

APPENDIX G

Section 37

Outfall 009 – March 20, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC2142

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: IUC2142
 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	IUC2142-02	G1C230598-001, S103146	Water	3/20/2011 15:34	245.1, 245.1 (Diss), 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, ASTM 5174, SM2540D

II. Sample Management

No anomalies were observed regarding sample management. The samples were received above the temperature limit at Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: April 10, 2011

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

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

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613, and RPDs were within the laboratory control limit of ≤50%.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries in the sample were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. Individual isomers reported as EMPCs were qualified as estimated nondetects, “UJ,” at the level of the EMPC. Totals including EMPCs were qualified as estimated, “J.” Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks

Date Reviewed: April 8, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA 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.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable to 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: April 15, 2011

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

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

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

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

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

A notation in the preparation log indicated that a portion of the aliquots were filtered and that the filtrate was dissolved and added back to the aliquot.

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

Following are findings associated with field QC samples:

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

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 8, 2011

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

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

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

Validated Sample Result Forms IUC2142

Analysis Method 900

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

Lab Sample Name: IUC2142-02 **Sample Date:** 3/20/2011 3:34:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	2.29	3	0.409	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	8.13	4	0.827	pCi/L			

Analysis Method 901.1

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

Lab Sample Name: IUC2142-02 **Sample Date:** 3/20/2011 3:34:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.56	pCi/L	U	U	
Potassium-40	13966002	ND	25	30.8	pCi/L	U	U	

Analysis Method 903.1

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

Lab Sample Name: IUC2142-02 **Sample Date:** 3/20/2011 3:34:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	-0.138	1	0.748	pCi/L	U	U	

Analysis Method 904

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

Lab Sample Name: IUC2142-02 **Sample Date:** 3/20/2011 3:34:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.232	1	0.529	pCi/L	U	U	

Analysis Method 905

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

Lab Sample Name: IUC2142-02 **Sample Date:** 3/20/2011 3:34:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.044	2	0.798	pCi/L	U	U	

Analysis Method 906

Sample Name	Outfall 009 (Composite)	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUC2142-02	Sample Date:	3/20/2011 3:34:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-35.9	500	169	pCi/L	U	U	

Analysis Method ASTM 5174-91

Sample Name	Outfall 009 (Composite)	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUC2142-02	Sample Date:	3/20/2011 3:34:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.247	1	0.02	pCi/L	Jb	J	DNQ

Analysis Method EPA 245.1

Sample Name	Outfall 009 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUC2142-02	Sample Date:	3/20/2011 3:34:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method EPA 245.1-Diss

Sample Name	Outfall 009 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUC2142-02	Sample Date:	3/20/2011 3:34:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.20	0.10	ug/l		U	

Analysis Method EPA-5 1613B

Sample Name Outfall 009 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2142-02 **Sample Date:** 3/20/2011 3:34:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.00015	0.00005	0.0000052	ug/L			
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.4e-005	0.00005	0.000005	ug/L			
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000074	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000022	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000021	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.000002	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000019	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000018	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000026	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000028	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000017	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000019	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000018	ug/L		U	
2,3,7,8-TCDD	1746-01-6	1.9e-006	0.00001	0.0000013	ug/L	J	J	DND
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000017	ug/L		U	
OCDD	3268-87-9	0.0019	0.0001	0.000021	ug/L	B		
OCDF	39001-02-0	0.00013	0.0001	0.0000066	ug/L			
Total HpCDD	37871-00-4	0.00038	0.00005	0.0000052	ug/L			
Total HpCDF	38998-75-3	0.00013	0.00005	0.000006	ug/L			
Total HxCDD	34465-46-8	4.2e-005	0.00005	0.000002	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	4.1e-005	0.00005	0.0000021	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000028	ug/L		U	
Total PeCDF	30402-15-4	5.1e-006	0.00005	0.0000018	ug/L	J, Q	J	DNQ, *III
Total TCDD	41903-57-5	3.4e-006	0.00001	0.0000013	ug/L	J, Q	J	DNQ, *III
Total TCDF	55722-27-5	ND	0.00001	0.0000017	ug/L		U	

Analysis Method SM 2540D

Sample Name Outfall 009 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2142-02 **Sample Date:** 3/20/2011 3:34:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	47	10	1.0	mg/l			

APPENDIX G

Section 38

Outfall 009 – March 20, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Routine Outfall 009 2010
Routine Outfall 009

Sampled: 03/20/11
Received: 03/20/11
Issued: 04/15/11 07:37

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

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

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.

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

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

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

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

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

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

LABORATORY ID

IUC2142-01

IUC2142-02

CLIENT ID

Outfall 009 (Grab)

Outfall 009 (Composite)

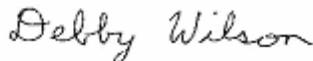
MATRIX

Water

Water

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

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-01 (Outfall 009 (Grab) - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C3550	1.3	4.7	ND	1	DA	03/28/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC2142 <Page 2 of 36>

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

Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1	11C2939	0.10	0.20	ND	1	DB	03/23/11	
Antimony	EPA 200.8	11C2899	0.30	2.0	0.84	1	RDC	03/22/11	Ja
Cadmium	EPA 200.8	11C2899	0.10	1.0	ND	1	RDC	03/22/11	
Copper	EPA 200.8	11C2899	0.500	2.00	4.92	1	RDC	03/22/11	
Lead	EPA 200.8	11C2899	0.20	1.0	5.1	1	RDC	03/22/11	
Thallium	EPA 200.8	11C2899	0.20	1.0	ND	1	RDC	03/22/11	

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11C3083	0.10	0.20	ND	1	DB	03/23/11	
Antimony	EPA 200.8-Diss	11C3506	0.30	2.0	0.72	1	RDC	03/28/11	Ja
Cadmium	EPA 200.8-Diss	11C3506	0.10	1.0	ND	1	RDC	03/28/11	
Copper	EPA 200.8-Diss	11C3506	0.500	2.00	1.96	1	RDC	03/28/11	Ja
Lead	EPA 200.8-Diss	11C3506	0.20	1.0	0.55	1	RDC	03/28/11	Ja
Thallium	EPA 200.8-Diss	11C3506	0.20	1.0	ND	1	RDC	03/28/11	

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

Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	11C2884	0.30	0.50	2.8	1	NN	03/22/11	
Nitrate/Nitrite-N	EPA 300.0	11C2884	0.15	0.26	0.54	1	NN	03/22/11	
Sulfate	EPA 300.0	11C2884	0.30	0.50	3.2	1	NN	03/22/11	
Total Dissolved Solids	SM2540C	11C2823	1.0	10	62	1	MC	03/22/11	
Total Suspended Solids	SM 2540D	11C2949	1.0	10	47	1	DK1	03/22/11	
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water)									
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	11C3437	2.2	5.0	ND	1	SLA	03/25/11	

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: pCi/L									
Gross Alpha	900	8678	0.409	3	2.29	1	LS	03/31/11	Jb
Gross Beta	900	8678	0.827	4	8.13	1	LS	03/31/11	

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: pCi/L									
Cesium-137	901.1	8678	1.56	20	ND	1	LS	03/30/11	U
Potassium-40	901.1	8678	30.8	25	ND	1	LS	03/30/11	U

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: pCi/L									
Radium-226	903.1	8678	0.748	1	-0.138	1	TM	04/05/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: pCi/L									
Radium-228	904	8678	0.529	1	0.232	1	LD	04/07/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: pCi/L									
Strontium-90	905	8678	0.798	2	-0.044	1	EMB	04/01/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: pCi/L									
Tritium	906	8678	169	500	-35.9	1	WL	03/30/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

ASTM-D5174

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: pCi/L									
Uranium, Total	D5174	8678	0.02	1	0.247	1	TAC	03/29/11	Jb

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) - cont.									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1083190	0.0000052	0.00005	0.00015	0.97	MO	03/26/11	
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1083190	0.000005	0.00005	5.4e-005	0.97	MO	03/26/11	
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1083190	0.0000074	0.00005	ND	0.97	MO	03/26/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1083190	0.0000022	0.00005	3.7e-006	0.97	MO	03/26/11	J, Q
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1083190	0.0000021	0.00005	2.9e-006	0.97	MO	03/26/11	J, Q
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1083190	0.000002	0.00005	5.9e-006	0.97	MO	03/26/11	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1083190	0.0000019	0.00005	2.1e-006	0.97	MO	03/26/11	J, Q
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1083190	0.0000018	0.00005	4e-006	0.97	MO	03/26/11	J, Q
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1083190	0.0000026	0.00005	ND	0.97	MO	03/26/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1083190	0.0000028	0.00005	ND	0.97	MO	03/26/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1083190	0.0000017	0.00005	ND	0.97	MO	03/26/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1083190	0.0000019	0.00005	ND	0.97	MO	03/26/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1083190	0.0000018	0.00005	ND	0.97	MO	03/26/11	
2,3,7,8-TCDD	EPA-5 1613B	1083190	0.0000013	0.00001	1.9e-006	0.97	MO	03/26/11	J
2,3,7,8-TCDF	EPA-5 1613B	1083190	0.0000017	0.00001	ND	0.97	MO	03/26/11	
OCDD	EPA-5 1613B	1083190	0.000021	0.0001	0.0019	0.97	MO	03/26/11	B
OCDF	EPA-5 1613B	1083190	0.0000066	0.0001	0.00013	0.97	MO	03/26/11	
Total HpCDD	EPA-5 1613B	1083190	0.0000052	0.00005	0.00038	0.97	MO	03/26/11	
Total HpCDF	EPA-5 1613B	1083190	0.000006	0.00005	0.00013	0.97	MO	03/26/11	
Total HxCDD	EPA-5 1613B	1083190	0.000002	0.00005	4.2e-005	0.97	MO	03/26/11	J, Q
Total HxCDF	EPA-5 1613B	1083190	0.0000021	0.00005	4.1e-005	0.97	MO	03/26/11	J, Q
Total PeCDD	EPA-5 1613B	1083190	0.0000028	0.00005	ND	0.97	MO	03/26/11	
Total PeCDF	EPA-5 1613B	1083190	0.0000018	0.00005	5.1e-006	0.97	MO	03/26/11	J, Q
Total TCDD	EPA-5 1613B	1083190	0.0000013	0.00001	3.4e-006	0.97	MO	03/26/11	J, Q
Total TCDF	EPA-5 1613B	1083190	0.0000017	0.00001	ND	0.97	MO	03/26/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	33 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	34 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	30 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	33 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	36 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	38 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	40 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	35 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	36 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	32 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	39 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	33 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	35 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	36 %
Surrogate: 13C-OCDD (17-157%)	32 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	83 %

