APPENDIX G

FIRST QUARER 2012 ANALYTICAL LABORATORY REPORTS, CHAIN-OFCUSTODY, AND VALIDATION REPORTS

APPENDIX G

TABLE OF CONTENTS

Section No.

APPENDIX G

Section 1

Outfall 009 – January 24, 2012

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-747-1

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:	440-747-1
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	440-767-1	S201071-01 G2A260461-001	Water	1/24/2012 09:08:00 AM	900. 901.1, 903.1, 904, 905, 906, 245.1, 245.1 Diss, SM 2540D, ASTM D-5174, 1613B

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. The subcontract laboratory for the Method 1613B dioxin analysis, TestAmerica-West Sacramento received and analyzed the correct sample (lab ID 440-767-1); however, in the final report, Test-America Irvine reported the Method 1613B analysis as 440-747-1 in error. This revision of the validation report corrects the sampling date and time, and laboratory ID identification for the dioxin analysis. The SDG number remains the same, 440-747-1, as the lab sample ID 440-767-1 is only one of the samples in the SDG. Custody seals were intact.

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

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 detects above the EDL for all target compounds and totals with the exception of isomers and totals for TCDFs, TCDDs, PeCDDs, and HxCDDs. Some method blank results were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer deemed it appropriate to use all method blank results to qualify sample results. The method blank concentration of OCDD was insufficient to qualify the sample result. Sample results for the remaining individual isomer method blank contaminants were qualified as nondetected, “U,” at the EDL if reported below the EDL, or at the level of contamination. All detected total results associated with

method blank contamination were also qualified as nondetected, "U," as the peaks comprising the totals in the sample were present at comparable concentrations in the method blank.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

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

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

    - Field Duplicates: 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. The laboratory performed a confirmation analysis for 2,3,7,8-TCDF. The original result, an EMPC, was confirmed at the same concentration, and both results were reported by the laboratory. The confirmation result, also an EMPC, was rejected, "R," in favor of the original result.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits.

  Individual isomer EMPCs qualified as nondetected for method blank contamination were not further qualified as EMPCs. Remaining individual isomer EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Total TCDF was qualified as an estimated nondetect, "UJ," as the total was comprised only of the individual isomer 2,3,7,8-TCDF, also qualified as an EMPC.

  Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHODS 245.1—Mercury

Reviewed By: P. Meeks
Date Reviewed: March 2, 2012

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

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 85-115%. CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for total mercury. Recoveries and the RPD were within laboratory-established QC limits.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

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

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

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: March 2, 2012

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

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

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

  The gross alpha detector efficiency was marginally below 20%; therefore, nondetected gross alpha in the sample was qualified as estimated, "UJ." The remaining detector efficiencies were greater than 20%. The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. 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: The recoveries were within laboratory-established control limits.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG. All 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 1, 2012

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), Standard Method 2540D*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: The analytical holding time, seven days from collection, was met.

- Calibration: Analytical balance daily calibration check logs were considered acceptable.

- Blanks: The method blank had no detect for TSS.

- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: Not applicable to this method.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with

"DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

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

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

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

Validated Sample Result Forms 440-747-1

Analysis Method 1613B

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

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	0.0000023	ug/L	J B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000050	0.0000013	ug/L	J B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000050	0.0000018	ug/L	J B	U	B
1,2,3,4,7,8-HxCDD	39227-28-6	0.000012	0.000050	0.0000016	ug/L	J	J	DNQ
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000050	0.0000007	ug/L	J Q B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	0.000013	0.000050	0.0000016	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000050	0.0000006	ug/L	J B	U	B
1,2,3,7,8,9-HxCDD	19408-74-3	0.000014	0.000050	0.0000014	ug/L	J	J	DNQ
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000050	0.0000008	ug/L	J B	U	B
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000050	0.0000009	ug/L	J Q	UJ	*III
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000050	0.0000007	ug/L	J B	U	B
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000050	0.0000006	ug/L	J Q B	U	B
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000050	0.0000007	ug/L	J Q B	U	B
2,3,7,8-TCDD	1746-01-6	ND	0.000010	0.0000008	ug/L	J Q	UJ	*III
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000029	ug/L	J Q	R	D
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000007	ug/L	J Q	UJ	*III
OCDD	3268-87-9	0.00015	0.00011	0.0000028	ug/L	B		
OCDF	39001-02-0	ND	0.00011	0.0000026	ug/L	J B	U	B
Total HpCDD	37871-00-4	ND	0.000050	0.0000023	ug/L	B	U	B, lab did not J qualify
Total HpCDF	38998-75-3	ND	0.000050	0.0000015	ug/L	B	U	B, lab did not J qualify
Total HxCDD	34465-46-8	0.000039	0.000050	0.0000015	ug/L		J	DNQ
Total HxCDF	55684-94-1	ND	0.000050	0.0000007	ug/L	B	U	B, lab did not J qualify
Total PeCDD	36088-22-9	0.000008	0.000050	0.0000009	ug/L		J	DNQ
Total PeCDF	30402-15-4	ND	0.000050	0.0000007	ug/L	B	U	B, lab did not J qualify
Total TCDD	41903-57-5	0.000003	0.000010	0.0000008	ug/L		J	DNQ
Total TCDF	55722-27-5	ND	0.000010	0.0000007	ug/L		UJ	*III, lab did not J qualify

Analysis Method 245.1

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

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 901.1 - Cs-137, K-40

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.97	pCi/L	U	U	
Potassium-40	13966002	ND	25	21.1	pCi/L	U	U	

Analysis Method Gross Alpha/Beta

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.275	3	0.45	pCi/L	U	UJ	C
Gross Beta	12587472	1.5	4	0.964	pCi/L	J	J	DNQ

Analysis Method RAD-226

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.582	1	0.47	pCi/L	J	J	DNQ

Analysis Method RAD-228

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.151	1	0.699	pCi/L	U	U	

Analysis Method SM 2540D

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	STL00161	3.0	10	1.0	mg/L	J,DX	J	DNQ

Analysis Method Strontium 90

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.056	2	0.946	pCi/L	U	U	

Analysis Method Tritium

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-78.4	500	195	pCi/L	U	U	

Analysis Method Uranium, Combined

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

Lab Sample Name: 440-767-1 **Sample Date:** 1/24/2012 9:08:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.057	1	0.02	pCi/L	J	J	DNQ

APPENDIX G

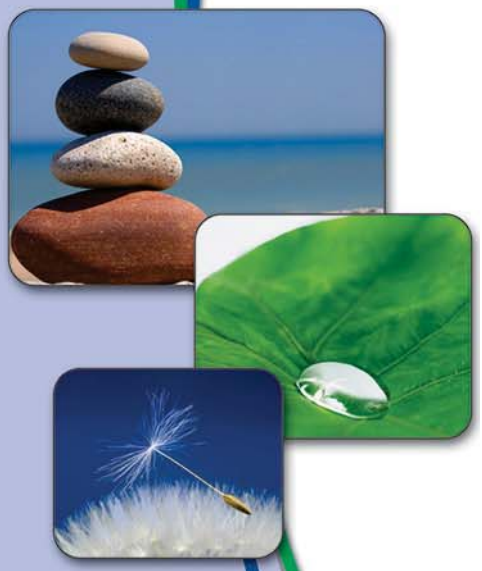
Section 2

Outfall 009 – January 23, 24, & 25, 2012

Test America Analytical Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-747-1
Client Project/Site: Boeing SSFL Routine Outfall 009

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

Attn: Bronwyn Kelly

Debby Wilson

Authorized for release by:
2/29/2012 4:21:47 PM

Debby Wilson
Project Manager I
debby.wilson@testamericainc.com

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
2/29/2012 4:21:47 PM

Table of Contents

Sample Summary

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

TestAmerica Job ID: 440-747-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-747-1	Outfall 009	Water	01/23/12 13:00	01/23/12 17:45
440-767-1	Outfall 009	Water	01/24/12 09:08	01/24/12 18:35
440-767-21	Trip Blank-Eberline	Water	01/25/12 13:08	01/24/12 18:35

Job ID: 440-747-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-747-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

HPLC
Method(s) 300.0: Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Laboratory Control Spike (LCS).

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

WATER, 1613B, Dioxins/Furans with Totals
Sample: 1
Some analytes in this sample and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

The analytical result for the confirmation analysis of 2,3,7,8-TCDF (Work Order# MQFCL1AC) is reported at a concentration below the estimated detection limit (EDL). The data is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

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

TestAmerica Job ID: 440-747-1

Client Sample ID: Outfall 009
Date Collected: 01/23/12 13:00
Date Received: 01/23/12 17:45

Lab Sample ID: 440-747-1
Matrix: Water

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

Analyte	Result	Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.0000015	J Q	0.000010	0.00000086	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
Total TCDD	0.0000038		0.000010	0.00000086	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,7,8-PeCDD	0.0000086	J Q	0.000050	0.00000090	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
Total PeCDD	0.0000086		0.000050	0.00000090	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,4,7,8-HxCDD	0.000012	J	0.000050	0.0000016	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,6,7,8-HxCDD	0.000013	J	0.000050	0.0000016	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,7,8,9-HxCDD	0.000014	J	0.000050	0.0000014	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
Total HxCDD	0.000039		0.000050	0.0000015	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,4,6,7,8-HpCDD	0.000020	J B	0.000050	0.0000023	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
Total HpCDD	0.000030	B	0.000050	0.0000023	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
OCDD	0.00015	B	0.00011	0.0000028	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
2,3,7,8-TCDF	0.0000018	J Q	0.000010	0.00000073	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
2,3,7,8-TCDF	0.0000018	J Q	0.000010	0.0000029	ug/L		02/06/12 09:00	02/10/12 16:23	1.08
Total TCDF	0.0000018		0.000010	0.00000073	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,7,8-PeCDF	0.0000092	J B	0.000050	0.00000073	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
2,3,4,7,8-PeCDF	0.0000080	J Q B	0.000050	0.00000076	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
Total PeCDF	0.000017	B	0.000050	0.00000075	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,4,7,8-HxCDF	0.000010	J Q B	0.000050	0.00000070	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,6,7,8-HxCDF	0.0000086	J B	0.000050	0.00000064	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
2,3,4,6,7,8-HxCDF	0.000012	J Q B	0.000050	0.00000065	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,7,8,9-HxCDF	0.000014	J B	0.000050	0.00000088	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
Total HxCDF	0.000047	B	0.000050	0.00000071	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,4,6,7,8-HpCDF	0.000016	J B	0.000050	0.0000013	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
1,2,3,4,7,8,9-HpCDF	0.000016	J B	0.000050	0.0000018	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
Total HpCDF	0.000037	B	0.000050	0.0000015	ug/L		02/06/12 09:00	02/09/12 03:52	1.08
OCDF	0.000039	J B	0.00011	0.0000026	ug/L		02/06/12 09:00	02/09/12 03:52	1.08

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*02/06/12 09:00*	*02/10/12 16:23*	*1.08*

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*49*		*25 - 164*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,7,8-PeCDD	*50*		*25 - 181*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,4,7,8-HxCDD	*55*		*32 - 141*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,6,7,8-HxCDD	*47*		*28 - 130*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,4,6,7,8-HpCDD	*54*		*23 - 140*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-OCDD	*50*		*17 - 157*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-2,3,7,8-TCDF	*48*		*24 - 169*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-2,3,7,8-TCDF	*50*		*24 - 169*	*02/06/12 09:00*	*02/10/12 16:23*	*1.08*
13C-1,2,3,7,8-PeCDF	*46*		*24 - 185*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-2,3,4,7,8-PeCDF	*49*		*21 - 178*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,6,7,8-HxCDF	*56*		*26 - 123*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-2,3,4,6,7,8-HxCDF	*58*		*28 - 136*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,7,8,9-HxCDF	*56*		*29 - 147*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,4,6,7,8-HpCDF	*53*		*28 - 143*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,4,7,8,9-HpCDF	*54*		*26 - 138*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*
13C-1,2,3,4,7,8-HxCDF	*56*		*26 - 152*	*02/06/12 09:00*	*02/09/12 03:52*	*1.08*

Client Sample ID: Outfall 009 — **Lab Sample ID: 440-747-1**
Date Collected: 01/23/12 13:00 — **Matrix: Water**
Date Received: 01/23/12 17:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.7	1.3	mg/L		02/02/12 05:00	02/02/12 11:37	1

