/	02=4=42(34.2J	4
Fluoride	**0.12**		0G40	0G030	#@=B			02=40=42(4/./K	4

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
^$* ("6OF'	0GRK3	_	0GR2K	0GR/4	0GSJ4	O5%=B	02=30=42(43.00	02=3H=42(4R./S	4
^$* (?Ä!'	0GS00	_	0GR2H	0GR/4	0GSK2	O5%=B	02=30=42(43.00	02=3H=42(4R./S	4

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
5Ä %I#142K	0G033/	_	/ GH3	/GH3	JGKH	O5%=B	02=42=42(4H.3R	02=4K=42(4K.HJ	4
;*!' %I#1/0	124GR	_	4KH	4KH	4S/	O5%=B	02=42=42(4H.3R	02=4K=42(4K.HJ	4

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
``Q%I#133R	0G0K00	_	0G0SH0	0G0SH2	0G4HK	O5%=B	02=42=42(42./J	0/=0/=42(0S.0/	4

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.8*		*40 - 110*	*03/13/13 13:48*	*04/04/13 09:04*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
``Q%I#133J	0G3SK	_	0G3R2	0G3RH	0G/4S	O5%=B	02=42=42(42.//	0/=02=42(40./J	4

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.8*		*40 - 110*	*03/13/13 13:44*	*04/03/13 10:48*	*1*
Y Carrier	*86.4*		*40 - 110*	*03/13/13 13:44*	*04/03/13 10:48*	*1*

Method: 905 - Strontium-90 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
>!$*7!%I#1S0	10G0JH/	_	0G4J3	0G4J3	0G2/3	O5%=B	02=4/=42(4/.24	02=3H=42(4H.//	4

Client Sample ID: Outfall 009

Lab Sample ID: 440-40332-1

Date Collected: 03/08/13 12:10

Matrix: Water

Date Received: 03/08/13 16:45

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	73.2		40 - 110	03/14/13 14:31	03/25/13 15:44	1
Y Carrier	92.0		40 - 110	03/14/13 14:31	03/25/13 15:44	1

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Ā$%!%I#	KSGK_		K2GH	K2GJ	40J	O5%=B	02=4/=42(0J.20	02=4/=42(43.HS	4

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Ā* !'6(_$'7%I#	0G0J2R	_	0G40//	0G40/H	0G4/0	O5%=B	02=4/=42(4/.H4	02=4J=42(4K.0/	4

Method: SM 9221E - Coliforms, Fecal (Multiple-Tube Fermentation)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	30		3G0	3G0	8;C=400#B			02=0J=42(4K.2J	4

Method: SM 9221F - E.Coli (Multiple-Tube Fermentation; EC-MUG)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	23		3G0	3G0	8;C=400#B			02=0J=42(4K.2J	4

Client Sample ID: Trip Blanks

Lab Sample ID: 440-40332-2

Date Collected: 03/08/13 12:10

Matrix: Water

Date Received: 03/08/13 16:45

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4E4E41$Ã%&F6*$*Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.22	4
315F6*$*Ä!FL6(M%7L6(Ä!FÄ$	C-		3G0	4GJ	I@=B			02=40=42(4K./3	4
4E4E3E3Ä1$'&F6*$*Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.22	4
"&$*6Ä%7	C-		HG0	/ G0	I@=B			02=40=42(4K./3	4
4E4E31$Ã%&F6*$*Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.22	4
"&$L6*7%!$%6Ä	C-		3G0	4G3	I@=B			02=40=42(4K./3	4
4E41-%&F6*$*Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
4E41-%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G/3	I@=B			02=4J=42(4/.22	4
4E31-%&F6*$*+Ä7NÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.22	4
4E31-%&F6*$*Ä!F'7Ä	C-		0GH0	0G3J	I@=B			02=4J=42(4/.22	4
4E31-%&F6*$*O$*O'7Ä	C-		0GH0	0G2H	I@=B			02=4J=42(4/.22	4
4E21-%&F6*$*+Ä7NÄ7Ä	C-		0GH0	0G2H	I@=B			02=4J=42(4/.22	4
4E3E21$Ã%&F6*$*O$*O'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
4E/1-%&F6*$*+Ä7NÄ7Ä	C-		0GH0	0G2K	I@=B			02=4J=42(4/.22	4
?Ä7NÄ7Ä	C-		0GH0	0G3J	I@=B			02=4J=42(4/.22	4
?$*#*P*$#	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
?$*#*#Ä!F'7Ä	C-		0GH0	0G/3	I@=B			02=4J=42(4/.22	4
5'$+*7(!Ä!$'&F6*$%QÄ	C-		0GH0	0G3J	I@=B			02=4J=42(4/.22	4
5F6*$*+Ä7NÄ7Ä	C-		0GH0	0G2R	I@=B			02=4J=42(4/.22	4
-%+$*#*&F6*$*#Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
5F6*$*Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
5F6*$*P*$#	C-		0GH0	0G22	I@=B			02=4J=42(4/.22	4

Client Sample ID: Trip Blanks — **Lab Sample ID: 440-40332-2**
Date Collected: 03/08/13 12:10 — **Matrix: Water**
Date Received: 03/08/13 16:45

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5F6*$*#Ä!F'7Ä	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
&% 14E21-%&F6*$*O$*OÄ7Ä	C-		0GH0	0G33	I@=B			02=4J=42(4/.22	4
?$*#*Q%&F6*$*#Ä!F'7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.22	4
D!FL6+Ä7NÄ7Ä	C-		0GH0	0G3H	I@=B			02=4J=42(4/.22	4
8Ä!FL6Ä7Ä(5F6*$%QÄ	C-		4G0	0GSH	I @=B			02=4J=42(4/.22	4
ĀÄ!$'&F6*$*Ä!FÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.22	4
Ā*6IÄ7Ä	C-		0GH0	0G2R	I@=B			02=4J=42(4/.22	4
!$'7 14E31-%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G20	I@=B			02=4J=42(4/.22	4
!Ä$!1?I!'7*6	C-		40	RGH	I @=B			02=4J=42(4/.22	4
!$'7 14E21-%&F6*$*O$*OÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.22	4
Ā$%&F6*$*P6I*$*#Ä!F'7Ä	C-		0GH0	0G2/	I@=B			02=4J=42(4/.22	4
T%7L6(&F6*$%QÄ	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
Ā$%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G3R	I@=B			02=4J=42(4/.22	4
&% 14E31-%&F6*$*Ä!FÄ7Ä	C-		0GH0	0G23	I@=B			02=4J=42(4/.22	4
4E31-%+$*#*Ä!F'7Ä(UD-?V	C-		0GH0	0G/0	I@=B			02=4J=42(4/.22	4
-%% *O$*OL6(Ä!FÄ$	C-		0GH0	0G3H	I@=B			02=4J=42(4/.22	4
8Ä!FL6(!Ä$!1+I!L6(Ä!FÄ$	C-		0GH0	0G23	I@=B			02=4J=42(4/.22	4
C'OF!F'6Ä7Ä	C-		0GH0	0G/4	I@=B			02=4J=42(4/.22	4
ĀÄ$!1'#L6(#Ä!FL6(Ä!FÄ$	C-		0GH0	0G22	I@=B			02=4J=42(4/.22	4
D!FL6(!Ä$!1+I!L6(Ä!FÄ$	C-		0GH0	0G3J	I@=B			02=4J=42(4/.22	4
WL6Ä7Ä Æ(!'6	C-		4G0	0GS0	I @=B			02=4J=42(4/.22	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*03/10/13 17:42*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*03/10/13 17:42*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*03/18/13 14:33*	*1*
Dibromofluoromethane (Surr)	*112*		*80 - 120*		*03/18/13 14:33*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*03/18/13 14:33*	*1*

Method	Method Description	Protocol	Laboratory
F3/	G*6'!%6Ä(H$@'7%&(5*#I*J7K (LM5=8>N	/05AE42F"	Ã" B(,EG
O3OP3	>Ä#%Q*6'!%6Ä(H$@'7%&(5*#I*J7K (LM5=8>N	D; "	Ã" B(,EG
F3O	>Ä#%Q*6'!%6Ä(H$@'7%&(5*#I*J7K (LM5=8>N	D; "	Ã" B(,EG
F0R(;5?(BB	;*6S&T6*$%7'!ÄK(?%ITÄ7S6 (L;5? N(B*U(6ÄQÄ6	/05AE42F"	Ã" B(,EG
F0R(;Ä !%&%KÄ	H$@'7*&T6*$%7Ä(;Ä !%&%KÄ ((B*U(6ÄQÄ6	/05AE42F"	Ã" B(,EG
34RPF	5T$*#%J#V(:ÄW'Q'6Ä7!(L,*7(5T$*#'!*@$'ITSN	D; "	Ã" B(,EG
200P0	" 7%*7 V(,*7(5T$*#'!*@$'ITS	85" 9 9	Ã" B(,EG
24/P0	; Ä$&T6*$'!Ä(L,5N	D; "	Ã" B(,EG
4F42?	-%*W%7 ('7K(AJ$'7 (L:EM5=:E8>N	/05AE42F"	Ã" B(>"5
300PX(EÄQ(/P/	8Ä!'6 (L,5;N	D; "	Ã" B(,EG
300PR	8 Ä!'6 (L,5;=8>N	D; "	Ã" B(,EG
3/OP4	8 Ä$&J$S(L5'0N	D; "	Ã" B(,EG
4FF/"	:D8('7K(>MÃ 1:D8	4FF/"	Ã" B(,EG
>8(3O/05	>*6%KÃ'6(-% *6QÄK(LÃ->N	>8	Ã" B(,EG
>8(3O/0-	>*6%KÃ'6(>J IÄ7KÄK(LÃ>>N	>8	Ã" B(,EG
>8(/O00(5C(D	5 S'7%KÄÃ'6(LB*U(BÄQÄ6N	>8	Ã" B(,EG
>8(/O00(A(5	A6J*$%KÄ	>8	Ã" B(,EG
Y00P0	M$* (" 6IT'('7K(M$* (?Ä!'(E'K%*'&!%Q%!S	D; "	Ã" B(>B
Y04P4	5Ä %J#(42X(Z(H!TÄ$(M'##'(D#%!!Ä$ (LM>N	D; "	Ã" B(>B
Y02P0	E'K%J#133F(LMA;5N	D; "	Ã" B(>B
Y0/P0	E'K%J#133R(LMA;5N	D; "	Ã" B(>B
Y0O	>!$*7!%J#1Y0(LMA;5N	D; "	Ã" B(>B
Y0FP0	Ã$%!%J#Ä'6(LB>5N	D; "	Ã" B(>B
"1041E	, *!*I%&([$'7%J#(L"6IT'(>IÄ&!$*#Ä!$SN	-HD	Ã" B(>B
>8(Y334D	5*6%*$# V(AÄ&'6(L8J6!%I6ÄÄ(ÃÄÄ$#Ä7!'!%*7N	>8	Ã" B(,EG
>8(Y334A	DP5*6%(L8J6!%I6ÄÄ(ÃÄÄ$#Ä7!'!%*7](D518[MN	>8	Ã" B(,EG
"&J!Ä(A:(#%77*UV(D; " =R341E031043	?%*' 'S	CHCD	>5043X
" +Ä !*	D; " (400P3'((+Ä !* (%7(-$%7^%7@(9Ä$	CHCD	D8>(B'+
:J#'7(?'&!Ä$%*K'6Ä	MÄ7Ä$'6(>J+(5*7!$'&!(8Ä!T*K	CHCD	D8>B

Protocol References:

4FF/" (_(D; "1R341YR1003

/05AE42F " (_(`8 Ä!T*K (\*$(H$@'7%&(5TÄ#%&'6( S % (*\(8J7%&%I(7KJ !$%'6(9 !ÄU'!Ä$ `V(/05AEV(;'$!(42FV(IlÄ7K%W(V((H&!*+Ä$FV(4YR/('7K(J+ ÄaJÄ7!($ÄQ% %*7 P

-HD(_([P>P(-Ä!'$!#Ä7!(*\(D7Ä$@S

D; " (_([>(D7Q%$*7#Ä7!'6(;$*!Ä&!%*'7@Ä7&S

85" 99(_(`8Ä!T*K (A*$(5TÄ#%&'6( "7'6S % (H\(9 '!Ä$(" 7K(9 ' !Ä `V(D; "1F00=/1XY1030V(8'$&T(4YR2K(>J+ ÄaJÄ7!(EÄQ% %*7 P

CHCD(_(CHCD

>8(_(`>!'7K'$K(8Ä!T*K (A*$( ĀTÄ(DW'#%7'!%*7(H\(9Ä$(" 7K(9 ' !Ä$U' !Ä$`V

Laboratory References:

D8>(B'+ (_(D8>(B'+*$'!*$%Ä (;' 'KÄ7'V(5"V(4 4X(9 Ä !(?Ä66ÄQJÄ(-$ÄV(>!Ä(2V(;' 'KÄ7'V(5"(Y440O13O02

D8>B (_(D8>B(" 7'6S!%&'6V(,7&PV(300(E!(420(C*$!TV(5%77'#%7(0R0(XÃDB(LR00N33012FXO

>5043X(_("aJ'!%&(ÃÄ !%7@(B'+*$'!*$%Ä V(/2ÃB7 I*$!(b40XV(GÄ7!J$'V(5" (Y2002

Ã" B(,EG(_(ÃÄ !"#Ä$%&'(,$Q%7ÄV(4X/F4(-Ä$%ÃV(>J%!Ä(400V(,ÃQ(5"(Y3F4/1OR4XÃDB(LY/YN3F414033

Ã" B(>"5(_(ÃÄ !"#Ä$%&'(>'&$'#Ä7!*V(RR0(E%QÄ$ %KÄ(;'$^U'$Ä !(> '&$'#Ä7!*V(5" (YOF0OÃDB(LY4FN2X21OF00

Ã" B(>B(_(ÃÄ !"#Ä$%&'(>!P(B*J% V(42X4O(E'$&'Ä(C*$!TV(D'$!T(8H(F20/OVÃDB(L24/N3YR1ROFF

Client Sample ID: Outfall 009

Date Collected: 03/08/13 12:10
Date Received: 03/08/13 16:45

Lab Sample ID: 440-40332-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
02#-Ä=C)	)"-ÄE. .	F95		:	:6%*B	:6%*B	K6FH6	68=:6=:8%:G$:H	'Ā	0) B%/Ü
02#-Ä=C)	)"-ÄE. .	F95		:	:6%*B	:6%*B	K985L	68=:L=:8%:5$6H	) B	0)B %/Ü
02#-Ä=C)	;+!M	H9HN9			:68H%*B	:%*B	K6HLH	68=6K=:8%6G$6L	ĀC	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	H9HN9		:			K::KG	68=:9=:8%:K$9K	Ā;	0)B %/Ü
02#-Ä=C)	;+!M	F9H			:6HH%*B	9%*B	K::F6	68=:9=:8%:8$H9	) O	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	F9H		:			K9: :9	68=:F=:8%6K$HG	4 A	0)B %/Ü
02#-Ä=C)	;+!M	F6L			:6H6%*B	9%*B	K:5HG	68=:8=:8%:9$HH	) ?	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	F6L%;!.# , P!.		:			K:L5:	68=:H=:8%68$6K	1&	0)B %/Ü
02#-Ä=C)	;+!M	F6L			:6H6%*B	9%*B	K:5HG	68=:8=:8%:9$HH	) ?	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	F6L%;Ā?%BB		:			K96:L	68=:5=:8%:H$H5	1&	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	866N6		:	:%*B	%	K68GF	68=6L=:8%99$:	CC	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	866N6		:	:%*B	%	K68GG	68=6L=:8%99$:	CC	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	9:LNF		:	:6%*B	%	K68K9	68=6K=:8%68$:8	I '	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	8:5N6		:	:%*B	%	K88LH	68=99=:8%6G$8:	Ā(	0)B %/Ü
02#-Ä=C)	;+!M	:F:8?			:66:NL%*B	96%QB	:9889	68=:5=:8%6L$HF	C&	0)B %>)Ā
02#-Ä=C)	)"-ÄE. .	:F:8?		:			:95GF	68=:F=:8%:9$6:	& O	0)B %>)Ā
4 ..2ĀR!P	;+!M	966N9			H6%*B	H6%*B	K9586	68=:L=:8%:6$89	4 0	0)B %/Ü
4 ..2ĀR!P	)"-ÄE. .	966NL		:			K95LF	68=:L=:8%:8$HL	C(	0)B %/Ü
02#-Ä%I!,2R!+-3Ā!	;+!M	966N9			H6%*B	H6%*B	K956H	68=:L=:8%6K$56	4 0	0)B %/Ü
02#-Ä%I!,2R!+-3Ā!	)"-ÄE. .	966NG%I!R%5N5		:			K95KL	68=:L=:8%:8$59	0S	0)B %/Ü
02#-Ä%I!,2R!+-3Ā!	;+!M	966N9			H6%*B	H6%*B	K98KH	68=:L=:8%6K$:L	4 0	0)B %/Ü
02#-Ä%I!,2R!+-3Ā!	)"-ÄE. .	966NL		:			K9H6L	68=:L=:8%:5$6K	C(	0)B %/Ü
4 ..2ĀR!P	;+!M	966N9			H6%*B	H6%*B	K98GH	68=:L=:8%6L$96	4 0	0)B %/Ü
4 ..2ĀR!P	)"-ÄE. .	966NG%I!R%5N5		:			K9F98	68=:L=:8%:K$68	0S	0)B %/Ü
4 ..2ĀR!P	;+!M	95HN:			96%*B	96%*B	K9KFG	68=96=:8%:9$9G	& &	0)B %/Ü
4 ..2ĀR!P	)"-ÄE. .	95HN:		:			K8:96	68=96=:8%:F$9G	4 ?	0)B %/Ü
02#-Ä=C)	;+!M	95HN:			96%*B	96%*B	K9H69	68=96=:8%:9$9G	& &	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	95HN:		:			K89GK	68=96=:8%:K$8G	4 ?	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	>&%5H66%A%Ā		:	%	9H%*B	K6FGG	68=:6=:8%:5$5G	0)/	0) B%/Ü
02#-Ä=C)	;+!M	4 .# ÄÄ=ĀC			H6%*B	H6%*B	K6LLH	68=:: =:8%:H$65	?0	0) B%/Ü
02#-Ä=C)	)"-ÄE. .	>&%5H66%ĀC%D		:			K6KL5	68=:: =:8%9:$8L	?0	0) B%/Ü
02#-Ä=C)	)"-ÄE. .	>&%9H564		:	:66%*B	:66%*B	K:9GK	68=:9=:8%96$6K	4 S	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	>&%9H56Ā		:	:66%*B	:66%*B	K:FGF	68=:5=:8%6L$95	TB	0)B %/Ü
02#-Ä=C)	;+!M	:FF5)			:6HH%*B	:666%*B	K:KG5	68=:H=:8%6G$6:	4)	0)B %/Ü
02#-Ä=C)	)"-ÄE. .	:FF5)		:			K:KGK	68=:H=:8%6G$:	4)	0)B %/Ü
02#-Ä=C)	;+!M	B>ĀU4 .#U>Q.M			:66%*B	%	8KKLK	68=:5=:8%6L$86	CC	0)B %>B
02#-Ä=C)	)"-ÄE. .	K6FN6		:			5699F	68=:5=:8%:9$HK	& S	0)B %>B
02#-Ä=C)	;+!M	A ÄÄUO!276			:666%*B	%	8K5KL	68=:8=:8%:H$9F	&1>	0) B%B
02#-Ä=C)	)"-ÄE. .	K6:N:		:			568K:	68=:G=:8%:G$HL	>;	0)B %>B
02#-Ä=C)	;+!M	DV#ĀW+2*			H66N98%*B	%	566GH	68=:5=:8%:5$H:	& &	0)B %>B
02#-Ä=C)	)"-ÄE. .	)76:7I		:			56H58	68=:L=:8%:G$65	I &	0)B %>B
02#-Ä=C)	;+!M	DR-M2+-# 2"			966%*B	%	56KH8	68=96=:8%:9$66	&1>	0) B%B
02#-Ä=C)	)"-ÄE. .	K66N6		:			5:HFK	68=9H=:8%:F$5KB	>	0)B %>B

Client Sample ID: Outfall 009

Lab Sample ID: 440-40332-1

Date Collected: 03/08/13 12:10

Matrix: Water

Date Received: 03/08/13 16:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
02#-Ä=C)	;+!M	;+!,>!M7G			KH:NL8%*B	%	566G8	68=:5=:8%:5$8:	I>	0)B %>B
02#-Ä=C)	)"-ÄE. .	K6H		:			5:HFK	68=9H=:8%:H$55	B>	0)B %>B
02#-Ä=C)	;+!M	;+!,>!MU6			KFFNFL%*B	%	8K5G5	68=:8=:8%:8$55	B&	0)B %>B
02#-Ä=C)	)"-ÄE. .	K65N6		:			55:6G	65=68=:8%:6$5L	B>	0)B %>B
02#-Ä=C)	;+!M	;+!,>!M79:			KFFNFL%*B	%	8K5GH	68=:8=:8%:8$5L	B&	0)B %>B
02#-Ä=C)	)"-ÄE. .	K68N6		:			559:G	65=65=:8%6K$65	B>	0)B %>B
02#-Ä=C)	)"-ÄE. .	>&%K99:D		:	:66%*B	:66%*B	K6FG8		DA	0) B%/IJ
							X>#-+#Y	68=6L=:8%:G$8L		
							XD"PY	68=:: =:8%:5$H6		
02#-Ä=C)	)"-ÄE. .	>&%K99:A		:	:66%*B	:66%*B	K6FG5		DA	0) B%/IJ
							X>#-+#Y	68=6L=:8%:G$8L		
							XD"PY	68=:: =:8%:5$H6		

Client Sample ID: Trip Blanks

Lab Sample ID: 440-40332-2

Date Collected: 03/08/13 12:10

Matrix: Water

Date Received: 03/08/13 16:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
02#-Ä=C)	)"-ÄE. .	F95		:	:6%*B	:6%*B	K6FH6	68=:6=:8%:G$59	'Ā	0) B%/IJ
02#-Ä=C)	)"-ÄE. .	F95		:	:6%*B	:6%*B	K985L	68=:L=:8%:5$88	) B	0)B %/IJ

Laboratory References:

D&>%B-3.%Z%D&>%B-32+-#2+ !.%;-.-P!"-[%Ā)[%%' ! .#%?!ÄÄ!RQ!%R4[%>#!%8[%;-.-P!"-[%Ā)%::6H79H68

D&>B%Z%D&%B-ÄE# ,-Ä[%/",N[%966%I#%:86%C2+#W[%Ā ""-* "%2[%6G[%D%B%XL66Y99678FGH

>Ā6:9G%Z%Q-# ,%0! .# "@%B-32+-#2+ !.[%58H6%M2+#%]:6G[%J #Q+-[%Ā%8668

0) B%/IJ%Z%.#)*!+ ,-%/+R "![%:G5F:%4!+ -"%R[%>Q #!%:66[%![%Ā) %%9F:57HL:G[%DB%XK5KY9F:7:699

0) B%)Ā%Z%.#)*!+ ,-%>-,+-*!"#2[%LL6%I R!+. P!%;-+^_-E [%'!.#%>,+-*!"#2[%Ā) %KHF6H[%DB%XK:FY8G87HF66

0) B%B%Z%#)*!+ ,-%>#N%B2Q .[%:8G:H%I R0+%Ä%C2+#W[%Ā-#%%F865H[%B%8:5Y9KL7LHFF

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-90650/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90650