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

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (Composite) (IUC2142-02) - Water					
EPA 300.0	2	03/20/2011 15:34	03/20/2011 16:40	03/22/2011 11:00	03/22/2011 11:47
Filtration	1	03/20/2011 15:34	03/20/2011 16:40	03/21/2011 23:30	03/21/2011 23:30

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3550 Extracted: 03/28/11											
Blank Analyzed: 03/28/2011 (11C3550-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 03/28/2011 (11C3550-BS1)											
Hexane Extractable Material (Oil & Grease)	19.1	5.0	1.4	mg/l	20.0		96	78-114			MNR1
LCS Dup Analyzed: 03/28/2011 (11C3550-BSD1)											
Hexane Extractable Material (Oil & Grease)	18.7	5.0	1.4	mg/l	20.0		94	78-114	2	11	

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Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2899 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2899-BLK1)											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.00	0.500	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/22/2011 (11C2899-BS1)											
Antimony	82.8	2.0	0.30	ug/l	80.0		104	85-115			
Cadmium	85.3	1.0	0.10	ug/l	80.0		107	85-115			
Copper	82.8	2.00	0.500	ug/l	80.0		104	85-115			
Lead	79.6	1.0	0.20	ug/l	80.0		100	85-115			
Thallium	79.7	1.0	0.20	ug/l	80.0		100	85-115			
Matrix Spike Analyzed: 03/22/2011 (11C2899-MS1) Source: IUC2134-02											
Antimony	77.1	2.0	0.30	ug/l	80.0	ND	96	70-130			
Cadmium	77.7	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	85.0	2.00	0.500	ug/l	80.0	4.75	100	70-130			
Lead	73.0	1.0	0.20	ug/l	80.0	1.35	90	70-130			
Thallium	72.3	1.0	0.20	ug/l	80.0	ND	90	70-130			
Matrix Spike Analyzed: 03/22/2011 (11C2899-MS2) Source: IUC1965-02											
Antimony	82.3	2.0	0.30	ug/l	80.0	0.480	102	70-130			
Cadmium	77.9	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	84.2	2.00	0.500	ug/l	80.0	6.68	97	70-130			
Lead	70.4	1.0	0.20	ug/l	80.0	0.795	87	70-130			
Thallium	70.4	1.0	0.20	ug/l	80.0	ND	88	70-130			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2899-MSD1) Source: IUC2134-02											
Antimony	77.2	2.0	0.30	ug/l	80.0	ND	96	70-130	0.1	20	
Cadmium	78.2	1.0	0.10	ug/l	80.0	ND	98	70-130	0.6	20	
Copper	86.2	2.00	0.500	ug/l	80.0	4.75	102	70-130	1	20	
Lead	72.3	1.0	0.20	ug/l	80.0	1.35	89	70-130	0.9	20	
Thallium	71.2	1.0	0.20	ug/l	80.0	ND	89	70-130	2	20	

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Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2939 Extracted: 03/22/11											
Blank Analyzed: 03/23/2011 (11C2939-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/23/2011 (11C2939-BS1)											
Mercury	7.89	0.20	0.10	ug/l	8.00		99	85-115			
Matrix Spike Analyzed: 03/23/2011 (11C2939-MS1)											
						Source: IUC2224-01					
Mercury	7.87	0.20	0.10	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/23/2011 (11C2939-MSD1)											
						Source: IUC2224-01					
Mercury	7.86	0.20	0.10	ug/l	8.00	ND	98	70-130	0.2	20	

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

METHOD BLANK/QC DATA

DISSOLVED METALS

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

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Project Manager

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Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

METHOD BLANK/QC DATA

DISSOLVED METALS

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

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Project ID: Routine Outfall 009 2010
 Routine Outfall 009
 Report Number: IUC2142

Sampled: 03/20/11
 Received: 03/20/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2823 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2823-BLK1)											
Total Dissolved Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/22/2011 (11C2823-BS1)											
Total Dissolved Solids	998	10	1.0	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/22/2011 (11C2823-DUP1)											
						Source: IUC2198-02					
Total Dissolved Solids	509	10	1.0	mg/l		513			0.8	10	
Batch: 11C2884 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2884-BLK1)											
Chloride	ND	0.50	0.30	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/22/2011 (11C2884-BS1)											
Chloride	4.94	0.50	0.30	mg/l	5.00		99	90-110			M-3
Sulfate	9.96	0.50	0.30	mg/l	10.0		100	90-110			
Matrix Spike Analyzed: 03/22/2011 (11C2884-MS1)											
						Source: IUC2181-03					
Chloride	7.84	0.50	0.30	mg/l	5.00	3.16	94	80-120			
Sulfate	13.8	0.50	0.30	mg/l	10.0	4.18	96	80-120			
Matrix Spike Analyzed: 03/22/2011 (11C2884-MS2)											
						Source: IUC2320-01					
Sulfate	48.2	1.0	0.60	mg/l	10.0	38.8	95	80-120			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2884-MSD1)											
						Source: IUC2181-03					
Chloride	8.21	0.50	0.30	mg/l	5.00	3.16	101	80-120	5	20	
Sulfate	14.3	0.50	0.30	mg/l	10.0	4.18	101	80-120	4	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2949 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2949-BLK1)											
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/22/2011 (11C2949-BS1)											
Total Suspended Solids	1000	10	1.0	mg/l	1000		100	85-115			
Duplicate Analyzed: 03/22/2011 (11C2949-DUP1)											
Total Suspended Solids	36.0	10	1.0	mg/l		Source: IUC2184-03 37.0			3	10	
Batch: 11C3437 Extracted: 03/25/11											
Blank Analyzed: 03/25/2011 (11C3437-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/25/2011 (11C3437-BS1)											
Total Cyanide	194	5.0	2.2	ug/l	196		99	90-110			
Matrix Spike Analyzed: 03/25/2011 (11C3437-MS1)											
Total Cyanide	199	5.0	2.2	ug/l	196	ND	101	70-115			
Matrix Spike Dup Analyzed: 03/25/2011 (11C3437-MSD1)											
Total Cyanide	201	5.0	2.2	ug/l	196	ND	102	70-115	0.9	15	

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900

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8678 Extracted: 03/31/11											
LCS Analyzed: 03/31/2011 (S103143-02)						Source:					
Gross Alpha	122	3	1.21	pCi/L	101		121	70-130			
Gross Beta	83.8	4	3.06	pCi/L	87.1		96	70-130			
Blank Analyzed: 03/31/2011 (S103143-03)						Source:					
Gross Alpha	0.261	3	1.85	pCi/L			-				U
Gross Beta	-0.333	4	2.4	pCi/L			-				U
Duplicate Analyzed: 03/31/2011 (S103143-04)						Source:					
Gross Alpha	1.94	3	0.434	pCi/L			-		15		Jb
Gross Beta	6.74	4	0.831	pCi/L			-		8		

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8678 Extracted: 03/24/11											
LCS Analyzed: 03/31/2011 (S103143-02)						Source:					
Cobalt-60	123	10	2.5	pCi/L	124		99	80-120			
Cesium-137	118	20	3.18	pCi/L	110		107	80-120			
Blank Analyzed: 03/31/2011 (S103143-03)						Source:					
Cesium-137	ND	20	2.34	pCi/L				-			U
Potassium-40	ND	25	47.4	pCi/L				-			U
Duplicate Analyzed: 03/31/2011 (S103143-04)						Source:					
Cesium-134	ND	20	3.68	pCi/L				-	0		U
Cesium-137	ND	20	1.17	pCi/L				-	0		U
Potassium-40	ND	25	15.8	pCi/L				-	0		U

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METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8678 Extracted: 04/05/11											
LCS Analyzed: 04/05/2011 (S103143-02)											
Radium-226	49	1	0.859	pCi/L	55.7		88	80-120			
Blank Analyzed: 04/05/2011 (S103143-03)											
Radium-226	0.031	1	0.8	pCi/L				-			U
Duplicate Analyzed: 04/05/2011 (S103143-04)											
Radium-226	0.283	1	0.711	pCi/L				-	0		U

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METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8678 Extracted: 04/07/11											
LCS Analyzed: 04/07/2011 (S103143-02)											
Radium-228	3.92	1	0.432	pCi/L	5.01		78	60-140			
Blank Analyzed: 04/07/2011 (S103143-03)											
Radium-228	-0.153	1	0.434	pCi/L				-			U
Duplicate Analyzed: 04/07/2011 (S103143-04)											
Radium-228	0.235	1	0.402	pCi/L				-	0		U

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METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8678 Extracted: 04/01/11											
LCS Analyzed: 04/01/2011 (S103143-02)											
Strontium-90	19.7	2	0.576	pCi/L	17.4		113	80-120			
Blank Analyzed: 04/01/2011 (S103143-03)											
Strontium-90	0.045	2	0.468	pCi/L				-			U
Duplicate Analyzed: 04/01/2011 (S103143-04)											
Strontium-90	0.078	2	0.717	pCi/L				-	0		U

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METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8678 Extracted: 03/30/11											
LCS Analyzed: 03/30/2011 (S103143-02)											
Tritium	2150	500	166	pCi/L	2350		91	80-120			
Blank Analyzed: 03/30/2011 (S103143-03)											
Tritium	-30.1	500	163	pCi/L				-			U
Duplicate Analyzed: 03/30/2011 (S103143-04)											
Tritium	-10.9	500	168	pCi/L				-	0		U