Client Sample ID: Outfall 009 — **Lab Sample ID: 440-767-1**
Date Collected: 01/24/12 09:08 — **Matrix: Water**
Date Received: 01/24/12 18:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.8		0.50	0.30	mg/L			01/24/12 22:04	1
Nitrate Nitrite as N	0.27		0.26	0.15	mg/L			01/24/12 22:04	1
Sulfate	18		0.50	0.30	mg/L			01/25/12 18:50	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		01/31/12 11:52	02/03/12 16:39	1
Copper	1.7	J,DX	2.0	0.50	ug/L		01/31/12 11:52	02/01/12 14:38	1
Lead	0.48	J,DX	1.0	0.20	ug/L		01/31/12 11:52	02/03/12 16:39	1
Antimony	0.30	J,DX	2.0	0.30	ug/L		01/31/12 11:52	02/03/12 16:39	1
Thallium	ND		1.0	0.20	ug/L		01/31/12 11:52	02/03/12 16:39	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		01/26/12 15:10	02/03/12 10:49	1
Copper	1.3	J,DX	2.0	0.50	ug/L		01/26/12 15:10	02/03/12 10:49	1
Lead	ND		1.0	0.20	ug/L		01/26/12 15:10	02/03/12 10:49	1
Antimony	ND		2.0	0.30	ug/L		01/26/12 15:10	02/03/12 10:49	1
Thallium	ND		1.0	0.20	ug/L		01/26/12 15:10	02/03/12 10:49	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		01/27/12 14:19	01/30/12 20:31	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		01/30/12 14:15	01/30/12 18:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	65	MB	10	1.0	mg/L			01/25/12 05:50	1
Total Suspended Solids	3.0	J,DX	10	1.0	mg/L			01/27/12 20:53	1
Cyanide, Total	ND		0.0050	0.0022	mg/L		01/27/12 15:30	01/27/12 17:56	1

Method: 901.1 - Cs-137, K-40 - Cesium -137 / Potassium - 40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	ND	U	20		pCi/L		02/01/12 00:00	02/06/12 08:14	1
Potassium-40	ND	U	25		pCi/L		02/01/12 00:00	02/06/12 08:14	1

Method: Gross Alpha/Beta - Total Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	0.275	U	3		pCi/L		02/07/12 00:00	02/08/12 09:31	1
Gross Beta	1.5	J	4		pCi/L		02/07/12 00:00	02/08/12 09:31	1

Client Sample ID: Outfall 009

Lab Sample ID: 440-767-1

Date Collected: 01/24/12 09:08

Matrix: Water

Date Received: 01/24/12 18:35

Method: RAD-226 - RAD-226

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.582	J	1		pCi/L		02/09/12 00:00	02/09/12 12:58	1

Method: RAD-228 - EPA 904 RAD-228

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.151	U	1		pCi/L		02/10/12 00:00	02/10/12 15:16	1

Method: Strontium 90 - Total Sr-90

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	-0.056	U	2		pCi/L		02/08/12 00:00	02/08/12 09:49	1

Method: Tritium - Total Tritium

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	-78.4	U	500		pCi/L		02/03/12 00:00	02/04/12 12:03	1

Method: Uranium, Combined - Uranium

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0.057	J	1		pCi/L		02/09/12 00:00	02/09/12 01:02	1

Client Sample ID: Trip Blank-Eberline

Lab Sample ID: 440-767-21

Date Collected: 01/25/12 13:08

Matrix: Water

Date Received: 01/24/12 18:35

Method: 901.1 - Cs-137/K-40 - Cesium -137 / Potassium - 40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	ND	U	20		pCi/L		02/01/12 00:00	02/06/12 08:14	1
Potassium-40	ND	U	25		pCi/L		02/01/12 00:00	02/06/12 08:14	1

Method: Gross Alpha/Beta - Total Gross Alpha/Beta

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.044	U	3		pCi/L		02/07/12 00:00	02/08/12 09:31	1
Gross Beta	-0.025	U	4		pCi/L		02/07/12 00:00	02/08/12 09:31	1

Method: RAD-226 - EPA 903 RAD-226

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.061	U	1		pCi/L		02/09/12 00:00	02/09/12 12:58	1

Method: RAD-228 - EPA 904 RAD-228

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.116	U	1		pCi/L		02/10/12 00:00	02/10/12 15:16	1

Method: Strontium 90 - Total Sr-90

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	-0.412	U	2		pCi/L		02/08/12 00:00	02/08/12 09:49	1

Method: Uranium, Combined - Uranium

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0	U	1		pCi/L		02/09/12 00:00	02/09/12 01:28	1

Client Sample ID: Outfall 009

Lab Sample ID: 440-747-1

Date Collected: 01/23/12 13:00

Matrix: Water

Date Received: 01/23/12 17:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	3542			927.37 mL	20 uL	2037112_P	02/06/12 09:00	TL	TAL WSC
Total	Analysis	1613B		1.08			2037112	02/09/12 03:52	LLH	TAL WSC
Total	Analysis	1613B		1.08			2037112	02/10/12 16:23	LLH	TAL WSC
Total/NA	Prep	1664A			1055 mL	1000 mL	4740	02/02/12 05:00	DA	TAL IRV
Total/NA	Analysis	1664A		1			4814	02/02/12 11:37	DA	TAL IRV

Client Sample ID: Outfall 009

Lab Sample ID: 440-767-1

Date Collected: 01/24/12 09:08

Matrix: Water

Date Received: 01/24/12 18:35

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	1.0	3981	01/24/12 22:04	NN	TAL IRV
Total/NA	Analysis	300.0		1	1 mL	1.0 mL	3982	01/24/12 22:04	NN	TAL IRV
Total/NA	Analysis	300.0		1	1 mL	1.0 mL	4046	01/25/12 18:50	NN	TAL IRV
Total/NA	Prep	245.1			20 mL	20 mL	4242	01/27/12 14:19	SN	TAL IRV
Total/NA	Analysis	245.1		1			4437	01/30/12 20:31	DB	TAL IRV
Dissolved	Prep	245.1			20 mL	20 mL	4232	01/30/12 14:15	SN	TAL IRV
Dissolved	Analysis	245.1		1			4438	01/30/12 18:41	DB	TAL IRV
Total Recoverable	Prep	200.2			50 mL	50 mL	4451	01/31/12 11:52	EN	TAL IRV
Total Recoverable	Analysis	200.8		1			4764	02/01/12 14:38	RC	TAL IRV
Total Recoverable	Analysis	200.8		1			5165	02/03/12 16:39	RC	TAL IRV
Dissolved	Prep	200.2			50 mL	50 mL	4127	01/26/12 15:10	YS	TAL IRV
Dissolved	Analysis	200.8		1			5165	02/03/12 10:49	RC	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	3997	01/25/12 05:50	MC	TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	4221	01/27/12 15:30	PQI	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1			4246	01/27/12 17:56	PQI	TAL IRV
Total/NA	Analysis	SM 2540D		1	100 mL	100 mL	4253	01/27/12 20:53	DK	TAL IRV
Total/NA	Prep	General Prep		1			8698_P	02/01/12 00:00		Eberline
Total/NA	Analysis	901.1 - Cs-137, K-40		1			8698	02/06/12 08:14	LS	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/07/12 00:00		Eberline
Total/NA	Analysis	Gross Alpha/Beta		1			8698	02/08/12 09:31	DVP	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/09/12 00:00		Eberline
Total/NA	Analysis	RAD-226		1			8698	02/09/12 12:58	TM	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/10/12 00:00		Eberline
Total/NA	Analysis	RAD-228		1			8698	02/10/12 15:16	TSC	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/08/12 00:00		Eberline
Total/NA	Analysis	Strontium 90		1			8698	02/08/12 09:49	WL	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/03/12 00:00		Eberline
Total/NA	Analysis	Tritium		1			8698	02/04/12 12:03	WL	Eberline
Total/NA	Analysis	Uranium, Combined		1			8698	02/09/12 01:02	LS	Eberline

Lab Chronicle

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

TestAmerica Job ID: 440-747-1

Client Sample ID: Trip Blank-Eberline

Lab Sample ID: 440-767-21

Date Collected: 01/25/12 13:08

Matrix: Water

Date Received: 01/24/12 18:35

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			8698_P	02/01/12 00:00		Eberline
Total/NA	Analysis	901.1 - Cs-137/K-40		1			8698	02/06/12 08:14	LS	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/07/12 00:00		Eberline
Total/NA	Analysis	Gross Alpha/Beta		1			8698	02/08/12 09:31	DVP	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/09/12 00:00		Eberline
Total/NA	Analysis	RAD-226		1			8698	02/09/12 12:58	WL	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/10/12 00:00		Eberline
Total/NA	Analysis	RAD-228		1			8698	02/10/12 15:16	TSC	Eberline
Total/NA	Prep	General Prep		1			8698_P	02/08/12 00:00		Eberline
Total/NA	Analysis	Strontium 90		1			8698	02/08/12 09:49	TM	Eberline
Total/NA	Analysis	Uranium, Combined		1			8698	02/09/12 01:28	WL	Eberline

Laboratory References:

Eberline = Eberline Services, 7021 Pan American Fwy NE, Albuquerque, NM 87109

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

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-3981/3
Matrix: Water
Analysis Batch: 3981

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	0.15	mg/L			01/24/12 10:06	1

Lab Sample ID: LCS 440-3981/7
Matrix: Water
Analysis Batch: 3981

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	2.56		mg/L		97	90 - 110

Lab Sample ID: 440-767-1 MS
Matrix: Water
Analysis Batch: 3981

Client Sample ID: Outfall 009
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.27		2.65	2.14		mg/L		81	80 - 120

Lab Sample ID: 440-767-1 MSD
Matrix: Water
Analysis Batch: 3981

Client Sample ID: Outfall 009
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	0.27		2.65	2.79	RA	mg/L		105	80 - 120	26	20

Lab Sample ID: MB 440-3982/3
Matrix: Water
Analysis Batch: 3982

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	0.30	mg/L			01/24/12 10:06	1
Sulfate	ND		0.50	0.30	mg/L			01/24/12 10:06	1

Lab Sample ID: LCS 440-3982/7
Matrix: Water
Analysis Batch: 3982

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	4.91		mg/L		98	90 - 110
Sulfate	10.0	9.88		mg/L		99	90 - 110

Lab Sample ID: 440-767-1 MS
Matrix: Water
Analysis Batch: 3982

Client Sample ID: Outfall 009
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1.8		5.00	5.87		mg/L		82	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-767-1 MSD — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 3982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.8		5.00	6.52		mg/L		95	80 - 120	10	20

Lab Sample ID: MB 440-4046/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.30	mg/L			01/25/12 10:46	1
Sulfate	ND		0.50	0.30	mg/L			01/25/12 10:46	1

Lab Sample ID: LCS 440-4046/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4046

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.69		mg/L		94	90 - 110
Sulfate	10.0	9.53		mg/L		95	90 - 110

Lab Sample ID: 440-767-1 MS — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4046

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1.7		5.00	6.47		mg/L		96	80 - 120
Sulfate	18		10.0	28.1		mg/L		103	80 - 120

Lab Sample ID: 440-767-1 MSD — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4046

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.7		5.00	6.62		mg/L		99	80 - 120	2	20
Sulfate	18		10.0	29.2		mg/L		114	80 - 120	4	20

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

Lab Sample ID: G2B060000112B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total**
Analysis Batch: 2037112 — **Prep Batch: 2037112_P**

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.00000094	ug/L		02/06/12 09:00	02/09/12 02:23	1
Total TCDD	ND		0.000010	0.00000094	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000014	ug/L		02/06/12 09:00	02/09/12 02:23	1
Total PeCDD	ND		0.000050	0.0000014	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000025	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000012	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000015	ug/L		02/06/12 09:00	02/09/12 02:23	1
Total HxCDD	ND		0.000050	0.0000012	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,4,6,7,8-HpCDD	0.0000042	J	0.000050	0.0000016	ug/L		02/06/12 09:00	02/09/12 02:23	1

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

Lab Sample ID: G2B060000112B
Matrix: Water
Analysis Batch: 2037112

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 2037112_P

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDD	0.0000074	J Q	0.000050	0.0000016	ug/L		02/06/12 09:00	02/09/12 02:23	1
OCDD	0.000024	J	0.00010	0.0000030	ug/L		02/06/12 09:00	02/09/12 02:23	1
2,3,7,8-TCDF	ND		0.000010	0.0000010	ug/L		02/06/12 09:00	02/09/12 02:23	1
Total TCDF	ND		0.000010	0.0000010	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,7,8-PeCDF	0.0000044	J	0.000050	0.0000012	ug/L		02/06/12 09:00	02/09/12 02:23	1
2,3,4,7,8-PeCDF	0.0000021	J	0.000050	0.0000012	ug/L		02/06/12 09:00	02/09/12 02:23	1
Total PeCDF	0.0000066	J	0.000050	0.0000012	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,4,7,8-HxCDF	0.0000069	J	0.000050	0.00000098	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,6,7,8-HxCDF	0.0000023	J Q	0.000050	0.00000096	ug/L		02/06/12 09:00	02/09/12 02:23	1
2,3,4,6,7,8-HxCDF	0.0000023	J Q	0.000050	0.00000090	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,7,8,9-HxCDF	0.0000019	J	0.000050	0.0000012	ug/L		02/06/12 09:00	02/09/12 02:23	1
Total HxCDF	0.000016	J Q	0.000050	0.0000010	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,4,6,7,8-HpCDF	0.0000051	J Q	0.000050	0.0000029	ug/L		02/06/12 09:00	02/09/12 02:23	1
1,2,3,4,7,8,9-HpCDF	0.0000055	J	0.000050	0.0000043	ug/L		02/06/12 09:00	02/09/12 02:23	1
Total HpCDF	0.000015	J Q	0.000050	0.0000035	ug/L		02/06/12 09:00	02/09/12 02:23	1
OCDF	0.000017	J	0.00010	0.0000034	ug/L		02/06/12 09:00	02/09/12 02:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*02/06/12 09:00*	*02/09/12 02:23*	*1*