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
315E6*$*Ä!EF6(G%7F6(Ä!EÄ$	C-		3H0	4HI	J@=B			02=40=42(43.0K	4
"&$*6Ä%7	C-		KH0	/H0	J@=B			02=40=42(43.0K	4
"&$F6*7%!$%6Ä	C-		3H0	4H3	J@=B			02=40=42(43.0K	4

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*03/10/13 12:05*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*		*03/10/13 12:05*	*1*

Lab Sample ID: LCS 440-90650/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90650

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
315E6*$*Ä!EF6(G%7F6(Ä!EÄ$			3KH0	4LHM		J@=B		L3	3K 14L0		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*

Lab Sample ID: 440-40019-S-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90650

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
315E6*$*Ä!EF6(G%7F6(Ä!EÄ$	C-		3KH0	4KHK		J@=B		N3	3K 14L0		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*

Lab Sample ID: 440-40019-S-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90650

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
315E6*$*Ä!EF6(G%7F6(Ä!EÄ$	C-		3KH0	4LH0		J@=B		NI	3K 14L0	M	3K

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 440-92348/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4O4O4$Ä&E6*$*Ä!E'7Ä	C-		0HK0	0H20	J@=B			02=4I=42(0M.4L	4

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-92348/4
Matrix: Water
Analysis Batch: 92348

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4O4O3OÄ!$&E6*$*Ä!E'7Ä	C-		0HK0	0H20	J@=B			02=4I=42(0M.4L	4
4O4O3$Ä&E6*$*Ä!E'7Ä	C-		0HK0	0H20	J@=B			02=4I=42(0M.4L	4
4O41-%&E6*$*Ä!E'7Ä	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
4O41-%&E6*$*Ä!EÄ7Ä	C-		0HK0	0H/3	J@=B			02=4I=42(0M.4L	4
4O31-%&E6*$*+Ä7PÄ7Ä	C-		0HK0	0H23	J@=B			02=4I=42(0M.4L	4
4O31-%&E6*$*Ä!E'7Ä	C-		0HK0	0H3I	J@=B			02=4I=42(0M.4L	4
4O31-%&E6*$*Q$*Q'7Ä	C-		0HK0	0H2K	J@=B			02=4I=42(0M.4L	4
4O21-%&E6*$*+Ä7PÄ7Ä	C-		0HK0	0H2K	J@=B			02=4I=42(0M.4L	4
4O3O2$Ä&E6*$*Q$*Q'7Ä	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
4O/1-%&E6*$*+Ä7PÄ7Ä	C-		0HK0	0H2L	J@=B			02=4I=42(0M.4L	4
?Ä7PÄ7Ä	C-		0HK0	0H3I	J@=B			02=4I=42(0M.4L	4
?$*#*R*$#	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
?$*#*#Ä!E'7Ä	C-		0HK0	0H/3	J@=B			02=4I=42(0M.4L	4
5'$+*7(!Ä!$'&E6*$%SÄ	C-		0HK0	0H3I	J@=B			02=4I=42(0M.4L	4
5E6*$*+Ä7PÄ7Ä	C-		0HK0	0H2N	J@=B			02=4I=42(0M.4L	4
-%+$*#*&E6*$*#Ä!E'7Ä	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
5E6*$*Ä!E'7Ä	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
5E6*$*R*$#	C-		0HK0	0H22	J@=B			02=4I=42(0M.4L	4
5E6*$*#Ä!E'7Ä	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
&% 14O21-%&E6*$*Q$*QÄ7Ä	C-		0HK0	0H33	J@=B			02=4I=42(0M.4L	4
?$*#*S%&E6*$*#Ä!E'7Ä	C-		0HK0	0H20	J@=B			02=4I=42(0M.4L	4
D!EF6+Ä7PÄ7Ä	C-		0HK0	0H3K	J@=B			02=4I=42(0M.4L	4
8Ä!EF6Ä7Ä(5E6*$%SÄ	C-		4H0	0HMK	J@=B			02=4I=42(0M.4L	4
ĀÄ!$'&E6*$*Ä!EÄ7Ä	C-		0HK0	0H23	J@=B			02=4I=42(0M.4L	4
Ä*6JÄ7Ä	C-		0HK0	0H2N	J@=B			02=4I=42(0M.4L	4
!$'7 14O31-%&E6*$*Ä!EÄ7Ä	C-		0HK0	0H20	J@=B			02=4I=42(0M.4L	4
!Ä$!1?J!'7*6	C-		40	NHK	J@=B			02=4I=42(0M.4L	4
!$'7 14O21-%&E6*$*Q$*QÄ7Ä	C-		0HK0	0H23	J@=B			02=4I=42(0M.4L	4
Ā$%&E6*$*R6J*$*#Ä!E'7Ä	C-		0HK0	0H2/	J@=B			02=4I=42(0M.4L	4
T%7F6(&E6*$%SÄ	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
Ā$%&E6*$*Ä!EÄ7Ä	C-		0HK0	0H3N	J@=B			02=4I=42(0M.4L	4
&% 14O31-%&E6*$*Ä!EÄ7Ä	C-		0HK0	0H23	J@=B			02=4I=42(0M.4L	4
4O31-%+$*#*Ä!E'7Ä(UD-?V	C-		0HK0	0H/0	J@=B			02=4I=42(0M.4L	4
-%% *Q$*QF6(Ä!EÄ$	C-		0HK0	0H3K	J@=B			02=4I=42(0M.4L	4
8Ä!EF6(!Ä$!1+J!F6(Ä!EÄ$	C-		0HK0	0H23	J@=B			02=4I=42(0M.4L	4
C'QE!E'6Ä7Ä	C-		0HK0	0H/4	J@=B			02=4I=42(0M.4L	4
ĀÄ$!1'#F6(#Ä!EF6(Ä!EÄ$	C-		0HK0	0H22	J@=B			02=4I=42(0M.4L	4
D!EF6(!Ä$!1+J!F6(Ä!EÄ$	C-		0HK0	0H3I	J@=B			02=4I=42(0M.4L	4
WF6Ä7ÄÃ!'6	C-		4H0	0HM0	J@=B			02=4I=42(0M.4L	4

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*03/18/13 09:17*	*1*
Dibromofluoromethane (Surr)	*112*		*80 - 120*		*03/18/13 09:17*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*03/18/13 09:17*	*1*

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-92348/5
Matrix: Water
Analysis Batch: 92348

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4O4O4$Ä&E6*$*Ä!E'7Ä	3KH0	3IHN		J@=B		44/	NK142K
4O4O3Ä!$Ä&E6*$*Ä!E'7Ä	3KH0	3KH0		J@=B		400	KK1420
4O4O3$Ä&E6*$*Ä!E'7Ä	3KH0	3LH0		J@=B		40I	L0 143K
4O41-%&E6*$*Ä!E'7Ä	3KH0	3NHK		J@=B		40N	L0 143K
4O41-%&E6*$*Ä!EÄ7Ä	3KH0	3LH3		J@=B		40M	L0 143K
4O31-%&E6*$*+Ä7PÄ7Ä	3KH0	3NH3		J@=B		40K	LK1430
4O31-%&E6*$*Ä!E'7Ä	3KH0	3NH4		J@=B		40/	N0141/0
4O31-%&E6*$*Q$*Q'7Ä	3KH0	3/HK		J@=B		M	L0 143K
4O21-%&E6*$*+Ä7PÄ7Ä	3KH0	3NHI		J@=B		40L	LK1430
4O3O2$Ä&E6*$*Q$*Q'7Ä	3KH0	32H4		J@=B		M8	N0 1420
4O/1-%&E6*$*+Ä7PÄ7Ä	3KH0	3NHK		J@=B		40N	LK1430
?Ä7PÄ7Ä	3KH0	3/HK		J@=B		M	L0 1430
?$*#*R*$#	3KH0	24HN		J@=B		43N	KK1420
?$*#*#Ä!E'7Ä	3KH0	3KHL		J@=B		402	NK141/0
5'$+*7(!Ä!$'&E6*$%SÄ	3KH0	20HL		J@=B		432	NK141/0
5E6*$*+Ä7PÄ7Ä	3KH0	3LH0		J@=B		40I	LK1430
-%+$*#*&E6*$*#Ä!E'7Ä	3KH0	24HL		J@=B		43L	L0 141/0
5E6*$*Ä!E'7Ä	3KH0	3NH0		J@=B		40/	N0141/0
5E6*$*R*$#	3KH0	3LHI		J@=B		444	L0 1420
5E6*$*#Ä!E'7Ä	3KH0	33H3		J@=B		I M	K0 141/0
&% 14O21-%&E6*$*Q$*QÄ7Ä	3KH0	20HL		J@=B		432	LK143K
?$*#*S%&E6*$*#Ä!E'7Ä	3KH0	3MHN		J@=B		44I	L0 142K
D!EF6+Ä7PÄ7Ä	3KH0	3NHI		J@=B		40L	LK143K
8Ä!EF6Ä7Ä(5E6*$%SÄ	3KH0	3NHM		J@=B		40I	KK1420
ĀÄ!$'&E6*$*Ä!EÄ7Ä	3KH0	3NH/		J@=B		40N	L0 143K
Ä*6JÄ7Ä	3KH0	3KH2		J@=B		404	L0 1430
!$'7 14O31-%&E6*$*Ä!EÄ7Ä	3KH0	3NHM		J@=B		40I	L0 143K
!Ä$!1?J!'7*6	43K	42/		J@=B		40L	L0 142K
!$'7 14O21-%&E6*$*Q$*QÄ7Ä	3KH0	24H4		J@=B		43/	L0 143K
Ā$%&E6*$*R6J*$*#Ä!E'7Ä	3KH0	3IHL		J@=B		44K	NK141/K
T%7F6(&E6*$%SÄ	3KH0	3LH/		J@=B		440	KK142K
Ā$%&E6*$*Ä!EÄ7Ä	3KH0	3KHL		J@=B		402	L0 143K
&% 14O31-%&E6*$*Ä!EÄ7Ä	3KH0	3MH3		J@=B		44L	L0 143K
4O31-%+$*#*Ä!E'7Ä(UD-?V	3KH0	3MH0		J@=B		44N	LK143K
-%% *Q$*QF6(Ä!EÄ$	3KH0	3NH3		J@=B		40K	N0142K
8Ä!EF6(!Ä$!1+J!F6(Ä!EÄ$	3KH0	3/HM		J@=B		400	N0142K
C'QE!E'6Ä7Ä	3KH0	34HK		J@=B		I N	KK142K
ĀÄ$!1'#F6(#Ä!EF6(Ä!EÄ$	3KH0	3NHI		J@=B		40L	N0142K
D!EF6(!Ä$!1+J!F6(Ä!EÄ$	3KH0	3/H/		J@=B		M	NK142K
WF6Ä7ĀÄ$(!'6	LKH0	LIHM		J@=B		40K	L0 143K

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*112*		*80 - 120*
Toluene-d8 (Surr)	*107*		*80 - 120*

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-40649-F-5 MS
Matrix: Water
Analysis Batch: 92348

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4O4O49$Ä&E6*$*Ä!E'7Ä	C-		3KH0	3KHL		J@=B		402	NK14/0
4O4O3OÄ!$Ä&E6*$*Ä!E'7Ä	C-		3KH0	3/H/		J@=B		M	KK142K
4O4O39$Ä&E6*$*Ä!E'7Ä	C-		3KH0	3NHL		J@=B		40L	NK1420
4O41-%&E6*$*Ä!E'7Ä	C-		3KH0	3/HI		J@=B		MM	NK1420
4O41-%&E6*$*Ä!EÄ7Ä	C-		3KH0	32HL		J@=B		MK	N01420
4O31-%&E6*$*+Ä7PÄ7Ä	C-		3KH0	3/H3		J@=B		ML	LK143K
4O31-%&E6*$*Ä!E'7Ä	C-		3KH0	3KHL		J@=B		402	N014/0
4O31-%&E6*$*Q$*Q'7Ä	C-		3KH0	32HM		J@=B		MN	NK1420
4O21-%&E6*$*+Ä7PÄ7Ä	C-		3KH0	3/H/		J@=B		M	LK143K
4O3O29$Ä&E6*$*Q$*Q'7Ä	C-		3KH0	34HM		J@=B		I L	KK142K
4O/1-%&E6*$*+Ä7PÄ7Ä	C-		3KH0	3/HL		J@=B		MM	LK143K
?Ä7PÄ7Ä	C-		3KH0	32H4		J@=B		M8	NK143K
?$*#*R*$#	C-		3KH0	20HN		J@=B		433	KK142K
?$*#*#Ä!E'7Ä	C-		3KH0	34H2		J@=B		I K	KK14/K
5'$+*7(!Ä!$'&E6*$%SÄ	C-		3KH0	3LHM		J@=B		443	NK14/0
5E6*$*+Ä7PÄ7Ä	C-		3KH0	3KH0		J@=B		400	LK143K
-%+$*#*&E6*$*#Ä!E'7Ä	C-		3KH0	20H4		J@=B		434	NK14/0
5E6*$*Ä!E'7Ä	C-		3KH0	34H/		J@=B		I N	KK14/0
5E6*$*R*$#	C-		3KH0	3KHL		J@=B		402	NK142K
5E6*$*#Ä!E'7Ä	C-		3KH0	4KH/		J@=B		N4	/ K14/K
&% 14O21-%&E6*$*Q$*QÄ7Ä	C-		3KH0	20H4		J@=B		430	L01420
?$*#*S%&E6*$*#Ä!E'7Ä	C-		3KH0	3IHM		J@=B		44K	L0142K
D!EF6+Ä7PÄ7Ä	C-		3KH0	3/HK		J@=B		M	NK1420
8Ä!EF6Ä7Ä(5E6*$%SÄ	C-		3KH0	3/HK		J@=B		M	K0142K
ĀÄ!$'&E6*$*Ä!EÄ7Ä	C-		3KH0	3/HK		J@=B		M	NK1420
Ä*6JÄ7Ä	C-		3KH0	32HK		J@=B		M	L0143K
!$'7 14O31-%&E6*$*Ä!EÄ7Ä	C-		3KH0	3/HM		J@=B		MM	NK1420
!Ä$!1?J!'7*6	C-		43K	432		J@=B		M	NK14/0
!$'7 14O21-%&E6*$*Q$*QÄ7Ä	C-		3KH0	24H/		J@=B		43N	NK142K
Ā$%&E6*$*R6J*$*#Ä!E'7Ä	C-		3KH0	3/HK		J@=B		M	N014/K
T%7F6(&E6*$%SÄ	C-		3KH0	30HN		J@=B		I 3	/ K14/0
Ā$%&E6*$*Ä!EÄ7Ä	C-		3KH0	3/H3		J@=B		ML	NK143K
&% 14O31-%&E6*$*Ä!EÄ7Ä	C-		3KH0	3NHM		J@=B		40I	NK1420
4O31-%+$*#*Ä!E'7Ä(UD-?V	C-		3KH0	3LHK		J@=B		440	L01420
-%% *Q$*QF6(Ä!EÄ$	C-		3KH0	3/HL		J@=B		MM	N014/0
8Ä!EF6(!Ä$!1+J!F6(Ä!EÄ$	C-		3KH0	3/HI		J@=B		MM	KK14/K
C'QE!E'6Ä7Ä	C-		3KH0	30H4		J@=B		I 0	K014/0
ĀÄ$!1'#F6(#Ä!EF6(Ä!EÄ$	C-		3KH0	3NH3		J@=B		40K	N014/0
D!EF6(!Ä$!1+J!F6(Ä!EÄ$	C-		3KH0	32H2		J@=B		M2	N01 42K
WF6Ä7ÄÃ(!'6	C-		LKH0	L3H/		J@=B		ML	N01420

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*113*		*80 - 120*
Toluene-d8 (Surr)	*108*		*80 - 120*

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-40649-F-5 MSD
Matrix: Water
Analysis Batch: 92348

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4O4O49$Ä&E6*$*Ä!E'7Ä	C-		3KH0	3LHK		J@=B		440	NK14/0	L	30
4O4O3OÄ!$Ä&E6*$*Ä!E'7Ä	C-		3KH0	3/H2		J@=B		ML	KK142K	4	20
4O4O39$Ä&E6*$*Ä!E'7Ä	C-		3KH0	3KHI		J@=B		402	NK1420	2	3K
4O41-%&E6*$*Ä!E'7Ä	C-		3KH0	3KH3		J@=B		404	NK1420	3	30
4O41-%&E6*$*Ä!EÄ7Ä	C-		3KH0	3KH4		J@=B		400	N01420	N	30
4O31-%&E6*$*+Ä7PÄ7Ä	C-		3KH0	3KH2		J@=B		404	LK143K	K	30
4O31-%&E6*$*Ä!E'7Ä	C-		3KH0	3KH2		J@=B		404	N014/0	3	30
4O31-%&E6*$*Q$*Q'7Ä	C-		3KH0	3/H3		J@=B		ML	NK1420	4	30
4O21-%&E6*$*+Ä7PÄ7Ä	C-		3KH0	3NH3		J@=B		40K	LK143K	L	30
4O3O29$Ä&E6*$*Q$*Q'7Ä	C-		3KH0	33H0		J@=B		I I	KK142K	4	20
4O/1-%&E6*$*+Ä7PÄ7Ä	C-		3KH0	3NH2		J@=B		40K	LK143K	N	30
?Ä7PÄ7Ä	C-		3KH0	3/H3		J@=B		ML	NK143K	K	30
?$*#*R*$#	C-		3KH0	3MH/		J@=B		44I	KK142K	/	3K
?$*#*#Ä!E'7Ä	C-		3KH0	34HI		J@=B		I L	KK14/K	3	3K
5'$+*7(!Ä!$'&E6*$%SÄ	C-		3KH0	3MHI		J@=B		44M	NK14/0	N	3K
5E6*$*+Ä7PÄ7Ä	C-		3KH0	3KHM		J@=B		40/	LK143K	/	30
-%+$*#*&E6*$*#Ä!E'7Ä	C-		3KH0	20H4		J@=B		430	NK14/0	0	3K
5E6*$*Ä!E'7Ä	C-		3KH0	33H2		J@=B		I M	KK14/0	/	3K
5E6*$*R*$#	C-		3KH0	3NHN		J@=B		40N	NK142K	2	30
5E6*$*#Ä!E'7Ä	C-		3KH0	4NHK		J@=B		NN	/ K14/K	L	3K
&% 14O21-%&E6*$*Q$*QÄ7Ä	C-		3KH0	20H0		J@=B		430	L01420	0	30
?$*#*S%&E6*$*#Ä!E'7Ä	C-		3KH0	3IHM		J@=B		44N	L0142K	0	30
D!EF6+Ä7PÄ7Ä	C-		3KH0	3KH2		J@=B		404	NK1420	2	30
8Ä!EF6Ä7Ä(5E6*$%SÄ	C-		3KH0	3/HL		J@=B		MM	K0142K	4	30
ĀÄ!$'&E6*$*Ä!EÄ7Ä	C-		3KH0	3KHM		J@=B		40/	NK1420	N	30
Ä*6JÄ7Ä	C-		3KH0	3/HM		J@=B		400	L0143K	N	30
!$'7 14O31-%&E6*$*Ä!EÄ7Ä	C-		3KH0	3KHM		J@=B		40/	NK1420	/	30
!Ä$!1?J!'7*6	C-		43K	44K		J@=B		MB	NK14/0	L	3K
!$'7 14O21-%&E6*$*Q$*QÄ7Ä	C-		3KH0	20H/		J@=B		433	NK142K	2	3K
Ā$%&E6*$*R6J*$*#Ä!E'7Ä	C-		3KH0	3NH3		J@=B		40K	N014/K	L	3K
T%7F6(&E6*$%SÄ	C-		3KH0	33HN		J@=B		M0	/ K14/0	M	20
Ā$%&E6*$*Ä!EÄ7Ä	C-		3KH0	3KH2		J@=B		404	NK143K	/	30
&% 14O31-%&E6*$*Ä!EÄ7Ä	C-		3KH0	3LHN		J@=B		440	NK1420	2	30
4O31-%+$*#*Ä!E'7Ä(UD-?V	C-		3KH0	3NHN		J@=B		40L	L01420	2	3K
-%% *Q$*QF6(Ä!EÄ$	C-		3KH0	3/HN		J@=B		MM	N014/0	0	3K
8Ä!EF6(!Ä$!1+J!F6(Ä!EÄ$	C-		3KH0	3/H4		J@=B		MN	KK14/K	2	3K
C'QE!E'6Ä7Ä	C-		3KH0	4MHL		J@=B		LM	K014/0	3	20
ĀÄ$!1'#F6(#Ä!EF6(Ä!EÄ$	C-		3KH0	32HL		J@=B		MK	N014/0	40	20
D!EF6(!Ä$!1+J!F6(Ä!EÄ$	C-		3KH0	32H/		J@=B		M	N0142K	0	3K
WF6Ä7ÄÃ0('6	C-		LKH0	LKH4		J@=B		400	N01420	/	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 120*
Toluene-d8 (Surr)	*106*		*80 - 120*

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-90585/1-A
Matrix: Water
Analysis Batch: 90937

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 90585

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5E6*QF%R*	C-		4H0	0H0I0	J@=B		02=0M=42(0L.0I	02=4=42(4I.2K	4
-%'P%7*7	C-		0H3K	0H40	J@=B		02=0M=42(0L.0I	02=4=42(4I.2K	4

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dimethyl-2-nitrobenzene	*98*		*70 - 130*	*03/09/13 07:08*	*03/11/13 18:35*	*1*
Perylene-d12	*87*		*70 - 130*	*03/09/13 07:08*	*03/11/13 18:35*	*1*
Triphenylphosphate	*141*	*LH*	*70 - 130*	*03/09/13 07:08*	*03/11/13 18:35*	*1*

Lab Sample ID: MB 440-90585/1-A
Matrix: Water
Analysis Batch: 91851

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 90585

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5E6*QF%R*	C-		4H0	0H0I0	J@=B		02=0M=42(0L.0I	02=4/=42(33./K	4
-%'P%7*7	C-		0H3K	0H40	J@=B		02=0M=42(0L.0I	02=4/=42(33./K	4

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dimethyl-2-nitrobenzene	*95*		*70 - 130*	*03/09/13 07:08*	*03/14/13 22:45*	*1*
Perylene-d12	*101*		*70 - 130*	*03/09/13 07:08*	*03/14/13 22:45*	*1*
Triphenylphosphate	*134*	*LH*	*70 - 130*	*03/09/13 07:08*	*03/14/13 22:45*	*1*

Lab Sample ID: LCS 440-90585/2-A
Matrix: Water
Analysis Batch: 90937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 90585

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
5E6*QF%R*			KH00	/ HM3		J@=B		M	L0 1420		
-%'P%7*7			KH00	/H3N		J@=B		I K	L0 1420		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,3-Dimethyl-2-nitrobenzene	*100*		*70 - 130*
Perylene-d12	*94*		*70 - 130*
Triphenylphosphate	*138*	*LH*	*70 - 130*

Lab Sample ID: LCS 440-90585/2-A
Matrix: Water
Analysis Batch: 91851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 90585

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
5E6*QF%R*			KH00	KHK4		J@=B		440	L0 1420		
-%'P%7*7			KH00	/HKM		J@=B		M8	L0 1420		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,3-Dimethyl-2-nitrobenzene	*94*		*70 - 130*
Perylene-d12	*98*		*70 - 130*
Triphenylphosphate	*132*	*LH*	*70 - 130*

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-90585/3-A
Matrix: Water
Analysis Batch: 90937