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ASTM-D5174

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8678 Extracted: 03/29/11											
LCS Analyzed: 03/29/2011 (S103143-02)											
Uranium, Total	55.3	1	0.205	pCi/L	56.5		98	80-120			
Blank Analyzed: 03/29/2011 (S103143-03)											
Uranium, Total	ND	1	0.02	pCi/L				-			U
Duplicate Analyzed: 03/29/2011 (S103143-04)											
Uranium, Total	0.292	1	0.02	pCi/L				-	9		Jb

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1083190 Extracted: 03/24/11											
Blank Analyzed: 03/25/2011 (G1C240000190B)						Source:					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	0.0000013	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	0.00000066	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.00000096	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	0.00000068	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	0.00000062	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	0.00000065	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	0.00000033	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	0.00000058	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.00000043	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.00000091	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.00000087	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.00000032	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000009	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.00000052	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.0000012	ug/L				-			
OCDD	2.2e-006	0.0001	0.0000019	ug/L				-			J
OCDF	ND	0.0001	0.0000021	ug/L				-			
Total HpCDD	ND	0.00005	0.0000013	ug/L				-			
Total HpCDF	ND	0.00005	0.00000066	ug/L				-			
Total HxCDD	ND	0.00005	0.00000058	ug/L				-			
Total HxCDF	ND	0.00005	0.00000032	ug/L				-			
Total PeCDD	ND	0.00005	0.00000091	ug/L				-			
Total PeCDF	ND	0.00005	0.00000087	ug/L				-			
Total TCDD	ND	0.00001	0.00000052	ug/L				-			
Total TCDF	ND	0.00001	0.0000012	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0012			ug/L	0.002		61	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0011			ug/L	0.002		57	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.001			ug/L	0.002		52	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0011			ug/L	0.002		55	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0011			ug/L	0.002		55	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0013			ug/L	0.002		64	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0013			ug/L	0.002		65	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0012			ug/L	0.002		61	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0013			ug/L	0.002		65	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0011			ug/L	0.002		53	24-185			

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METHOD BLANK/QC DATA

EPA-5 1613Bx

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

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 Report Number: IUC2142

Sampled: 03/20/11
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METHOD BLANK/QC DATA

EPA-5 1613Bx

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

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Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC2142-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.19	4.7	15

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC2142-02	Cadmium-200.8	Cadmium	ug/l	0.090	1.0	3.1
IUC2142-02	Chloride - 300.0	Chloride	mg/l	2.85	0.50	150
IUC2142-02	Copper-200.8	Copper	ug/l	4.92	2.00	14
IUC2142-02	Lead-200.8	Lead	ug/l	5.13	1.0	5.2
IUC2142-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.54	0.26	8
IUC2142-02	Sulfate-300.0	Sulfate	mg/l	3.20	0.50	300
IUC2142-02	TDS - SM2540C	Total Dissolved Solids	mg/l	62	10	950

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

DATA QUALIFIERS AND DEFINITIONS

- 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.
- Ja** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2540C	Water	X	N/A
SM4500CN-E	Water	X	N/A

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

Subcontracted Laboratories

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUC2142-02

Analysis Performed: Gross Alpha
Samples: IUC2142-02

Analysis Performed: Gross Beta
Samples: IUC2142-02

Analysis Performed: Level 4 Data Package
Samples: IUC2142-02

Analysis Performed: Radium, Combined
Samples: IUC2142-02

Analysis Performed: Strontium 90
Samples: IUC2142-02

Analysis Performed: Tritium
Samples: IUC2142-02

Analysis Performed: Uranium, Combined
Samples: IUC2142-02

Method Performed: 900
Samples: IUC2142-02

Method Performed: 901.1
Samples: IUC2142-02

Method Performed: 903.1
Samples: IUC2142-02

Method Performed: 904
Samples: IUC2142-02

Method Performed: 905
Samples: IUC2142-02

Method Performed: 906
Samples: IUC2142-02

Method Performed: D5174
Samples: IUC2142-02

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC2142

Sampled: 03/20/11
Received: 03/20/11

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B

Samples: IUC2142-02

TestAmerica Irvine

Debby Wilson
Project Manager

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson							Project: Boeing-SSFL NPDES Routine Outfall 009 COMPOSITE Stormwater at _____ WS-13 Low							ANALYSIS REQUIRED													
Project Manager: Bronwyn Kelly Sampler: <i>Pick Berman</i>							Phone Number: (626) 568-6691 Fax Number: (626) 568-6515							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 Low
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	<i>3-20-2011</i>	HNO ₃	2A	X																				
Outfall 009 Dup	W	1L Poly	1	<i>3-20-2011</i>	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	<i>3-20-2011</i>	None	7A					X				Unfiltered and unpreserved analysis												
		500 mL Amber	1	<i>15:34</i>	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	<i>3-20-2011</i>	NaOH	9								X													

MS
3/22/11
8:50

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: <i>Pick Berman</i> Date/Time: <i>3-21-11 18:30</i>	Received By: <i>Stephane Figueroa</i> Date/Time: <i>3-21-11 18:30</i>	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: <input checked="" type="checkbox"/> Normal: _____
Relinquished By: <i>Stephane Figueroa</i> Date/Time: <i>3-21-11 22:15</i>	Received By: <i>Stephane Figueroa</i> Date/Time: <i>3/21/11 22:15</i>	Sample Integrity: (Check) <i>2.4</i> Intact: <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/>
Relinquished By: _____ Date/Time: _____	Received By: _____ Date/Time: _____	Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <input checked="" type="checkbox"/>



EBERLINE

SERVICES

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Richmond, California 94804-3849
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Toll Free (800) 841-5487
www.eberlineservices.com

April 13, 2011

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

**Reference: Test America-Irvine IUC2142
Eberline Analytical Report S103140-8678
Sample Delivery Group 8678**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. IUC2142. The sample was received on March 23, 2011.

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

Sincerely,

N. Joseph Verville
Client Services Manager

NJV/ljb

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8678 consists of the analytical results and supporting documentation for one water sample. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

Sample IUC2142-02 was analyzed in a common prep batch with other outfall samples from this project. The QC samples from that common prep batch were assigned to SDG 8681 and are also reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

3.0 Method Errors

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

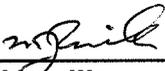
Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

4.0 Analysis Notes

- 4.1 **Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 **Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 **Strontium-90 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits. The gamma spectroscopy planchets were counted for sufficient time to meet the required Cs-137 detection limit of 20 pCi/L. As a consequence of keying to the Cs-137 RDL, the detection limits for K-40 were not achieved for the sample.

5.0 Case Narrative Certification Statement

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



N. Joseph Verville
Client Services Manager

4/13/11

Date

EBERLINE ANALYTICAL
SDG 8678

SDG 8678
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2142

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

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

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B

Prepared by

N. Joseph Verville

Reviewed by

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

EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2142

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

EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC2142

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 2

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

EBERLINE ANALYTICAL

SDG 8678

LAB SAMPLE SUMMARY

SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

LAB	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S103140-01	IUC2142-02	Boeing - SSFL	WATER			IUC2142	03/20/11 15:34
S103143-02	Lab Control Sample		WATER				
S103143-03	Method Blank		WATER				
S103143-04	Duplicate (S103143-01)	Boeing - SSFL	WATER				03/20/11 21:35

LAB SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

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

EBERLINE ANALYTICAL

SDG 8678

SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

QC SUMMARY

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	DEPARTMENT SAMPLE ID
8678	IUC2142	IUC2142-02	WATER		10.0 L		03/23/11 3	S103140-01	8678-001
8681		Method Blank	WATER					S103143-03	8681-003
		Lab Control Sample	WATER					S103143-02	8681-002
		Duplicate (S103143-01)	WATER		10.0 L		03/23/11 3	S103143-04	8681-004

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

EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
Contract IUC2142

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

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

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

EBERLINE ANALYTICAL

SDG 8678

LAB WORK SUMMARY

SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S103140-01	IUC2142-02		8678-001	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
03/20/11	Boeing - SSFL	WATER	8678-001	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
03/23/11	IUC2142		8678-001	AC		04/07/11	04/11/11	BW	Radium-228 in Water	
			8678-001	GAM		03/30/11	04/04/11	MWT	Gamma Emitters in Water	
			8678-001	H		03/30/11	04/04/11	BW	Tritium in Water	
			8678-001	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8678-001	SR		04/01/11	04/08/11	KWP	Strontium-90 in Water	
			8678-001	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-02	Lab Control Sample		8681-002	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
		WATER	8681-002	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
			8681-002	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-002	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-002	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-002	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-002	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-002	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-03	Method Blank		8681-003	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
		WATER	8681-003	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
			8681-003	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-003	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-003	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-003	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-003	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-003	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-04	Duplicate (S103143-01)		8681-004	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
03/20/11	Boeing - SSFL	WATER	8681-004	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
03/23/11			8681-004	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-004	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-004	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-004	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-004	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-004	U_T		03/29/11	03/29/11	BW	Uranium, Total	

WORK SUMMARY

Page 1

SUMMARY DATA SECTION

Page 6

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

EBERLINE ANALYTICAL

SDG 8678

WORK SUMMARY, cont.

SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

COUNTS OF TESTS BY SAMPLE TYPE

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

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

EBERLINE ANALYTICAL

SDG 8678

8681-003

Method Blank

METHOD BLANK

SDG <u>8678</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUC2142</u>
Lab sample id <u>S103143-03</u>	Client sample id <u>Method Blank</u>
Dept sample id <u>8681-003</u>	Material/Matrix <u>WATER</u>

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

QC-BLANK #77925

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

EBERLINE ANALYTICAL

SDG 8678

8681-004

IUC2187-03

DUPLICATE

SDG <u>8678</u> Contact <u>N. Joseph Verville</u> DUPLICATE Lab sample id <u>S103143-04</u> Dept sample id <u>8681-004</u>	ORIGINAL Lab sample id <u>S103143-01</u> Dept sample id <u>8681-001</u> Received <u>03/23/11</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2142</u> Client sample id <u>IUC2187-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>03/20/11 21:35</u> <u>10.0 L</u> Chain of custody id <u>IUC2187</u>
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ANALYTE	DUPLICATE		MDA		RDL		QUALI-		ORIGINAL		MDA		QUALI-		RPD		3σ		DER	
	pCi/L	2σ ERR (COUNT)	pCi/L	pCi/L	pCi/L	FIERS	TEST	pCi/L	2σ ERR (COUNT)	pCi/L	FIERS	%	TOT	σ						
Gross Alpha	1.94	0.48	0.434	3.00	J	80A	2.26	0.46	0.276	J	15	65	0.7							
Gross Beta	6.74	0.70	0.831	4.00		80B	6.22	0.70	0.866		8	33	0.7							
Tritium	-10.9	99	168	500	U	H	-77.2	96	167	U	-		1.0							
Radium-226	0.283	0.42	0.711	1.00	U	RA	0.350	0.34	0.544	U	-		0.2							
Radium-228	0.235	0.38	0.402	1.00	U	AC	0.229	0.32	0.420	U	-		0							
Strontium-90	0.078	0.32	0.717	2.00	U	SR	-0.018	0.26	0.625	U	-		0.5							
Uranium, Total	0.292	0.034	0.020	1.00	J	U_T	0.321	0.18	0.020	J	9	90	0.3							
Potassium-40	U		15.8	25.0	U	GAM	U		58.4	U	-		1.4							
Cesium-134	U		3.68	20.0	U	GAM	U			J	0	213	0							
Cesium-137	U		1.17	20.0	U	GAM	U		3.25	U	-		1.2							

QC-DUP#1 77926

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

EBERLINE ANALYTICAL

SDG 8678

8678-001

IUC2142-02

DATA SHEET

SDG <u>8678</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2142</u>
Lab sample id <u>S103140-01</u> Dept sample id <u>8678-001</u> Received <u>03/23/11</u>	Client sample id <u>IUC2142-02</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>03/20/11 15:34</u> <u>10.0 L</u> Chain of custody id <u>IUC2142</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	2.29	0.50	0.409	3.00	J	80A
Gross Beta	12587472	8.13	0.74	0.827	4.00		80B
Tritium	10028178	-35.9	99	169	500	U	H
Radium-226	13982633	-0.138	0.37	0.748	1.00	U	RA
Radium-228	15262201	0.232	0.22	0.529	1.00	U	AC
Strontium-90	10098972	-0.044	0.34	0.798	2.00	U	SR
Uranium, Total		0.247	0.030	0.020	1.00	J	U_T
Potassium-40	13966002	U		<u>30.8</u>	25.0	U	GAM
Cesium-137	10045973	U		1.56	20.0	U	GAM

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

EBERLINE ANALYTICAL

SDG 8678

LAB METHOD SUMMARY

RADIUM-228 IN WATER
BETA COUNTING

Test AC Matrix WATER
SDG 8678
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2142

RESULTS

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

Preparation batch 7281-071

S103140-01	8678-001	IUC2142-02	U
S103143-02	8681-002	Lab Control Sample	ok
S103143-03	8681-003	Method Blank	U
S103143-04	8681-004	Duplicate (S103143-01)	- U

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

METHOD PERFORMANCE

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

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

S103140-01	IUC2142-02	0.529	1.80				87		150			18	04/07/11	04/07	GRB-221	
S103143-02	Lab Control Sample	0.432	1.80				80		150				04/07/11	04/07	GRB-230	
S103143-03	Method Blank	0.434	1.80				89		150				04/07/11	04/07	GRB-231	
S103143-04	Duplicate (S103143-01)	0.402	1.80				88		150				18	04/07/11	04/07	GRB-232

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

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

AVERAGES ± 2 SD MDA 0.449 ± 0.110
FOR 4 SAMPLES YIELD 86 ± 8

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

EBERLINE ANALYTICAL

SDG 8678

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
 SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
Preparation batch 7281-071				
S103140-01	80	8678-001	IUC2142-02	2.29 J
S103143-02	80	8681-002	Lab Control Sample	ok
S103143-03	80	8681-003	Method Blank	U
S103143-04	80	8681-004	Duplicate (S103143-01)	ok J

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

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	RESID	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	mg	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-071 2σ prep error 20.6 % Reference Lab Notebook No. 7281 pg. 71															
S103140-01	80	IUC2142-02	0.409	0.300			20	400				11	03/31/11	03/31	GRB-109
S103143-02	80	Lab Control Sample	1.21	0.100			60	400					03/31/11	03/31	GRB-103
S103143-03	80	Method Blank	1.85	0.100			60	400					03/31/11	03/31	GRB-104
S103143-04	80	Duplicate (S103143-01)	0.434	0.300			26	400				11	03/31/11	03/31	GRB-109

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

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

AVERAGES ± 2 SD MDA 0.976 ± 1.38
 FOR 4 SAMPLES RESIDUE 42 ± 43

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

EBERLINE ANALYTICAL

SDG 8678

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
 SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

RESULTS

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

Preparation batch 7281-071

S103140-01	80	8678-001	IUC2142-02	8.13
S103143-02	80	8681-002	Lab Control Sample	ok
S103143-03	80	8681-003	Method Blank	U
S103143-04	80	8681-004	Duplicate (S103143-01)	ok

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

METHOD PERFORMANCE

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

Preparation batch 7281-071 2σ prep error 11.0 % Reference Lab Notebook No. 7281 pg. 71

S103140-01	80	IUC2142-02		0.827	0.300			20		400			11	03/31/11	03/31	GRB-109
S103143-02	80	Lab Control Sample		3.06	0.100			60		400				03/31/11	03/31	GRB-103
S103143-03	80	Method Blank		2.40	0.100			60		400				03/31/11	03/31	GRB-104
S103143-04	80	Duplicate (S103143-01)		0.831	0.300			26		400			11	03/31/11	03/31	GRB-109

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

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

AVERAGES ± 2 SD MDA 1.78 ± 2.26
 FOR 4 SAMPLES RESIDUE 42 ± 43

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

EBERLINE ANALYTICAL

SDG 8678

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER
GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8678
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2142

RESULTS

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

Preparation batch 7281-071

S103140-01	8678-001	IUC2142-02		U	
S103143-02	8681-002	Lab Control Sample	ok	ok	
S103143-03	8681-003	Method Blank		U	
S103143-04	8681-004	Duplicate (S103143-01)		-	U

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

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

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

S103140-01	IUC2142-02		2.00						534		10	03/24/11	03/30	01,02,00
S103143-02	Lab Control Sample		2.00						401			03/24/11	03/31	MB,08,00
S103143-03	Method Blank		2.00						621			03/24/11	03/31	MB,05,00
S103143-04	Duplicate (S103143-01)		2.00						596		11	03/24/11	03/31	MB,08,00

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

METHOD SUMMARIES

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SUMMARY DATA SECTION

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

EBERLINE ANALYTICAL

SDG 8678

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
 SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

RESULTS

LAB	RAW	SUF-		Uranium,
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7281-071				
S103140-01		8678-001	IUC2142-02	0.247 J
S103143-02		8681-002	Lab Control Sample	ok
S103143-03		8681-003	Method Blank	U
S103143-04		8681-004	Duplicate (S103143-01)	ok J

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

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR
Preparation batch 7281-071			2σ prep error		Reference Lab Notebook No. 7281 pg. 71									
S103140-01		IUC2142-02	0.020	0.0200								9 03/29/11	03/29	KPA-001
S103143-02		Lab Control Sample	0.205	0.0200								03/29/11	03/29	KPA-001
S103143-03		Method Blank	0.020	0.0200								03/29/11	03/29	KPA-001
S103143-04		Duplicate (S103143-01)	0.020	0.0200								9 03/29/11	03/29	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

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

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

EBERLINE ANALYTICAL

SDG 8678

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
 SDG 8678
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2142

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Tritium
Preparation batch 7281-071				
S103140-01		8678-001	IUC2142-02	U
S103143-02		8681-002	Lab Control Sample	ok
S103143-03		8681-003	Method Blank	U
S103143-04		8681-004	Duplicate (S103143-01)	- U

Nominal values and limits from method RDLs (pCi/L) 500

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR
Preparation batch 7281-071			2σ prep error 10.0 % Reference Lab Notebook No. 7281 pg. 71											
S103140-01		IUC2142-02	169	0.0100			100		150		10	03/30/11	03/30	LSC-004
S103143-02		Lab Control Sample	166	0.100			10		150			03/30/11	03/30	LSC-004
S103143-03		Method Blank	163	0.100			10		150			03/30/11	03/30	LSC-004
S103143-04		Duplicate (S103143-01)	168	0.0100			100		150		10	03/30/11	03/30	LSC-004

Nominal values and limits from method 500 0.0100 100 180

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

AVERAGES ± 2 SD MDA 166 ± 5.29
 FOR 4 SAMPLES YIELD 55 ± 104

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

EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2142

SAMPLE SUMMARY

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

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

The following notes apply to these reports:

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

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

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

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
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EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2142

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.

REPORT GUIDES

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SUMMARY DATA SECTION

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Protocol TA
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EBERLINE ANALYTICAL

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SDG 8678
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2142

REPORT GUIDE

WORK SUMMARY

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

The following notes apply to this report:

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

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

EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2142

DATA SHEET

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

The following notes apply to this report:

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

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

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

The following qualifiers are defined by the DVD system:

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

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Version Ver 1.0
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EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2142

GUIDE, cont.

DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

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

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 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 04/12/11

REPORT GUIDES

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SUMMARY DATA SECTION

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EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC2142

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.

REPORT GUIDES

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SUMMARY DATA SECTION

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EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2142

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.

REPORT GUIDES

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SUMMARY DATA SECTION

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

EBERLINE ANALYTICAL

SDG 8678

SDG 8678
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2142

DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

This value reported for this limit is at most 999.

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

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GUIDE, cont.

Client Test America, Inc.
Contract IUC2142

DUPLICATE

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

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

2. The error of ADDED.

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

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

REPORT GUIDES

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SUMMARY DATA SECTION

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Client Test America, Inc.

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MATRIX SPIKE

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

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

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Protocol TA

Version Ver 1.0

Form DVD-RG

Version 3.06

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REPORT GUIDE

Client Test America, Inc.
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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
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Client Test America, Inc.
Contract IUC2142

METHOD SUMMARY

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

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

MDAs are underlined if greater than the printed RDL.