Internal Standard	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*38*		*25 - 164*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,7,8-PeCDD	*36*		*25 - 181*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,4,7,8-HxCDD	*39*		*32 - 141*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,6,7,8-HxCDD	*39*		*28 - 130*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*40*		*23 - 140*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-OCDD	*33*		*17 - 157*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-2,3,7,8-TCDF	*38*		*24 - 169*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,7,8-PeCDF	*34*		*24 - 185*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-2,3,4,7,8-PeCDF	*37*		*21 - 178*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,6,7,8-HxCDF	*43*		*26 - 123*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-2,3,4,6,7,8-HxCDF	*46*		*28 - 136*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,7,8,9-HxCDF	*43*		*29 - 147*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*40*		*28 - 143*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*40*		*26 - 138*	*02/06/12 09:00*	*02/09/12 02:23*	*1*
13C-1,2,3,4,7,8-HxCDF	*44*		*26 - 152*	*02/06/12 09:00*	*02/09/12 02:23*	*1*

Lab Sample ID: G2B060000112C
Matrix: Water
Analysis Batch: 2037112

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2037112_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.000200	0.000218		ug/L		109	67 - 158
1,2,3,7,8-PeCDD	0.00100	0.00106		ug/L		106	70 - 142
1,2,3,4,7,8-HxCDD	0.00100	0.00101		ug/L		101	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00128		ug/L		128	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00118		ug/L		118	64 - 162
1,2,3,4,6,7,8-HpCDD	0.00100	0.00112	B	ug/L		112	70 - 140
OCDD	0.00200	0.00241	B	ug/L		121	78 - 144

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

Lab Sample ID: G2B060000112C
Matrix: Water
Analysis Batch: 2037112

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 2037112_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDF			0.000200	0.000218		ug/L		109	75 - 158		
1,2,3,7,8-PeCDF			0.00100	0.00110	B	ug/L		110	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.00111	B	ug/L		111	68 - 160		
1,2,3,4,7,8-HxCDF			0.00100	0.00108	B	ug/L		108	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.00113	B	ug/L		113	84 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.00112	B	ug/L		112	70 - 156		
1,2,3,7,8,9-HxCDF			0.00100	0.00114	B	ug/L		114	78 - 130		
1,2,3,4,6,7,8-HpCDF			0.00100	0.00116	B	ug/L		116	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.00114	B	ug/L		114	78 - 138		
OCDF			0.00200	0.00246	B	ug/L		123	63 - 170		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*92*		*31 - 191*

Internal Standard	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*39*		*20 - 175*
13C-1,2,3,7,8-PeCDD	*40*		*21 - 227*
13C-1,2,3,4,7,8-HxCDD	*49*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*39*		*25 - 163*
13C-1,2,3,4,6,7,8-HpCDD	*45*		*26 - 166*
13C-OCDD	*37*		*13 - 199*
13C-2,3,7,8-TCDF	*39*		*22 - 152*
13C-1,2,3,7,8-PeCDF	*36*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*39*		*13 - 328*
13C-1,2,3,6,7,8-HxCDF	*47*		*21 - 159*
13C-2,3,4,6,7,8-HxCDF	*48*		*22 - 176*
13C-1,2,3,7,8,9-HxCDF	*46*		*17 - 205*
13C-1,2,3,4,6,7,8-HpCDF	*43*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*42*		*20 - 186*
13C-1,2,3,4,7,8-HxCDF	*48*		*19 - 202*

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: LCS 440-4127/2-A
Matrix: Water
Analysis Batch: 5165

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 4127

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cadmium			80.0	80.3		ug/L		100	85 - 115		
Copper			80.0	81.4		ug/L		102	85 - 115		
Lead			80.0	79.5		ug/L		99	85 - 115		
Antimony			80.0	79.2		ug/L		99	85 - 115		
Thallium			80.0	80.3		ug/L		100	85 - 115		

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

Lab Sample ID: MB 440-4451/1-A
Matrix: Water
Analysis Batch: 5165

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 4451

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		01/31/12 11:52	02/03/12 16:03	1
Copper	ND		2.0	0.50	ug/L		01/31/12 11:52	02/03/12 16:03	1
Lead	ND		1.0	0.20	ug/L		01/31/12 11:52	02/03/12 16:03	1
Antimony	ND		2.0	0.30	ug/L		01/31/12 11:52	02/03/12 16:03	1
Thallium	ND		1.0	0.20	ug/L		01/31/12 11:52	02/03/12 16:03	1

Lab Sample ID: LCS 440-4451/2-A
Matrix: Water
Analysis Batch: 5165

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 4451

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	80.5		ug/L		101	85 - 115
Copper	80.0	79.0		ug/L		99	85 - 115
Lead	80.0	82.0		ug/L		102	85 - 115
Antimony	80.0	79.7		ug/L		100	85 - 115
Thallium	80.0	84.0		ug/L		105	85 - 115

Lab Sample ID: 440-859-K-1-B MS
Matrix: Water
Analysis Batch: 5165

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 4451

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.12	J,DX	80.0	79.3		ug/L		99	70 - 130
Copper	ND		80.0	73.1		ug/L		91	70 - 130
Lead	0.57	J,DX	80.0	80.3		ug/L		100	70 - 130
Antimony	42		80.0	122		ug/L		100	70 - 130
Thallium	0.51	J,DX	80.0	81.7		ug/L		101	70 - 130

Lab Sample ID: 440-859-K-1-C MSD
Matrix: Water
Analysis Batch: 5165

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 4451

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.12	J,DX	80.0	78.5		ug/L		98	70 - 130	1	20
Copper	ND		80.0	71.8		ug/L		90	70 - 130	2	20
Lead	0.57	J,DX	80.0	80.8		ug/L		100	70 - 130	1	20
Antimony	42		80.0	122		ug/L		100	70 - 130	0	20
Thallium	0.51	J,DX	80.0	81.6		ug/L		101	70 - 130	0	20

Lab Sample ID: MB 440-3991/1-B
Matrix: Water
Analysis Batch: 5165

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 4127

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.10	ug/L		01/26/12 15:10	02/03/12 09:51	1
Copper	ND		2.0	0.50	ug/L		01/26/12 15:10	02/03/12 09:51	1
Lead	ND		1.0	0.20	ug/L		01/26/12 15:10	02/03/12 09:51	1
Antimony	ND		2.0	0.30	ug/L		01/26/12 15:10	02/03/12 09:51	1
Thallium	ND		1.0	0.20	ug/L		01/26/12 15:10	02/03/12 09:51	1

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

Lab Sample ID: 440-751-E-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 5165 — **Prep Batch: 4127**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	80.1		ug/L		100	70 - 130
Copper	6.8		80.0	86.6		ug/L		100	70 - 130
Lead	0.28	J,DX	80.0	80.4		ug/L		100	70 - 130
Antimony	0.92	J,DX	80.0	79.8		ug/L		99	70 - 130
Thallium	0.37	J,DX	80.0	82.1		ug/L		102	70 - 130

Lab Sample ID: 440-751-E-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 5165 — **Prep Batch: 4127**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	78.8		ug/L		99	70 - 130	2	20
Copper	6.8		80.0	87.5		ug/L		101	70 - 130	1	20
Lead	0.28	J,DX	80.0	80.5		ug/L		100	70 - 130	0	20
Antimony	0.92	J,DX	80.0	80.4		ug/L		99	70 - 130	1	20
Thallium	0.37	J,DX	80.0	81.6		ug/L		102	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: LCS 440-4232/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4438 — **Prep Batch: 4232**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	7.91		ug/L		99	85 - 115

Lab Sample ID: MB 440-4242/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4437 — **Prep Batch: 4242**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/27/12 14:19	01/30/12 20:26	1

Lab Sample ID: LCS 440-4242/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4437 — **Prep Batch: 4242**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.20		ug/L		102	85 - 115

Lab Sample ID: 440-767-1 MS — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4437 — **Prep Batch: 4242**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	8.18		ug/L		102	70 - 130

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 440-767-1 MSD — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4437 — **Prep Batch: 4242**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	8.33	RA	ug/L		104	70 - 130	200	20

Lab Sample ID: MB 440-3832/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 4438 — **Prep Batch: 4232**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		01/30/12 14:15	01/30/12 17:58	1

Lab Sample ID: 440-733-A-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 4438 — **Prep Batch: 4232**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	7.98		ug/L		100	70 - 130
Mercury			8.00	7.98		ug/L			

Lab Sample ID: 440-733-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 4438 — **Prep Batch: 4232**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	7.98	RA	ug/L		100	70 - 130	200	20

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-4740/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4814 — **Prep Batch: 4740**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L		02/02/12 05:00	02/02/12 11:37	1

Lab Sample ID: LCS 440-4740/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4814 — **Prep Batch: 4740**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	20.0	19.1		mg/L		95	78 - 114

Lab Sample ID: LCSD 440-4740/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4814 — **Prep Batch: 4740**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	20.0	18.7		mg/L		93	78 - 114	2	11

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

Lab Sample ID: MB 440-3997/1
Matrix: Water
Analysis Batch: 3997

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.00	J,DX	10	1.0	mg/L			01/25/12 05:50	1

Lab Sample ID: LCS 440-3997/2
Matrix: Water
Analysis Batch: 3997

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110

Lab Sample ID: 440-768-H-1 DU
Matrix: Water
Analysis Batch: 3997

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	8600	MB	8740		mg/L		1	10

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

Lab Sample ID: MB 440-4253/1
Matrix: Water
Analysis Batch: 4253

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	1.0	mg/L			01/27/12 20:53	1

Lab Sample ID: LCS 440-4253/2
Matrix: Water
Analysis Batch: 4253

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	991		mg/L		99	85 - 115

Lab Sample ID: 440-735-C-1 DU
Matrix: Water
Analysis Batch: 4253

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	26		26.0		mg/L		0	10

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

Lab Sample ID: MB 440-4221/1-A
Matrix: Water
Analysis Batch: 4246

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4221

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0050	0.0022	mg/L		01/27/12 15:30	01/27/12 17:56	1

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

Lab Sample ID: LCS 440-4221/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4246 — **Prep Batch: 4221**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.100	0.101		mg/L		101	90 - 110		

Lab Sample ID: 440-767-1 MS — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4246 — **Prep Batch: 4221**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND		0.100	0.101		mg/L		101	70 - 115		

Lab Sample ID: 440-767-1 MSD — **Client Sample ID: Outfall 009**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 4246 — **Prep Batch: 4221**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.100	0.102		mg/L		102	70 - 115	0	15

Method: Gross Alpha/Beta - Total Gross Alpha/Beta

Lab Sample ID: S201071-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cesium-137	ND	U	20		pCi/L		02/01/12 00:00	02/03/12 09:16	1
Potassium-40	ND	U	25		pCi/L		02/01/12 00:00	02/03/12 09:16	1

Lab Sample ID: S201071-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tritium	-83.7	U	500		pCi/L		02/03/12 00:00	02/04/12 12:03	1

Lab Sample ID: S201071-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.155	U	3		pCi/L		02/07/12 00:00	02/08/12 09:31	1
Gross Beta	0.577	U	4		pCi/L		02/07/12 00:00	02/08/12 09:31	1

Lab Sample ID: S201071-04 — **Client Sample ID: Method Blank**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Strontium-90	-0.171	U	2		pCi/L		02/08/12 00:00	02/08/12 09:49	1

Method: Gross Alpha/Beta - Total Gross Alpha/Beta (Continued)

Lab Sample ID: S201071-04
Matrix: WATER
Analysis Batch: 8698

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8698_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium, Total	0	U	1		pCi/L		02/09/12 00:00	02/09/12 01:51	1

Lab Sample ID: S201071-04
Matrix: WATER
Analysis Batch: 8698

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8698_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-226	0.1	U	1		pCi/L		02/09/12 00:00	02/09/12 12:58	1

Lab Sample ID: S201071-04
Matrix: WATER
Analysis Batch: 8698

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8698_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Radium-228	-0.169	U	1		pCi/L		02/10/12 00:00	02/10/12 16:46	1

Lab Sample ID: S201071-03
Matrix: WATER
Analysis Batch: 8698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8698_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cesium-137	148	137		pCi/L		93	80 - 120
Cobalt-60	134	121		pCi/L		90	80 - 120