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 90585

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5E6*QF%R*			KH00	/ HL/		J@=B		MK	L0 1420	/	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,3-Dimethyl-2-nitrobenzene	*103*		*70 - 130*
Perylene-d12	*90*		*70 - 130*
Triphenylphosphate	*121*		*70 - 130*

Lab Sample ID: LCSD 440-90585/3-A
Matrix: Water
Analysis Batch: 91851

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 90585

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5E6*QF%R*			KH00	/ HM4		J@=B		M	L0 1420	44	20
-%'P%7*7			KH00	2HKI		J@=B		L3	L0 1420	3K	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,3-Dimethyl-2-nitrobenzene	*105*		*70 - 130*
Perylene-d12	*95*		*70 - 130*
Triphenylphosphate	*114*		*70 - 130*

Lab Sample ID: 440-39233-Q-6-A MS
Matrix: Water
Analysis Batch: 91197

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 90585

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
5E6*QF%R*	C-		/ HLI	/ H0L		J@=B		I K	L0 1420		
-%'P%7*7	C-	BX	/HLI	3H/K	BC	J@=B		K4	L0 1420		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,3-Dimethyl-2-nitrobenzene	*84*		*70 - 130*
Perylene-d12	*98*		*70 - 130*
Triphenylphosphate	*104*		*70 - 130*

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-91160/1-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91160

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"&Ä7'QE!EÄ7Ä	C-		0HK00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
"&Ä7'QE!EF6Ä7Ä	C-		0HK00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
"7%6%7Ä	C-		40H0	0H200	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
"7!E$'&Ä7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?Ä7P%S%7Ä	C-		KH00	4H00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?Ä7P*Y'Z'7!E$'&Ä7Ä	C-		KH00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?Ä7P*Y+ZR6J*$'7!EÄ7Ä	C-		3H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-91160/1-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91160

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
?Ä7P*Y[ZR6J*$'7!EÄ7Ä	C-		0HK00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?Ä7P*%&('&%S	C-		KH00	2H00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?Ä7P*Y'ZQF$Ä7Ä	C-		3H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?% U31&E6*$*Ä!E*\FV#Ä!E'7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?% U31&E6*$*Ä!EF6VÄ!EÄ$	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?% U31Ä!EF6EÄ\F6V(QE!E'6'!Ä	C-		KH00	4HL0	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/1?$*#*QEÄ7F6(QEÄ7F6(Ä!EÄ$	C-		4H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?J!F6(+Ä7PF6(QE!E'6'!Ä	C-		KH00	0HL00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/15E6*$*121#Ä!EF6QEÄ7*6	C-		3H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
315E6*$*7'QE!E'6Ä7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
315E6*$*QEÄ7*6	C-		4H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/15E6*$*QEÄ7F6(QEÄ7F6(Ä!EÄ$	C-		0HK00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
5E$F Ä7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
-%+Ä7PU'OEV'7!E$'&Ä7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
-%171+J!F6(QE!E'6'!Ä	C-		3H00	0H200	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
4O31-%&E6*$*+Ä7PÄ7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
4O21-%&E6*$*+Ä7PÄ7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
4O/1-%&E6*$*+Ä7PÄ7Ä	C-		0HK00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
2O2]1-%&E6*$*+Ä7P%S%7Ä	C-		KH00	0HK00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
3O/1-%&E6*$*QEÄ7*6	C-		3H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
-%Ä!EF6(QE!E'6'!Ä	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
3O/1-%#Ä!EF6QEÄ7*6	C-		3H00	0H200	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
-%#Ä!EF6(QE!E'6'!Ä	C-		0HK00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/ON1-%7%!$*131#Ä!EF6QEÄ7*6	C-		KH00	0H200	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
3O/1-%7%!$*QEÄ7*6	C-		KH00	0HM00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
3O/1-%7%!$*!*6JÄ7Ä	C-		KH00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
3ON1-%7%!$*!*6JÄ7Ä	C-		KH00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
-%171*&!F6(QE!E'6'!Ä	C-		KH00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
4O31-%QEÄ7F6EFS$'P%7ÀU' ("P*+Ä7PÄ7ÀV	C-		4H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
A6J*$'7!EÄ7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
A6J*$Ä7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
:Ä\'&E6*$*+Ä7PÄ7Ä	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
:Ä\'&E6*$*+J!'S%Ä7Ä	C-		3H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
:Ä\'&E6*$*Ä!E'7Ä	C-		2H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
:Ä\'&E6*$*&F&6*QÄ7!'S%Ä7Ä	C-		KH00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
,7SÄ7*Y4O3O21&SZQF$Ä7Ä	C-		3H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
, *QE*$*7Ä	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/18Ä!EF6QEÄ7*6	C-		KH00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
C'QE!E'6Ä7Ä	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
C%!$*+Ä7PÄ7Ä	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
31C%!$*QEÄ7*6	C-		3H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/1C%!$*QEÄ7*6	C-		KH00	3HK0	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
C1C%!$* *S%#Ä!EF6'#%7Ä	C-		3H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
C1C%!$* *S%QEÄ7F6'#%7Ä	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
C1C%!$* *S%171Q$*QF6'#%7Ä	C-		3H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
;Ä7!'&E6*$*QEÄ7*6	C-		3H00	0H/00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
;EÄ7'7!E$Ä7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-91160/1-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91160

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
;EÄ7*6	C-		4H00	0H200	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
;F$Ä7Ä	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
4O3O/	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
3O/ON	C-		4H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
318Ä!EF6QEÄ7*6	C-		3H00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/15E6*$*'7%6%7Ä	C-		3H00	0H200	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
318Ä!EF67'QE!E'6Ä7Ä	C-		4H00	0H300	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
31C%!$*'7%6%7Ä	C-		KH00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
21C%!$*'7%6%7Ä	C-		KH00	4H00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
-%+Ä7P*RJ$'7	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
/1C%!$*'7%6%7Ä	C-		KH00	0HK00	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?Ä7P*Y@OEO%ZQÄ$F6Ä7Ä	C-		KH00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
?Ä7PF6('6&*E*6	C-		KH00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4
+% (U31&E6*$*% *Q$*QF6V(Ä!EÄ$	C-		0HK00	0H400	J@=B		02=43=42(42.K3	02=4K=42(4I.4K	4

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*50 - 120*	*03/12/13 13:52*	*03/15/13 18:15*	*1*
2-Fluorophenol	*87*		*30 - 120*	*03/12/13 13:52*	*03/15/13 18:15*	*1*
2,4,6-Tribromophenol	*104*		*40 - 120*	*03/12/13 13:52*	*03/15/13 18:15*	*1*
Nitrobenzene-d5	*95*		*45 - 120*	*03/12/13 13:52*	*03/15/13 18:15*	*1*
Terphenyl-d14	*109*		*50 - 125*	*03/12/13 13:52*	*03/15/13 18:15*	*1*
Phenol-d6	*91*		*35 - 120*	*03/12/13 13:52*	*03/15/13 18:15*	*1*

Lab Sample ID: LCS 440-91160/2-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
"&Ä7'QE!EÄ7Ä	40H0	MH0MM		J@=B		M4	KL 1430
"&Ä7'QE!EF6Ä7Ä	40H0	MH0M0		J@=B		M4	N0 1430
"7%6%7Ä	40H0	I HI/4)O-W		J@=B		I I	K2 1430
"7!E$'&Ä7Ä	40H0	MHIN4		J@=B		MM	N3 1430
?Ä7P%S%7Ä	40H0	/ HMN3)O-W		J@=B		K0	30 14NI
?Ä7P*Y'Z'7!E$'&Ä7Ä	40H0	MHNI2		J@=B		ML	N3 1430
?Ä7P*Y+ZR6J*$'7!EÄ7Ä	40H0	I HKMN		J@=B		I N	/ N 143K
?Ä7P*Y[ZR6J*$'7!EÄ7Ä	40H0	MHM4N		J@=B		MM	N4 143L
?Ä7P*%&('&%S	40H0	LHK30		J@=B		LK	30 1430
?Ä7P*Y'ZQF$Ä7Ä	40H0	MH2I2		J@=B		M	NN 1420
?% U31&E6*$*Ä!E*\FV#Ä!E'7Ä	40H0	I HKML		J@=B		I N	KL 1430
?% U31&E6*$*Ä!EF6VÄ!EÄ$	40H0	I HL3M		J@=B		I L	K/ 1430
?% U31Ä!EF6EÄ\F6V(QE!E'6'!Ä	40H0	44H40		J@=B		444	N4 143N
/1?$*#*QEÄ7F6(QEÄ7F6(Ä!EÄ$	40H0	MH3/2		J@=B		M8	KI 1430
?J!F6(+Ä7PF6(QE!E'6'!Ä	40H0	40HK2		J@=B		40K	KL 143M
/15E6*$*121#Ä!EF6QEÄ7*6	40H0	I H40I		J@=B		I 4	/ N 1432
315E6*$*7'QE!E'6Ä7Ä	40H0	I H033		J@=B		I 0	K/ 1430
315E6*$*QEÄ7*6	40H0	I H420		J@=B		I 4	30 1433
/15E6*$*QEÄ7F6(QEÄ7F6(Ä!EÄ$	40H0	40H43		J@=B		404	K0 1433
5E$F Ä7Ä	40H0	MHIN3		J@=B		MM	N2 1430

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-91160/2-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
-%+Ä7PU'OEV'7!E$'&Ä7Ä	40H0	40H02		J@=B		400	KN 143/
-%171+J!F6(QE!E'6'!Ä	40H0	40H/3		J@=B		40/	N0 143N
4O31-%&E6*$*+Ä7PÄ7Ä	40H0	NHN4/		J@=B		NN	/ 2 1430
4O21-%&E6*$*+Ä7PÄ7Ä	40H0	NH4L4		J@=B		N3	/ 4 1430
4O/1-%&E6*$*+Ä7PÄ7Ä	40H0	NH2NL		J@=B		N/	/ 4 1430
2O2]1-%&E6*$*+Ä7P%S%7Ä	40H0	NH/3L		J@=B		N/	3K 142K
3O/1-%&E6*$*QEÄ7*6	40H0	I H204		J@=B		I 2	34 1423
-%Ä!EF6(QE!E'6'!Ä	40H0	40HNN		J@=B		40L	// 1424
3O/1-%#Ä!EF6QEÄ7*6	40H0	LHL32		J@=B		LL	K4 1430
-%#Ä!EF6(QE!E'6'!Ä	40H0	40HNM		J@=B		40L	22 14/0
/ON1-%7%!$*131#Ä!EF6QEÄ7*6	40H0	MH22/		J@=B		M2	33 14/L
3O/1-%7%!$*QEÄ7*6	40H0	I H//3		J@=B		I /	30 142/
3O/1-%7%!$*!*6JÄ7Ä	40H0	MHM/3		J@=B		MM	NK 1430
3ON1-%7%!$*!*6JÄ7Ä	40H0	MHMK/		J@=B		400	NK 1430
-%171*&!F6(QE!E'6'!Ä	40H0	40H0M		J@=B		404	N2 1420
4O31-%QEÄ7F6EFS$'P%7ÄU' ("P*+Ä7PÄ7ÄV	40H0	44HNL		J@=B		44L	KM 143/
A6J*$'7!EÄ7Ä	40H0	40H3M		J@=B		402	N/ 1430
A6J*$Ä7Ä	40H0	40H2L		J@=B		40/	K3 1430
:Ä\'&E6*$*+Ä7PÄ7Ä	40H0	MH0MM		J@=B		M4	N4 1430
:Ä\'&E6*$*+J!'S%Ä7Ä	40H0	KHK2I		J@=B		KK	2/ 1430
:Ä\'&E6*$*Ä!E'7Ä	40H0	KHN2I		J@=B		KN	2/ 1430
:Ä\'&E6*$*&F&6*QÄ7!'S%Ä7Ä	40H0	KH2NN		J@=B		K/	32 1430
,7SÄ7*Y4O3O21&SZQF$Ä7Ä	40H0	MHL//		J@=B		ML	KM 143I
, *QE*$*7Ä	40H0	I HLN4		J@=B		I I	K0 1430
/18Ä!EF6QEÄ7*6	40H0	I H42		J@=B		I 4	K0 1430
C'QE!E'6Ä7Ä	40H0	I H/22		J@=B		I /	K3 1430
C%!$*+Ä7PÄ7Ä	40H0	I HLL0		J@=B		I I	K3 1430
31C%!$*QEÄ7*6	40H0	I H2MN		J@=B		I /	34 1423
/1C%!$*QEÄ7*6	40H0	I H/LM		J@=B		I K	30 14K4
C1C%!$* *S%#Ä!EF6'#%7Ä	40H0	I HLNK		J@=B		I I	30 14/2
C1C%!$* *S%QEÄ7F6'#%7Ä	40H0	MH4NN		J@=B		M3	KI 1430
C1C%!$* *S%171Q$*QF6'#%7Ä	40H0	I HKNK		J@=B		I N	N0 1430
;Ä7!'&E6*$*QEÄ7*6	40H0	NHI4K		J@=B		NI	30 142L
;EÄ7'7!E$Ä7Ä	40H0	MHL42		J@=B		ML	N3 1430
;EÄ7*6	40H0	I H3NI		J@=B		I 2	30 1430
;F$Ä7Ä	40H0	40H0I		J@=B		404	K/ 1430
4O3O/1%&E6*$*+Ä7PÄ7Ä	40H0	NHI04		J@=B		NI	/ / 1430
3O/ON1%&E6*$*QEÄ7*6	40H0	I H24M		J@=B		I 2	30 142M
318Ä!EF6QEÄ7*6	40H0	I H0IN		J@=B		I 4	/ L 1430
/15E6*$*'7%6%7Ä	40H0	I H4KL		J@=B		I 3	K3 1430
318Ä!EF67'QE!E'6Ä7Ä	40H0	LHL/2		J@=B		LL	KK 1430
31C%!$*'7%6%7Ä	40H0	MHM/2		J@=B		MM	N0 142K
21C%!$*'7%6%7Ä	40H0	MHM22		J@=B		MM	N2 1432
-%+Ä7P*RJ$'7	40H0	MHI3I		J@=B		M	N0 1430
/1C%!$*'7%6%7Ä	40H0	40HK/		J@=B		40K	N0 143N
?Ä7P*Y@OEO%ZQÄ$F6Ä7Ä	40H0	MH42M		J@=B		M4	K3 142N
?Ä7PF6('6&*E*6	40H0	MHL/2		J@=B		ML	K0 1430

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-91160/2-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91160

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
+% (U31&E6*$*% *Q$*QF6V(Ä!EÄ$			40H0	I HKL0		J@=B		I N	/ K 1430		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*86*		*50 - 120*
2-Fluorophenol	*83*		*30 - 120*
2,4,6-Tribromophenol	*99*		*40 - 120*
Nitrobenzene-d5	*90*		*45 - 120*
Terphenyl-d14	*96*		*50 - 125*
Phenol-d6	*83*		*35 - 120*

Lab Sample ID: LCSD 440-91160/3-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 91160

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
"&Ä7'QE!EÄ7Ä			40H0	MH22N		J@=B		M2	KL 1430	2	30
"&Ä7'QE!EF6Ä7Ä			40H0	MHKL4		J@=B		MN	N0 1430	K	30
"7%6%7Ä			40H0	MH302	)O-W	J@=B		M8	K2 1430	/	20
"7!E$'&Ä7Ä			40H0	40H30		J@=B		403	N3 1430	2	30
?Ä7P%S%7Ä			40H0	/ HNM2	)O-W	J@=B		/ L	30 14NI	N	2K
?Ä7P*Y'Z'7!E$'&Ä7Ä			40H0	40H4/		J@=B		404	N3 1430	K	30
?Ä7P*Y+ZR6J*$'7!EÄ7Ä			40H0	I H/IL		J@=B		I K	/ N 143K	4	3K
?Ä7P*Y[ZR6J*$'7!EÄ7Ä			40H0	MH3IN		J@=B		M2	N4 143L	L	30
?Ä7P*%&('&%S			40H0	I H0LL		J@=B		I 4	30 1430	L	20
?Ä7P*Y'ZQF$Ä7Ä			40H0	MHL2M		J@=B		ML	NN 1420	/	3K
?% U31&E6*$*Ä!E*\FV#Ä!E'7Ä			40H0	MH323		J@=B		M8	KL 1430	L	30
?% U31&E6*$*Ä!EF6VÄ!EÄ$			40H0	I H02L		J@=B		I 0	K/ 1430	I	30
?% U31Ä!EF6EÄ\F6V(QE!E'6'!Ä			40H0	44HM/		J@=B		44M	N4 143N	L	30
/1?$*#*QEÄ7F6(QEÄ7F6(Ä!EÄ$			40H0	MHI4M		J@=B		M	KI 1430	N	3K
?J!F6(+Ä7PF6(QE!E'6'!Ä			40H0	44H3L		J@=B		442	KL 143M	L	30
/15E6*$*121#Ä!EF6QEÄ7*6			40H0	I H3IL		J@=B		I 2	/ N 1432	3	3K
315E6*$*7'QE!E'6Ä7Ä			40H0	I HL2M		J@=B		I L	K/ 1430	M	30
315E6*$*QEÄ7*6			40H0	I H223		J@=B		I 2	30 1433	3	3K
/15E6*$*QEÄ7F6(QEÄ7F6(Ä!EÄ$			40H0	40HK3		J@=B		40K	K0 1433	/	30
5E$F Ä7Ä			40H0	40H3L		J@=B		402	N2 1430	/	30
-%+Ä7PU'OEV'7!E$'&Ä7Ä			40H0	40HIK		J@=B		40M	KN143/	I	3K
-%171+J!F6(QE!E'6'!Ä			40H0	40HI2		J@=B		40I	N0 143N	/	30
4O31-%&E6*$*+Ä7PÄ7Ä			40H0	NHI0/		J@=B		NI	/ 2 1430	2	3K
4O21-%&E6*$*+Ä7PÄ7Ä			40H0	NHN33		J@=B		NN	/ 4 1430	L	3K
4O/1-%&E6*$*+Ä7PÄ7Ä			40H0	NHK03		J@=B		NK	/ 4 1430	3	3K
2O2]1-%&E6*$*+Ä7P%S%7Ä			40H0	NHN3L		J@=B		NN	3K 142K	2	3K
3O/1-%&E6*$*QEÄ7*6			40H0	I H/KN		J@=B		I K	34 1423	3	30
-%Ä!EF6(QE!E'6'!Ä			40H0	44H0K		J@=B		444	// 1424	/	20
3O/1-%#Ä!EF6QEÄ7*6			40H0	LHII/		J@=B		LM	K4 1430	3	3K
-%#Ä!EF6(QE!E'6'!Ä			40H0	44H3L		J@=B		442	22 14/0	K	20
/ON1-%7%!$*131#Ä!EF6QEÄ7*6			40H0	40H24		J@=B		402	33 14/L	40	3K
3O/1-%7%!$*QEÄ7*6			40H0	MH/22		J@=B		M	30 142/	44	3K
3O/1-%7%!$*!*6JÄ7Ä			40H0	40HK2		J@=B		40K	NK1430	N	30

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-91160/3-A
Matrix: Water
Analysis Batch: 92112

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 91160

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3ON1-%7%!$*!*6JÄ7Ä			40H0	40HKI		J@=B		40N	NK 1430	N	30
-%171*&!F6(QE!E'6'!Ä			40H0	40H/0		J@=B		40/	N2 1420	2	30
4O31-%QEÄ7F6EFS$'P%7ÄU' ("P*+Ä7PÄ7ÄV			40H0	43H3N		J@=B		432	KM 143/	K	3K
A6J*$'7!EÄ7Ä			40H0	40HK/		J@=B		40K	N/ 1430	3	30
A6J*$Ä7Ä			40H0	40HIN		J@=B		40M	K3 1430	K	30
:Ä\'&E6*$*+Ä7PÄ7Ä			40H0	MH/LM		J@=B		MK	N4 1430	/	30
:Ä\'&E6*$*+J!'S%Ä7Ä			40H0	NH0N/		J@=B		N4	2/ 1430	M	3K
:Ä\'&E6*$*Ä!E'7Ä			40H0	NH0KM		J@=B		N4	2/ 1430	L	3K
:Ä\'&E6*$*&F&6*QÄ7!'S%Ä7Ä			40H0	KHN/2		J@=B		KN	32 1430	K	20
,7SÄ7*Y4O3O21&SZQF$Ä7Ä			40H0	40H0I		J@=B		404	KM 143I	2	3K
, *QE*$*7Ä			40H0	MH20M		J@=B		M2	K0 1430	N	30
/18Ä!EF6QEÄ7*6			40H0	I H/0I		J@=B		I /	K0 1430	/	30
C'QE!E'6Ä7Ä			40H0	I H3MI		J@=B		I 2	K3 1430	3	30
C%!$*+Ä7PÄ7Ä			40H0	I HI23		J@=B		I I	K3 1430	4	3K
31C%!$*QEÄ7*6			40H0	I HK42		J@=B		I K	34 1423	4	3K
/1C%!$*QEÄ7*6			40H0	I HIKM		J@=B		I M	30 14K4	/	20
C1C%!$* *S%#Ä!EF6'#%7Ä			40H0	MH0K/		J@=B		M4	30 14/2	2	30
C1C%!$* *S%QEÄ7F6'#%7Ä			40H0	MH233		J@=B		M2	KI 1430	3	30
C1C%!$* *S%171Q$*QF6'#%7Ä			40H0	MH2II		J@=B		M	N0 1430	M	30
;Ä7!'&E6*$*QEÄ7*6			40H0	NHNK0		J@=B		NL	30 142L	3	3K
;EÄ7'7!E$Ä7Ä			40H0	40H43		J@=B		404	N3 1430	/	30
;EÄ7*6			40H0	I H/0/		J@=B		I /	30 1430	3	3K
;F$Ä7Ä			40H0	40HK0		J@=B		40K	K/ 1430	/	3K
4O3O/			40H0	NHL32		J@=B		NL	/ / 1430	4	30
3O/ON			40H0	MH0/L		J@=B		M0	30 142M	I	20
318Ä!EF6QEÄ7*6			40H0	I H2I4		J@=B		I /	/ L 1430	/	30
/15E6*$*'7%6%7Ä			40H0	I HM4N		J@=B		I M	K3 1430	M	3K
318Ä!EF67'QE!E'6Ä7Ä			40H0	I H40L		J@=B		I 4	KK 1430	K	30
31C%!$*'7%6%7Ä			40H0	40H//		J@=B		40/	N0 142K	K	30
21C%!$*'7%6%7Ä			40H0	40H/M		J@=B		40K	N2 1432	K	3K
-%+Ä7P*RJ$'7			40H0	40H4/		J@=B		404	N0 1430	2	30
/1C%!$*'7%6%7Ä			40H0	40HN2		J@=B		40N	N0 143N	4	30
?Ä7P*Y@OEO%ZQÄ$F6Ä7Ä			40H0	40HIN		J@=B		40M	K3 142N	4L	3K
?Ä7PF6('6&*E*6			40H0	40H2N		J@=B		40/	K0 1430	N	30
+% (U31&E6*$*% *Q$*QF6V(Ä!EÄ$			40H0	I HLKI		J@=B		I I	/ K 1430	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*50 - 120*
2-Fluorophenol	*83*		*30 - 120*
2,4,6-Tribromophenol	*100*		*40 - 120*
Nitrobenzene-d5	*89*		*45 - 120*
Terphenyl-d14	*99*		*50 - 125*
Phenol-d6	*90*		*35 - 120*