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

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SDG 8678

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Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC2142

METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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Client Test America, Inc.
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METHOD SUMMARY

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

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

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

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

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
Version Ver 1.0
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Subcontract Order - TestAmerica Irvine (IUC2142)

8678

SENDING LABORATORY:

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

RECEIVING LABORATORY:

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

Analysis	Units	Due	Expires	Comments
Sample ID: IUC2142-02 (Outfall 009 (Composite) - Water) Sampled: 03/20/11 15:34				
Gamma Spec-O	mg/kg	03/28/11	03/19/12 15:34	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	03/28/11	09/16/11 15:34	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	03/28/11	09/16/11 15:34	Out Eberline Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	03/28/11	04/17/11 15:34	
Radium, Combined-O	pCi/L	03/28/11	03/19/12 15:34	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/28/11	03/19/12 15:34	Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/28/11	03/19/12 15:34	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/28/11	03/19/12 15:34	Out Eberline, Boeing permit, DO NOT FILTER!
<i>Containers Supplied:</i>				
1 L Amber (D)	2.5 gal Poly (J)			

Margaret Sells 3/22/11 17:00
 Released By Date/Time
FedEx _____
 Released By Date/Time

FedEx 3/22/11 17:00
 Received By Date/Time
PKW 03/22/11 09:20
 Received By Date/Time



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 03/23/11 0930 CoC No. UC2142

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

INSPECTION

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

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

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

Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma com	Ion Chamber mR/hr	wipe
<u>UC2142</u>	<u>260</u>						

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

LABORATORY REPORT

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

Project: Annual Outfall 009

Sampled: 03/20/11
Received: 03/20/11
Issued: 04/04/11 17:00

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

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID

IUC2136-01

CLIENT ID

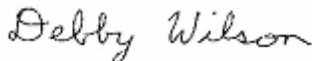
Outfall 009

MATRIX

Water

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

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 009

Report Number: IUC2136

Sampled: 03/20/11
Received: 03/20/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2136-01 (Outfall 009 - Water)									
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11C2666	2.00	2.00	1600	1	SK	03/22/11	
E. Coli	SM9221 A,B,C,E	11C2666	2.00	2.00	1600	1	SK	03/22/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUC2136 <Page 2 of 5>

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

Project ID: Annual Outfall 009

Report Number: IUC2136

Sampled: 03/20/11

Received: 03/20/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (IUC2136-01) - Water SM9221 A,B,C,E	0	03/20/2011 13:40	03/20/2011 16:40	03/20/2011 17:00	03/22/2011 13:57

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 009

Report Number: IUC2136

Sampled: 03/20/11
Received: 03/20/11

DATA QUALIFIERS AND DEFINITIONS

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

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUC2136 <Page 4 of 5>

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

Project ID: Annual Outfall 009

Report Number: IUC2136

Sampled: 03/20/11
Received: 03/20/11

Certification Summary

TestAmerica Irvine

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

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

Subcontracted Laboratories

EMSL Analytical-Cinnaminson, NJ

Analysis Performed: Outside Analysis
Samples: IUC2136-01

TestAmerica Irvine

Debby Wilson
Project Manager

EMSL Analytical, Inc.

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



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

Attn. Debby Wilson

Project:

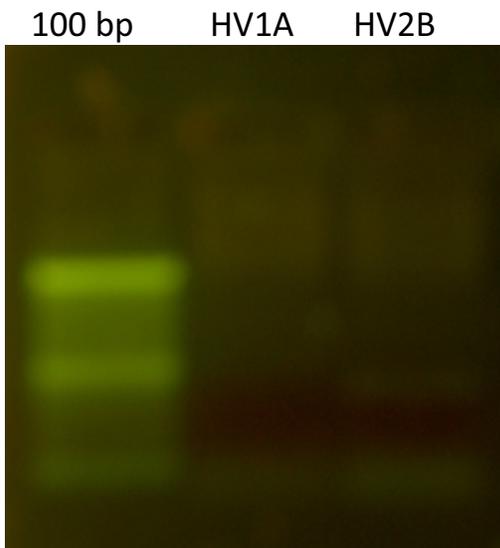
EMSL Order ID: 371103191

Date Received: 3/22/2011

Date Analyzed: 3/23/2011

Date Reported: 3/25/2011

371103191: PCR Analysis of human mtDNA in the sample.



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

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

Conclusion, the total Bacteroides detected in the sample was not derived from human. It must be derived from other animal sources.

USEPA License No: 0240-02

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

APPENDIX G

Section 39

Outfall 009 – March 25, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC2745

Prepared by

MECX, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
Contract Task Order: 1261.100D.00
Sample Delivery Group: IUC2745
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	IUC2745-01	N/A	Water	3/25/2011 10:05:00 AM	SM9221

II. Sample Management

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

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 26, 2011

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

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

Validated Sample Result Forms IUC2745

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

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

Lab Sample Name: IUC2745-01 **Sample Date:** 3/25/2011 10:05:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
E. Coli	NA	30.0	2.00	2.00	MPN/10			
Fecal Coliform	NA	30.0	2.00	2.00	MPN/10			

APPENDIX G

Section 40

Outfall 009 – March 25, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Annual Outfall 009

Sampled: 03/25/11
Received: 03/25/11
Issued: 03/28/11 22:21

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

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

SAMPLE CROSS REFERENCE

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

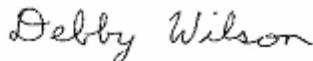
LABORATORY ID
IUC2745-01

CLIENT ID
Outfall 009

MATRIX
Water

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

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 009

Report Number: IUC2745

Sampled: 03/25/11
Received: 03/25/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2745-01 (Outfall 009 - Water)									
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11C3460	2.00	2.00	30.0	1	AK	03/28/11	
E. Coli	SM9221 A,B,C,E	11C3460	2.00	2.00	30.0	1	AK	03/28/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC2745 <Page 2 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC2745

Sampled: 03/25/11

Received: 03/25/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (IUC2745-01) - Water SM9221 A,B,C,E	0	03/25/2011 10:05	03/25/2011 14:02	03/25/2011 14:15	03/28/2011 10:45

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC2745 <Page 3 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC2745

Sampled: 03/25/11
Received: 03/25/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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TestAmerica Irvine

Debby Wilson
Project Manager

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

IUC2745 <Page 4 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC2745

Sampled: 03/25/11
Received: 03/25/11

DATA QUALIFIERS AND DEFINITIONS

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

RPD Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC2745 <Page 5 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC2745

Sampled: 03/25/11
Received: 03/25/11

Certification Summary

TestAmerica Irvine

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

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

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUC2745 <Page 6 of 6>

APPENDIX G

Section 41

Outfall 009 – March 30, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC3127

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: IUC3127
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	IUC3127-01	N/A	Water	3/30/2011 2:00:00 PM	SM9221

II. Sample Management

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

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 26, 2011

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

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

Validated Sample Result Forms IUC3127

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

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

Lab Sample Name: IUC3127-01 **Sample Date:** 3/30/2011 2:00:00 PM

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

APPENDIX G

Section 42

Outfall 009 – March 30, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Annual Outfall 009

Sampled: 03/30/11
Received: 03/30/11
Issued: 04/06/11 16:13

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

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID

IUC3127-01

CLIENT ID

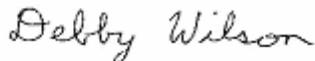
Outfall 009

MATRIX

Water

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

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 009

Report Number: IUC3127

Sampled: 03/30/11
Received: 03/30/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC3127-01 (Outfall 009 - Water)									
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11C4011	2.00	2.00	2.00	1	SK	04/02/11	
E. Coli	SM9221 A,B,C,E	11C4011	2.00	2.00	2.00	1	SK	04/02/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC3127 <Page 2 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC3127

Sampled: 03/30/11
Received: 03/30/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (IUC3127-01) - Water SM9221 A,B,C,E	0	03/30/2011 14:00	03/30/2011 16:30	03/30/2011 16:40	04/02/2011 11:53

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC3127 <Page 3 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC3127

Sampled: 03/30/11

Received: 03/30/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
------------------	-----------------	----------------	--------------	---------------	------------	-----------------------------

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC3127 <Page 4 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC3127

Sampled: 03/30/11
Received: 03/30/11

DATA QUALIFIERS AND DEFINITIONS

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

TestAmerica Irvine

Debby Wilson
Project Manager

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

IUC3127 <Page 5 of 6>

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

Project ID: Annual Outfall 009

Report Number: IUC3127

Sampled: 03/30/11
Received: 03/30/11

Certification Summary

TestAmerica Irvine

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

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

TestAmerica Irvine

Debby Wilson
Project Manager

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IUC3127 <Page 6 of 6>

APPENDIX G

Section 43

Outfall 010 – February 26, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUB2814

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: IUB2814
 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 010	IUB2814-03	G1C010510-001, S103013--01	Water	2/26/11	200.7, 200.7 (diss), 245.1, 245.1 (diss), 525.2, 1613B, 608, 624, 625 SM2340B, SM2540D, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, ASTM 5174

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at Eberline above the temperature limit; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the sample was couriered to TestAmerica-Irvine, no custody seals were required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: April 7, 2011

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
 - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
 - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
 - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had detects between the EDL and the RL for 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,7,8,9-HxCDD, and OCDD. The method blank concentration of OCDD was insufficient to qualify the associated sample result. The sample results for 1,2,3,4,6,7,8-HpCDD and 1,2,3,4,6,7,8-HpCDF, were qualified as nondetected, "U," at the level of contamination. The result for total HpCDD was qualified

as nondetected, “U,” as the total was comprised of the same peaks present in the method blank. Total HpCDF was qualified as estimated, “J,” as only a portion of the total result was considered method blank contamination.

- Blank Spikes and Laboratory Control Samples: LCS recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries in the sample were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. EMPCs previously qualified as method blank contamination were not further qualified as EMPCs. Reportable totals containing EMPCs were qualified as estimated, “J.” Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Nondetects are valid to the EDL.