Lab Sample ID: S201071-03
Matrix: WATER
Analysis Batch: 8698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8698_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tritium	2240	2010		pCi/L		90	80 - 120

Lab Sample ID: S201071-03
Matrix: WATER
Analysis Batch: 8698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8698_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gross Alpha	33.7	36.6		pCi/L		109	70 - 130
Gross Beta	28.5	32		pCi/L		112	70 - 130

Lab Sample ID: S201071-03
Matrix: WATER
Analysis Batch: 8698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8698_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium-90	18.8	18.2		pCi/L		97	80 - 120

Method: Gross Alpha/Beta - Total Gross Alpha/Beta (Continued)

Lab Sample ID: S201071-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium, Total	56.5	55.6		pCi/L		98	80 - 120

Lab Sample ID: S201071-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-226	50.1	54.1		pCi/L		108	80 - 120

Lab Sample ID: S201071-03 — **Client Sample ID: Lab Control Sample**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Radium-228	5.43	5.39		pCi/L		99	60 - 140

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Tritium	-78.4	U	-98.4	U	pCi/L		0	

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Cesium-137	0	U	ND	U	pCi/L		0	
Potassium-40	0	U	ND	U	pCi/L		0	

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Strontium-90	-0.056	U	-0.099	U	pCi/L		0	

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Uranium, Total	0.057	J	0.05	J	pCi/L		13	

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Gross Alpha	0.275	U	0.384	J	pCi/L		33	

Method: Gross Alpha/Beta - Total Gross Alpha/Beta (Continued)

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Gross Beta	1.5	J		1.28	J	pCi/L				16	

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-226	0.582	J		0.64	J	pCi/L				9	

Lab Sample ID: S201071-05 — **Client Sample ID: OUTFALL 009 DU**
Matrix: WATER — **Prep Type: Total/NA**
Analysis Batch: 8698 — **Prep Batch: 8698_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Radium-228	-0.151	U		0.123	U	pCi/L				0	

HPLC/IC

Analysis Batch: 3981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	300.0	
440-767-1 MS	Outfall 009	Total/NA	Water	300.0	
440-767-1 MSD	Outfall 009	Total/NA	Water	300.0	
LCS 440-3981/7	Lab Control Sample	Total/NA	Water	300.0	
MB 440-3981/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 3982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	300.0	
440-767-1 MS	Outfall 009	Total/NA	Water	300.0	
440-767-1 MSD	Outfall 009	Total/NA	Water	300.0	
LCS 440-3982/7	Lab Control Sample	Total/NA	Water	300.0	
MB 440-3982/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 4046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	300.0	
440-767-1 MS	Outfall 009	Total/NA	Water	300.0	
440-767-1 MSD	Outfall 009	Total/NA	Water	300.0	
LCS 440-4046/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-4046/3	Method Blank	Total/NA	Water	300.0	

Specialty Organics

Analysis Batch: 2037112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-747-1	Outfall 009	Total	Water	1613B	
G2B060000112B	Method Blank	Total	Water	1613B	
G2B060000112C	Lab Control Sample	Total	Water	1613B	

Prep Batch: 2037112_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-747-1	Outfall 009	Total	Water	3542	
G2B060000112B	Method Blank	Total	Water	3542	
G2B060000112C	Lab Control Sample	Total	Water	3542	

Metals

Prep Batch: 4127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-751-E-1-C MS	Matrix Spike	Dissolved	Water	200.2	
440-751-E-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	
440-767-1	Outfall 009	Dissolved	Water	200.2	
LCS 440-4127/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-3991/1-B	Method Blank	Dissolved	Water	200.2	

Prep Batch: 4232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-733-A-1-F MS	Matrix Spike	Dissolved	Water	245.1	
440-733-A-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	
440-767-1	Outfall 009	Dissolved	Water	245.1	
LCS 440-4232/2-A	Lab Control Sample	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 4232 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-3832/1-C	Method Blank	Dissolved	Water	245.1	

Prep Batch: 4242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	245.1	
440-767-1 MS	Outfall 009	Total/NA	Water	245.1	
440-767-1 MSD	Outfall 009	Total/NA	Water	245.1	
LCS 440-4242/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 440-4242/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 4437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	245.1	4242
440-767-1 MS	Outfall 009	Total/NA	Water	245.1	4242
440-767-1 MSD	Outfall 009	Total/NA	Water	245.1	4242
LCS 440-4242/2-A	Lab Control Sample	Total/NA	Water	245.1	4242
MB 440-4242/1-A	Method Blank	Total/NA	Water	245.1	4242

Analysis Batch: 4438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-733-A-1-F MS	Matrix Spike	Dissolved	Water	245.1	4232
440-733-A-1-G MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	4232
440-767-1	Outfall 009	Dissolved	Water	245.1	4232
LCS 440-4232/2-A	Lab Control Sample	Total/NA	Water	245.1	4232
MB 440-3832/1-C	Method Blank	Dissolved	Water	245.1	4232

Prep Batch: 4451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total Recoverable	Water	200.2	
440-859-K-1-B MS	Matrix Spike	Total Recoverable	Water	200.2	
440-859-K-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.2	
LCS 440-4451/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-4451/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 4764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total Recoverable	Water	200.8	4451

Analysis Batch: 5165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-751-E-1-C MS	Matrix Spike	Dissolved	Water	200.8	4127
440-751-E-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	4127
440-767-1	Outfall 009	Total Recoverable	Water	200.8	4451
440-767-1	Outfall 009	Dissolved	Water	200.8	4127
440-859-K-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	4451
440-859-K-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	4451
LCS 440-4127/2-A	Lab Control Sample	Total Recoverable	Water	200.8	4127
LCS 440-4451/2-A	Lab Control Sample	Total Recoverable	Water	200.8	4451
MB 440-3991/1-B	Method Blank	Dissolved	Water	200.8	4127
MB 440-4451/1-A	Method Blank	Total Recoverable	Water	200.8	4451

General Chemistry

Analysis Batch: 3997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	SM 2540C	
440-768-H-1 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 440-3997/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-3997/1	Method Blank	Total/NA	Water	SM 2540C	

Prep Batch: 4221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	Distill/CN	
440-767-1 MS	Outfall 009	Total/NA	Water	Distill/CN	
440-767-1 MSD	Outfall 009	Total/NA	Water	Distill/CN	
LCS 440-4221/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-4221/1-A	Method Blank	Total/NA	Water	Distill/CN	

Analysis Batch: 4246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	SM 4500 CN E	4221
440-767-1 MS	Outfall 009	Total/NA	Water	SM 4500 CN E	4221
440-767-1 MSD	Outfall 009	Total/NA	Water	SM 4500 CN E	4221
LCS 440-4221/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	4221
MB 440-4221/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	4221

Analysis Batch: 4253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-735-C-1 DU	Duplicate	Total/NA	Water	SM 2540D	
440-767-1	Outfall 009	Total/NA	Water	SM 2540D	
LCS 440-4253/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-4253/1	Method Blank	Total/NA	Water	SM 2540D	

Prep Batch: 4740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-747-1	Outfall 009	Total/NA	Water	1664A	
LCS 440-4740/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-4740/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-4740/1-A	Method Blank	Total/NA	Water	1664A	

Analysis Batch: 4814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-747-1	Outfall 009	Total/NA	Water	1664A	4740
LCS 440-4740/2-A	Lab Control Sample	Total/NA	Water	1664A	4740
LCSD 440-4740/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	4740
MB 440-4740/1-A	Method Blank	Total/NA	Water	1664A	4740

Non-TA Lab

Analysis Batch: 8698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	901.1 - Cs-137, K-40	8698_P
440-767-1	Outfall 009	Total/NA	Water	Gross Alpha/Beta	8698_P
440-767-1	Outfall 009	Total/NA	Water	RAD-226	8698_P
440-767-1	Outfall 009	Total/NA	Water	RAD-228	8698_P

Non-TA Lab (Continued)

Analysis Batch: 8698 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	Strontium 90	8698_P
440-767-1	Outfall 009	Total/NA	Water	Tritium	8698_P
440-767-1	Outfall 009	Total/NA	Water	Uranium, Combined	8698_P
440-767-21	Trip Blank-Eberline	Total/NA	Water	901.1 - Cs-137/K-40	8698_P
440-767-21	Trip Blank-Eberline	Total/NA	Water	Gross Alpha/Beta	8698_P
440-767-21	Trip Blank-Eberline	Total/NA	Water	RAD-226	8698_P
440-767-21	Trip Blank-Eberline	Total/NA	Water	RAD-228	8698_P
440-767-21	Trip Blank-Eberline	Total/NA	Water	Strontium 90	8698_P
440-767-21	Trip Blank-Eberline	Total/NA	Water	Uranium, Combined	8698_P
S201071-03	Lab Control Sample	Total/NA	WATER	Gross Alpha/Beta	8698_P
S201071-04	Method Blank	Total/NA	WATER	Gross Alpha/Beta	8698_P
S201071-05	OUTFALL 009 DU	Total/NA	WATER	Gross Alpha/Beta	8698_P

Prep Batch: 8698_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-767-1	Outfall 009	Total/NA	Water	General Prep	
440-767-21	Trip Blank-Eberline	Total/NA	Water	General Prep	
S201071-03	Lab Control Sample	Total/NA	WATER	General Prep	
S201071-04	Method Blank	Total/NA	WATER	General Prep	
S201071-05	OUTFALL 009 DU	Total/NA	WATER	General Prep	

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
RA	RPD exceeds limits due to matrix interference. % recoveries were within limits

DIOXIN

Qualifier	Qualifier Description
B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than the reporting limit.
Q	Estimated maximum possible concentration (EMPC).

Metals

Qualifier	Qualifier Description
RA	RPD exceeds limits due to matrix interference. % recoveries were within limits
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

General Chemistry

Qualifier	Qualifier Description
MB	Analyte present in the method blank
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

Non-TA Lab

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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
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
RL	Reporting Limit
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 Routine Outfall 009

TestAmerica Job ID: 440-747-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Irvine	Arizona	State Program	9	AZ0671
TestAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
TestAmerica Irvine	California	NELAC	9	1108CA
TestAmerica Irvine	California	State Program	9	2706
TestAmerica Irvine	Guam	State Program	9	Cert. No. 10.001r
TestAmerica Irvine	Hawaii	State Program	9	N/A
TestAmerica Irvine	Nevada	State Program	9	CA015312007A
TestAmerica Irvine	New Mexico	State Program	6	N/A
TestAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
TestAmerica Irvine	Oregon	NELAC	10	4005
TestAmerica Irvine	USDA	USDA		P330-09-00080
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska	Alaska UST	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas	State Program	6	88-0691
TestAmerica West Sacramento	California	NELAC	9	1119CA
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	US Fish & Wildlife		LE148388-0
TestAmerica West Sacramento	USDA	USDA		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	West Virginia DEP	3	334
TestAmerica West Sacramento	West Virginia	West Virginia DHHR (DW)	3	9930C
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica West Sacramento	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package . Please contact your project manager for the laboratory's current list of certified methods and analytes.

EBERLINE SERVICES

Eberline Analytical Corporation
2030 Wright Avenue
Richmond, California 94804-3849
Phone (510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

February 15, 2012

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

Reference: **Test America-Irvine 44002624**
Eberline Analytical Report S201071-8698
Sample Delivery Group 8698

Dear Ms. Wilson:

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 26, 2012.

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

Sincerely,

Joseph Verville
Client Services Manager

NJV/mw

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8698 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.

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

2.0 Quality Control

Quality Control Samples consisted of laboratory control samples (LCS), method blanks, 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."