Method: 608 PCB LL - Polychlorinated Biphenyls (PCBs) Low level

Lab Sample ID: MB 440-91457/1-A
Matrix: Water
Analysis Batch: 92018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91457

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"$*&6*$(404N	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(0M.32	4
"$*&6*$(4334	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(0M.32	4
"$*&6*$(4323	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(0M.32	4
"$*&6*$(43/3	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(0M.32	4
"$*&6*$(43/I	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(0M.32	4
"$*&6*$(43K/	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(0M.32	4
"$*&6*$(43N0	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(0M.32	4

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 120*	*03/13/13 12:55*	*03/14/13 09:23*	*1*

Lab Sample ID: LCS 440-91457/5-A
Matrix: Water
Analysis Batch: 92018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
"$*&6*$(404N			/H00	3HN0		J@=B		NK	K0 144K		
"$*&6*$(43N0			/H00	3HNL		J@=B		NL	N0 1430		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*64*		*45 - 120*

Lab Sample ID: 440-40286-Y-1-A MS
Matrix: Water
Analysis Batch: 92018

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 91457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
"$*&6*$(404N	C-		/H0/	2H//		J@=B		I K	/ K 1430		
"$*&6*$(43N0	C-		/H0/	2HN0		J@=B		I M	KK 143K		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 120*

Lab Sample ID: 440-40286-AB-1-A MSD
Matrix: Water
Analysis Batch: 92018

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 91457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
"$*&6*$(404N	C-		/H0/	2H2M		J@=B		I /	/ K 1430	4	20
"$*&6*$(43N0	C-		/H0/	2HKL		J@=B		I I	KK 143K	4	3K

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 120*

Method: 608 Pesticides - Organochlorine Pesticides Low level

Lab Sample ID: MB 440-91457/1-A
Matrix: Water
Analysis Batch: 91841

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91457

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"6S$%7	C-		0H00K0	0H004K	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
'6QE'1?:5	C-		0H00K0	0H003K	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
+Ä!'1?:5	C-		0H040	0H00/0	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
5E6*$S'7Ä(U!Ä&E7%&'6V	C-		0H40	0H0I0	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
SÄ6!'1?:5	C-		0H00K0	0H002K	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
-%Ä6S$%7	C-		0H00K0	0H0030	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
D7S* J6R'7(,	C-		0H00K0	0H0020	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
D7S* J6R'7(,,	C-		0H00K0	0H0030	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
D7S* J6R'7(J6R'!Ä	C-		0H040	0H0020	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
D7S$%7	C-		0H00K0	0H0030	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
D7S$%7('6SÄEFSÄ	C-		0H040	0H0030	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
@'##'1?:5(UB%7S'7ÄV	C-		0H040	0H0020	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
:ÄQ!'&E6*$	C-		0H040	0H0020	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
:ÄQ!'&E6*$(ÄQ*\%SÄ	C-		0H00K0	0H003K	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
Ā* \'QEÄ7Ä	C-		0HK0	0H3K	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
/O/]1---	C-		0H00K0	0H00/0	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
/O/]1--D	C-		0H00K0	0H0020	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4
/O/]1--Ā	C-		0H040	0H00/0	J@=B		02=42=42(43.KK	02=4/=42(30.KK	4

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*35 - 115*	*03/13/13 12:55*	*03/14/13 20:55*	*1*

Lab Sample ID: LCS 440-91457/2-A
Matrix: Water
Analysis Batch: 91841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
"6S$%7			0HK00	0H/43		J@=B		I 3	/ 0 144K		
'6QE'1?:5			0HK00	0H/2/		J@=B		I L	/ K 144K		
+Ä!'1?:5			0HK00	0H/2L		J@=B		I L	KK 144K		
SÄ6!'1?:5			0HK00	0H/KN		J@=B		M4	KK 144K		
-%Ä6S$%7			0HK00	0H//4		J@=B		I I	KK 144K		
D7S* J6R'7(,			0HK00	0H/3K		J@=B		I K	KK 144K		
D7S* J6R'7(,,			0HK00	0H/23		J@=B		I N	KK 1430		
D7S* J6R'7(J6R'!Ä			0HK00	0H/LI		J@=B		MN	N0 1430		
D7S$%7			0HK00	0H/KK		J@=B		M4	KK 144K		
D7S$%7('6SÄEFSÄ			0HK00	0H/2M		J@=B		I I	K0 1430		
@'##'1?:5(UB%7S'7ÄV			0HK00	0H/2N		J@=B		I L	/ K 144K		
:ÄQ!'&E6*$			0HK00	0H/2M		J@=B		I I	/ K 144K		
:ÄQ!'&E6*$(ÄQ*\%SÄ			0HK00	0H/3K		J@=B		I K	KK 144K		
/O/]1---			0HK00	0H//M		J@=B		M0	KK 1430		
/O/]1--D			0HK00	0H//K		J@=B		I M	K0 1430		
/O/]1--Ā			0HK00	0H/LI		J@=B		MN	KK 1430		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*75*		*35 - 115*

Method: 608 Pesticides - Organochlorine Pesticides Low level (Continued)

Lab Sample ID: 440-40286-AA-1-A MSD
Matrix: Water
Analysis Batch: 91841

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 91457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
"6S$%7	C-		0HK4K	0H/0M		J@=B		LI	2K 1430	4	20
'6QE'1?:5	C-		0HK4K	0H/4M		J@=B		I 0	/ 0 1430	4	20
+Ä!'1?:5	C-		0HK4K	0H/0K		J@=B		LM	K0 1430	2	20
SÄ6!'1?:5	C-		0HK4K	0H//2		J@=B		I K	K0 1430	3	20
-%Ä6S$%7	C-		0HK4K	0H/22		J@=B		I /	K0 1430	0	20
D7S* J6R'7(,	C-		0HK4K	0H/3N		J@=B		I 2	K0 1430	0	20
D7S* J6R'7(,,	C-		0HK4K	0H/3K		J@=B		I 2	K0 143K	0	20
D7S* J6R'7(J6R'!Ä	C-		0HK4K	0H/ML		J@=B		MN	KK 143K	0	20
D7S$%7	C-		0HK4K	0H/I2		J@=B		M	K0 1430	0	20
D7S$%7('6SÄEFSÄ	C-		0HK4K	0H/3L		J@=B		I 3	/ K 143K	4	20
@'##'1?:5(UB%7S'7ÄV	C-		0HK4K	0H/34		J@=B		I 3	/ 0 1430	3	20
:ÄQ!'&E6*$	C-		0HK4K	0H/2L		J@=B		I 2	/ 0 1430	2	20
:ÄQ!'&E6*$(ÄQ*\%SÄ	C-		0HK4K	0H/4M		J@=B		I 4	K0 1430	4	20
/O/]1---	C-		0HK4K	0H//2		J@=B		I N	K0 143K	0	20
/O/]1--D	C-		0HK4K	0H///		J@=B		I N	/ K 143K	0	20
/O/]1--Ä	C-		0HK4K	0H/IK		J@=B		M	K0 143K	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*67*		*35 - 115*

Lab Sample ID: 440-40286-AD-1-A MS
Matrix: Water
Analysis Batch: 91841

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 91457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
"6S$%7	C-		0HK40	0H/4/		J@=B		I 0	2K 1430
'6QE'1?:5	C-		0HK40	0H/3/		J@=B		I 3	/ 0 1430
+Ä!'1?:5	C-		0HK40	0H/4M		J@=B		I 3	K0 1430
SÄ6!'1?:5	C-		0HK40	0H/K4		J@=B		I L	K0 1430
-%Ä6S$%7	C-		0HK40	0H/23		J@=B		I K	K0 1430
D7S* J6R'7(,	C-		0HK40	0H/3K		J@=B		I 2	K0 1430
D7S* J6R'7(,,	C-		0HK40	0H/3L		J@=B		I /	K0 143K
D7S* J6R'7(J6R'!Ä	C-		0HK40	0H/MI		J@=B		ML	KK 143K
D7S$%7	C-		0HK40	0H/IN		J@=B		MK	K0 1430
D7S$%7('6SÄEFSÄ	C-		0HK40	0H/3L		J@=B		I 2	/ K 143K
@'##'1?:5(UB%7S'7ÄV	C-		0HK40	0H/3M		J@=B		I /	/ 0 1430
:ÄQ!'&E6*$	C-		0HK40	0H//K		J@=B		I K	/ 0 1430
:ÄQ!'&E6*$(ÄQ*\%SÄ	C-		0HK40	0H/4M		J@=B		I 3	K0 1430
/O/]1---	C-		0HK40	0H//3		J@=B		I L	K0 143K
/O/]1--D	C-		0HK40	0H///		J@=B		I L	/ K 143K
/O/]1--Ä	C-		0HK40	0H/M3		J@=B		MN	K0 143K

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*70*		*35 - 115*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-90392/5
Matrix: Water
Analysis Batch: 90392

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5E$*#%J#O(EÄ\'G'6Ä7!	C-		4H0	0H3K	J@=B			02=0I=42(43.4K	4

Lab Sample ID: LCS 440-90392/2
Matrix: Water
Analysis Batch: 90392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
5E$*#%J#O(EÄ\'G'6Ä7!	K0H0	K0H0		J@=B		400	M01440

Lab Sample ID: 440-40286-AM-9 MS
Matrix: Water
Analysis Batch: 90392

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
5E$*#%J#O(EÄ\'G'6Ä7!	C-		K0H0	K/H/		J@=B		40M	M01440

Lab Sample ID: 440-40286-AM-9 MSD
Matrix: Water
Analysis Batch: 90392

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5E$*#%J#O(EÄ\'G'6Ä7!	C-		K0H0	K3HN		J@=B		40K	M01440	2	40

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-90376/4
Matrix: Water
Analysis Batch: 90376

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C%!$'!Ä(C%!$%!Ä(' (C	C-		0H3N	0H4	# @=B			02=0I=42(40./K	4

Lab Sample ID: MB 440-90377/4
Matrix: Water
Analysis Batch: 90377

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5E6*$%SÄ	C-		0HK0	0H/0	#@=B			02=0I=42(40./K	4
>J6R'!Ä	C-		0HK0	0H/0	#@=B			02=0I=42(40./K	4

Lab Sample ID: LCS 440-90377/7
Matrix: Water
Analysis Batch: 90377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
5E6*$%SÄ	KH00	/HLL		#@=B		MK	M01440
>J6R'!Ä	40H0	MHKI		# @=B		MN	M0 1440

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-40323-B-2 MS
Matrix: Water
Analysis Batch: 90377

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
5E6*$%SÄ	42		KH00	4MH0		#@=B		443	I 0 1430
>J6R'!Ä	KH/		40H0	4KH4		# @=B		M	I 0 1430

Lab Sample ID: 440-40323-B-2 MSD
Matrix: Water
Analysis Batch: 90377

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5E6*$%SÄ	42		KH00	4IHM		#@=B		444	I0 1430	0	30
>J6R'!Ä	KH/		40H0	4KH3		# @=B		M	I 0 1430	0	30

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-93385/30
Matrix: Water
Analysis Batch: 93385

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
;Ä$&E6*$'!Ä	C-		/ H0	0HMK	J@=B			02=33=42(02.4L	4

Lab Sample ID: LCS 440-93385/31
Matrix: Water
Analysis Batch: 93385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
;Ä$&E6*$'!Ä	3KH0	3IHL		J@=B		44K	IK 144K

Lab Sample ID: MRL 440-93385/2 MRL
Matrix: Water
Analysis Batch: 93385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
;Ä$&E6*$'!Ä	/ H00	/ H2N		J@=B		40M	

Lab Sample ID: 440-40613-B-1 MS
Matrix: Water
Analysis Batch: 93385

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
;Ä$&E6*$'!Ä	42		3KH0	/ 2HL	B8	J@=B		432	I0 1430

Lab Sample ID: 440-40613-B-1 MSD
Matrix: Water
Analysis Batch: 93385

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
;Ä$&E6*$'!Ä	42		3KH0	/ 4H/		J@=B		44/	I0 1430	N	30

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

Lab Sample ID: MB 320-12332/1-A
Matrix: Water
Analysis Batch: 12476

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 12332

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
3O2OLOI1Ā5--	C-		0H000040	0H000000N /	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
3O2OLOI1Ā5-A	C-		0H000040	0H000000M L	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2OLOI1;Ā5--	C-		0H0000K0	0H000000M 2	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2OLOI1;Ā5-A	C-		0H0000K0	0H000000L K	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
3O2O/OLOI1;Ā5-A	C-		0H0000K0	0H000000L /	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2O/OLOI1:\5--	C-		0H0000K0	0H000000I /	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2ONOLOI1:\5--	C-		0H0000K0	0H000000N M	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2OLOIOM1:\5--	C-		0H0000K0	0H000000N L	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2O/OLOI1:\5-A	C-		0H0000K0	0H000000L /	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2ONOLOI1:\5-A	C-		0H0000K0	0H000000N K	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2OLOIOM1:\5-A	C-		0H0000K0	0H000000M 4	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
3O2O/ONOLOI1:\5-A	C-		0H0000K0	0H000000N N	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2O/ONOLOI1:Q5--	C-		0H0000K0	0H0000042	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2O/ONOLOI1:Q5-A	C-		0H0000K0	0H0000043	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
4O3O2O/OLOIOM1:Q5-A	C-		0H0000K0	0H0000030	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
^5--	0H000002MK)	O-W	0H00040	0H000004/	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
^5-A	0H0000034I	)O-W(_	0H00040	0H000004I	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(Ā5--	C-		0H000040	0H000000N /	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(Ā5-A	C-		0H000040	0H000000M L	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(;Ā5--	C-		0H0000K0	0H000000M 2	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(;Ā5-A	C-		0H0000K0	0H000000L /	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(:\5--	C-		0H0000K0	0H000000N L	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(:\5-A	C-		0H0000K0	0H000000N K	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(:Q5--	C-		0H0000K0	0H0000042	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4
Ā* !'6(:Q5-A	C-		0H0000K0	0H0000043	J@=B		02=4/=42(0I.KN	02=4N=42(40.23	4

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*62*		*25 - 164*	*03/14/13 08:56*	*03/16/13 10:32*	*1*
13C-2,3,7,8-TCDF	*60*		*24 - 169*	*03/14/13 08:56*	*03/16/13 10:32*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*03/14/13 08:56*	*03/16/13 10:32*	*1*
13C-1,2,3,7,8-PeCDF	*53*		*24 - 185*	*03/14/13 08:56*	*03/16/13 10:32*	*1*
13C-2,3,4,7,8-PeCDF	*58*		*21 - 178*	*03/14/13 08:56*	*03/16/13 10:32*	*1*
13C-1,2,3,4,7,8-HxCDD	*51*		*32 - 141*	*03/14/13 08:56*	*03/16/13 10:32*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*28 - 130*	*03/14/13 08:56*	*03/16/13 10:32*	*1*

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

Lab Sample ID: MB 320-12332/1-A
Matrix: Water
Analysis Batch: 12476

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 12332

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	51		26 - 152	03/14/13 08:56	03/16/13 10:32	1
13C-1,2,3,6,7,8-HxCDF	63		26 - 123	03/14/13 08:56	03/16/13 10:32	1
13C-1,2,3,7,8,9-HxCDF	52		29 - 147	03/14/13 08:56	03/16/13 10:32	1
13C-2,3,4,6,7,8-HxCDF	60		28 - 136	03/14/13 08:56	03/16/13 10:32	1
13C-1,2,3,4,6,7,8-HpCDD	50		23 - 140	03/14/13 08:56	03/16/13 10:32	1
13C-1,2,3,4,6,7,8-HpCDF	51		28 - 143	03/14/13 08:56	03/16/13 10:32	1
13C-1,2,3,4,7,8,9-HpCDF	43		26 - 138	03/14/13 08:56	03/16/13 10:32	1
13C-OCDD	40		17 - 157	03/14/13 08:56	03/16/13 10:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	83		35 - 197	03/14/13 08:56	03/16/13 10:32	1

Lab Sample ID: LCS 320-12332/2-A
Matrix: Water
Analysis Batch: 12476

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 12332

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
3O2OLOI1Ã5--			0H000300	0H0004I/		J@=B		M8	NL 14KI		
3O2OLOI1Ã5-A			0H000300	0H0004N3		J@=B		I 4	LK 14KI		
4O3O2OLOI1;Ã5--			0H00400	0H000M4L		J@=B		M8	L0 14/3		
4O3O2OLOI1;Ã5-A			0H00400	0H000MI4		J@=B		M	I 0 142/		
3O2O/OLOI1;Ã5-A			0H00400	0H000MMI		J@=B		400	NI 14N0		
4O3O2O/OLOI1:\5--			0H00400	0H0040K		J@=B		40K	L0 14N/		
4O3O2ONOLOI1:\5--			0H00400	0H000M2N		J@=B		M	LN 142/		
4O3O2OLOIOM1:\5--			0H00400	0H00404		J@=B		404	N/ 14N3		
4O3O2O/OLOI1:\5-A			0H00400	0H000M42		J@=B		M4	L3 142/		
4O3O2ONOLOI1:\5-A			0H00400	0H000M4		J@=B		M4	I / 1420		
4O3O2OLOIOM1:\5-A			0H00400	0H000IM0		J@=B		I M	LI 1420		
3O2O/ONOLOI1:\5-A			0H00400	0H000IM4		J@=B		I M	L0 14KN		
4O3O2O/ONOLOI1:Q5--			0H00400	0H000MNN		J@=B		ML	L0 14/0		
4O3O2O/ONOLOI1:Q5-A			0H00400	0H000MK3		J@=B		MK	I 3 1433		
4O3O2O/OLOIOM1:Q5-A			0H00400	0H000MLK		J@=B		ML	LI 142I		
^5--			0H00300	0H00303		J@=B		404	LI 14//		
^5-A			0H00300	0H004LK		J@=B		I L	N2 14L0		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	69		20 - 175
13C-2,3,7,8-TCDF	62		22 - 152
13C-1,2,3,7,8-PeCDD	80		21 - 227
13C-1,2,3,7,8-PeCDF	64		21 - 192
13C-2,3,4,7,8-PeCDF	66		13 - 328
13C-1,2,3,4,7,8-HxCDD	70		21 - 193
13C-1,2,3,6,7,8-HxCDD	79		25 - 163
13C-1,2,3,4,7,8-HxCDF	66		19 - 202
13C-1,2,3,6,7,8-HxCDF	76		21 - 159
13C-1,2,3,7,8,9-HxCDF	66		17 - 205
13C-2,3,4,6,7,8-HxCDF	73		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	73		26 - 166

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

Lab Sample ID: LCS 320-12332/2-A
Matrix: Water
Analysis Batch: 12476

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 12332

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDF	68		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	62		20 - 186
13C-OCDD	57		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	82		35 - 197

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-92405/1-A
Matrix: Water
Analysis Batch: 92498

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 92405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"6J#%7J#	C-		K0	/0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
"$ Ä7%&	C-		40	LH0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
?*$*7	C-		0H0K0	0H030	# @=B		02=4I=42(0M./0	02=4I=42(42.2I	4
?Ä$F66%J#	C-		3H0	0HM0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
5'6&%J#	C-		0H40	0H0K0	#@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
5E$*#%J#	C-		KH0	3H0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
,$*7	C-		0H0/0	0H04K	# @=B		02=4I=42(0M./0	02=4I=42(42.2I	4
8'@7Ä %J#	C-		0H030	0H043	# @=B		02=4I=42(0M./0	02=4I=42(42.2I	4
C%&[Ä6	C-		40	3H0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
T'7'S%J#	C-		40	2H0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
`%7&	C-		30	MH0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
>%6GÄ$	C-		40	NH0	J@=B		02=4I=42(0M./0	02=4I=42(42.2I	4
:'$S7Ä O(' (5'5^2	C-		0H22	0H4L	#@=B		02=4I=42(0M./0	02=4I=42(42.2I	4

Lab Sample ID: LCS 440-92405/2-A
Matrix: Water
Analysis Batch: 92498

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 92405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
"6J#%7J#	K00	/ II		J@=B		M	I K 144K
"$ Ä7%&	K00	/ M2		J@=B		MM	I K 144K
?*$*7	0HK00	0H/II		# @=B		M	I K 144K
?Ä$F66%J#	K00	K4N		J@=B		402	IK 144K
5'6&%J#	3HK0	3HN3		#@=B		40K	IK 144K
5E$*#%J#	K00	K0K		J@=B		404	IK 144K
,$*7	0HK00	0HK3/		#@=B		40K	IK 144K
8'@7Ä %J#	3HK0	3HKN		#@=B		403	IK 144K
C%&[Ä6	K00	K33		J@=B		40/	IK 144K
T'7'S%J#	K00	K43		J@=B		403	IK 144K
`%7&	K00	/ M4		J@=B		M	I K 144K
>%6GÄ$	3K0	3K/		J@=B		404	IK 144K

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-40332-1 MS
Matrix: Water
Analysis Batch: 92498

Client Sample ID: Outfall 009
Prep Type: Total Recoverable
Prep Batch: 92405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
"6J#%7J#	2L0		K00	4030		J@=B		420	L0 1420		
"$ Ä7%&	C-		K00	/ M0		J@=B		M	L0 1420		
?*$*7	0H0/4	)O-W	0HK00	0HK2L		#@=B		MM	L0 1420		
?Ä$F66%J#	C-		K00	K4K		J@=B		402	L0 1420		
5'6&%J#	IH/		3HK0	44H4		# @=B		40L	L0 1420		
5E$*#%J#	C-		K00	K03		J@=B		400	L0 1420		
,$*7	0H/N		0HK00	4H00		# @=B		40M	L0 1420		
8'@7Ä %J#	3HN		3HK0	KH4		# @=B		404	L0 1420		
C%&[Ä6	3H2	)O-W	K00	K4/		J@=B		403	L0 1420		
T'7'S%J#	C-		K00	K40		J@=B		403	L0 1420		
`%7&	C-		K00	/ M4		J@=B		M	L0 1420		
>%6GÄ$	C-		3K0	3/L		J@=B		MM	L0 1420		

Lab Sample ID: 440-40332-1 MSD
Matrix: Water
Analysis Batch: 92498

Client Sample ID: Outfall 009
Prep Type: Total Recoverable
Prep Batch: 92405

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
"6J#%7J#	2L0		K00	MMM		J@=B		43N	L0 1420	3	30
"$ Ä7%&	C-		K00	/ MN		J@=B		MM	L0 1420	4	30
?*$*7	0H0/4	)O-W	0HK00	0HK2N		#@=B		MM	L0 1420	0	30
?Ä$F66%J#	C-		K00	K4L		J@=B		402	L0 1420	0	30
5'6&%J#	IH/		3HK0	44H3		# @=B		443	L0 1420	4	30
5E$*#%J#	C-		K00	K0N		J@=B		404	L0 1420	4	30
,$*7	0H/N		0HK00	4H03		# @=B		442	L0 1420	3	30
8'@7Ä %J#	3HN		3HK0	KH43		# @=B		404	L0 1420	0	30
C%&[Ä6	3H2	)O-W	K00	K4I		J@=B		402	L0 1420	4	30
T'7'S%J#	C-		K00	K43		J@=B		403	L0 1420	0	30
`%7&	C-		K00	/ MK		J@=B		MM	L0 1420	4	30
>%6GÄ$	C-		3K0	3/L		J@=B		MM	L0 1420	0	30