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

Reviewed By: P. Meeks

Date Reviewed: April 6, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.7, 200.8, and 245.1*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The 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 $\leq 5\%$, 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-MS metals and 85-115% for mercury. CRDL recoveries were within the control limits of 70-130%.
- Blanks: Antimony and cadmium were detected in the total method blank at 0.386 and 0.102 $\mu\text{g/L}$, respectively; therefore, total antimony and cadmium were qualified as nondetected, "U," at the reporting limits. Antimony was detected in a bracketing CCB at 0.820 $\mu\text{g/L}$; therefore dissolved antimony in the sample was qualified as nondetected, "U," at the reporting limit. Copper was reported in a bracketing CCB at -0.870; therefore, dissolved copper detected in the sample was qualified as estimated, "J." Method blanks and CCBs had no other applicable detects.
- Interference Check Samples: Recoveries were within 80-120%. Cadmium and copper were detected above the reporting limit in the ICSEA; however, the reviewer was unable to determine if these detects were a result of contamination in the ICSEA solution.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: All sample internal standard intensities were within 60-125% of the internal standard intensities measured in the initial calibration. Lead and thallium were not bracketed by a higher mass internal standard; therefore, results for these analytes were qualified as estimated, "J" for detects and, "UJ," for nondetects.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

The total zinc result (17.2 µg/L) was approximately 20% of the dissolved zinc result (92 µg/L). The laboratory digested new aliquots for total and dissolved zinc from the original sample containers and obtained similar results upon reanalysis. To confirm that the zinc concentration varied between sample containers, the laboratory took aliquots from an unpreserved container and preserved one aliquot for total zinc and filtered and then preserved another aliquot for dissolved zinc. The resulting total zinc result was 160 µg/L and the dissolved zinc result was 70 µg/L. As the laboratory confirmed the zinc concentration varied by container, the original results were reported as they were from the field preserved container and the container that was filtered and preserved within 24 hours of collection. It was the reviewer's professional opinion that the third set of results, 160 µg/L and 70 µg/L, should be reported as the identity of the total and dissolved fractions were not in question. Therefore, the reviewer hand-corrected the Form Is in order to report the total zinc result as 160 µg/L and the dissolved zinc result as 70µg/L.

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

C. EPA METHOD 608—Pesticides and PCBs

Reviewed By: L. Calvin

Date Reviewed: April 8, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for 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 pesticide and PCB initial calibrations had %RSDs or average %RSDs of ≤10%, or r^2 of ≥0.995 on both columns. The ICVs had %Ds within the QC limit of ≤15%. The CCV bracketing the pesticide analysis had %D outliers on one or both columns for 4,4'-DDD, and 4,4'-DDT. The nondetected results for the outlier analytes were qualified as estimated, "UJ," in the sample. Remaining CCV %Ds were ≤15%. The breakdown totals for endrin and 4,4-DDT were ≤15%.
- Blanks: The method blanks had no confirmed target compound detects 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 PCBs by Method 608.
- 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.

D. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: April 6, 2011

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

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

The gross alpha detector efficiency was less than 20%; therefore, gross alpha detected in

the sample was qualified as estimated, "J." The remaining detector efficiencies were $\geq 20\%$.

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

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

A notation in the preparation log indicated that a portion of the aliquots were filtered and that the filtrate was dissolved and added back to the aliquot.

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

E. EPA METHOD 525.2—Semivolatile Organic Compounds (SVOCs)

Reviewed By: P. Meeks

Date Reviewed: April 6, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0)*, *EPA Method 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 %RSDs $\leq 35\%$. The second source verification and continuing calibration RRFs were ≥ 0.05 and recoveries were within the method QC limits of 70-130%. The chlorpyrifos reporting limit check standard recovery was above the control limit; however, the compound was not detected in the site sample.
- **Blanks:** The method blank had no target compound detects above the MDL.
- **Blank Spikes and Laboratory Control Samples:** The recoveries 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/D 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 $-50\%/+100\%$ for internal standard areas and ± 30 seconds for retention times.

- Compound Identification: Compound identification is not verified at Level III validation.
- Compound Quantification and Reported Detection Limits: Compound quantification is not verified at Level III validation. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. 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.

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

Reviewed By: L. Calvin

Date Reviewed: April 8, 2011

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.
- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.
- Calibration: Calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥ 0.05 for all target compounds. The initial calibration %RSDs were $\leq 35\%$, or r^2 values ≥ 0.995 . The second source ICV %Ds were $\leq 20\%$. CCV %Ds exceeded 20% for 2,4-dinitrophenol, pyrene, benzo(g,h,i)perylene, and indeno(1,2,3-cd)pyrene. The nondetected results for the %D outliers were qualified as estimated, "UJ," in the sample. The remaining CCV %Ds were $\leq 20\%$.
- 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: The recovery for d14-terphenyl was marginally below the control limit in the sample. The case narrative attributed the recovery to matrix effect. Remaining recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ± 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.

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

Reviewed By: L. Calvin

Date Reviewed: April 7, 2011

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0)*, *EPA Method 624*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Extraction and analytical holding times were met. The preserved water samples were analyzed within 14 days of collection, and the unpreserved aliquots were analyzed within seven days of collection.

- GC/MS Tuning: The BFB tunes met the method abundance criteria. The samples were analyzed within 12 hours of the BFB injection time.
- Calibration: Calibration criteria were met. The applicable initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥ 0.05 for all target compounds. The initial calibration %RSDs were $\leq 35\%$, or r^2 values ≥ 0.995 . The second source ICV and all applicable CCV recoveries were within the method control limits.
- Blanks: The method blank 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 analyses 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 chromatograms, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.
- System Performance: Review of the raw data indicated no problems with system performance.

H. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 6, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, 218.6, 300.0, 314.0, 1664A, SM2540C, SM2540D, SM4500-F-C, SM4500CN-E, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding times were met.
- Calibration: Initial calibration r^2 values were >0.995 and all ICV and CCV recoveries were within 90-110%. The perchlorate IPC-MA and reporting limit check standards were recovered within 85-115% and 90-110%, respectively. The balance calibration logs were acceptable.
- Blanks: The method blanks had no detects.
- Blank Spikes and Laboratory Control Samples: The recoveries and RPDs were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples.

Following are findings associated with field QC samples:

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

Validated Sample Result Forms IUB2814

Analysis Method 900

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	1.04	3	0.645	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	4.34	4	0.934	pCi/L			

Analysis Method 901.1

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.67	pCi/L	U	U	
Potassium-40	13966002	ND	25	19	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.436	1	0.562	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.016	1	0.421	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.031	2	1.35	pCi/L	U	U	

Analysis Method 906

Sample Name	Outfall 010 (Composite)	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUB2814-03	Sample Date:	2/26/2011 8:26:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-106	500	172	pCi/L	U	U	

Analysis Method ASTM 5174-91

Sample Name	Outfall 010 (Composite)	Matrix Type:	WATER	Validation Level:	IV			
Lab Sample Name:	IUB2814-03	Sample Date:	2/26/2011 8:26:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.618	1	0.022	pCi/L	Jb	J	DNQ

Analysis Method EPA 1664A

Sample Name	Outfall 010 (Grab)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUB2814-01	Sample Date:	2/26/2011 12:00:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hexane Extractable Material (Oil & Grease)	HEM	ND	4.8	1.3	mg/l		U	

Analysis Method EPA 200.7

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	1500	50	40	ug/l			
Arsenic	7440-38-2	ND	10	7.0	ug/l		U	
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	0.020	0.050	0.020	mg/l	Ja	J	DNQ
Calcium	7440-70-2	29	0.10	0.050	mg/l			
Chromium	7440-47-3	2.8	5.0	2.0	ug/l	Ja	J	DNQ
Iron	7439-89-6	1.4	0.040	0.015	mg/l			
Magnesium	7439-95-4	3.6	0.020	0.012	mg/l			
Nickel	7440-02-0	2.2	10	2.0	ug/l	Ja	J	DNQ
Silver	7440-22-4	ND	10	6.0	ug/l		U	
Vanadium	7440-62-2	3.7	10	3.0	ug/l	Ja	J	DNQ
Zinc	7440-66-6	161	20.0	6.00	ug/l			\$, result changed to match revised reanalysis

Analysis Method EPA 200.7-Diss

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	ND	50	40	ug/l		U	
Arsenic	7440-38-2	ND	10	7.0	ug/l		U	
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Boron	7440-42-8	ND	0.050	0.020	mg/l		U	
Calcium	7440-70-2	7.3	0.10	0.050	mg/l			
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U	
Iron	7439-89-6	0.027	0.040	0.015	mg/l	Ja	J	DNQ
Magnesium	7439-95-4	0.72	0.020	0.012	mg/l			
Nickel	7440-02-0	ND	10	2.0	ug/l		U	
Silver	7440-22-4	ND	10	6.0	ug/l		U	
Vanadium	7440-62-2	ND	10	3.0	ug/l		U	
Zinc	7440-66-6	70.5	20.0	6.00	ug/l			\$, result changed to match revised reanalysis

Analysis Method EPA 200.8

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	ND	2.0	0.30	ug/l	Ja	U	B
Cadmium	7440-43-9	ND	1.0	0.10	ug/l	Ja	U	B
Copper	7440-50-8	3.82	2.00	0.500	ug/l			
Lead	7439-92-1	1.3	1.0	0.20	ug/l		J	*III
Selenium	7782-49-2	ND	2.0	0.50	ug/l		U	
Thallium	7440-28-0	ND	1.0	0.20	ug/l		UJ	*III

Analysis Method EPA 200.8-Diss

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	ND	2.0	0.30	ug/l	Ja	U	B
Cadmium	7440-43-9	ND	1.0	0.10	ug/l		U	
Copper	7440-50-8	2.21	2.00	0.500	ug/l		J	B
Lead	7439-92-1	ND	1.0	0.20	ug/l		UJ	*III
Selenium	7782-49-2	ND	2.0	0.50	ug/l		U	
Thallium	7440-28-0	ND	1.0	0.20	ug/l		UJ	*III