2/15/12

Joseph Verville
Client Services Manager

Date

EBERLINE ANALYTICAL
SDG 8698

SDG 8698	Client Test America, Inc.
Contact Joseph Verville	Contract 44002624

SUMMARY DATA SECTION

TABLE OF CONTENTS

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	02/15/12

SDG 8698
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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB SAMPLE SUMMARY

SDG 8698
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S201071-01	OUTFALL 009	Boeing - SSFL	WATER			44002624	01/24/12 09:08
S201071-02	TRIP BLANK - EBERLINE	Boeing - SSFL	WATER			44002624	01/25/12 13:08
S201071-03	Lab Control Sample		WATER				
S201071-04	Method Blank		WATER				
S201071-05	Duplicate (S201071-01)	Boeing - SSFL	WATER				01/24/12 09:08

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

SDG 8698
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 SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8698	44002624	OUTFALL 009	WATER		10.0 L		01/26/12	2	S201071-01	8698-001
		TRIP BLANK - EBERLINE	WATER		10.0 L		01/26/12	1	S201071-02	8698-002
		Method Blank	WATER						S201071-04	8698-004
		Lab Control Sample	WATER						S201071-03	8698-003
		Duplicate (S201071-01)	WATER		10.0 L		01/26/12	2	S201071-05	8698-005

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

PREP BATCH SUMMARY

SDG 8698
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	7271-118	10.4	2			1	1	1/1		
SR	WATER	Strontium-90 in Water	7271-118	10.4	2			1	1	1/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7271-118	20.6	2			1	1	1/1		
80B	WATER	Gross Beta in Water	7271-118	11.0	2			1	1	1/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7271-118	7.0	2			1	1	1/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7271-118		2			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7271-118	10.0	1			1	1	1/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7271-118	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 EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

SDG 8698
Contact Joseph Verville

LAB WORK SUMMARY

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
S201071-01	OUTFALL 009		8698-001	80A/80		02/08/12	02/10/12	MWT	Gross Alpha in Water
01/24/12	Boeing - SSFL	WATER	8698-001	80B/80		02/08/12	02/10/12	MWT	Gross Beta in Water
01/26/12	44002624		8698-001	AC		02/10/12	02/14/12	BW	Radium-228 in Water
			8698-001	GAM		02/06/12	02/06/12	CSS	Gamma Emitters in Water
			8698-001	H		02/04/12	02/08/12	BW	Tritium in Water
			8698-001	RA		02/09/12	02/10/12	BW	Radium-226 in Water
			8698-001	SR		02/08/12	02/13/12	BW	Strontium-90 in Water
			8698-001	U_T		02/09/12	02/10/12	MWT	Uranium, Total
S201071-02	TRIP BLANK - EBERLINE		8698-002	80A/80		02/08/12	02/10/12	MWT	Gross Alpha in Water
01/25/12	Boeing - SSFL	WATER	8698-002	80B/80		02/08/12	02/10/12	MWT	Gross Beta in Water
01/26/12	44002624		8698-002	AC		02/10/12	02/14/12	BW	Radium-228 in Water
			8698-002	GAM		02/06/12	02/06/12	CSS	Gamma Emitters in Water
			8698-002	RA		02/09/12	02/10/12	BW	Radium-226 in Water
			8698-002	SR		02/08/12	02/13/12	BW	Strontium-90 in Water
			8698-002	U_T		02/09/12	02/10/12	MWT	Uranium, Total
S201071-03	Lab Control Sample		8698-003	80A/80		02/08/12	02/10/12	MWT	Gross Alpha in Water
		WATER	8698-003	80B/80		02/08/12	02/10/12	MWT	Gross Beta in Water
			8698-003	AC		02/10/12	02/14/12	BW	Radium-228 in Water
			8698-003	GAM		02/03/12	02/06/12	CSS	Gamma Emitters in Water
			8698-003	H		02/04/12	02/08/12	BW	Tritium in Water
			8698-003	RA		02/09/12	02/10/12	BW	Radium-226 in Water
			8698-003	SR		02/08/12	02/13/12	BW	Strontium-90 in Water
			8698-003	U_T		02/09/12	02/10/12	MWT	Uranium, Total
S201071-04	Method Blank		8698-004	80A/80		02/08/12	02/10/12	MWT	Gross Alpha in Water
		WATER	8698-004	80B/80		02/08/12	02/10/12	MWT	Gross Beta in Water
			8698-004	AC		02/10/12	02/14/12	BW	Radium-228 in Water
			8698-004	GAM		02/03/12	02/06/12	CSS	Gamma Emitters in Water
			8698-004	H		02/04/12	02/08/12	BW	Tritium in Water
			8698-004	RA		02/09/12	02/10/12	BW	Radium-226 in Water
			8698-004	SR		02/08/12	02/13/12	BW	Strontium-90 in Water
			8698-004	U_T		02/09/12	02/10/12	MWT	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/15/12

SDG 8698
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
S201071-05	Duplicate (S201071-01)			8698-005	80A/80		02/09/12	02/10/12	MWT	Gross Alpha in Water
01/24/12	Boeing - SSFL		WATER	8698-005	80B/80		02/09/12	02/10/12	MWT	Gross Beta in Water
01/26/12				8698-005	AC		02/10/12	02/14/12	BW	Radium-228 in Water
				8698-005	GAM		02/06/12	02/06/12	CSS	Gamma Emitters in Water
				8698-005	H		02/04/12	02/08/12	BW	Tritium in Water
				8698-005	RA		02/09/12	02/10/12	BW	Radium-226 in Water
				8698-005	SR		02/08/12	02/13/12	BW	Strontium-90 in Water
				8698-005	U_T		02/09/12	02/10/12	MWT	Uranium, Total

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAS no	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
80A/80		Gross Alpha in Water	900.0	2			1	1	1	5
80B/80		Gross Beta in Water	900.0	2			1	1	1	5
AC		Radium-228 in Water	904.0	2			1	1	1	5
GAM		Gamma Emitters in Water	901.1	2			1	1	1	5
H		Tritium in Water	906.0	1			1	1	1	4
RA		Radium-226 in Water	903.1	2			1	1	1	5
SR		Strontium-90 in Water	905.0	2			1	1	1	5
U_T		Uranium, Total	D5174	2			1	1	1	5
TOTALS				15			8	8	8	39

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

8698-004 Method Blank

METHOD BLANK

SDG	8698	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S201071-04	Client sample id	Method Blank
Dept sample id	8698-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.155	0.31	0.649	3.00	U	80A
Gross Beta	12587472	0.577	0.70	1.18	4.00	U	80B
Tritium	10028178	-83.7	110	198	500	U	H
Radium-226	13982633	0.100	0.26	0.459	1.00	U	RA
Radium-228	15262201	-0.169	0.22	0.918	1.00	U	AC
Strontium-90	10098972	-0.171	0.47	1.10	2.00	U	SR
Uranium, Total		0	0.009	0.020	1.00	U	U_T
Potassium-40	13966002	U		25.8	25.0	U	GAM
Cesium-137	10045973	U		1.76	20.0	U	GAM

QC-BLANK #81014

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/15/12

EBERLINE ANALYTICAL

SDG 8698

8698-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8698 | Client Test America, Inc.

Contact Joseph Verville | Contract 44002624

Lab sample id S201071-03 | Client sample id Lab Control Sample

Dept sample id 8698-003 | Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	36.6	2.0	0.569	3.00		80A	33.7	1.3	109	77-123	70-130
Gross Beta	32.0	1.3	1.24	4.00		80B	28.5	1.1	112	86-114	70-130
Tritium	2010	180	195	500		H	2240	90	90	87-113	80-120
Radium-226	54.1	1.9	0.582	1.00		RA	50.1	2.0	108	81-119	80-120
Radium-228	5.39	0.37	0.628	1.00		AC	5.43	0.22	99	87-113	60-140
Strontium-90	18.2	1.4	0.616	2.00		SR	18.8	0.75	97	87-113	80-120
Uranium, Total	55.6	6.3	0.204	1.00		U_T	56.5	2.3	98	88-112	80-120
Cobalt-60	121	6.1	3.24	10.0		GAM	134	5.4	90	91-109	80-120
Cesium-137	137	5.3	3.53	20.0		GAM	148	5.9	93	92-108	80-120

QC-LCS #81013

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 02/15/12

LAB CONTROL SAMPLES
Page 1
SUMMARY DATA SECTION
Page 9

EBERLINE ANALYTICAL

SDG 8698

8698-005

OUTFALL 009

DUPLICATE

SDG 8698
Contact Joseph Verville
Client Test America, Inc.
Contract 44002624

DUPLICATE
Lab sample id S201071-05
Dept sample id 8698-005

ORIGINAL
Lab sample id S201071-01
Dept sample id 8698-001
Received 01/26/12

Client sample id OUTFALL 009
Location/Matrix Boeing - SSFL WATER
Collected/Volume 01/24/12 09:08 10.0 L
Chain of custody id 44002624

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.384	0.27	0.370	3.00	J	80A	0.275	0.26	0.450	U	33	176	0.6
Gross Beta	1.28	0.60	0.930	4.00	J	80B	1.50	0.60	0.964	J	16	95	0.5
Tritium	-98.4	110	195	500	U	H	-78.4	110	195	U	-		0.3
Radium-226	0.640	0.32	0.465	1.00	J	RA	0.582	0.32	0.470	J	9	116	0.2
Radium-228	0.123	0.22	0.856	1.00	U	AC	-0.151	0.22	0.699	U	-		1.8
Strontium-90	-0.099	0.39	0.971	2.00	U	SR	-0.056	0.39	0.946	U	-		0.2
Uranium, Total	0.050	0.010	0.020	1.00	J	U_T	0.057	0.011	0.020	J	13	42	0.9
Potassium-40	U		18.2	25.0	U	GAM	U		21.1	U	-		0.2
Cesium-137	U		1.10	20.0	U	GAM	U		1.97	U	-		0.8

QC-DUP#1 81015

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 02/15/12

DUPLICATES
Page 1
SUMMARY DATA SECTION
Page 10

EBERLINE ANALYTICAL

SDG 8698

8698-001 OUTFALL 009

DATA SHEET

SDG 8698 Client Test America, Inc.
Contact Joseph Verville Contract 44002624

Lab sample id S201071-01 Client sample id OUTFALL 009
Dept sample id 8698-001 Location/Matrix Boeing - SSFL WATER
Received 01/26/12 Collected/Volume 01/24/12 09:08 10.0 L
Chain of custody id 44002624

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.275	0.26	0.450	3.00	U	80A
Gross Beta	12587472	1.50	0.60	0.964	4.00	J	80B
Tritium	10028178	-78.4	110	195	500	U	H
Radium-226	13982633	0.582	0.32	0.470	1.00	J	RA
Radium-228	15262201	-0.151	0.22	0.699	1.00	U	AC
Strontium-90	10098972	-0.056	0.39	0.946	2.00	U	SR
Uranium, Total		0.057	0.011	0.020	1.00	J	U_T
Potassium-40	13966002	U		21.1	25.0	U	GAM
Cesium-137	10045973	U		1.97	20.0	U	GAM

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 02/15/12

DATA SHEETS
Page 1
SUMMARY DATA SECTION
Page 11

EBERLINE ANALYTICAL

SDG 8698

8698-002 TRIP BLANK - EBERLINE

DATA SHEET

SDG	8698	Client	Test America, Inc.
Contact	Joseph Verville	Contract	44002624
Lab sample id	S201071-02	Client sample id	TRIP BLANK - EBERLINE
Dept sample id	8698-002	Location/Matrix	Boeing - SSFL WATER
Received	01/26/12	Collected/Volume	01/25/12 13:08 10.0 L
		Chain of custody id	44002624

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.044	0.16	0.344	3.00	U	80A
Gross Beta	12587472	-0.025	0.51	0.891	4.00	U	80B
Radium-226	13982633	0.061	0.29	0.509	1.00	U	RA
Radium-228	15262201	-0.116	0.16	0.606	1.00	U	AC
Strontium-90	10098972	-0.412	0.42	1.11	2.00	U	SR
Uranium, Total		0	0.009	0.020	1.00	U	U_T
Potassium-40	13966002	U		35.7	25.0	U	GAM
Cesium-137	10045973	U		1.75	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/15/12

DATA SHEETS
Page 2
SUMMARY DATA SECTION
Page 12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8698
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 7271-118						
S201071-01			8698-001	OUTFALL 009	U	
S201071-02			8698-002	TRIP BLANK - EBERLINE	U	
S201071-03			8698-003	Lab Control Sample	ok	
S201071-04			8698-004	Method Blank	U	
S201071-05			8698-005	Duplicate (S201071-01)	-	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 7271-118			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.012												
S201071-01			OUTFALL 009	0.699	1.80			81		60			17	02/10/12	02/10	GRB-201
S201071-02			TRIP BLANK - EBERLINE	0.606	1.80			80		60			16	02/10/12	02/10	GRB-202
S201071-03			Lab Control Sample	0.628	1.80			79		60				02/10/12	02/10	GRB-204
S201071-04			Method Blank	0.918	1.80			82		60				02/10/12	02/10	GRB-206
S201071-05			Duplicate (S201071-01)	0.856	1.80			81		60			17	02/10/12	02/10	GRB-207
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 0.741 ± 0.278
YIELD 81 ± 2

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8698
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 7271-118					
S201071-01			8698-001	OUTFALL 009	U
S201071-02			8698-002	TRIP BLANK - EBERLINE	U
S201071-03			8698-003	Lab Control Sample	ok
S201071-04			8698-004	Method Blank	U
S201071-05			8698-005	Duplicate (S201071-01)	- 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 7271-118			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.012												
S201071-01			OUTFALL 009	0.946	0.500			89		50			15	02/08/12	02/08	GRB-222
S201071-02			TRIP BLANK - EBERLINE	1.11	0.500			85		50			14	02/08/12	02/08	GRB-223
S201071-03			Lab Control Sample	0.616	0.500			86		55				02/08/12	02/08	GRB-204
S201071-04			Method Blank	1.10	0.500			86		50				02/08/12	02/08	GRB-221
S201071-05			Duplicate (S201071-01)	0.971	0.500			86		50			15	02/08/12	02/08	GRB-222
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 0.949 ± 0.400
YIELD 86 ± 3