Lab Sample ID: MB 440-91577/1-D
Matrix: Water
Analysis Batch: 92623

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 92375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
"6J#%7J#	C-		K0	/0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
"$ Ä7%&	C-		40	LH0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
?*$*7	C-		0H0K0	0H030	# @=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
?Ä$F66%J#	C-		3H0	0HM0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
5'6&%J#	C-		0H40	0H0K0	#@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
5E$*#%J#	C-		KH0	3H0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
,$*7	C-		0H0/0	0H04K	# @=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
8'@7Ä %J#	C-		0H030	0H043	# @=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
C%&[Ä6	C-		40	3H0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
T'7'S%J#	C-		40	2H0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
`%7&	C-		30	MH0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4
>%6GÄ$	C-		40	NH0	J@=B		02=4I=42(0I.30	02=4I=42(4I.4M	4

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 440-91577/1-D
Matrix: Water
Analysis Batch: 92623

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 92375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
:'$S7Ä O(' (5'5^2	C-		0H22	0H4L	# @=B		02=4I=42(0I.30	02=4I=42(4I.4M	4

Lab Sample ID: LCS 440-91577/2-D
Matrix: Water
Analysis Batch: 92623

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 92375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
"6J#%7J#	K00	/ N3		J@=B		MB	I K 144K
"$ Ä7%&	K00	/ IK		J@=B		ML	I K 144K
?*$*7	0HK00	0H/NI		# @=B		M	I K 144K
?Ä$F66%J#	K00	K02		J@=B		404	IK 144K
5'6&%J#	3HK0	3HN4		#@=B		40/	IK 144K
5E$*#%J#	K00	/MI		J@=B		400	IK 144K
,$*7	0HK00	0HK32		#@=B		40K	IK 144K
8'@7Ä %J#	3HK0	3HK4		#@=B		400	IK 144K
C%&[Ä6	K00	K4K		J@=B		402	IK 144K
T'7'S%J#	K00	K04		J@=B		400	IK 144K
`%7&	K00	/ L/		J@=B		MK	I K 144K
>%6GÄ$	3K0	3/K		J@=B		M	I K 144K

Lab Sample ID: 440-40193-AL-4-C MS
Matrix: Water
Analysis Batch: 92623

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 92375

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
"6J#%7J#	C-		K00	/ 4M		J@=B		I /	L0 1420
"$ Ä7%&	C-		K00	KKN		J@=B		444	L0 1420
?*$*7	0H/N		0HK00	0HMI0		# @=B		40/	L0 1420
?Ä$F66%J#	C-		K00	K2I		J@=B		40I	L0 1420
5E$*#%J#	C-		K00	K3L		J@=B		40K	L0 1420
,$*7	0H/4		0HK00	4H02		# @=B		433	L0 1420
C%&[Ä6	3HN)O-W		K00	/ MM		J@=B		MM	L0 1420
T'7'S%J#	C-		K00	KN/		J@=B		442	L0 1420
`%7&	C-		K00	K0I		J@=B		403	L0 1420
>%6GÄ$	C-		3K0	3K0		J@=B		400	L0 1420

Lab Sample ID: 440-40193-AL-4-C MS ^2
Matrix: Water
Analysis Batch: 92798

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 92375

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
5'6&%J#	/M0		3HK0	/I/	??	# @=B		1I/	L0 1420
8'@7Ä %J#	330		3HK0	33K	??	# @=B		4N4	L0 1420

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-40193-AL-4-D MSD
Matrix: Water
Analysis Batch: 92623

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 92375

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
"6J#%7J#	C-		K00	/ 22		J@=B		I L	L0 1420	2	30
"$ Ä7%&	C-		K00	K23		J@=B		40N	L0 1420	/	30
?*$*7	0H/N		0HK00	0HMM/		# @=B		40L	L0 1420	4	30
?Ä$F66%J#	C-		K00	K4/		J@=B		402	L0 1420	/	30
5E$*#%J#	C-		K00	K0M		J@=B		403	L0 1420	/	30
,$*7	0H/4		0HK00	4H04		# @=B		430	L0 1420	4	30
C%&[Ä6	3HN	)O-W	K00	/ I2		J@=B		MN	L0 1420	2	30
T'7'S%J#	C-		K00	K2M		J@=B		40I	L0 1420	K	30
`%7&	C-		K00	/ M3		J@=B		M	L0 1420	2	30
>%6GÄ$	C-		3K0	3KN		J@=B		403	L0 1420	3	30

Lab Sample ID: 440-40193-AL-4-D MSD ^2
Matrix: Water
Analysis Batch: 92798

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 92375

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5'6&%J#	/M0		3HK0	/LL	??	# @=B		12KI	L0 1420	4	30
8'@7Ä %J#	330		3HK0	34I	??	# @=B		144/	L0 1420	2	30

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-91577/1-E
Matrix: Water
Analysis Batch: 92508

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 92395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5'S#%J#	C-		4H0	0H40	J@=B		02=4I=42(0M.4I	02=4I=42(4/.0K	4
5*QQÄ$	C-		3H0	0HK0	J@=B		02=4I=42(0M.4I	02=4I=42(4/.0K	4
BÄ'S	C-		4H0	0H30	J@=B		02=4I=42(0M.4I	02=4I=42(4/.0K	4
"7!%#*7F	C-		3H0	0H20	J@=B		02=4I=42(0M.4I	02=4I=42(4/.0K	4
>Ä6Ä7%J#	C-		3H0	0HK0	J@=B		02=4I=42(0M.4I	02=4I=42(4/.0K	4
ĀE'66%J#	C-		4H0	0H30	J@=B		02=4I=42(0M.4I	02=4I=42(4/.0K	4

Lab Sample ID: LCS 440-91577/2-E
Matrix: Water
Analysis Batch: 92508

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 92395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
5'S#%J#	I0H0	LMHM		J@=B		400	IK 144K
5*QQÄ$	I0H0	I 0HK		J@=B		404	IK 144K
BÄ'S	I0H0	I 4HM		J@=B		403	IK 144K
"7!%#*7F	I0H0	LMH0		J@=B		MM	I K 144K
>Ä6Ä7%J#	I0H0	LIHK		J@=B		M	I K 144K
ĀE'66%J#	I0H0	I 3H0		J@=B		403	IK 144K

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

Lab Sample ID: 440-40332-1 MS
Matrix: Water
Analysis Batch: 92508

Client Sample ID: Outfall 009
Prep Type: Total Recoverable
Prep Batch: 92395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
5'S#%J#	0H/2	)O-W	I0H0	I 0HK		J@=B		400	L0 1420
5*QQÄ$	KH4		I0H0	I LHL		J@=B		402	L0 1420
BÄ'S	4HK		I0H0	I 2HL		J@=B		402	L0 1420
"7!%#*7F	0HLM	)O-W	I0H0	I 0H/		J@=B		MM	L0 1420
>Ä6Ä7%J#	C-		I0H0	I 0HI		J@=B		404	L0 1420
ĀE'66%J#	0H/2	)O-W	I0H0	I 2HL		J@=B		40/	L0 1420

Lab Sample ID: 440-40332-1 MSD
Matrix: Water
Analysis Batch: 92508

Client Sample ID: Outfall 009
Prep Type: Total Recoverable
Prep Batch: 92395

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5'S#%J#	0H/2	)O-W	I0H0	I 0HL		J@=B		400	L0 1420	0	30
5*QQÄ$	KH4		I0H0	I /H3		J@=B		MM	L0 1420	/	30
BÄ'S	4HK		I0H0	I 2HN		J@=B		402	L0 1420	0	30
"7!%#*7F	0HLM	)O-W	I0H0	I 0H2		J@=B		MM	L0 1420	0	30
>Ä6Ä7%J#	C-		I0H0	I 0HN		J@=B		404	L0 1420	0	30
ĀE'66%J#	0H/2	)O-W	I0H0	I 2H2		J@=B		40/	L0 1420	4	30

Lab Sample ID: MB 440-91577/1-F
Matrix: Water
Analysis Batch: 92486

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 92430

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5'S#%J#	C-		4H0	0H40	J@=B		02=4I=42(40.23	02=4I=42(42.K4	4
5*QQÄ$	C-		3H0	0HK0	J@=B		02=4I=42(40.23	02=4I=42(42.K4	4
BÄ'S	C-		4H0	0H30	J@=B		02=4I=42(40.23	02=4I=42(42.K4	4
"7!%#*7F	C-		3H0	0H20	J@=B		02=4I=42(40.23	02=4I=42(42.K4	4
>Ä6Ä7%J#	C-		3H0	0HK0	J@=B		02=4I=42(40.23	02=4I=42(42.K4	4
ĀE'66%J#	C-		4H0	0H30	J@=B		02=4I=42(40.23	02=4I=42(42.K4	4

Lab Sample ID: LCS 440-91577/2-F
Matrix: Water
Analysis Batch: 92486

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 92430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
5'S#%J#	I0H0	LMH3		J@=B		MM	I K 144K
5*QQÄ$	I0H0	I 0H/		J@=B		400	IK 144K
BÄ'S	I0H0	I 4HN		J@=B		403	IK 144K
"7!%#*7F	I0H0	LMHN		J@=B		400	IK 144K
>Ä6Ä7%J#	I0H0	LIH/		J@=B		M	I K 144K
ĀE'66%J#	I0H0	I 2H3		J@=B		40/	IK 144K

Lab Sample ID: LCSD 440-91577/21-C
Matrix: Water
Analysis Batch: 92486

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 92430

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5'S#%J#	I0H0	I 4HL		J@=B		403	IK 144K	2	30

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

Lab Sample ID: LCSD 440-91577/21-C — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 92486 — **Prep Batch: 92430**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5*QQÄ$	I0H0	I 3H/		J@=B		402	IK 144K	3	30
BÄ'S	I0H0	I /HM		J@=B		40N	IK 144K	/	30
"7!%#*7F	I0H0	I 4H4		J@=B		404	IK 144K	3	30
>Ä6Ä7%J#	I0H0	I 4H2		J@=B		403	IK 144K	/	30
ĀE'66%J#	I0H0	I /HL		J@=B		40N	IK 144K	3	30

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-92502/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 93279 — **Prep Batch: 92502**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8Ä$&J$F	C-		0H30	0H40	J@=B		02=30=42(43.3L	02=30=42(4I./3	4

Lab Sample ID: LCS 440-92502/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 93279 — **Prep Batch: 92502**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
8Ä$&J$F	IH00	LHI4		J@=B		M	I K 144K

Lab Sample ID: 440-40019-AN-3-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 93279 — **Prep Batch: 92502**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
8Ä$&J$F	C-		IH00	IH00		J@=B		400	L0 1420

Lab Sample ID: 440-40019-AN-3-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 93279 — **Prep Batch: 92502**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
8Ä$&J$F	C-		IH00	LHIK		J@=B		M	L0 1420	3	30

Lab Sample ID: MB 440-91577/1-I — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 93120 — **Prep Batch: 92967**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8Ä$&J$F	C-		0H30	0H40	J@=B		02=30=42(43.3L	02=30=42(4N.4/	4

Lab Sample ID: LCS 440-91577/2-I — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 93120 — **Prep Batch: 92967**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
8Ä$&J$F	IH00	IH00		J@=B		400	IK 144K

QC Sample Results

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-40328-F-1-E MS
Matrix: Water
Analysis Batch: 93120

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 92967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
8Ä$&J$F	C-		IH00	LHI2		J@=B		M	L0 1420

Lab Sample ID: 440-40328-F-1-F MSD
Matrix: Water
Analysis Batch: 93120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 92967

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
8Ä$&J$F	C-		IH00	LHM2		J@=B		MM	L0 1420	4	30

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-91974/1-A
Matrix: Water
Analysis Batch: 91979

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91974

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
:D8	C-		KH0	4H/	# @=B		02=4K=42(0L.04	02=4K=42(0L44	4

Lab Sample ID: LCS 440-91974/2-A
Matrix: Water
Analysis Batch: 91979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91974

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
:D8	30H0	4IHN		# @=B		M2	LI 144/

Lab Sample ID: LCSD 440-91974/3-A
Matrix: Water
Analysis Batch: 91979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 91974

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
:D8	30H0	4LHM		# @=B		M0	LI 144/	/	44

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-91676/1
Matrix: Water
Analysis Batch: 91676

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ā* !'6(-% *6GĀS(>*6%S	C-		40	40	#@=B			02=4/=42(0I.3/	4

Lab Sample ID: LCS 440-91676/2
Matrix: Water
Analysis Batch: 91676

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ā* !'6(-% *6GĀS(>*6%S	4000	ML0		# @=B		ML	M0 1440

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 440-40362-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91676

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ā* !'6(-% *6GÄS(>*6%S	/40			/34		# @=B				3	40

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-91279/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91279

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ā* !'6(>J QÄ7SÄS(>*6%S	C-		40	40	#@=B			02=43=42(30.0M	4

Lab Sample ID: LCS 440-91279/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91279

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ā* !'6(>J QÄ7SÄS(>*6%S			4000	MM4		# @=B		M	I K 144K		

Lab Sample ID: 440-40430-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91279

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ā* !'6(>J QÄ7SÄS(>*6%S	420			42K		# @=B				4	40

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-90885/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90984 — **Prep Batch: 90885**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
5F'7%SÄ@	C-		KH0	2H0	J@=B		02=4=42(4K.0/	02=4=42(34.2L	4

Lab Sample ID: LCS 440-90885/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90984 — **Prep Batch: 90885**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
5F'7%SÄ@			400	ML H3		J@=B		M	M0 1440		

Lab Sample ID: 440-39884-B-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90984 — **Prep Batch: 90885**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
5F'7%SÄ@	C-		400	403		J@=B		403	L0 144K		

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: 440-39884-B-1-C MSD
Matrix: Water
Analysis Batch: 90984

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 90885

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
5F'7%SÄ@ĝ'6	C-		400	40/		J@=B		40/	L0 144K	3	4K

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 440-90677/10
Matrix: Water
Analysis Batch: 90677

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
A6J*$%SÄ	C-		0H40	0H030	#@=B			02=40=42(4/.2N	4

Lab Sample ID: LCS 440-90677/9
Matrix: Water
Analysis Batch: 90677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
A6J*$%SÄ			4H00	0HMLI		# @=B		M	M0 1440		

Lab Sample ID: 440-40113-A-1 MS
Matrix: Water
Analysis Batch: 90677

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
A6J*$%SÄ	0H4K		4H00	4H4		#@=B		MN	I0 1430		

Lab Sample ID: 440-40113-A-1 MSD
Matrix: Water
Analysis Batch: 90677

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
A6J*$%SÄ	0H4K		4H00	4H4		#@=B		MN	I0 1430	0	30

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-40953/1-A
Matrix: Water
Analysis Batch: 41569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40953

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
a$* ("6QE'	0H40L/	b	0H2MK	0H2MK	0HL2L	Q5%=B	02=30=42(43.00	02=3K=42(4N./I	4
a$* (?Ä!'	10H0//4L	b	0H/KL	0H/KL	0HI32	Q5%=B	02=30=42(43.00	02=3K=42(4N./I	4

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

Lab Sample ID: LCS 160-40953/2-A
Matrix: Water
Analysis Batch: 41569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40953

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
a$* ("6QE'	K2HM	K3HI4		LHKL	4HIN	Q5%=B	MI	LK 143K

Lab Sample ID: LCSB 160-40953/3-A
Matrix: Water
Analysis Batch: 41569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40953

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
a$* (?Ä!'	MMH/	IIH/K		MH2I	0HMIM	Q5%=B	IM	LK 143K

Lab Sample ID: 400-73138-AM-1-B MS
Matrix: Water
Analysis Batch: 41569

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40953

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
a$* ("6QE'	0HN4I	b	K2HM	/KH24		NHNN	4H/2	Q5%=B	I/	2K 14K0

Lab Sample ID: 400-73138-AM-1-C MSBT
Matrix: Water
Analysis Batch: 41569

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40953

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
a$* (?Ä!'	3H33		MMH/	M3H4N		MHLK	4H0L	Q5%=B	M4	IM 14/2

Lab Sample ID: 400-73138-AM-1-D DU
Matrix: Water
Analysis Batch: 41569

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 40953

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
a$* ("6QE'	0HN4I	b	10H0L3L0	b	0HIL4	4HL0	Q5%=B	0H2L	4
a$* (?Ä!'	3H33		3HNL0		0HI0I	0HMLK	Q5%=B	0H3M	4

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-39498/1-A
Matrix: Water
Analysis Batch: 40390

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39498

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
5Ä %J#142L	14H40M	b	LH/N	LH/N	42HN	Q5%=B	02=42=42(4K.3N	02=4L=42(4L.KL	4
;*!' %J#1/0	KIH3N	b	NLH2	NLHN	40K	Q5%=B	02=42=42(4K.3N	02=4L=42(4L.KL	4

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: LCS 160-39498/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 40384 — **Prep Batch: 39498**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
"#Ä$%&%J#13/4	42M000	42/I00		4KN00	/M3	Q5%=B	ML	M01444
5Ä %J#142L	//L00	//2K0		//K0	4K3	Q5%=B	MM	M0 1444
5*+'6!1N0	23M00	23/20		2340	I3HM	Q5%=B	M	I M1440

Lab Sample ID: 440-40332-1 DU — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 40384 — **Prep Batch: 39498**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
5Ä %J#142L	0H033/	b	0H/II2	b	I HK3	4KHM	Q5%=B	0H0/	4
;*!' %J#1/0	124HN	b	12/HM4	b	3//	334	Q5%=B	0H04	4

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-39475/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 44217 — **Prep Batch: 39475**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
X'S%J#133N	0H4M0N		0H40/	0H40K	0H42/	Q5%=B	02=42=42(42./I	0/=0/=42(0M.02	4

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*03/13/13 13:48*	*04/04/13 09:03*	*1*

Lab Sample ID: LCS 160-39475/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 44217 — **Prep Batch: 39475**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
X'S%J#133N	44H3	40H/2		4H4	0H4/2	Q5%=B	M2	NI 142L

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Lab Sample ID: 440-40332-1 DU — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 44217 — **Prep Batch: 39475**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
X'S%J#133N	0H0L00	b	0H4LI/		0H4M	0H4KM	Q5%=B	0HK4	4

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 440-40332-1 DU
Matrix: Water
Analysis Batch: 44217

Client Sample ID: Outfall 009
Prep Type: Total/NA
Prep Batch: 39475

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	81.1		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-39474/1-A
Matrix: Water
Analysis Batch: 44107

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39474

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
X'S%J#133I	0H334I	b	0H30L	0H30I	0H223	Q5%=B	02=42=42(42.//	0/=02=42(40./I	4

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110	03/13/13 13:44	04/03/13 10:48	1
Y Carrier	89.0		40 - 110	03/13/13 13:44	04/03/13 10:48	1

Lab Sample ID: LCS 160-39474/2-A
Matrix: Water
Analysis Batch: 44107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39474

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
X'S%J#133I			/H/4	/HK3N		0HN4		0H2K3	Q5%=B	402	KN14/0		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	106		40 - 110
Y Carrier	85.2		40 - 110

Lab Sample ID: 440-40332-1 DU
Matrix: Water
Analysis Batch: 44107

Client Sample ID: Outfall 009
Prep Type: Total/NA
Prep Batch: 39474

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)		MDC	Unit			RER	RER Limit
X'S%J#133I	0H3ML	b		0H300K	b	0H3I0		0H/N2	Q5%=B			0H4I	4

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	81.1		40 - 110
Y Carrier	84.1		40 - 110

QC Sample Results

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-40073/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 41569 — **Prep Batch: 40073**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
>!$*7!%J#1M0	10H0/4N0	b	0H4L4	0H4L4	0H240	Q5%=B	02=4/=42(4/.24	02=3K=42(4K.//	4

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*87.0*		*40 - 110*	*03/14/13 14:31*	*03/25/13 15:44*	*1*
Y Carrier	*88.6*		*40 - 110*	*03/14/13 14:31*	*03/25/13 15:44*	*1*

Lab Sample ID: LCS 160-40073/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 41569 — **Prep Batch: 40073**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
>!$*7!%J#1M0			MH2/	40HL/		4H0I		0H3N4	Q5%=B	44K	M0142/		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*85.9*		*40 - 110*
Y Carrier	*89.0*		*40 - 110*

Lab Sample ID: 440-40332-1 DU — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 41569 — **Prep Batch: 40073**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)		MDC	Unit			RER	RER Limit
>!$*7!%J#1M0	10H0IK/	b		10H4/KK	b	0H34M		0H/43	Q5%=B			0H4K	4

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Sr Carrier	*72.7*		*40 - 110*
Y Carrier	*87.9*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-39989/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 40226 — **Prep Batch: 39989**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Ā$%!%J#	N0HI4	b	L/HM	LKH4	433	Q5%=B	02=4/=42(0I.20	02=4/=42(43.43	4

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: LCS 160-39989/2-A
Matrix: Water
Analysis Batch: 40226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39989

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Ä$%!%J#			2I30	/4NL		K3M		44M	Q5%=B	40M	L/ 144/		

Lab Sample ID: 440-40332-1 MS
Matrix: Water
Analysis Batch: 40226

Client Sample ID: Outfall 009
Prep Type: Total/NA
Prep Batch: 39989

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Ä$%!%J#	LMHL	b	2I30	2M4K		/MM		44/	Q5%=B	402	NL 1420		

Lab Sample ID: 440-40332-1 DU
Matrix: Water
Analysis Batch: 40226

Client Sample ID: Outfall 009
Prep Type: Total/NA
Prep Batch: 39989

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)		MDC	Unit			RER	RER Limit
Ä$%!%J#	LMHL	b		4KH23	b	KMH0		440	Q5%=B			0H/I	4

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-40075/1-A
Matrix: Water
Analysis Batch: 40505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40075

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Ä* !'6(b$'7%J#	0H02KM2	b	0H0N2MI	0H0N/02	0H40/	Q5%=B	02=4/=42(4/.K4	02=4I=42(4L.0/	4

Lab Sample ID: LCS 160-40075/2-A
Matrix: Water
Analysis Batch: 40506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40075

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
b$'7%J#132/			42H4	42H24		4HK3		0H0I2N	Q5%=B	403	I/ 1430		
b$'7%J#132I			42HN	42H4K		4HK0		0H0I2K	Q5%=B	ML	I 2 1434		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*91.8*		*30 - 110*

Lab Sample ID: 440-40332-1 DU
Matrix: Water
Analysis Batch: 40544

Client Sample ID: Outfall 009
Prep Type: Total/NA
Prep Batch: 40075

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)		MDC	Unit			RER	RER Limit
Ä* !'6(b$'7%J#	0H0I2N	b		0H4I04		0H4K2		0H4K3	Q5%=B			0H2L	4

QC Association Summary

GC/MS VOA

Analysis Batch: 90650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/004F1>14(8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	E3/	
//01/004F1>14(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	E3/	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	E3/	
//01/022313	Ā$%H(?6'7I	Ā*!'6=C"	9 ' !Ä$	E3/	
B5>(//01F0EM0=E	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E3/	
8?(//01F0EM0=M	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	E3/	

Analysis Batch: 92348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	E3/	
//01/022313	Ā$%H(?6'7I	Ā*!'6=C"	9 ' !Ä$	E3/	
//01/0E/F1A1M(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	E3/	
//01/0E/F1A1M(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	E3/	
B5>(//01F32/P=M	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E3/	
8?(//01F32/P=/	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	E3/	

GC/MS Semi VOA

Prep Batch: 90585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//012F3221R1E1'(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	M3MQ3	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	M3MQ3	
B5>(//01F0MPM=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	M3MQ3	
B5>-(//01F0MPM=21"	B'+(5*7!$*6(>'#H6Ä(-JH	Ā* !'6=C"	9 ' !Ä$	M3MQ3	
8?(//01F0MPM=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	M3MQ3	