Analysis Method EPA 218.6

Sample Name Outfall 010 (Grab) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-01 **Sample Date:** 2/26/2011 12:00:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chromium VI	18540-29-9	ND	1.00	0.250	ug/l		U	

Analysis Method EPA 245.1

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

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

Analysis Method EPA 245.1-Diss

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

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

Analysis Method EPA 300.0

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	13	0.50	0.30	mg/l			
Nitrate/Nitrite-N	NA	0.56	0.26	0.15	mg/l			
Sulfate	14808-79-8	6.3	0.50	0.30	mg/l			

Analysis Method EPA 314.0

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	ND	4.0	0.90	ug/l		U	

Analysis Method EPA 525.2

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chlorpyrifos	2921-88-2	ND	1.0	0.010	ug/l		U	
Diazinon	333-41-5	ND	0.25	0.10	ug/l		U	

Analysis Method EPA 608

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

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	C	UJ	C
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	C5	UJ	C
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	57-74-9	ND	0.098	0.078	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	0.0020	ug/l		U	
Endosulfan II	33213-65-9	ND	0.0049	0.0029	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	0.020	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 EPA 624

Sample Name Outfall 010 (Grab) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-01 **Sample Date:** 2/26/2011 12:00:00 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-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	5.0	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	1.0	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	1.0	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-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/l		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/l		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/l		U	
Methylene chloride	75-09-2	ND	1.0	0.95	ug/l		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/l		U	
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	
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/l		U	

Analysis Method EPA 624

Sample Name Trip Blanks **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-02 **Sample Date:** 2/26/2011 12:00:00 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-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	5.0	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	1.0	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	1.0	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-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/l		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/l		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/l		U	
Methylene chloride	75-09-2	ND	1.0	0.95	ug/l		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/l		U	
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	
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/l		U	

Analysis Method EPA 625

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	120-82-1	ND	9.90	2.48	ug/l		U	
1,2-Dichlorobenzene	95-50-1	ND	9.90	2.97	ug/l		U	
1,2-Diphenylhydrazine/Azobenzene	103-33-3	ND	19.8	2.48	ug/l		U	
1,3-Dichlorobenzene	541-73-1	ND	9.90	2.97	ug/l		U	
1,4-Dichlorobenzene	106-46-7	ND	9.90	2.48	ug/l		U	
2,4,6-Trichlorophenol	88-06-2	ND	19.8	4.46	ug/l		U	
2,4-Dichlorophenol	120-83-2	ND	9.90	3.47	ug/l		U	
2,4-Dimethylphenol	105-67-9	ND	19.8	3.47	ug/l		U	
2,4-Dinitrophenol	51-28-5	ND	19.8	7.92	ug/l	C	UJ	C
2,4-Dinitrotoluene	121-14-2	ND	9.90	3.47	ug/l		U	
2,6-Dinitrotoluene	606-20-2	ND	9.90	1.98	ug/l		U	
2-Chloronaphthalene	91-58-7	ND	9.90	2.97	ug/l		U	
2-Chlorophenol	95-57-8	ND	9.90	2.97	ug/l		U	
2-Nitrophenol	88-75-5	ND	9.90	3.47	ug/l		U	
3,3'-Dichlorobenzidine	91-94-1	ND	19.8	7.43	ug/l		U	
4,6-Dinitro-2-methylphenol	534-52-1	ND	19.8	3.96	ug/l		U	
4-Bromophenyl phenyl ether	101-55-3	ND	9.90	2.97	ug/l		U	
4-Chloro-3-methylphenol	59-50-7	ND	19.8	2.48	ug/l		U	
4-Chlorophenyl phenyl ether	7005-72-3	ND	9.90	2.48	ug/l		U	
4-Nitrophenol	100-02-7	ND	19.8	5.45	ug/l		U	
Acenaphthene	83-32-9	ND	9.90	2.97	ug/l		U	
Acenaphthylene	208-96-8	ND	9.90	2.97	ug/l		U	
Anthracene	120-12-7	ND	9.90	2.48	ug/l		U	
Benzidine	92-87-5	ND	19.8	9.90	ug/l		U	
Benzo(a)anthracene	56-55-3	ND	9.90	2.48	ug/l		U	
Benzo(a)pyrene	50-32-8	ND	9.90	2.97	ug/l		U	
Benzo(b)fluoranthene	205-99-2	ND	9.90	1.98	ug/l		U	
Benzo(g,h,i)perylene	191-24-2	ND	9.90	3.96	ug/l	C	UJ	C
Benzo(k)fluoranthene	207-08-9	ND	9.90	2.48	ug/l		U	
Bis(2-chloroethoxy)methane	111-91-1	ND	9.90	2.97	ug/l		U	
Bis(2-chloroethyl)ether	111-44-4	ND	9.90	2.97	ug/l		U	
Bis(2-chloroisopropyl)ether	108-60-1	ND	9.90	2.48	ug/l		U	
Bis(2-ethylhexyl)phthalate	117-81-7	ND	49.5	3.96	ug/l		U	
Butyl benzyl phthalate	85-68-7	ND	19.8	3.96	ug/l		U	
Chrysene	218-01-9	ND	9.90	2.48	ug/l		U	

Analysis Method *EPA 625*

Dibenz(a,h)anthracene	53-70-3	ND	19.8	2.97	ug/l		U	
Diethyl phthalate	84-66-2	ND	9.90	3.47	ug/l		U	
Dimethyl phthalate	131-11-3	ND	9.90	2.48	ug/l		U	
Di-n-butyl phthalate	84-74-2	ND	19.8	2.97	ug/l		U	
Di-n-octyl phthalate	117-84-0	ND	19.8	3.47	ug/l		U	
Fluoranthene	206-44-0	ND	9.90	2.97	ug/l		U	
Fluorene	86-73-7	ND	9.90	2.97	ug/l		U	
Hexachlorobenzene	118-74-1	ND	9.90	2.97	ug/l		U	
Hexachlorobutadiene	87-68-3	ND	9.90	3.96	ug/l		U	
Hexachlorocyclopentadiene	77-47-4	ND	19.8	4.95	ug/l		U	
Hexachloroethane	67-72-1	ND	9.90	3.47	ug/l		U	
Indeno(1,2,3-cd)pyrene	193-39-5	ND	19.8	3.47	ug/l	C	UJ	C
Isophorone	78-59-1	ND	9.90	2.97	ug/l		U	
Naphthalene	91-20-3	ND	9.90	2.97	ug/l		U	
Nitrobenzene	98-95-3	ND	19.8	2.97	ug/l		U	
N-Nitrosodimethylamine	62-75-9	ND	19.8	2.48	ug/l		U	
N-Nitroso-di-n-propylamine	621-64-7	ND	9.90	3.47	ug/l		U	
N-Nitrosodiphenylamine	86-30-6	ND	9.90	1.98	ug/l		U	
Pentachlorophenol	87-86-5	ND	19.8	3.47	ug/l		U	
Phenanthrene	85-01-8	ND	9.90	3.47	ug/l		U	
Phenol	108-95-2	ND	9.90	1.98	ug/l		U	
Pyrene	129-00-0	ND	9.90	3.96	ug/l	C	UJ	C

Analysis Method EPA-5 1613B

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000022	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000018	ug/L	J, Q, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.000003	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.000003	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000024	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000026	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000022	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000023	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000034	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000061	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000085	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000022	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000089	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000025	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000038	ug/L		U	
OCDD	3268-87-9	9.9e-005	0.0001	0.0000079	ug/L	B		
OCDF	39001-02-0	1.5e-005	0.0001	0.0000061	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	ND	0.00005	0.0000022	ug/L	J, B	U	B
Total HpCDF	38998-75-3	6.4e-006	0.00005	0.0000023	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	ND	0.00005	0.0000023	ug/L		U	
Total HxCDF	55684-94-1	ND	0.00005	0.0000022	ug/L		U	
Total PeCDD	36088-22-9	ND	0.00005	0.0000061	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000085	ug/L		U	
Total TCDD	41903-57-5	3.8e-006	0.00001	0.0000025	ug/L	J, Q	J	DNQ, *III
Total TCDF	55722-27-5	ND	0.00001	0.0000038	ug/L		U	

Analysis Method SM 2540D

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUB2814-03 **Sample Date:** 2/26/2011 8:26:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	25	10	1.0	mg/l			

Analysis Method SM 4500-F-C

Sample Name	Outfall 010 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUB2814-03	Sample Date:	2/26/2011 8:26:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Fluoride	16984-48-8	0.35	0.10	0.020	mg/l			

Analysis Method SM2340B

Sample Name	Outfall 010 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUB2814-03	Sample Date:	2/26/2011 8:26:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness (as CaCO3)	NA	86	0.33	0.17	mg/l			

Analysis Method SM2340B-Diss

Sample Name	Outfall 010 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUB2814-03	Sample Date:	2/26/2011 8:26:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness as CaCO3	NA	21	0.33	0.17	mg/l			

Analysis Method SM2540C

Sample Name	Outfall 010 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUB2814-03	Sample Date:	2/26/2011 8:26:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Dissolved Solids	NA	230	10	1.0	mg/l			

Analysis Method SM4500CN-E

Sample Name	Outfall 010 (Composite)	Matrix Type:	Water	Validation Level:	IV			
Lab Sample Name:	IUB2814-03	Sample Date:	2/26/2011 8:26:00 PM					
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Cyanide	57-12-5	ND	5.0	2.2	ug/l		U	

APPENDIX G

Section 44

Outfall 010 – February 26, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Annual Outfall 010
Annual Outfall 010

Sampled: 02/26/11
Received: 02/26/11
Issued: 04/28/11 14:06

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 5 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 5°C, on ice and with chain of custody documentation.

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

PRESERVATION: Samples requiring preservation were verified prior to sample analysis. Results were qualified where the sample container did not meet the method preservation requirements.

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

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

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

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

**ADDITIONAL
INFORMATION:**

WATER, 1613B, Dioxins/Furans with Totals

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

Some analytes are reported at a concentration below the estimated detection limit (EDL). The data is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

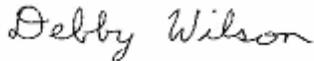
The dissolved zinc was greater than the total zinc in the original analysis. An unpreserved bottle was then split and filtered and/or preserved for total and dissolved zinc. Zinc was reanalyzed from this bottle. Report as been revised to include the reanalysis.