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
SDG 8698
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7271-118						
S201071-01	80		8698-001	OUTFALL 009	U	
S201071-02	80		8698-002	TRIP BLANK - EBERLINE	U	
S201071-03	80		8698-003	Lab Control Sample	ok	
S201071-04	80		8698-004	Method Blank	U	
S201071-05	80		8698-005	Duplicate (S201071-01)	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 7271-118			2σ prep error 20.6 %	Reference Lab Notebook No. 7271 pg.012												
S201071-01	80		OUTFALL 009	0.450	0.300			20		400			15	02/07/12	02/08	GRB-214
S201071-02	80		TRIP BLANK - EBERLINE	0.344	0.300			2		400			14	02/07/12	02/08	GRB-216
S201071-03	80		Lab Control Sample	0.569	0.300			60		400				02/07/12	02/08	GRB-213
S201071-04	80		Method Blank	0.649	0.300			64		400				02/07/12	02/08	GRB-215
S201071-05	80		Duplicate (S201071-01)	0.370	0.300			20		309			16	02/07/12	02/09	GRB-111
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 0.476 ± 0.261
RESIDUE 33 ± 55

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8698
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 7271-118						
S201071-01	80		8698-001	OUTFALL 009	1.50	J
S201071-02	80		8698-002	TRIP BLANK - EBERLINE	U	
S201071-03	80		8698-003	Lab Control Sample	ok	
S201071-04	80		8698-004	Method Blank	U	
S201071-05	80		8698-005	Duplicate (S201071-01)	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 7271-118			2σ prep error 11.0 %	Reference Lab Notebook No. 7271 pg.012												
S201071-01	80		OUTFALL 009	0.964	0.300			20		400			15	02/07/12	02/08	GRB-214
S201071-02	80		TRIP BLANK - EBERLINE	0.891	0.300			2		400			14	02/07/12	02/08	GRB-216
S201071-03	80		Lab Control Sample	1.24	0.300			60		400				02/07/12	02/08	GRB-213
S201071-04	80		Method Blank	1.18	0.300			64		400				02/07/12	02/08	GRB-215
S201071-05	80		Duplicate (S201071-01)	0.930	0.300			20		309			16	02/07/12	02/09	GRB-111
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 1.04 ± 0.316
RESIDUE 33 ± 55

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8698
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 7271-118							
S201071-01			8698-001	OUTFALL 009		U	
S201071-02			8698-002	TRIP BLANK - EBERLINE		U	
S201071-03			8698-003	Lab Control Sample	ok	ok	
S201071-04			8698-004	Method Blank		U	
S201071-05			8698-005	Duplicate (S201071-01)		-	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 7271-118			2σ prep error 7.0 %	Reference Lab Notebook No. 7271 pg.012												
S201071-01			OUTFALL 009		2.00					403			13	02/01/12	02/06	01,01,00
S201071-02			TRIP BLANK - EBERLINE		2.00					403			12	02/01/12	02/06	01,02,00
S201071-03			Lab Control Sample		2.00					409				02/01/12	02/03	01,03,00
S201071-04			Method Blank		2.00					410				02/01/12	02/03	01,04,00
S201071-05			Duplicate (S201071-01)		2.00					917			13	02/01/12	02/06	01,04,00
Nominal values and limits from method				6.00	2.00					400			180			

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
SDG 8698
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total
Preparation batch 7271-118					
S201071-01			8698-001	OUTFALL 009	0.057 J
S201071-02			8698-002	TRIP BLANK - EBERLINE	U
S201071-03			8698-003	Lab Control Sample	ok
S201071-04			8698-004	Method Blank	U
S201071-05			8698-005	Duplicate (S201071-01)	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 7271-118			2σ prep error	Reference Lab Notebook No. 7271 pg.012												
S201071-01			OUTFALL 009	0.020	0.0200								16	02/09/12	02/09	KPA-001
S201071-02			TRIP BLANK - EBERLINE	0.020	0.0200								15	02/09/12	02/09	KPA-001
S201071-03			Lab Control Sample	0.204	0.0200									02/09/12	02/09	KPA-001
S201071-04			Method Blank	0.020	0.0200									02/09/12	02/09	KPA-001
S201071-05			Duplicate (S201071-01)	0.020	0.0200								16	02/09/12	02/09	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.057 ± 0.165
YIELD ____ ± ____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8698
Contact Joseph Verville

Client Test America, Inc.
Contract 44002624

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7271-118						
S201071-01			8698-001	OUTFALL 009	U	
S201071-03			8698-003	Lab Control Sample	ok	
S201071-04			8698-004	Method Blank	U	
S201071-05			8698-005	Duplicate (S201071-01)	-	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 7271-118			2σ prep error 10.0 %	Reference Lab Notebook No. 7271 pg.012												
S201071-01			OUTFALL 009	195	0.0100			100		100			11	02/03/12	02/04	LSC-007
S201071-03			Lab Control Sample	195	0.100			10		100				02/03/12	02/04	LSC-007
S201071-04			Method Blank	198	0.100			10		100				02/03/12	02/04	LSC-007
S201071-05			Duplicate (S201071-01)	195	0.0100			100		100			11	02/03/12	02/04	LSC-007
Nominal values and limits from method				500	0.0100					100			180			

PROCEDURES REFERENCE 906.0
DWP-212 Tritium in Drinking Water by Distillation, rev 8

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 196 ± 3.00
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

EBERLINE ANALYTICAL

SDG 8698

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8698
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 7271-118						
S201071-01			8698-001	OUTFALL 009	0.582	J
S201071-02			8698-002	TRIP BLANK - EBERLINE	U	
S201071-03			8698-003	Lab Control Sample	ok	
S201071-04			8698-004	Method Blank	U	
S201071-05			8698-005	Duplicate (S201071-01)	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 7271-118			2σ prep error 16.4 %	Reference Lab Notebook No. 7271 pg.012												
S201071-01			OUTFALL 009	0.470	0.100			100		160			16	02/09/12	02/09	RN-012
S201071-02			TRIP BLANK - EBERLINE	0.509	0.100			100		160			15	02/09/12	02/09	RN-013
S201071-03			Lab Control Sample	0.582	0.100			100		160				02/09/12	02/09	RN-009
S201071-04			Method Blank	0.459	0.100			100		160				02/09/12	02/09	RN-010
S201071-05			Duplicate (S201071-01)	0.465	0.100			100		160			16	02/09/12	02/09	RN-014
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.497 ± 0.103
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/15/12

SDG 8698
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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
Contact Joseph Verville

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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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 8698
Contact Joseph Verville

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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
Contact Joseph Verville

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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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 8698
Contact Joseph Verville

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 EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
Contact Joseph Verville

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'

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
Contact Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract 44002624

METHOD SUMMARY

specified for the method.

* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.

* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.

* Days Held are underlined if greater than the holding time specified in the protocol.

* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

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

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/15/12

SDG 8698
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.

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

Chain of Custody Record

8698
52-01-071

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby	Carrier Tracking No(s):	COC No: 440-233.1.
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Eberline Services		Analysis Requested		Job #: 440-767-1
Address: 7021 Pan American Fwy NE,	Due Date Requested: 2/7/2012			
City: Albuquerque	TAT Requested (days):			
State, Zip: NM, 87109				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL Routine Outfall 009 Comp	Project #: 44002624			
Site: Boeing SSFL	SSOW#:			

Preservation Codes:

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)

Other:

Sample Identification - Client 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/ Gross Beta	SUBCONTRACT/ Radium Combined	SUBCONTRACT/ Strontium 90	SUBCONTRACT/ Tritium	SUBCONTRACT/ Uranium, Combined	SUBCONTRACT/ Gamma Spec K-40 CS-137	Total Number of containers	Special Instructions/Note:
			Preservation Code:												
Outfall 009	1/24/12	09:08 Pacific		Water			X	X	X	X	X	X	X	2	
Trip Blank-Eberline	1/25/12	13:08 Pacific		Water			X	X	X	X		X	X		

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
1	Vn Bandt	1/25/12 17:00	TAI	FedEx	1/25/12 17:00	
2	FED EX				1/26/12 09:20	EBERLINE
3						

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

2/29/2012

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 01/26/12 0930 CoC No. 4440-233,1

Container I.D. No. GE CHEST 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/N/A Preservative HNO3
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by [signature] Date: 01/26/12 Time: 1115

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
Au stripper	<50						

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 100487 Calibration date 06 DEC 11

Form SCP-02, 07-30-07

"over 55 years of quality nuclear services"

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

I 440-747

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: Rick Banaga	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Oil & Grease (1664-HEM)														Field readings: (Log in and include in report Temp and pH) Temp °F = 52 pH = 7.6 Time of readings = 13:00 **Comments**
Outfall 009	W	1L Amber	2	1-23-2012, 13:00	HCl	1A, 1B	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:
	1-23-2012 14:45		1-23-12 14:45
Relinquished By	Date/Time:	Received By	Date/Time:
	1-23-12 17:45		
Relinquished By	Date/Time:	Received By	Date/Time:
			1-23-12 1745

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

Sample Integrity: (Check)
Intact: _____ On Ice: _____

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

18°C

Test America Version ~~6/29/09~~ 7/19/2010 1125dlwper RB

CHAIN OF CUSTODY FORM

I 440-747

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: Rick Banagan	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Oil & Grease (1664-HEM)	Field readings: (Log in and include in report Temp and pH)	Comments
Outfall 009	W	1L Amber	2	1-23-2012, 13:00	HCl	1A, 1B	X	Temp °F = 52 © pH = 7.6 Time of readings = 13:00	

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]	1-23-2012 14:45	[signature]	1-23-12 14:45
[signature]	1-23-12 17:45		
		[signature]	1-23-12 1745

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

Sample Integrity: (Check)
Intact: _____ On Ice: _____

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

18°C

A.S. 01/23/12 19:25

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 - HIGH** Stormwater at SW-13
Project Manager: Bronwyn Kelly Sampler: Rick BANAGA	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	1-24-2012 09:08	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	1-24-2012 09:08	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	1-24-2012 09:08	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:
Rick Banaga	1-24-2012 14:00	Matt Crum	1-24-12 14:00
Relinquished By: Matt Crum	Date/Time: 1-24-12 18:35	Received By: Brandon Rudolph	Date/Time: 1-24-12 18:35
Relinquished By	Date/Time:	Received By	Date/Time:

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

Sample Integrity: (Check)
Intact: X On Ice: X 3.1°

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

24M02

Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-747-1

Login Number: 747

List Number: 1

Creator: Hulsey, Kenneth

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
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	
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	
There are no discrepancies between the sample IDs on the containers 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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	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: 440-747-1

Login Number: 767

List Source: TestAmerica Irvine

List Number: 1

Creator: Richardson, Brandon E

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is 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	
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	
There are no discrepancies between the sample IDs on the containers 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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX G

Section 3

Outfall 009 – March 17 & 18, 2012

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-5816-1

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:	440-5816-1
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 009	440-5816-3	N/A	Water	3/17/2012 12:35:00 PM	1664A, 218.6, 624, SM9221E, SM9221F
Outfall 009 (Composite)	440-5832-1	G2C200419-001, S203068-01	Water	3/18/2012 8:12:00 AM	1613B, 200.7, 200.8, 900. 901.1, 903.1, 904, 905, 906, 245.1, 300.0, 314.0, 525.2, 625, Asbestos, SM2540C, SM 2540D, SM4500CN E, SM4500FC, ASTM D5174
Trip Blanks	440-5816-4	N/A	Water	3/17/2012 12:35:00 PM	624

II. Sample Management

No anomalies were observed regarding sample management. A portion of the samples were received at TestAmerica-Irvine nominally below the temperature limit at 1.8°C; however, as the samples were not noted to be frozen or damaged, no qualifications were required. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel; however, cross-outs on one COC were not initialed or dated. Custody seals were intact upon receipt at TestAmerica-West Sacramento and Eberline. As the samples were delivered to TestAmerica-Irvine by courier, custody seals were not necessary. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 600/R-93/116—Asbestos

Reviewed By: P. Meeks
Date Reviewed: April 21, 2012

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 600/R-93/116*, and the *National Functional Guidelines for Inorganic Data Review* (07/02).

- Holding Times: There is no established holding time for asbestos analysis; however, the sample was analyzed within 30 days of collection.
- Calibration: Not applicable to this analysis.
- Blanks: Asbestos was not detected in the method blank.
- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.
- Sample Result Verification: A Level IV review was performed for the samples in this data package. The sample results reported on the sample result forms were verified against the raw data and no transcription errors were noted.
- 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 filed duplicate samples identified in this SDG.

B. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: April 23, 2012

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 detects reported below the EDL for 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, and OCDF, and detects above the EDL for OCDD, 1,2,3,4,7,8-HxCDF, and totals for HpCDD, HxCDF, and HpCDF. Some method blank results were reported as EMPCs; however, the reviewer deemed it appropriate to evaluate all method blank results for the purpose of qualifying sample results. The sample result for 1,2,3,4,7,8-HxCDF was qualified as nondetected, “U,” at the level of contamination, and total HxCDF was qualified as estimated, “J,” as only a portion of the total was considered

method blank contamination. Remaining method blank results were insufficient to qualify the sample results.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.

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

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

    - Field Duplicates: 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 a representative number of blank spike 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.

  Results reported as EMPCs for 1,2,3,4,7,8-HxCDD and 2,3,4,6,7,8-HxCDF were qualified as estimated nondetects, "UJ." Totals for HxCDD and HxCDF were qualified as estimated, "J," as not all peaks comprising the totals were EMPC peaks.

C. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: April 21/2012

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, 200.8, 245.1*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

- Tuning: 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: Total boron and dissolved were detected in the method blank at 0.0334 and 0.0272 mg/L, respectively; therefore, total and dissolved boron in the sample were qualified as nondetected, "U." Method blanks and CCBs had no detects.

- Interference Check Samples: Recoveries were within 80-120%.

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for the total ICP analytes. Recoveries and RPDs were within laboratory-established QC limits.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: All sample internal standard intensities were within 60-125% 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.

D. EPA METHOD 608—Pesticides and PCBs

Reviewed By: L. Calvin
Date Reviewed: April 23, 2012

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 608*, and the *National Functional Guidelines for Organic Data Review* (10/99).

- Holding Times: Extraction and analytical holding times were met. The sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- Calibration: The initial calibrations had %RSDs of ≤10% or r^2 of ≥0.990 on both analytical columns. The ICVs and CCVs had %Ds within the QC limit of≤15%. The breakdown totals for endrin and 4,4'-DDT were ≤15%.

- Blanks: The method blanks had no confirmed target compounds detected above the MDL.

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

- Surrogate Recovery: Recoveries were within the 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 and precision was based on the 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.

- Compound Identification: Compound identification was verified. Review of the sample chromatograms and retention times indicated no problems with target compound identification. The laboratory analyzed for pesticides and PCB Aroclors by Method 608.

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

E. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: April 27, 2012

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.

  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: The recoveries were within laboratory-established control limits.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for all analytes. All 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.

F. EPA METHOD 525.2—Chlorpyrifos and Diazinon

Reviewed By: L. Calvin
Date Reviewed: April 23, 2012

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 525.2*, and the *National Functional Guidelines for Organic Data Review* (10/99).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within 24 hours of collection and analyzed within 30 days of extraction.

- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.

- Calibration: Calibration criteria were met. The initial calibration average RRFs were ≥0.05 and %RSD ≤30%. The continuing calibration RRFs were ≥0.05 and recoveries were within the method QC limits of 70-130%.

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

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

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

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy and precision were evaluated based on the LCS/LCSD results.

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

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

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

- Internal Standards Performance: The internal standard area counts and retention times were within the method control limits established by the continuing calibration standards of ±30%.

- Compound Identification: Compound identification was verified. The laboratory analyzed for chlorpyrifos and diazinon by Method 525.2. 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 analysis.

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

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

Reviewed By: L. Calvin
Date Reviewed: April 23, 2012

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.

- Calibration: Calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were≥0.05 for all target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.995. The ICV and CCV %Ds were ≤20%, with the exception of the ICV %D for hexachlorocyclopentadiene, and CCV %Ds for bis(2-chloroisopropyl)ether, n-nitrosodimethylamine, n-nitroso-di-n-propylamine, and 2-nitroaniline. 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.

H. EPA METHOD 624—Volatile Organic Compounds (VOCs)

Reviewed By: L. Calvin
Date Reviewed: April 23, 2012

The sample listed in Table 1 for this analysis was 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: The unpreserved aliquot of the water sample (for 2-chloroethyl vinyl ether, acrolein, and acrylonitrile) was analyzed within seven days of collection, and the preserved aliquot for the remaining target compounds was analyzed within 14 days of collection.

- GC/MS Tuning: The BFB tunes met the method abundance criteria. The sample was 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 target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.995. 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 not performed on the site sample in this SDG. Method accuracy was evaluated based on LCS results.

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

    - Trip Blanks: Sample Trip Blanks 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 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.

I. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: April 21, 2012

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 218.6, 300.0, 314.0*, *1664*, *SM2540C, SM2540D, SM4500CN, SM4500 F*, *SM9221B*, and *SM9221F*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: Analytical holding times, 24 hours for hexavalent chromium, 7 days for TDS and TSS, 14 days for cyanide, 28 days for the anions, perchlorate and HEM, were met. The holding time for fecal coliform and e. coli is listed as immediate; therefore, as the sample was analyzed over 24 hours past collection, the sample results were qualified as estimated, "J."

- 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%. The perchlorate ICS was recovered within 80-120% and the ICCS recovery was within 75-125%. The balance logs were acceptable.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The perchlorate recovery was within the method-established control limits. The remaining recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for TDS and TSS. The RPDs were within the laboratory-established control limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for hexavalent chromium, perchlorate, cyanide, fluoride, and nitrate. Recoveries and the RPDs for hexavalent chromium and nitrate were within laboratory-established QC limits. The perchlorate recoveries and RPD were within the method-established control limits.

- 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 440-5816-1

Analysis Method 1613B

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

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	0.00030	0.000050	0.0000091	ug/L	B		
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.000074	0.000050	0.0000065	ug/L	B		
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000050	0.0000093	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000050	0.0000052	ug/L	J Q	UJ	*III
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000050	0.0000043	ug/L	J B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	0.000015	0.000050	0.0000050	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000050	0.0000043	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	0.000017	0.000050	0.0000046	ug/L	J	J	DNQ
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000050	0.0000055	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000050	0.0000081	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000050	0.0000099	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000050	0.0000041	ug/L	J Q	UJ	*III
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000050	0.000010	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.000010	0.0000062	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.000010	0.0000027	ug/L		U	
OCDD	3268-87-9	0.0035	0.00010	0.000017	ug/L	B		
OCDF	39001-02-0	0.00021	0.00010	0.000011	ug/L	B		
Total HpCDD	37871-00-4	0.00069	0.000050	0.0000091	ug/L	B		
Total HpCDF	38998-75-3	0.00016	0.000050	0.0000065	ug/L	B		
Total HxCDD	34465-46-8	0.000083	0.000050	0.0000046	ug/L	J Q	J	*III, DNQ
Total HxCDF	55684-94-1	0.000063	0.000050	0.0000041	ug/L	J Q B	J	B, *III, DNQ
Total PeCDD	36088-22-9	ND	0.000050	0.0000081	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000050	0.0000099	ug/L		U	
Total TCDD	41903-57-5	ND	0.000010	0.0000062	ug/L		U	
Total TCDF	55722-27-5	ND	0.000010	0.0000027	ug/L		U	

Analysis Method 1664A

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

Lab Sample Name: 440-5816-3 **Sample Date:** 3/17/2012 12:35:00 PM

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 200.7 Rev 4.4

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	1100	50	40	ug/L			
Aluminum, Dissolved	7429-90-5	250	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	ND	0.050	0.020	mg/L	J,DX MB	U	B
Boron, Dissolved	7440-42-8	ND	0.050	0.020	mg/L	J,DX	U	B
Calcium	7440-70-2	6.1	0.10	0.050	mg/L			
Calcium, Dissolved	7440-70-2	5.6	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	22	0.33	0.17	mg/L	EY		
Hardness, as CaCO3, Dissolved	STL00009	20	0.33	0.17	mg/L	EY		
Iron	7439-89-6	1.2	0.040	0.015	mg/L			
Iron, Dissolved	7439-89-6	0.18	0.040	0.015	mg/L			
Magnesium	7439-95-4	1.7	0.020	0.012	mg/L			
Magnesium, Dissolved	7439-95-4	1.5	0.020	0.012	mg/L			
Nickel	7440-02-0	2.9	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	4.4	10	3.0	ug/L	J,DX	J	DNQ
Vanadium, Dissolved	7440-62-2	ND	10	3.0	ug/L		U	
Zinc	7440-66-6	14	20	6.0	ug/L	J,DX	J	DNQ
Zinc, Dissolved	7440-66-6	ND	20	6.0	ug/L		U	

Analysis Method 200.8

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	0.49	2.0	0.30	ug/L	J,DX	J	DNQ
Antimony, Dissolved	7440-36-0	0.45	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	4.2	2.0	0.50	ug/L			
Copper, Dissolved	7440-50-8	3.3	2.0	0.50	ug/L			
Lead	7439-92-1	4.0	1.0	0.20	ug/L			
Lead, Dissolved	7439-92-1	0.66	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 218.6

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

Lab Sample Name: 440-5816-3 **Sample Date:** 3/17/2012 12:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chromium, hexavalent	18540-29-9	ND	1.0	0.25	ug/L		U	

Analysis Method 245.1

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

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 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	2.0	0.50	0.40	mg/L			
Nitrate Nitrite as N	STL00217	0.37	0.26	0.19	mg/L			
Sulfate	14808-79-8	7.1	0.50	0.40	mg/L			

Analysis Method 314.0

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

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 525.2

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chlorpyrifos	2921-88-2	ND	0.96	0.077	ug/L		U	
Diazinon	333-41-5	ND	0.24	0.038	ug/L		U	

Analysis Method 608

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
4,4'-DDD	72-54-8	ND	0.0049	0.0039	ug/L		U	
4,4'-DDE	72-55-9	ND	0.0049	0.0029	ug/L		U	
4,4'-DDT	50-29-3	ND	0.0098	0.0039	ug/L		U	
Aldrin	309-00-2	ND	0.0049	0.0015	ug/L		U	
alpha-BHC	319-84-6	ND	0.0049	0.0025	ug/L		U	
Aroclor 1016	12674-11-2	ND	0.49	0.25	ug/L		U	
Aroclor 1221	11104-28-2	ND	0.49	0.25	ug/L		U	
Aroclor 1232	11141-16-5	ND	0.49	0.25	ug/L		U	
Aroclor 1242	53469-21-9	ND	0.49	0.25	ug/L		U	
Aroclor 1248	12672-29-6	ND	0.49	0.25	ug/L		U	
Aroclor 1254	11097-69-1	ND	0.49	0.25	ug/L		U	
Aroclor 1260	11096-82-5	ND	0.49	0.25	ug/L		U	
beta-BHC	319-85-7	ND	0.0098	0.0039	ug/L		U	
Chlordane (technical)	57-74-9	ND	0.098	0.0078	ug/L		U	
delta-BHC	319-86-8	ND	0.0049	0.0034	ug/L		U	
Dieldrin	60-57-1	ND	0.0049	0.0020	ug/L		U	
Endosulfan I	959-98-8	ND	0.0049	0.0029	ug/L		U	
Endosulfan II	33213-65-9	ND	0.0049	0.0020	ug/L		U	
Endosulfan sulfate	1031-07-8	ND	0.0098	0.0029	ug/L		U	
Endrin	72-20-8	ND	0.0049	0.0020	ug/L		U	
Endrin aldehyde	7421-93-4	ND	0.0098	0.0020	ug/L		U	
gamma-BHC (Lindane)	58-89-9	ND	0.0098	0.0029	ug/L		U	
Heptachlor	76-44-8	ND	0.0098	0.0029	ug/L		U	
Heptachlor epoxide	1024-57-3	ND	0.0049	0.0025	ug/L		U	
Toxaphene	8001-35-2	ND	0.49	0.25	ug/L		U	

Analysis Method 624

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

Lab Sample Name: 440-5816-3 **Sample Date:** 3/17/2012 12:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	ND	0.50	0.30	ug/L		U	
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.50	0.30	ug/L		U	
1,1,2-Trichloroethane	79-00-5	ND	0.50	0.30	ug/L		U	
1,1-Dichloroethane	75-34-3	ND	0.50	0.40	ug/L		U	
1,1-Dichloroethene	75-35-4	ND	0.50	0.42	ug/L		U	
1,2,3-Trichloropropane	96-18-4	ND	0.50	0.40	ug/L		U	
1,2-Dibromoethane (EDB)	106-93-4	ND	0.50	0.40	ug/L		U	
1,2-Dichlorobenzene	95-50-1	ND	0.50	0.32	ug/L		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/L		U	
1,2-Dichloropropane	78-87-5	ND	0.50	0.35	ug/L		U	
1,3-Dichlorobenzene	541-73-1	ND	0.50	0.35	ug/L		U	
1,4-Dichlorobenzene	106-46-7	ND	0.50	0.37	ug/L		U	
2-Chloroethyl vinyl ether	110-75-8	ND	2.0	1.8	ug/L		U	
Acrolein	107-02-8	ND	5.0	4.0	ug/L		U	
Acrylonitrile	107-13-1	ND	2.0	1.2	ug/L		U	
Benzene	71-43-2	ND	0.50	0.28	ug/L		U	
Bromodichloromethane	75-27-4	ND	0.50	0.30	ug/L		U	
Bromoform	75-25-2	ND	0.50	0.40	ug/L		U	
Bromomethane	74-83-9	ND	0.50	0.42	ug/L		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/L		U	
Chlorobenzene	108-90-7	ND	0.50	0.36	ug/L		U	
Chloroethane	75-00-3	ND	0.50	0.40	ug/L		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/L		U	
Chloromethane	74-87-3	ND	0.50	0.40	ug/L		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/L		U	
cis-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/L		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/L		U	
Diisopropyl ether	108-20-3	ND	0.50	0.25	ug/L		U	
Ethyl tert-butyl ether	637-92-3	ND	0.50	0.28	ug/L		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/L		U	
Methyl tert-butyl ether	1634-04-4	ND	0.50	0.32	ug/L		U	
Methylene Chloride	75-09-2	ND	1.0	0.95	ug/L		U	
Naphthalene	91-20-3	ND	0.50	0.41	ug/L		U	
Tert-amyl methyl ether	994-05-8	ND	0.50	0.33	ug/L		U	
tert-Butanol	75-65-0	ND	10	6.5	ug/L		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/L		U	