Analysis Batch: 90937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
B5>(//01F0MPM=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	M3MQ3	F0MPM
B5>-(//01F0MPM=21"	B'+(5*7!$*6(>'#H6Ä(-JH	Ā* !'6=C"	9 ' !Ä$	M3MQ3	F0MPM
8?(//01F0MPM=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	M3MQ3	F0MPM

Prep Batch: 91160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	E3M	
B5>(//01F4 4E0=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E3M	
B5>-(//01F4 4E0=21"	B'+(5*7!$*6(>'#H6Ä(-JH	Ā* !'6=C"	9 ' !Ä$	E3M	
8?(//01F4 4E0=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	E3M	

Analysis Batch: 91197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//012F3221R1E1'(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	M3MQ3	F0MPM
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	M3MQ3	F0MPM

Analysis Batch: 91851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
B5>(//01F0MPM=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	M3MQ3	F0MPM
B5>-(//01F0MPM=21"	B'+(5*7!$*6(>'#H6Ä(-JH	Ā* !'6=C"	9 ' !Ä$	M3MQ3	F0MPM
8?(//01F0MPM=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	M3MQ3	F0MPM

QC Association Summary

GC/MS Semi VOA (Continued)

Analysis Batch: 92112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	E3M	F44E0
B5>(//01F4 4E0=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E3M	F44E0
B5>-(//01F4 4E0=21"	B'+(5*7!$*6(>'#H6Ä(-JH	Ā* !'6=C"	9 ' !Ä$	E3M	F44E0
8?(//01F4 4E0=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	E3M	F44E0

GC Semi VOA

Prep Batch: 91457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/03PE1T 141"(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	E0P	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	E0P	
//01/03PE1""141" (8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	E0P	
//01/03PE1"?141" (8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	E0P	
//01/03PE1"-141" (8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	E0P	
B5>(//01F4/MU=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E0P	
B5>(//01F4/MU=M1"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E0P	
8?(//01F4/MU=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	E0P	

Analysis Batch: 91841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	E0P(;Ä !%&%OÄ	F4/MU
//01/03PE1""141" (8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	E0P(;Ä !%&%OÄ	F4/MU
//01/03PE1"-141" (8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	E0P(;Ä !%&%OÄ	F4/MU
B5>(//01F4/MU=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E0P(;Ä !%&%OÄ	F4/MU
8?(//01F4/MU=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	E0P(;Ä !%&%OÄ	F4/MU

Analysis Batch: 92018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/03PE1T 141"(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	E0P(;5?(BB	F4/MU
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	E0P(;5?(BB	F4/MU
//01/03PE1"?141" (8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	E0P(;5?(BB	F4/MU
B5>(//01F4/MU=M1"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	E0P(;5?(BB	F4/MU
8?(//01F4/MU=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	E0P(;5?(BB	F4/MU

HPLC/IC

Analysis Batch: 90376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/02321?13(8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	200Q0	
//01/02321?13(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	200Q0	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	200Q0	
B5>(//01F02UE=U	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	200Q0	
8?(//01F02UE=/	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	200Q0	

Analysis Batch: 90377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/02321?13(8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	200Q0	
//01/02321?13(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	200Q0	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	200Q0	
B5>(//01F02UU=U	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	200Q0	

QC Association Summary

HPLC/IC (Continued)

Analysis Batch: 90377 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
8?(//01F02UU=/	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	200Q0	

Analysis Batch: 90392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	34PQE	
//01/03PE1"81F(8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	34PQE	
//01/03PE1"81F(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	34PQE	
B5>(//01F02F3=3	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	34PQE	
8?(//01F02F3=M	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	34PQE	

Analysis Batch: 93385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	24/Q0	
//01/0E421?14(8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	24/Q0	
//01/0E421?14(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	24/Q0	
B5>(//01F22PM=24	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	24/Q0	
8?(//01F22PM=20	8Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	24/Q0	
8VB (//01F22PM=3(8VB	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	24/Q0	

Specialty Organics

Prep Batch: 12332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	4E42?	
B5>(230143223=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	4E42?	
8?(230143223=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	4E42?	

Analysis Batch: 12476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	4E42?	43223
B5>(230143223=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	4E42?	43223
8?(230143223=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	4E42?	43223

Metals

Prep Batch: 92375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	-% *6SÄO	9 ' !Ä$	300Q3	
//01/04F21"B1/15(8>	8 '!$%G(>H%IÄ	-% *6SÄO	9 ' !Ä$	300Q3	
//01/04F21"B1/15(8>(W3	8'!$%G(>H%IÄ	-% *6SÄO	9 ' !Ä$	300Q3	
//01/04F21"B1/1-(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	-% *6SÄO	9 ' !Ä$	300Q3	
//01/04F21"B1/1-(8>-(W3	8 '!$%G(>H%IÄ(-JH6%&'!Ä	-% *6SÄO	9 ' !Ä$	300Q3	
B5>(//01F4MUU=31-	B'+(5*7!$*6(>'#H6Ä	-% *6SÄO	9 ' !Ä$	300Q3	
8?(//01F4MUU=41-	8 Ä!N*O(?6'7I	-% *6SÄO	9 ' !Ä$	300Q3	

Prep Batch: 92395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	
//01/022314(8>	KJ!L'66(00F	Ā* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	
//01/022314(8>-	KJ!L'66(00F	Ā* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	

Metals (Continued)

Prep Batch: 92395 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
B5>(//01F4MUU=31D	B'+(5*7!$*6(>'#H6Ä	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	
8?(//01F4MUU=41D	8 Ä!N*O(?6'7I	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	

Prep Batch: 92405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	
//01/022314(8>	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	
//01/022314(8>-	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	
B5>(//01F3/0M=31"	B'+(5*7!$*6(>'#H6Ä	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	
8?(//01F3/0M=41"	8 Ä!N*O(?6'7I	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300Q3	

Prep Batch: 92430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	-% *6SÄO	9 ' !Ä$	300Q3	
B5>(//01F4MUU=31A	B'+(5*7!$*6(>'#H6Ä	-% *6SÄO	9 ' !Ä$	300Q3	
B5>-(//01F4MUU=3415	B'+(5*7!$*6(>'#H6Ä(-JH	-% *6SÄO	9 ' !Ä$	300Q3	
8?(//01F4MUU=41A	8 Ä!N*O(?6'7I	-% *6SÄO	9 ' !Ä$	300Q3	

Analysis Batch: 92486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	-% *6SÄO	9 ' !Ä$	300QP	F3/20
B5>(//01F4MUU=31A	B'+(5*7!$*6(>'#H6Ä	-% *6SÄO	9 ' !Ä$	300QP	F3/20
B5>-(//01F4MUU=3415	B'+(5*7!$*6(>'#H6Ä(-JH	-% *6SÄO	9 ' !Ä$	300QP	F3/20
8?(//01F4MUU=41A	8 Ä!N*O(?6'7I	-% *6SÄO	9 ' !Ä$	300QP	F3/20

Analysis Batch: 92498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QU(VÄS(/Q/	F3/0M
//01/022314(8>	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QU(VÄS(/Q/	F3/0M
//01/022314(8>-	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QU(VÄS(/Q/	F3/0M
B5>(//01F3/0M=31"	B'+(5*7!$*6(>'#H6Ä	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QU(VÄS(/Q/	F3/0M
8?(//01F3/0M=41"	8 Ä!N*O(?6'7I	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QU(VÄS(/Q/	F3/0M

Prep Batch: 92502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ã* !'6=C"	9 ' !Ä$	3/MQ4	
//01/004F1"C121-(8>	8 '!$%G(>H%IÄ	Ã*!'6=C"	9 ' !Ä$	3/MQ4	
//01/004F1"C121D(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ã*!'6=C"	9 ' !Ä$	3/MQ4	
B5>(//01F3M03=31"	B'+(5*7!$*6(>'#H6Ä	Ã* !'6=C"	9 ' !Ä$	3/MQ4	
8?(//01F3M03=41"	8 Ä!N*O(?6'7I	Ã* !'6=C"	9 ' !Ä$	3/MQ4	

Analysis Batch: 92508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QP	F32FM
//01/022314(8>	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QP	F32FM
//01/022314(8>-	KJ!L'66(00F	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QP	F32FM
B5>(//01F4MUU=31D	B'+(5*7!$*6(>'#H6Ä	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QP	F32FM
8?(//01F4MUU=41D	8 Ä!N*O(?6'7I	Ã* !'6(VÄ&*SÄ$'+6Ä	9 ' !Ä$	300QP	F32FM

QC Association Summary

Metals (Continued)

Analysis Batch: 92623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	-% *6SÄO	9 ' !Ä$	300QU(VÄS(/Q/	F32UM
//01/04F21"B1/15(8>	8 '!$%G(>H%IÄ	-% *6SÄO	9 ' !Ä$	300QU(VÄS(/Q/	F32UM
//01/04F21"B1/1-(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	-% *6SÄO	9 ' !Ä$	300QU(VÄS(/Q/	F32UM
B5>(//01F4MUU=31-	B'+(5*7!$*6(>'#H6Ä	-% *6SÄO	9 ' !Ä$	300QU(VÄS(/Q/	F32UM
8?(//01F4MUU=41-	8 Ä!N*O(?6'7I	-% *6SÄO	9 ' !Ä$	300QU(VÄS(/Q/	F32UM

Analysis Batch: 92798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/04F21"B1/15(8>(W3	8'!$%G(>H%IÄ	-% *6SÄO	9 ' !Ä$	300QU(VÄS(/Q/	F32UM
//01/04F21"B1/1-(8>-(W3	8 '!$%G(>H%IÄ(-JH6%&'!Ä	-% *6SÄO	9 ' !Ä$	300QU(VÄS(/Q/	F32UM

Prep Batch: 92967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/023P1A141D(8>	8'!$%G(>H%IÄ	-% *6SÄO	9 ' !Ä$	3/MQ4	
//01/023P1A141A(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	-% *6SÄO	9 ' !Ä$	3/MQ4	
//01/022314	KJ!L'66(00F	-% *6SÄO	9 ' !Ä$	3/MQ4	
B5>(//01F4MUU=31,	B'+(5*7!$*6(>'#H6Ä	-% *6SÄO	9 ' !Ä$	3/MQ4	
8?(//01F4MUU=41,	8 Ä!N*O(?6'7I	-% *6SÄO	9 ' !Ä$	3/MQ4	

Analysis Batch: 93120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/023P1A141D(8>	8'!$%G(>H%IÄ	-% *6SÄO	9 ' !Ä$	3/MQ4	F3FEU
//01/023P1A141A(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	-% *6SÄO	9 ' !Ä$	3/MQ4	F3FEU
//01/022314	KJ!L'66(00F	-% *6SÄO	9 ' !Ä$	3/MQ4	F3FEU
B5>(//01F4MUU=31,	B'+(5*7!$*6(>'#H6Ä	-% *6SÄO	9 ' !Ä$	3/MQ4	F3FEU
8?(//01F4MUU=41,	8 Ä!N*O(?6'7I	-% *6SÄO	9 ' !Ä$	3/MQ4	F3FEU

Analysis Batch: 93279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	3/MQ4	F3M03
//01/004F1"C121-(8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	3/MQ4	F3M03
//01/004F1"C121D(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	3/MQ4	F3M03
B5>(//01F3M03=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	3/MQ4	F3M03
8?(//01F3M03=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	3/MQ4	F3M03

General Chemistry

Analysis Batch: 90677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/04 421"14(8>	8 '!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	>8(/M00(A(5	
//01/04 421"14(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	>8(/M00(A(5	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	>8(/M00(A(5	
B5>(//01F0EUU=F	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	>8(/M00(A(5	
8?(//01F0EUU=40	8Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	>8(/M00(A(5	

Prep Batch: 90885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//012FPP/1?141?(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	-% !%66=5C	
//012FPP/1?1415(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	-% !%66=5C	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	-% !%66=5C	

General Chemistry (Continued)

Prep Batch: 90885 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
B5>(//01F0PPM=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	-% !%66=5C	
8?(//01F0PPM=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	-% !%66=5C	

Analysis Batch: 90984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//012FPP/1?141?(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	>8(/M00(5C(D	F0PPM
//012FPP/1?1415(8>-	8'!$%G(>H%IÄ(-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	>8(/M00(5C(D	F0PPM
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	>8(/M00(5C(D	F0PPM
B5>(//01F0PPM=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	>8(/M00(5C(D	F0PPM
8?(//01F0PPM=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	>8(/M00(5C(D	F0PPM

Analysis Batch: 91279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	>8(3M/0-	
//01/0/201"14(-X	-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	>8(3M/0-	
B5>(//01F43UF=3	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	>8(3M/0-	
8?(//01F43UF=4	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	>8(3M/0-	

Analysis Batch: 91676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	>8(3M/05	
//01/02E31"14(-X	-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	>8(3M/05	
B5>(//01F4EUE=3	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	>8(3M/05	
8?(//01F4EUE=4	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	>8(3M/05	

Prep Batch: 91974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	4EE/"	
B5>(//01F4FU/=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	4EE/"	
B5>-(//01F4FU/=21"	B'+(5*7!$*6(>'#H6Ä(-JH	Ā* !'6=C"	9 ' !Ä$	4EE/"	
8?(//01F4FU/=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	4EE/"	

Analysis Batch: 91979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	4EE/"	F4FU/
B5>(//01F4FU/=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	4EE/"	F4FU/
B5>-(//01F4FU/=21"	B'+(5*7!$*6(>'#H6Ä(-JH	Ā* !'6=C"	9 ' !Ä$	4EE/"	F4FU/
8?(//01F4FU/=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	4EE/"	F4FU/

Rad

Prep Batch: 39474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄHY0	
//01/022314(-X	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄHY0	
B5>(4E012F/U/=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄHY0	
8?(4E012F/U/=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄHY0	

QC Association Summary

Rad (Continued)

Prep Batch: 39475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH134	
//01/022314(-X	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH134	
B5>(4E012F/UM=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH134	
8?(4E012F/UM=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH134	

Prep Batch: 39498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	A%66YZÄ*10	
//01/022314(-X	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	A%66YZÄ*10	
B5>(4E012F/FP=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	A%66YZÄ*10	
8?(4E012F/FP=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	A%66YZÄ*10	

Prep Batch: 39989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	B>5Y-% !Y>J H	
//01/022314(-X	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	B>5Y-% !Y>J H	
//01/022314(8>	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	B>5Y-% !Y>J H	
B5>(4E012FFPF=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	B>5Y-% !Y>J H	
8?(4E012FFPF=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	B>5Y-% !Y>J H	

Prep Batch: 40073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH1U	
//01/022314(-X	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH1U	
B5>(4E01/00U2=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH1U	
8?(4E01/00U2=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	;$Ä&>ÄH1U	

Prep Batch: 40075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	DG!5N$*#	
//01/022314(-X	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	DG!5N$*#	
B5>(4E01/00UM=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	DG!5N$*#	
8?(4E01/00UM=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	DG!5N$*#	

Prep Batch: 40953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
/001U242P1"8141?(8>	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	DS'H*$'!%*7	
/001U242P1"81415(8>?Ā	8'!$%G(>H%IÄ	Ā*!'6=C"	9 ' !Ä$	DS'H*$'!%*7	
/001U242P1"8141-(-X	-JH6%&'!Ä	Ā*!'6=C"	9 ' !Ä$	DS'H*$'!%*7	
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	DS'H*$'!%*7	
B5>(4E01/0FM2=31"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	DS'H*$'!%*7	
B5>?(4E01/0FM2=21"	B'+(5*7!$*6(>'#H6Ä	Ā* !'6=C"	9 ' !Ä$	DS'H*$'!%*7	
8?(4E01/0FM2=41"	8 Ä!N*O(?6'7I	Ā* !'6=C"	9 ' !Ä$	DS'H*$'!%*7	

Biology

Analysis Batch: 90673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	>8(F334D	

Biology (Continued)

Analysis Batch: 90674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
//01/022314	KJ!L'66(00F	Ā* !'6=C"	9 ' !Ä$	>8(F334A	

56%Ä7!.(89:("#Ä$%&' (,7&
;$*<Ä&!=>%!Ä.(?*Ä%7@(

ĀÄ !"#Ä$%&'()*+(,-.(//01/022314

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
BC	8>('7E=*$(8>-(+Ä6*F('&&ÄG!'7&Ä(6%#%! H((>ÄÄ(?6'7I(>G%IÄ(JB5>K
)L-M	D !%#'!ÄE(N'6OÄP(N'6OÄ(Q(6*FÄ !(!'7E'$E(J8RBKL(+O!(S!TB(8
B:	>O$$*@'!Ä(UÄ&*NÄ$%Ä (FÄ$Ä(T%@TÄ$(!T'7(R5(6%#%!

HPLC/IC

Qualifier	Qualifier Description
B8	8>('7E=*$(8>-('+*NÄ('&&ÄG!'7&Ä(6%#%! H((>ÄÄ(?6'7I(>G%IÄ(JB5>K

Dioxin

Qualifier	Qualifier Description
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8?	"7'6V!Ä(G$Ä Ä7!(%7(!TÄ(#Ä!T*E(+6'7I
W	ĀTÄ(% *#Ä$(% (WO'6%X%ÄE(' (G* %!%NÄ6V(%EÄ7!%X%#EÄ(QIC'7'(ÄV(+Ä&'O Ä(!TÄ(WO'7!%'!'!%*7(% (+' ÄE(*7(!TÄ(%Ä'6$Ä'!%*(X*$(!TÄ Ä('#G6Ä H

Metals

Qualifier	Qualifier Description
??	>'#G6Ä(S(/M(G%IÄ(&*7&Ä7!$'!%*7
)L-M	D !%#'!ÄE(N'6OÄP(N'6OÄ(Q(6*FÄ !(!'7E'$E(J8RBKL(+O!(S!TB(8

Rad

Qualifier	Qualifier Description
Y	,7E%&'!Ä (!TÄ('7'6V!Ä(F' ('7'6VZÄE(X*$(+O!(7*!(EÄ!Ä&!ÄEH

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
[	B% !ÄE(O7EÄ$(!TÄ(\-\(&*6O#7(!*(EÄ %@7'!Ä(!T'!(!TÄ($Ä OG'%Ä(E7('(E$V(FÄ%@T!(+' %
]U	;Ä$&Ä7!(UÄ&*NÄ$V
5CA	5*7!'%7 (7*(A$ÄÄ(B%WO%E
-DU	-OG6%&'!Ä(Ä$$*$($'!%*(J7*$#'6%ZÄE('+ *6
-BL(U"L(UDL(,C	,7E%&'!Ä ('(-%6O!%*7L(UÄ1'7'6V % L(UÄ1Ä^!$'%!%*7'6(,7%!%'6(#Ä!'6 ='7%*7('7'6V % (*X(!TÄ('#G6Ä
-B5	-Ä&% %*7(6ÄNÄ6(&*7&Ä7!$'!%*7
8-"	8 %7%#O#(EÄ!Ä&!'+6Ä('&!%N%!V
D-B	D !%#'!ÄE(-Ä!Ä&!%*7(B%#%!
8-5	8 %7%#O#(EÄ!Ä&!'+6Ä(&*7&Ä7!$'!%*7
8-B	8 Ä!T*E(-Ä!Ä&!%*7(B%#%!
8B	8%7%#O#(BÄNÄ6(J-%*^%7K
C-	C*!(EÄ!Ä&!ÄE('!(!TÄ($ÄG*$!%7@(6%#%!(
;RB	;$'&!%&'6(RO'7!%'!'!%*7(B%#%!
R5	RO'6%!V(5*7!$*6
UDU	UÄ6'!%NÄ(Ä$$*$($'!%*
UB	UÄG*$!%7@(B%#%!(*$(UÄWOÄ !ÄE(B%#%!(JU'E%*&TÄ#% !$VK
U;-	UÄ6'!%NÄ(;Ä$&Ä7!(X
ĀDA	Ā*^%&%!V(DWO%N'6Ä7!(A'&!*$(J-%*^%7K
ĀDR	Ā*^%&%!V(DWO%N'6Ä7!(RO*!%Ä7!(J-%*^%7K

Certification Summary

ĀÄ !"#$%&'(%)*!+ ,-.%/", 0! .#)*!+ ,-%123%/4$%5567568897:
;+2<!,#=> #!$%?2! "@%>?%@A4D>

Laboratory: TestAmerica Irvine

)ÄÄ%,!+# E ,-# 2".%F!ÄG%3H%#F .%Ä-32+-#2+H%-+!%Ä!+#GE!%#%2"2%%-!ÄÄJJÄ ,-3Ä!%#2%#F .%+!J2+#I

Authority	Program	EPA Region	Certification ID	Expiration Date
)Ä-.K-	>#-#!%;+2@+-*	:6	Ā)6:L8:	6M7867:8
)+ N2"-	>#-#!%;+2@+-*	O	) P6MQ:	:67:87:8
Ā-Ä E2+" -	B) %Ā#H%>-" #-# 2"%4 .#+ ,#.	O	: 69LM	6:78:7:5
Ā-Ä E2+" -	CDB);	O	: :6RĀ)	6:78:7:5
Ā-Ä E2+" -	>#-#!%;+2@+-*	O	9Q6M	6M7867:5
ST-*	>#-#!%;+2@+-*	O	Ā!+#I%C2I%:9I669+	6879R7:8%U
(-V-	>#-#!%;+2@+-*	O	C=)	6:78:7:5
C!W-G-	>#-#!%;+2@+-*	O	Ā)6:L8:966Q)	6Q78:7:8
C2+#F!+"%&-+ -"-%/.Ä-"G.	>#-#!%;+2@+-*	O	&;6669	6:78:7:5
X+!@2"	CDB);	: 6	566L	6O7:97:8
Y>4)	A!G!+-Ä		;88676O7666R6	6M76M7:5
Y>D;) %Ā&Z	A!G!+-Ä	:	Ā)6:L8:	6:78:7:L

Laboratory: TestAmerica Sacramento

)ÄÄ%,!+# E ,-# 2".%F!ÄG%3H%#F .%Ä-32+-#2+H%-+!%Ä!+#GE!%#%2"2%%-!ÄÄJJÄ ,-3Ä!%#2%#F .%+!J2+#I

Authority	Program	EPA Region	Certification ID	Expiration Date
)9B)	424%DB);		9O9R76:	6:78:7:5
)Ä-.K-%[Y>0\	>#-#!%;+2@+-*	:6	Y>0 76LL	:97:R7:8
)+ N2"-	>#-#!%;+2@+-*	O	) P6Q6R	6R7: 7:8%U
)+K-".-.%4D]	>#-#!%;+2@+-*	M	RR76MO:	6M7:Q7:8
Ā-Ä E2+" -	CDB);	O	: : :OĀ)	6:78:7:5
Ā2Ä2+-G2	>#-#!%;+2@+-*	R	C=)	6R78:7:8
Ā2""!,# ,T#	>#-#!%;+2@+-*	:	; (76MO:	6M7867:8
AÄ2+ G-	CDB);	5	DRQLQ6	6M7867:8
ST-*	>#-#!%;+2@+-*	O	C=)	6R78:7:8
(-V-	>#-#!%;+2@+-*	O	C=)	6:78:7:5
/ÄÄ "2 .	CDB);	L	9666M6	687:Q7:5
^-".-.	CDB);	Q	D7:68QL	:678:7:8
B2T . -"-	CDB);	M	86M:9	6M7867:8
& ,F @-"	>#-#!%;+2@+-*	L	ŒO5Q	6:78:7:5
C!W-G-	>#-#!%;+2@+-*	O	Ā)55	6Q78:7:8
C!V%1!+.!H	CDB);	9	Ā)66L	6M7867:8
C!V%_2+K	CDB);	9	: :MMM	6L76:7:8%U
C2+#F!+"%&-+ -"-%/.Ä-"G.	>#-#!%;+2@+-*	O	&;666Q	6976:7:5
X+!@2"	CDB);	: 6	Ā)96666L	6879R7:5
;!"".HÀW-" -	CDB);	8	MR76:9Q9	6L78:7:8%U
>2T#F%Ā-+2Ä "-	>#-#!%;+2@+-*	5	RQ6:5	6M7867:8
0! `-.	CDB);	M	0:65Q658OO76R70a	6L78:7:8
Y>%A .F%b%' ÄGÄ E!	A!G!+-Ä		BD:5R8RR76	:978:7:8
Y>4)	A!G!+-Ä		;8867: : 76658M	:97867:5
Y>D;) %Ā&Z	A!G!+-Ä	:	Ā)66655	: : 76M7:5
Y#-F	CDB);	R	]Y)C:	6:78:7:5
' - .F "@#2"	>#-#!%;+2@+-*	:6	ĀLR:	6L76L7:8
' ! .#%o+@ " -	>#-#!%;+2@+-*	8	ŒO86Ā	:978:7:8
' ! .#%o+@ " -%4D;	>#-#!%;+2@+-*	8	885	6Q78:7:8
' H2* "@	>#-#!%;+2@+-*	R	R0&>7]	6:78:7:5

Laboratory: TestAmerica St. Louis

)ÄÄ%,!+# E ,-# 2".%F!ÄG%3H%#F .%Ä-32+-#2+H%-+!%Ä!+#GE!%#%2"2%%-!ÄÄJJÄ ,-3Ä!%#2%#F .%+!J2+#I

U%D`J +!G%,!+# E ,-# 2"% .%,T++!"#ÄH%J!"G "@%+!"!V-Ä%GG+%%2"Ä GI

0! .#)*!+ ,-%/+W "!