Analysis Method 624

Toluene	108-88-3	ND	0.50	0.36	ug/L	**U**
trans-1,2-Dichloroethene	156-60-5	ND	0.50	0.30	ug/L	**U**
trans-1,3-Dichloropropene	10061-02-6	ND	0.50	0.32	ug/L	**U**
Trichloroethene	79-01-6	ND	0.50	0.26	ug/L	**U**
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/L	**U**
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/L	**U**
Xylenes, Total	1330-20-7	ND	1.0	0.90	ug/L	**U**

Analysis Method 624

Sample Name Trip Blanks **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: 440-5816-4 **Sample Date:** 3/17/2012 12:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	ND	0.50	0.30	ug/L		U	
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.50	0.30	ug/L		U	
1,1,2-Trichloroethane	79-00-5	ND	0.50	0.30	ug/L		U	
1,1-Dichloroethane	75-34-3	ND	0.50	0.40	ug/L		U	
1,1-Dichloroethene	75-35-4	ND	0.50	0.42	ug/L		U	
1,2,3-Trichloropropane	96-18-4	ND	0.50	0.40	ug/L		U	
1,2-Dibromoethane (EDB)	106-93-4	ND	0.50	0.40	ug/L		U	
1,2-Dichlorobenzene	95-50-1	ND	0.50	0.32	ug/L		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/L		U	
1,2-Dichloropropane	78-87-5	ND	0.50	0.35	ug/L		U	
1,3-Dichlorobenzene	541-73-1	ND	0.50	0.35	ug/L		U	
1,4-Dichlorobenzene	106-46-7	ND	0.50	0.37	ug/L		U	
2-Chloroethyl vinyl ether	110-75-8	ND	2.0	1.8	ug/L		U	
Acrolein	107-02-8	ND	5.0	4.0	ug/L		U	
Acrylonitrile	107-13-1	ND	2.0	1.2	ug/L		U	
Benzene	71-43-2	ND	0.50	0.28	ug/L		U	
Bromodichloromethane	75-27-4	ND	0.50	0.30	ug/L		U	
Bromoform	75-25-2	ND	0.50	0.40	ug/L		U	
Bromomethane	74-83-9	ND	0.50	0.42	ug/L		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/L		U	
Chlorobenzene	108-90-7	ND	0.50	0.36	ug/L		U	
Chloroethane	75-00-3	ND	0.50	0.40	ug/L		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/L		U	
Chloromethane	74-87-3	ND	0.50	0.40	ug/L		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/L		U	
cis-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/L		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/L		U	
Diisopropyl ether	108-20-3	ND	0.50	0.25	ug/L		U	
Ethyl tert-butyl ether	637-92-3	ND	0.50	0.28	ug/L		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/L		U	
Methyl tert-butyl ether	1634-04-4	ND	0.50	0.32	ug/L		U	
Methylene Chloride	75-09-2	ND	1.0	0.95	ug/L		U	
Naphthalene	91-20-3	ND	0.50	0.41	ug/L		U	
Tert-amyl methyl ether	994-05-8	ND	0.50	0.33	ug/L		U	
tert-Butanol	75-65-0	ND	10	6.5	ug/L		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/L		U	

Analysis Method 624

Toluene	108-88-3	ND	0.50	0.36	ug/L	**U**
trans-1,2-Dichloroethene	156-60-5	ND	0.50	0.30	ug/L	**U**
trans-1,3-Dichloropropene	10061-02-6	ND	0.50	0.32	ug/L	**U**
Trichloroethene	79-01-6	ND	0.50	0.26	ug/L	**U**
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/L	**U**
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/L	**U**
Xylenes, Total	1330-20-7	ND	1.0	0.90	ug/L	**U**

Analysis Method 625

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	120-82-1	ND	9.80	2.45	ug/L		U	
1,2-Dichlorobenzene	95-50-1	ND	9.80	2.94	ug/L		U	
1,2-Diphenylhydrazine(as Azobenzene)	122-66-7	ND	19.6	2.45	ug/L		U	
1,3-Dichlorobenzene	541-73-1	ND	9.80	2.94	ug/L		U	
1,4-Dichlorobenzene	106-46-7	ND	9.80	2.45	ug/L		U	
2,4,6-Trichlorophenol	88-06-2	ND	19.6	4.41	ug/L		U	
2,4-Dichlorophenol	120-83-2	ND	9.80	3.43	ug/L		U	
2,4-Dimethylphenol	105-67-9	ND	19.6	3.43	ug/L		U	
2,4-Dinitrophenol	51-28-5	ND	19.6	7.84	ug/L		U	
2,4-Dinitrotoluene	121-14-2	ND	9.80	3.43	ug/L		U	
2,6-Dinitrotoluene	606-20-2	ND	9.80	1.96	ug/L		U	
2-Chloronaphthalene	91-58-7	ND	9.80	2.94	ug/L		U	
2-Chlorophenol	95-57-8	ND	9.80	2.94	ug/L		U	
2-Methylnaphthalene	91-57-6	ND	9.80	1.96	ug/L		U	
2-Methylphenol	95-48-7	ND	9.80	2.94	ug/L		U	
2-Nitroaniline	88-74-4	ND	19.6	1.96	ug/L		UJ	C
2-Nitrophenol	88-75-5	ND	9.80	3.43	ug/L		U	
3,3'-Dichlorobenzidine	91-94-1	ND	19.6	7.35	ug/L		U	
3-Nitroaniline	99-09-2	ND	19.6	2.94	ug/L		U	
4,6-Dinitro-2-methylphenol	534-52-1	ND	19.6	3.92	ug/L		U	
4-Bromophenyl phenyl ether	101-55-3	ND	9.80	2.94	ug/L		U	
4-Chloro-3-methylphenol	59-50-7	ND	19.6	2.45	ug/L		U	
4-Chloroaniline	106-47-8	ND	9.80	1.96	ug/L		U	
4-Chlorophenyl phenyl ether	7005-72-3	ND	9.80	2.45	ug/L		U	
4-Methylphenol	106-44-5	ND	9.80	2.94	ug/L		U	
4-Nitroaniline	100-01-6	ND	19.6	3.92	ug/L		U	
4-Nitrophenol	100-02-7	ND	19.6	5.39	ug/L		U	
Acenaphthene	83-32-9	ND	9.80	2.94	ug/L		U	
Acenaphthylene	208-96-8	ND	9.80	2.94	ug/L		U	
Aniline	62-53-3	ND	9.80	3.43	ug/L		U	
Anthracene	120-12-7	ND	9.80	2.45	ug/L		U	
Benzidine	92-87-5	ND	19.6	9.80	ug/L		U	
Benzo[a]anthracene	56-55-3	ND	9.80	2.45	ug/L		U	
Benzo[a]pyrene	50-32-8	ND	9.80	2.94	ug/L		U	
Benzo[b]fluoranthene	205-99-2	ND	9.80	1.96	ug/L		U	

Analysis Method 625

Benzo[g,h,i]perylene	191-24-2	ND	9.80	3.92	ug/L	U	
Benzo[k]fluoranthene	207-08-9	ND	9.80	2.45	ug/L	U	
Benzoic acid	65-85-0	ND	19.6	9.80	ug/L	U	
Benzyl alcohol	100-51-6	ND	19.6	3.43	ug/L	U	
bis (2-chloroisopropyl) ether	108-60-1	ND	9.80	2.45	ug/L	UJ	C
Bis(2-chloroethoxy)methane	111-91-1	ND	9.80	2.94	ug/L	U	
Bis(2-chloroethyl)ether	111-44-4	ND	9.80	2.94	ug/L	U	
Bis(2-ethylhexyl) phthalate	117-81-7	ND	49.0	3.92	ug/L	U	
Butyl benzyl phthalate	85-68-7	ND	19.6	3.92	ug/L	U	
Chrysene	218-01-9	ND	9.80	2.45	ug/L	U	
Dibenz(a,h)anthracene	53-70-3	ND	19.6	2.94	ug/L	U	
Dibenzofuran	132-64-9	ND	9.80	3.92	ug/L	U	
Diethyl phthalate	84-66-2	ND	9.80	3.43	ug/L	U	
Dimethyl phthalate	131-11-3	ND	9.80	2.45	ug/L	U	
Di-n-butyl phthalate	84-74-2	ND	19.6	2.94	ug/L	U	
Di-n-octyl phthalate	117-84-0	ND	19.6	3.43	ug/L	U	
Fluoranthene	206-44-0	ND	9.80	2.94	ug/L	U	
Fluorene	86-73-7	ND	9.80	2.94	ug/L	U	
Hexachlorobenzene	118-74-1	ND	9.80	2.94	ug/L	U	
Hexachlorobutadiene	87-68-3	ND	9.80	3.92	ug/L	U	
Hexachlorocyclopentadiene	77-47-4	ND	19.6	4.90	ug/L	UJ	C
Hexachloroethane	67-72-1	ND	9.80	3.43	ug/L	U	
Indeno[1,2,3-cd]pyrene	193-39-5	ND	19.6	3.43	ug/L	U	
Isophorone	78-59-1	ND	9.80	2.94	ug/L	U	
Naphthalene	91-20-3	ND	9.80	2.94	ug/L	U	
Nitrobenzene	98-95-3	ND	19.6	2.94	ug/L	U	
N-Nitrosodimethylamine	62-75-9	ND	19.6	2.45	ug/L	UJ	C
N-Nitrosodi-n-propylamine	621-64-7	ND	9.80	3.43	ug/L	UJ	C
N-Nitrosodiphenylamine	86-30-6	ND	9.80	1.96	ug/L	U	
Pentachlorophenol	87-86-5	ND	19.6	3.43	ug/L	U	
Phenanthrene	85-01-8	ND	9.80	3.43	ug/L	U	
Phenol	108-95-2	ND	9.80	1.96	ug/L	U	
Pyrene	129-00-0	ND	9.80	3.92	ug/L	U	

Analysis Method Asbestos

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
ASBESTOS	1332-21-4	<2.2		2.2	MFL		U	

Analysis Method Gamma Spec K-40 CS-137

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	-1.39	2.2	3.83	pCi/L	U	U	
Potassium-40	13966002	-7.99	20	34.7	pCi/L	U	U	

Analysis Method Gross Alpha and Beta

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	1.37	0.46	0.308	pCi/L	J	J	DNQ
Gross Beta	12587472	2.46	0.67	0.885	pCi/L	J	J	DNQ

Analysis Method Radium 226

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.214	0.38	0.65	pCi/L	U	U	

Analysis Method Radium 228

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.055	0.13	0.372	pCi/L	U	U	

Analysis Method SM 2540C

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Dissolved Solids	STL00242	41	10	10	mg/L			

Analysis Method SM 2540D

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	STL00161	14	10	10	mg/L			

Analysis Method SM 4500 CN E

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cyanide, Total	57-12-5	ND	0.0050	0.0030	mg/L		U	

Analysis Method SM 4500 F C

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Fluoride	16984-48-8	0.18	0.10	0.020	mg/L			

Analysis Method SM 9221E

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

Lab Sample Name: 440-5816-3 **Sample Date:** 3/17/2012 12:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Coliform, Fecal	STL00002	1600			MPN/10		J	H

Analysis Method SM 9221F

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

Lab Sample Name: 440-5816-3 **Sample Date:** 3/17/2012 12:35:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	68586-22	1600	2.0	2.0	MPN/10		J	H

Analysis Method Strontium 90

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.107	0.37	0.803	pCi/L	U	U	

Analysis Method Tritium

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-34.6	85	146	pCi/L	U	U	

Analysis Method Uranium, Combined

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

Lab Sample Name: 440-5832-1 **Sample Date:** 3/18/2012 8:12:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.117	0.014	0.017	pCi/L	J	J	DNQ