ĀÀ !"#$%&'(%)*!+ ,-.%/", 0! .#)*!+ ,-%123%/4$%5567568897:
;+2<!,#=> #!$%?2! "@%>%A4D>

Laboratory: TestAmerica St. Louis (Continued)

)ÀÀ%,!+# E ,-# 2".%F!ÀG%3H%#F .%Ā-32+-#2+H%-+!%Ā,!+#G%-#2"2%+-ÀÀJJÀ ,-3Ā!%#2%#F .%+!J2+#I

Authority	Program	EPA Region	Certification ID	Expiration Date
)Ā-.K-	>#-#!%;+2@+-*	:6	&X666L5	6M7867:8
Ā-Ā E2+" -	CDB);	O	9L59	6878:7:5%U
Ā2""!,# ,T#	>#-#!%;+2@+-*	:	; (7695:	6878:7:8%U
AÀ2+ G-	CDB);	5	DRQMRO	6M7867:8
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/2V-	>#-#!%;+2@+-*	Q	8Q8	:976:7:5
^-".-.	CDB);	Q	D7:698M	:678:7:8
^!"#T,KH	>#-#!%;+2@+-*	5	O6:9L	:978:7:8
B7)7?	424%DB);		B986L	6M7:67:8
B2T . -"-	CDB);	M	:6M:L:	6M7867:8
B2T . -"-	CDB);	M	B)6Q66:M	:978:7:8
&-+HÀ-"G	>#-#!%;+2@+-*	8	8:6	6O7867:8%U
& ..2T+	>#-#!%;+2@+-*	Q	QR6	6M7867:9%U
C!W-G-	>#-#!%;+2@+-*	O	& X666L596:87:	6Q78:7:8
C!V%1!+.!H	CDB);	9	& X669	6M7867:8
C!V%_2+K	CDB);	9	: :M:M	6576:7:8%U
CZĀ	CZĀ		95795R:Q76:	:978:799
XKÀ-F2*-	>#-#!%;+2@+-*	M	OOOQ	6R78:7:8
;!"".HÀW-" -	CDB);	8	MR766L56	6979R7:5
>2T#F%Ā-+2Ā "-	>#-#!%;+2@+-*	5	RL669	6M7867:8
0! `-.	CDB);	M	0:65Q65:O8	6Q78:7:8
Y>4)	A!G!+-Ā		;88676Q766:99	6:7687:5
Y>D;) %Z!@%c%>4')	A!G!+-Ā	:	C=)	6R7867:5
Y#-F	CDB);	R	&X666L596:975	6M7867:8
c +@ " -	CDB);	8	5M6986	6M7:57:8
' - .F "@#2"	>#-#!%;+2@+-*	:6	Ā:8:6	6R78:7:8
' ! .#%c+@ " -%4D;	>#-#!%;+2@+-*	8	8R:	6R7867:8

U%D`J +!G%,!+# E ,-# 2"% .%,T++!"#ÀH%J!"G "@%+!"!V-Ā%G!G%,!2"Ā GI

0! .#)*!+ ,-%/+W "!

DATE:	March 19, 2013	Page 1 of 5
CLIENT:	TestAmerica Irvine 14761 Derian Ave. Suite 100 Irvine, CA 92614-5817	
ATTENTION:	Debby Wilson	
REPORT NO:	155606	
REFERENCE:	COC 440-19189.1, Job #440-40332-1, Project No. 44004624	
SUBJECT:	ASBESTOS ANALYSIS Of WATER SAMPLE BY TRANSMISSION ELECTRON MICROSCOPY (TEM)	
ACCREDITED:	CDPH – ELAP 1119	

The date and time of collection, and filtration are as follows:

SAMPLE NO:	Outfall 009 (440-40332-1)
COLLECTED:	03/08/13 at 1210
DATE RECEIVED:	03/11/13 at 1040
UV-OZONE TREATED:	03/11/13 1100-1400
FILTERED:	03/11/13 at 1421
DATE ANALYZED:	03/15/13

In the drinking water document, EPA 600 R 94 134, 100.2, samples are analyzed for fibers >10 um in length. The regulation calls for an MCL (maximum contaminant level) of 7 MFL (million of fibers per liter) and an analytical sensitivity of 0.2 MFL.

Samples that arrive after 47 hours of sampling must be UV-ozone treatment as prescribed by the method to remove any bacteria from the sample that would obscure the asbestos fibers.

The analytical sensitivity of 0.2 MFL was not reached due to the turbidity.

The results of the analysis and the detection limit are summarized on the following pages accompanied by the chain of custody.

Respectfully submitted,

EMS LABORATORIES, INC.

B. M. Kolk
Laboratory Director

Note: The results of the analysis are based upon the samples submitted to the laboratory.

No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples.

This report shall not be reproduced, except in full, without the written approval of EMS Laboratories, Inc. Unless otherwise noted in this cover letter, the samples were received properly packaged, clearly identified and intact.

Any deviation or exclusion from the test method is noted in this cover.

ANALYSIS OF WATER FOR ASBESTOS BY TEM (EPA-600 R 94 134) EPA 100.2

LAB.NO. 155606
CLIENT: Test America, Irvine
DATE: 3/15/2013

Laboratory I.D.	Client I.D.	FILTER MEDIA DATA			No. of G.O.	Analyzed Area, mm^2	Sample Volume (mL)
		Type	Diameter mm	Effective Area mm^2			
155606-1	440-40332-1	MCE	47	1017	10	0.101	5
3-11-13-BL	EMS Blank	MCE	47	1017	10	0.101	500

* FOR FIBERS > 10µm ONLY

INDIVIDUAL ANALYTICAL RESULTS

Laboratory I.D.	Client I.D.	No of Asbestos Fibers	Detection Limit (MF/L)	Concentration MFL Fibers >10 µm
155606-1	440-40332-1	ND	2.0	< 2
3-11-13-BL	EMS Blank	ND	0.02	< 0.02

The analysis was carried out to the approved TEM method. This laboratory is in compliance with the quality specified by the method.

BM Kerr
Authorized Signature

NA Not Applicable
ND None Detected
MCE Mixed Cellulose Ester
GO Grid Openings
MFL Million Fibers per Liter

TEM ASBESTOS ANALYSIS

Client TA
Sample No. 440-40332-1

EMS Lab No. 155606
Page 1 of 1

RECEIVING

TYPE OF SAMPLE
Air ☐ Water ☑
Soil ☐ Bulk ☐
Other _____

METHOD OF ANALYSIS
EPA 600/4-83-043 ☑ ISO ☐

LEVEL OF ANALYSIS
Chrysotile CD, CDQ
Amphibole AD, ADQ

ASPECT RATIO
3:1 ☑ 5:1 ☐

EPA/600/R-94/134 100.1 ☐ 100.2 ☑

LENGTHS
All Sizes (EPA) ☐
(μm) ≥0.5 ☐
≥1.0 ☐
≥5.0 ☐
≥10.0 ☑
PCM Range* ☐
*(≥0.25 μm width ≥5.0 μm length)

FILTER TYPE / AREA (mm±)
MCE ☐ 385 ☐
PC ☑ 314 ☐
MCN ☐ 1017 ☑
Other _____

PORE SIZE
0.45 μm ☐ 0.8 μm ☐
0.1 μm ☑ 0.22 μm ☐
Other _____

G.O. Area (mm²) 0.0 101
No. of G.O. to Analyze 10

PREP

DIRECT PREP ☐
INDIRECT PREP ☐
3 - 11 - 13
O3: 1100-1400
SON: 1400-1415
FILT: _____
Volume _____ liters
Working Volume 5 ml
Weight _____ grams
Ashed Area _____ %

Prepared By JAP
Date 3 - 12 - 13

ANALYSIS

MICROSCOPE
H600A - Serial No. 542-36-01 ☐
H600B - Serial No. 542-05-06 ☐

ENERGY DISPERSIVE X-RAY SYSTEM
Thermo 4405C-3NUT

Grid Address: ABC
Screen Magnification: 4406 X
Camera Constant: 27.2
Accelerating Voltage: 100KV
Beam Current: 10 μA
K-Factor: 1.5
Analyst [signature] Date 3-15-13

Grid	Grid Opening	Structure Number	Structure	Dimensions (mm) Width	Dimensions (mm) Length	NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ	EDS Na	Mg	Si	Ca	Fe	Comments
A	E51	NSD																								
	C43	NSD																								
	E33	NSD																								
	E26	NSD																								
B	C33	NSD																								
	E33	NSD																								
	F33	NSD																								
C	F33	NSD																								
	C43	NSD																								
	G36	NSD																								

OBSERVATIONS:

Clean ☐
Debris: ☑ Very Light ☐ Light ☐ Moderate ☑ Heavy ☐ Very Heavy ☐
Gypsum: ☐ Very Light ☐ Light ☐ Moderate ☐ Heavy ☐ Very Heavy ☐
Condition of the Grid: ☑ Good ☑ Scrappy ☐ Undissolved Filter ☐ Folded ☐

TEM 2A (1-12)

Page 3 of 5

EMS LABORATORIES 117 West Bellevue Drive #2 Pasadena, California 91105-2502 • 626-568-4005

TEM ASBESTOS ANALYSIS

Client EMS-BLK
Sample No. 100.1/100.2

EMS Lab No. 3-11-13
Page 1 of 2

RECEIVING

TYPE OF SAMPLE: Air ☐ Water ☑ Soil ☐ Bulk ☐ Other ____

METHOD OF ANALYSIS: EPA 600/4-83-043 ☑ ISO ☐

LEVEL OF ANALYSIS: Chrysotile CD-CDQ; Amphibole AD-ADQ

ASPECT RATIO: 3:1 ☐ 5:1 ☐

EPA/600/R-94/134 100.1 ☐ 100.2 ☐

LENGTHS: All Sizes (EPA) ☑; (μm) ≥0.5 ☐; ≥1.0 ☐; ≥5.0 ☐; ≥10.0 ☐; PCM Range* ☐ (*≥0.25 μm width, ≥5.0 μm length)

FILTER TYPE / AREA (mm±): MCE ☐ 385 ☐; PC ☑ 314 ☐; MCN ☐ 1017 ☑; Other ____

PORE SIZE: 0.45 μm ☐ 0.8 μm ☐; 0.1 μm ☑ 0.22 μm ☐; Other ____

G.O. Area (mm²) 0.0 101
No. of G.O. to Analyze 20

PREP

DIRECT PREP ☐
INDIRECT PREP ☐

H20
100.1/100.2

Volume ____ liters
Working Volume 500 ml
Weight ____ grams
Ashed Area ____ %

Prepared By AP
Date 3-11-13

ANALYSIS

MICROSCOPE
H600A - Serial No. 542-36-01 ☐
H600B - Serial No. 542-05-06 ☑

ENERGY DISPERSIVE X-RAY SYSTEM
Thermo 4405C-3NUT

Grid Address: A
Screen Magnification: 18800 X
Camera Constant: 4.42
Accelerating Voltage: 100KV
Beam Current: 10 μA
K-Factor: 1.5
Analyst [signature] Date 3-13-13

Grid	Grid Opening	Structure Number	Structure	Dimensions (mm) Width	Dimensions (mm) Length	Fiber Classification NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ	EDS Analysis Na	Mg	Si	Ca	Fe	Comments
A	B4F	NSD																								
	E31	NSD																								
	E34	NSD																								
	F41	NSD																								
	F44	NSD																								
	533	NSD																								
	536	NSD																								
	H31	NSD																								
	H34	NSD																								
	F46	NSD																								

TEM 2A (1-12)

OBSERVATIONS:

Clean ☐
Debris: ☐ Very Light ☐ Light ☐ Moderate ☐ Heavy ☐ Very Heavy ☐
Gypsum: ☐ Very Light ☐ Light ☐ Moderate ☐ Heavy ☐ Very Heavy ☐
Condition of the Grid: ☐ Good ☐ Scrappy ☐ Undissolved Filter ☐ Folded ☐

EMS LABORATORIES 117 West Bellevue Drive. #3 • Pasadena. California 91105-2503 • 626-568-4065

TEM ASBESTOS ANALYSIS

Client EMS BCK
Sample No. 100.1/100.2

EMS Lab No. 3-11-13
Page 2 of 2

Grid	Grid Opening	Structure Number	Structure	Dimensions (mm) Width	Dimensions (mm) Length	Fiber Classification NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ	EDS Analysis Na	Mg	Si	Ca	Fe	Comments
B	P33	NSD																								
	P36	NSD																								
	G31	NSD																								
	G34	NSD																								
	H33	NSD																								
	H36	NSD																								
	E43	NSD																								
	E46	NSD																								
	H43	NSD																								
	H46	NSD																								

TEM 2A (1-12)

Page 5 of 5

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: March 12, 2013

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

Laboratory No.: A-13030805-001
Job No.: 440-40332-1
Sample ID.: 440-40332-1

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

Date Sampled:	03/08/13
Date Received:	03/08/13
Temp. Received:	5.7°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	03/08/13 to 03/12/13

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. All testing was conducted under the direct supervision of Joseph A. LeMay. Daily test readings were taken by James A. LeMay (initialed: Jim) and Jacob LeMay (initialed: J).

Result Summary:

Test ID.	Results
Fathead Minnow	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of the Laboratory's name for any advertising or publicity purpose without authorization is prohibited.

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0

Aquatic Testing Laboratories

Lab No.: A-13030805-001
Client/ID: TestAmerica Outfall 009

Start Date: 03/08/2013

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-130301.

TEST DATA

		°C	DO	pH	# Dead A	# Dead B	Analyst & Time of Readings
INITIAL	Control	20.2	8.4	7.9	0	0	J 1530
	100%	20.3	9.4	8.0	0	0	
24 Hr	Control	20.0	8.4	8.0	0	0	J 1500
	100%	19.9	8.6	8.1	0	0	
48 Hr	Control	20.0	9.0	7.9	0	0	J 1500
	100%	20.0	8.8	8.0	0	0	
Renewal	Control	20.1	9.0	8.0	0	0	J 1500
	100%	20.1	9.0	8.1	0	0	
72 Hr	Control	20.2	8.6	8.1	0	0	JL 1530
	100%	20.1	8.5	8.3	0	0	
96 Hr	Control	20.4	8.2	8.0	0	0	J 1500
	100%	20.2	7.6	8.0	0	0	

Comments:
Sample as received: Chlorine: 0.0 mg/l; pH: 8.0; Conductivity: 741 umho; Temp: 5.7°C;
DO: 9.4 mg/l; Alkalinity: 26 mg/l; Hardness: 39 mg/l; NH_3-N: 0.6 mg/l.
Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / (No)
Control: Alkalinity: 70 mg/l; Hardness: 94 mg/l; Conductivity: 257 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_2.

RESULTS

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

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

Test America Contact: Debby Wilson

Project:
Boeing-SSFL NPDES
Annual Outfall 009
GRAB
Stormwater at ~~SW-19~~ WS-13

Project Manager: Bronwyn Kelly

Sampler: A. Goldenberg

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)	VOCs 624, Xylenes + PP	VOCs 624 +A+A+2CVE	Cr (VI) (218.6)	Fecal coliform (SM9221)	E. coli (SM9221)	Acute Toxicity	MST-Bateriodales, Human	Field readings: (Log in and include in report Temp and pH) / Comments
Outfall 009	W	1L Amber	2	3-8-13 12:10	HCl	1A, 1B	X								Temp °F = 50.9
Outfall 009	W	VOAs	3	↑	HCl	2A, 2B, 2C		X							pH = 6.65
Outfall 009	W	VOAs	3		None	3A, 3B, 3C			X						Time of readings = 12:10
Trip Blanks	W	VOAs	3		HCl	4A, 4B, 4C		X							
Trip Blanks	W	VOAs	3		None	5A, 5B, 5C			X						
Outfall 009	W	500 mL Poly	1		None	6				X					
Outfall 009	W	125 mL Poly	1		Na2S2O3	7					X				
Outfall 009	W	125 mL Poly	1		Na2S2O3	8						X			
Outfall 009	W	1 Gal Cube	1		None	9							X		
Outfall 009	W	125 mL Poly	1	3-8-13 12:10	None									X	

ANALYSIS REQUIRED

~~These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.~~

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]		[signature]	3-8-13 13:30
[signature]	3-8-13 14:30	[signature]	3/8/13 1430
[signature]	3/8/13 3:15 pm	[signature]	3-8-13 15:15

Turn-around time: (Check)
24 Hour: ____ 72 Hour: ____ 10 Day: X
48 Hour: ____ 5 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ✓ On Ice: ✓

Data Requirements: (Check)
To Level IV: ____ All Level IV: ____ NPDES Level IV: X

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

Test America Contact: Debby Wilson

Project:
Boeing-SSFL NPDES
Annual Outfall 009
~~COMPOSITE~~ GRAB
Stormwater at WS-13

Project Manager: Bronwyn Kelly

Sampler: A. Goldberg

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	TCDD (and all congeners)	Cl^-, SO_4, NO_3+NO_2-N, F, Perchlorate	TDS, TSS	Pesticides/PCBs , Chlorpyrifos, Diazinon + PP	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	SVOCs (625) + PP	Chronic Toxicity	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	Asbestos (100.2)	Cyanide					Comments
Outfall 009	W	1L Poly	1	3-8-13 1210	HNO_3	10A	X															
Outfall 009 Dup	W	1L Poly	1		HNO_3	10B	X															
Outfall 009	W	1L Amber	2		None	11A, 11B		X														
Outfall 009	W	500 mL Poly	2		None	12A, 12B			X													
Outfall 009	W	500 mL Poly	2		None	13A, 13B				X												
Outfall 009	W	1L Amber	2		None	14A, 14B					X											
Outfall 009	W	2.5 Gal Cube	1		None	15A						X										Unfiltered and unpreserved analysis
		500 mL Amber	1		None	15B																
Outfall 009	W	1L Amber	2		None	16A, 16B							X									
~~Outfall 009~~	~~W~~	~~1 Gal Poly~~	~~1~~		~~None~~	~~17~~								X								~~Only test if first or second rain events of the year~~
Outfall 009	W	1L Poly	1		None	18									X							Filter w/in 24hrs of receipt at lab
Outfall 009	W	1L Poly	1		None	19										X						
Outfall 009	W	500 mL Poly	1	3-8-13 [illegible]	NaOH	20											X					

ANALYSIS REQUIRED

~~COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.~~
~~These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.~~

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]		[signature]	3-8-13 13:30
[signature]	3-8-13 14:30	[signature]	3/8/13 1430
[signature]	3/8/13 3:15pm	[signature]	3-8-13 15:15

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: X
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____

Data Requirements: (Check)
No Level IV: _____ All Level IV: _____ NPDES Level IV: X

Aquatic Testing Laboratories

REFERENCE TOXICANT DATA

FATHEAD MINNOW ACUTE
Reference Toxicant - SDS

Aquatic Testing Laboratories

QA/QC Batch No.: RT-130301

TEST SUMMARY

Species: *Pimephales promelas.*
Age: 14 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

	INITIAL			24 Hr					48 Hr				
Date/Time:	3-1-13 1200			3-2-13 1200					3-3-13 1200				
Analyst:	JZ			JZ					JZ				
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead B
Control	20.5	9.0	8.0	20.2	8.7	8.1	0	0	20.4	8.3	7.8	0	0
1.0 mg/l	20.4	9.0	8.0	20.2	8.6	8.1	0	0	20.5	8.1	7.8	0	0
2.0 mg/l	20.4	9.1	8.0	20.4	8.5	8.1	0	0	20.3	8.1	7.8	0	0
4.0 mg/l	20.3	9.1	8.0	20.4	8.5	8.0	3	0	20.4	8.1	7.9	1	0
8.0 mg/l	20.3	9.2	8.0	20.5	8.6	8.1	10	10	—	—	—	—	—
16.0 mg/l	20.3	9.1	8.0	20.4	8.7	8.1	10	10	—	—	—	—	—

	RENEWAL			72 Hr					96 Hr				
Date/Time:	3-3-13 1200			3-4-13 1130					3-5-13 1130				
Analyst:	JZ			JM					JZ				
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead B
Control	20.6	8.6	8.1	20.5	8.2	8.0	0	0	20.4	8.1	7.8	0	0
1.0 mg/l	20.6	8.6	8.0	20.4	8.0	7.9	0	0	20.5	7.8	7.8	0	0
2.0 mg/l	20.5	8.6	8.0	20.4	8.1	7.9	0	0	20.4	8.0	7.8	0	0
4.0 mg/l	20.5	8.6	8.0	20.3	8.0	7.9	0	NR 1	20.3	8.0	7.8	0	0
8.0 mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—
16.0 mg/l	—	—	—	—	—	—	—	—	—	—	—	—	—

Comments: Control: Alkalinity: 63 mg/l; Hardness: 95 mg/l; Conductivity: 321 umho.
SDS: Alkalinity: 64 mg/l; Hardness: 98 mg/l; Conductivity: 317 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:	3/1/2013 12:00	Test ID:	RT130301f	Sample ID:	REF-Ref Toxicant
End Date:	3/5/2013 11:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SDS-Sodium dodecyl sulfate
Sample Date:	3/1/2013	Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	PP-Pimephales promelas
Comments:					

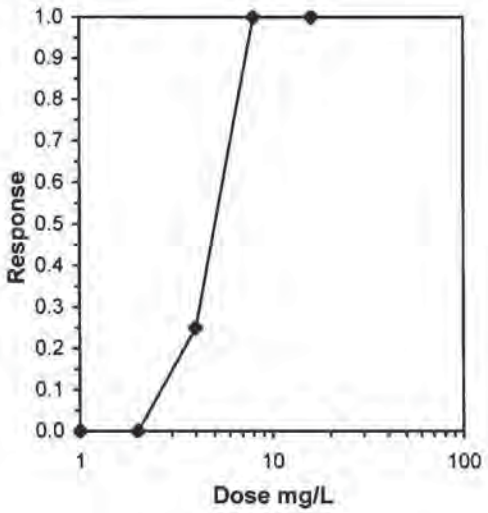
Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.6000	0.9000
8	0.0000	0.0000
16	0.0000	0.0000

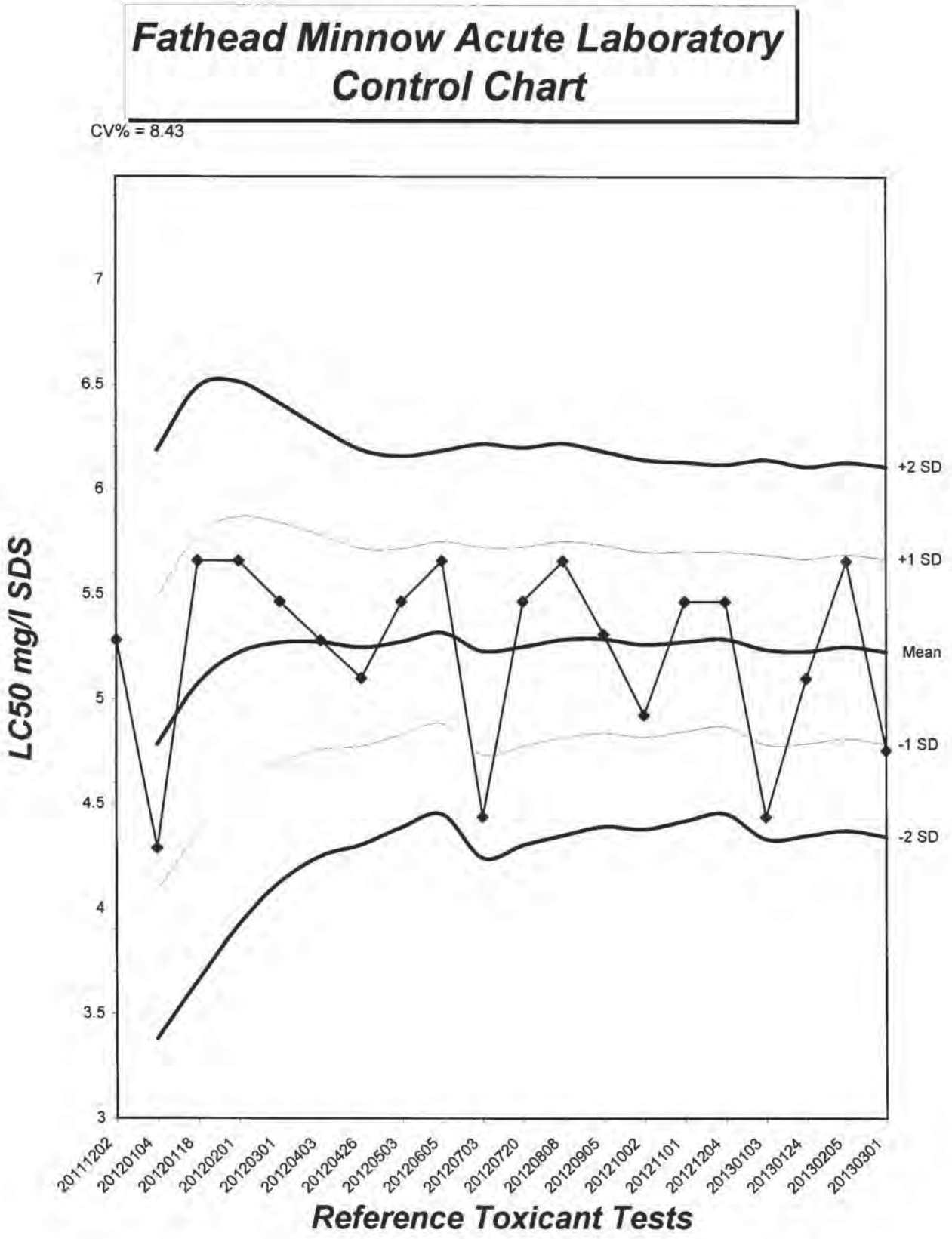
			Transform: Arcsin Square Root					Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2		
4	0.7500	0.7500	1.0676	0.8861	1.2490	24.041	2		
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2		
16	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2		

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

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	4.7568	4.1593	5.4402
5.0%	4.8369	4.1557	5.6297
10.0%	4.9104	4.1027	5.8771
20.0%	5.0203	3.7665	6.6915
Auto-0.0%	4.7568	4.1593	5.4402




Fathead Minnow Acute Laboratory Control Chart
CV% = 8.43
LC50 mg/l SDS
7
6.5
6
5.5
5
4.5
4
3.5
3
+2 SD
+1 SD
Mean
-1 SD
-2 SD
20111202
20120104
20120118
20120201
20120301
20120403
20120426
20120503
20120605
20120703
20120720
20120808
20120905
20121002
20121101
20121204
20130103
20130124
20130205
20130301
Reference Toxicant Tests

TEST ORGANISM LOG

FATHEAD MINNOW - LARVAL
(Pimephales promelas)

Aquatic Testing Laboratories

QA/QC BATCH NO.: RT-130301

SOURCE: In-Lab Culture

DATE HATCHED: 2-15-13

APPROXIMATE QUANTITY: 400

GENERAL APPEARANCE: good

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

DATE USED IN LAB: 3/1/13

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.: 20.5 °C **pH:** 8.0 **Ammonia:** 0 mg/l NH_3-N

DO: 9.0 mg/l **Alkalinity:** 63 mg/l **Hardness:** 95 mg/l

READINGS RECORDED BY: _____ **DATE:** 3.2-13

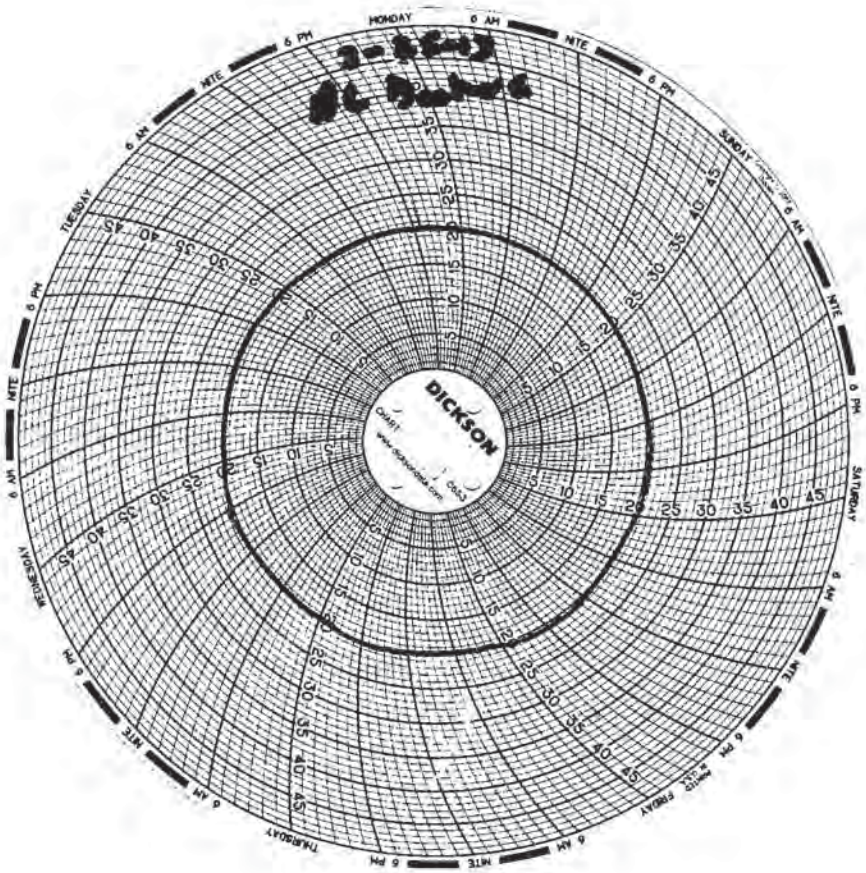
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-130301

Date Tested: 03/01/13 to 03/05/13

Acceptable Range: 20 +/- 1°C



EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675/ 786-0262

http://www.emsl.com E-mail: MicrobiologyLab@emsl.com

Client:	TestAmerica Irvine 17461 Derian Avenue Suite 100 Irvine , CA 92614	**EMSL Order ID:**	611300336
		Date Received:	3/12/2013
		Date Analyzed:	3/13/2013
Attn.	Debby Wilson	**Date Reported:**	3/15/2013
Project:	**Boeing SSFL NPDES Boeing SSFL 44002624**	**Date Amended:**	

Real-Time PCR Analysis for Human *Bacteroides*

(Based on a published method SAM: 348 - 357, 2010), EMSL Test Code: M199, Revision No. 3, 04/18/2011)

Lab Sample Number	Client Sample ID	Sample Date and Time	Amount Received	Amount Sampled	CEs /100 mL
0336-1	Outfall 009(440-40332-1)	3/8/2013 12:10 Pacific	Water 250 ml	Water 250 ml	None Detected

EMSL maintains liability limited to cost of analysis. Interpretation of the data contained in this report is the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. The above test report relates only to the items tested. EMSL bears no responsibility for sample collection activities or analytical method limitations.

Note: The PCR primer is HF183 and the qPCR probe and primer was evaluated in 2010 by EPA scientists. The real-time PCR based on HF183 detects human specific total bacteroides predominantly with minor cross-detections on chicken and dog fecal materials. CEs: Cell Equivalents, measured by PCR using genomic DNA standards.

USEPA License No: 0240-02

Quanyi "Charlie" Li, Ph.D.

Director, PCR and DNA Analysis Lab

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

440-40332

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Annual Outfall 009** **GRAB** Stormwater at ~~SW-13~~ WS-13
Project Manager: Bronwyn Kelly Sampler: A. Rodriguez	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)	VOCs 624, Xylenes + PP	VOCs 624 +A+A+2CVE	Cr (VI) (218.6)	Fecal coliform (SM9221)	E. coli (SM9221)	Acute Toxicity	MST-Bateriodales, Human							Field readings: (Log in and include in report Temp and pH) Temp °F = 50.4 pH = 6.65 Time of readings = 1340 **Comments**
Outfall 009	W	1L Amber	2	3-8-13 1210	HCl	1A, 1B	X														
Outfall 009	W	VOAs	3	↑	HCl	2A, 2B, 2C		X													
Outfall 009	W	VOAs	3		None	3A, 3B, 3C			X												
Trip Blanks	W	VOAs	3		HCl	4A, 4B, 4C		X													
Trip Blanks	W	VOAs	3		None	5A, 5B, 5C			X												
Outfall 009	W	500 mL Poly	1		None	6				X											
Outfall 009	W	125 mL Poly	1		Na2S2O3	7					X										
Outfall 009	W	125 mL Poly	1		Na2S2O3	8						X									
Outfall 009	W	1 Gal Cube	1		None	9							X								
Outfall 009	W	125 mL Poly	1	3-8-13 1210	None									X							

These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
			3-8-13 13:30
Relinquished By	Date/Time:	Received By	Date/Time:
	3-8-13 16:45		
Relinquished By	Date/Time:	Received By	Date/Time:
			1645

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: X
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: ✓ On Ice: ✓

Data Requirements: (Check)
No Level IV: _____ All Level IV: _____ NPDES Level IV: X

5.3 °C / 5.6 °C

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Annual Outfall 009** ~~COMPOSITE~~ GRAB Stormwater at WS-13
Project Manager: Bronwyn Kelly Sampler: A. Bronowicz	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N, F, Perchlorate	TDS, TSS	Pesticides/PCBs , Chlorpyrifos, Diazinon + PP	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	SVOCs (625) + PP	~~Chronic Toxicity~~	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	Asbestos (100.2)	Cyanide				Comments
Outfall 009	W	1L Poly	1	3-8-13 1210	HNO_3	10A	X														
Outfall 009 Dup	W	1L Poly	1		HNO_3	10B	X														
Outfall 009	W	1L Amber	2		None	11A, 11B		X													
Outfall 009	W	500 mL Poly	2		None	12A, 12B			X												
Outfall 009	W	500 mL Poly	2		None	13A, 13B				X											
Outfall 009	W	1L Amber	2		None	14A, 14B					X										
Outfall 009	W	2.5 Gal Cube	1		None	15A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	15B															
Outfall 009	W	1L Amber	2		None	16A, 16B							X								
~~Outfall 009~~	~~W~~	~~1 Gal Poly~~	~~1~~		~~None~~	~~17~~								X							~~Only test if first or second rain events of the year~~
Outfall 009	W	1L Poly	1		None	18									X						Filter w/in 24hrs of receipt at lab
Outfall 009	W	1L Poly	1		None	19										X					
Outfall 009	W	500 mL Poly	1	3-8-13 1210	NaOH	20											X				

ANALYSIS REQUIRED

~~COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.~~
~~These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.~~

Relinquished By	Date/Time:	Received By	Date/Time:
			3-8-13 13:32
Relinquished By	Date/Time:	Received By	Date/Time:
	3-8-13 16:45		
Relinquished By	Date/Time:	Received By	Date/Time:
			1645

Turn-around time: (Check)
24 Hour: _____ 72 Hour: _____ 10 Day: X
48 Hour: _____ 5 Day: _____ Normal: _____

Sample Integrity: (Check)
Intact: _____ On Ice: _____

Data Requirements: (Check)
No Level IV: _____ All Level IV: _____ NPDES Level IV: X

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-40332-1

Login Number: 40332

List Source: TestAmerica Irvine

List Number: 1

Creator: Perez, Angel

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	A. Goldenberg
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-40332-1

Login Number: 40332
List Number: 1
Creator: Tecson, Jeffrey

List Source: TestAmerica Sacramento
List Creation: 03/12/13 12:09 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	678733
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	1.1
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-40332-1

Login Number: 40332
List Number: 1
Creator: McNairy, Jason

List Source: TestAmerica St. Louis
List Creation: 03/12/13 01:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-40332-1

Login Number: 40332

List Source: TestAmerica Irvine

List Number: 1

Creator: Perez, Angel

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	A. Goldenberg
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-40332-1

Login Number: 40332
List Number: 1
Creator: Tecson, Jeffrey

List Source: TestAmerica Sacramento
List Creation: 03/12/13 12:09 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	678733
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	1.1
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
//01/022314	GH!I'66(00J	E2FE
//01/022314(-K	GH!I'66(00J	E4F4
B5>(4L012J/MN=31"	B'+(5*7!$*6(>'#O6Ä	40L
8?(4L012J/MN=41"	8 Ä!P*Q(?6'7R	40N

Tracer/Carrier Legend

?'(S(?'(5'$$%Ä$

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
//01/022314	GH!I'66(00J	E2FE	ELF/
//01/022314(-K	GH!I'66(00J	E4F4	E/F4
B5>(4L012J/M/=31"	B'+(5*7!$*6(>'#O6Ä	40L	ENF3
8?(4L012J/M/=41"	8 Ä!P*Q(?6'7R	40N	EJF0

Tracer/Carrier Legend

?'(S(?'(5'$$%Ä$
T(S(T(5'$$%Ä$

Method: 905 - Strontium-90 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (C) (40-110)	Y (40-110)
//01/022314	GH!I'66(00J	M2F3	J3F0
//01/022314(-K	GH!I'66(00J	M3FM	EMFJ
B5>(4L01/00M2=31"	B'+(5*7!$*6(>'#O6Ä	ENFJ	EJF0
8?(4L01/00M2=41"	8 Ä!P*Q(?6'7R	EMF0	EEFL

Tracer/Carrier Legend

>$(U5V(S(>$(5'$$%Ä$
T(S(T(5'$$%Ä$

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water **Prep Type: Total/NA**

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)
//01/022314(-K	GH!I'66(00J	M/FN
B5>(4L01/00MN=31"	B'+(5*7!$*6(>'#O6Ä	J4FE
8?(4L01/00MN=41"	8 Ä!P*Q(?6'7R	J0FN

Tracer/Carrier Legend

K1323(S(K$'7%H#1323

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF1	PeCDF2	HxCDD1	HxCDD2	HxCDF1
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
//01/022314	IJ!K'66(00L	EF	E0	G4	HH	HG	HE	EH	H/
8?(230143223=41"	8 Ä!M*N(?6'7O	H3	H0	HF	F2	FG	F4	H2	F4

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		HxCDF2	HxCDF4	HxCDF3	HpCDD	HpCDF1	HpCDF2	OCDD	
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)	
//01/022314	IJ!K'66(00L	EF	H2	E2	HF	H/	F/	F2	
8?(230143223=41"	8 Ä!M*N(?6'7O	H2	F3	H0	F0	F4	/2	/0	

Surrogate Legend

Ā5--(P(42513Q2QEQG1Ā5--
Ā5-A(P(42513Q2QEQG1Ā5-A
;Ä5--(P(42514Q3Q2QEQG1;Ä5--
;Ä5-A4(P(42514Q3Q2QEQG1;Ä5-A
;Ä5-A3(P(42513Q2Q/QEQG1;Ä5-A
:R5--4(P(42514Q3Q2Q/QEQG1:R5--
:R5--3(P(42514Q3Q2QHQEQG1:R5--
:R5-A4(P(42514Q3Q2Q/QEQG1:R5-A
:R5-A3(P(42514Q3Q2QHQEQG1:R5-A
:R5-A/(P(42514Q3Q2QEQGQL1:R5-A
:R5-A2(P(42513Q2Q/QHQEQG1:R5-A
:S5--(P(42514Q3Q2Q/QHQEQG1:S5--
:S5-A4(P(42514Q3Q2Q/QHQEQG1:S5-A
:S5-A3(P(42514Q3Q2Q/QEQGQL1:S5-A
I5--(P(4251I5--

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF1	PeCDF2	HxCDD1	HxCDD2	HxCDF1
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
B5>(230143223=31"	B'+(5*7!$*6(>'#S6Ä	HL	H3	G0	H/	HH	E0	EL	HH

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		HxCDF2	HxCDF4	HxCDF3	HpCDD	HpCDF1	HpCDF2	OCDD	
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)	
B5>(230143223=31"	B'+(5*7!$*6(>'#S6Ä	EH	HH	E2	E2	HG	H3	FE	

Surrogate Legend

Ā5--(P(42513Q2QEQG1Ā5--
Ā5-A(P(42513Q2QEQG1Ā5-A
;Ä5--(P(42514Q3Q2QEQG1;Ä5--
;Ä5-A4(P(42514Q3Q2QEQG1;Ä5-A
;Ä5-A3(P(42513Q2Q/QEQG1;Ä5-A
:R5--4(P(42514Q3Q2Q/QEQG1:R5--
:R5--3(P(42514Q3Q2QHQEQG1:R5--
:R5-A4(P(42514Q3Q2Q/QEQG1:R5-A
:R5-A3(P(42514Q3Q2QHQEQG1:R5-A
:R5-A/(P(42514Q3Q2QEQGQL1:R5-A
:R5-A2(P(42513Q2Q/QHQEQG1:R5-A

56%Ä7!.(89:("#Ä$%&' (,7&
;$*<Ä&!=>%!Ä.(?*Ä%7@(>C;AB>

ĀÄ !"#Ä$%&'()*+(,-.(//01/022314

:S5--(P(42514Q3Q2Q/QHQEQG1:S5--
:S5-A4(P(42514Q3Q2Q/QHQEQG1:S5-A
:S5-A3(P(42514Q3Q2Q/QEQGQL1:S5-A
I5--(P(4251I5--

ĀÄ !"#Ä$%&'(,$T%7Ä

APPENDIX G

Section 5

Outfall 019 – March 14, 2013

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-40886-1

Prepared by

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

I. INTRODUCTION

Task Order Title:	Boeing SSFL NPDES
Contract Task Order:	1261.100D.00
Sample Delivery Group:	440-40886-1
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 019	440-40886-1	N/A	Water	3/14/2013 11:30:00 AM	1664A, 624, 8015B, SM2540F, SM9221E, SM9221F
Trip Blank	440-40886-2	N/A	Water	3/14/2013 11:30:00 AM	624

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at Test-America-Irvine 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. Unpreserved aliquots of the water sample were provided for the analysis of 2-chloroethyl vinyl ether. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, custody seals were not utilized.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHODS 624 (Low Level)—Volatile Organic Compounds (VOCs)

Reviewed By: L. Calvin
Date Reviewed: April 10, 2013

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

- Holding Times: Analytical holding times were met. The unpreserved aliquot of the water sample was analyzed within seven days of collection and the preserved water sample was analyzed within 14 days of collection.

- GC/MS Tuning: The BFB tunes met the method abundance criteria. The samples were analyzed within 12 hours of the BFB injection time.

- Calibration: Calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥0.05 for all applicable target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.990. The second source ICV and all applicable CCV recoveries were within the method control limits.

- Blanks: The method blanks had no 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 performed on the site sample in this SDG for 2-chloroethyl vinyl ether. Recoveries and the RPD were within laboratory-established QC limits. Method accuracy for the remaining target compounds 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:

    - Trip Blanks: Sample Trip Blank was the trip blank associated with the site sample in this SDG. The trip blank had no target compounds detected above the MDL.

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

- Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The internal standard retention times and area counts were within the control limits established by the continuing calibration standards: ±30 seconds for retention times, and -50%/+100% for internal standard areas.

- Compound Identification: Compound identification was verified. 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 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.

B. EPA METHOD 8015B—Total Fuel Hydrocarbons (TFHs / GRO and DRO)

Reviewed By: L. Calvin
Date Reviewed: April 10, 2013

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *MEC^X 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 water sample was analyzed for GRO within 14 days of collection, and was extracted for DRO analysis within seven days of collection. All samples were analyzed within 40 days of extraction.

- Calibration: Calibration criteria were met. Initial calibration %RSDs were ≤20% or r^2 values ≥0.990. All ICV and continuing calibration %Ds were ≤20%.

- Blanks: The method blanks had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits and the RPD for the DRO LCS/LCSD were ≤30%.

- Surrogate Recovery: Recoveries were 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 for GRO, and accuracy and precision for DRO was based on the 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: This SDG had no identified field duplicate samples.

- Compound Identification: Compound identification was verified. The laboratory analyzed for hydrocarbon ranges C4-C12 (GRO) and C10-C28 (DRO) by purgable and extractable Methods 8015B, respectively. Review of sample chromatograms and retention times indicated no problems with 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.

- System Performance: Review of raw data indicated no problems with system performance.

C. VARIOUS EPA METHODS—General Minerals

Reviewed By: M. Cherny
Date Reviewed: April 7, 2013

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 1664A and Standard Method for the Examination of Water and Wastewater 2540F, 9221E, 9221F,* and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: Analytical holding times, 28 days for HEM and 7 days for settleable solids, were met. The analytical holding time for coliform is listed as immediate. As the sample was prepared within six hours, no qualifications were required.

- Calibration: Calibration criteria were met. Coliform control results were acceptable. Balance logs were reviewed and determined to be acceptable.

- Blanks: The method blank no detects for HEM.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits for HEM. Not applicable to coliform analysis.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: No HEM MS/MSD analyses were performed on the sample in this SDG due to insufficient volume. Method accuracy and precision were evaluated based on LCS results. Not applicable to coliform analysis.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.