Revised report to include xylenes and trichlorofluoromethane per client request.

LABORATORY ID	CLIENT ID	MATRIX
IUB2814-01	Outfall 010 (Grab)	Water
IUB2814-02	Trip Blanks	Water
IUB2814-03	Outfall 010 (Composite)	Water
IUB2814-04	Trip Blanks	Water

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

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-01 (Outfall 010 (Grab) - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	11C1594	0.28	0.50	ND	1	LB	03/11/11	
Bromodichloromethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
Bromoform	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
Bromomethane	EPA 624	11C1594	0.42	1.0	ND	1	LB	03/11/11	
Carbon tetrachloride	EPA 624	11C1594	0.28	0.50	ND	1	LB	03/11/11	
Chlorobenzene	EPA 624	11C1594	0.36	0.50	ND	1	LB	03/11/11	
Chloroethane	EPA 624	11C1594	0.40	1.0	ND	1	LB	03/11/11	
Chloroform	EPA 624	11C1594	0.33	0.50	ND	1	LB	03/11/11	
Chloromethane	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
Dibromochloromethane	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
1,2-Dichlorobenzene	EPA 624	11C1594	0.32	0.50	ND	1	LB	03/11/11	
1,3-Dichlorobenzene	EPA 624	11C1594	0.35	0.50	ND	1	LB	03/11/11	
1,4-Dichlorobenzene	EPA 624	11C1594	0.37	0.50	ND	1	LB	03/11/11	
1,1-Dichloroethane	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
1,2-Dichloroethane	EPA 624	11C1594	0.28	0.50	ND	1	LB	03/11/11	
1,1-Dichloroethene	EPA 624	11C1594	0.42	0.50	ND	1	LB	03/11/11	
trans-1,2-Dichloroethene	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
1,2-Dichloropropane	EPA 624	11C1594	0.35	0.50	ND	1	LB	03/11/11	
cis-1,3-Dichloropropene	EPA 624	11C1594	0.22	0.50	ND	1	LB	03/11/11	
trans-1,3-Dichloropropene	EPA 624	11C1594	0.32	0.50	ND	1	LB	03/11/11	
Ethylbenzene	EPA 624	11C1594	0.25	0.50	ND	1	LB	03/11/11	
Methylene chloride	EPA 624	11C1594	0.95	1.0	ND	1	LB	03/11/11	
1,1,2,2-Tetrachloroethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
Tetrachloroethene	EPA 624	11C1594	0.32	0.50	ND	1	LB	03/11/11	
Toluene	EPA 624	11C1594	0.36	0.50	ND	1	LB	03/11/11	
1,1,1-Trichloroethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
1,1,2-Trichloroethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
Trichloroethene	EPA 624	11C1594	0.26	0.50	ND	1	LB	03/11/11	
Trichlorofluoromethane	EPA 624	11C1594	0.34	0.50	ND	1	LB	03/11/11	
Vinyl chloride	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
Xylenes, Total	EPA 624	11C1594	0.90	1.5	ND	1	LB	03/11/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					106 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					114 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					111 %				

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Debby Wilson
Project Manager

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IUB2814 <Page 3 of 72>

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-02 (Trip Blanks - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	11C1594	0.28	0.50	ND	1	LB	03/11/11	P-HS
Bromodichloromethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
Bromoform	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
Bromomethane	EPA 624	11C1594	0.42	1.0	ND	1	LB	03/11/11	
Carbon tetrachloride	EPA 624	11C1594	0.28	0.50	ND	1	LB	03/11/11	
Chlorobenzene	EPA 624	11C1594	0.36	0.50	ND	1	LB	03/11/11	
Chloroethane	EPA 624	11C1594	0.40	1.0	ND	1	LB	03/11/11	
Chloroform	EPA 624	11C1594	0.33	0.50	ND	1	LB	03/11/11	
Chloromethane	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
Dibromochloromethane	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
1,2-Dichlorobenzene	EPA 624	11C1594	0.32	0.50	ND	1	LB	03/11/11	
1,3-Dichlorobenzene	EPA 624	11C1594	0.35	0.50	ND	1	LB	03/11/11	
1,4-Dichlorobenzene	EPA 624	11C1594	0.37	0.50	ND	1	LB	03/11/11	
1,1-Dichloroethane	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
1,2-Dichloroethane	EPA 624	11C1594	0.28	0.50	ND	1	LB	03/11/11	
1,1-Dichloroethene	EPA 624	11C1594	0.42	0.50	ND	1	LB	03/11/11	
trans-1,2-Dichloroethene	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
1,2-Dichloropropane	EPA 624	11C1594	0.35	0.50	ND	1	LB	03/11/11	
cis-1,3-Dichloropropene	EPA 624	11C1594	0.22	0.50	ND	1	LB	03/11/11	
trans-1,3-Dichloropropene	EPA 624	11C1594	0.32	0.50	ND	1	LB	03/11/11	
Ethylbenzene	EPA 624	11C1594	0.25	0.50	ND	1	LB	03/11/11	
Methylene chloride	EPA 624	11C1594	0.95	1.0	ND	1	LB	03/11/11	
1,1,2,2-Tetrachloroethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
Tetrachloroethene	EPA 624	11C1594	0.32	0.50	ND	1	LB	03/11/11	
Toluene	EPA 624	11C1594	0.36	0.50	ND	1	LB	03/11/11	
1,1,1-Trichloroethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
1,1,2-Trichloroethane	EPA 624	11C1594	0.30	0.50	ND	1	LB	03/11/11	
Trichloroethene	EPA 624	11C1594	0.26	0.50	ND	1	LB	03/11/11	
Trichlorofluoromethane	EPA 624	11C1594	0.34	0.50	ND	1	LB	03/11/11	
Vinyl chloride	EPA 624	11C1594	0.40	0.50	ND	1	LB	03/11/11	
Xylenes, Total	EPA 624	11C1594	0.90	1.5	ND	1	LB	03/11/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					<i>105 %</i>				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					<i>110 %</i>				
<i>Surrogate: Toluene-d8 (80-120%)</i>					<i>110 %</i>				

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Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-01 (Outfall 010 (Grab) - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	11B3452	4.0	5.0	ND	1	NA	02/27/11	
Acrylonitrile	EPA 624	11B3452	1.2	2.0	ND	1	NA	02/27/11	
2-Chloroethyl vinyl ether	EPA 624	11B3452	1.8	5.0	ND	1	NA	02/27/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					95 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					101 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					102 %				
Sample ID: IUB2814-02 (Trip Blanks - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	11B3452	4.0	5.0	ND	1	NA	02/27/11	
Acrylonitrile	EPA 624	11B3452	1.2	2.0	ND	1	NA	02/27/11	
2-Chloroethyl vinyl ether	EPA 624	11B3452	1.8	5.0	ND	1	NA	02/27/11	
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					97 %				
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					103 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					102 %				

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Debby Wilson
 Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Acenaphthylene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Anthracene	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
Benzdine	EPA 625	11B3516	9.90	19.8	ND	0.99	up	03/03/11	
Benzo(a)anthracene	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
Benzo(a)pyrene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Benzo(b)fluoranthene	EPA 625	11B3516	1.98	9.90	ND	0.99	up	03/03/11	
Benzo(g,h,i)perylene	EPA 625	11B3516	3.96	9.90	ND	0.99	up	03/03/11	C
Benzo(k)fluoranthene	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
4-Bromophenyl phenyl ether	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Butyl benzyl phthalate	EPA 625	11B3516	3.96	19.8	ND	0.99	up	03/03/11	
4-Chloro-3-methylphenol	EPA 625	11B3516	2.48	19.8	ND	0.99	up	03/03/11	
Bis(2-chloroethoxy)methane	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Bis(2-chloroethyl)ether	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Bis(2-chloroisopropyl)ether	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
Bis(2-ethylhexyl)phthalate	EPA 625	11B3516	3.96	49.5	ND	0.99	up	03/03/11	
2-Chloronaphthalene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
2-Chlorophenol	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
4-Chlorophenyl phenyl ether	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
Chrysene	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
Dibenz(a,h)anthracene	EPA 625	11B3516	2.97	19.8	ND	0.99	up	03/03/11	
Di-n-butyl phthalate	EPA 625	11B3516	2.97	19.8	ND	0.99	up	03/03/11	
1,2-Dichlorobenzene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
1,3-Dichlorobenzene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
1,4-Dichlorobenzene	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
3,3'-Dichlorobenzidine	EPA 625	11B3516	7.43	19.8	ND	0.99	up	03/03/11	
2,4-Dichlorophenol	EPA 625	11B3516	3.47	9.90	ND	0.99	up	03/03/11	
Diethyl phthalate	EPA 625	11B3516	3.47	9.90	ND	0.99	up	03/03/11	
2,4-Dimethylphenol	EPA 625	11B3516	3.47	19.8	ND	0.99	up	03/03/11	
Dimethyl phthalate	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
4,6-Dinitro-2-methylphenol	EPA 625	11B3516	3.96	19.8	ND	0.99	up	03/03/11	
2,4-Dinitrophenol	EPA 625	11B3516	7.92	19.8	ND	0.99	up	03/03/11	C
2,4-Dinitrotoluene	EPA 625	11B3516	3.47	9.90	ND	0.99	up	03/03/11	
2,6-Dinitrotoluene	EPA 625	11B3516	1.98	9.90	ND	0.99	up	03/03/11	
Di-n-octyl phthalate	EPA 625	11B3516	3.47	19.8	ND	0.99	up	03/03/11	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	11B3516	2.48	19.8	ND	0.99	up	03/03/11	
Fluoranthene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Fluorene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Hexachlorobenzene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Hexachlorobutadiene	EPA 625	11B3516	3.96	9.90	ND	0.99	up	03/03/11	
Hexachlorocyclopentadiene	EPA 625	11B3516	4.95	19.8	ND	0.99	up	03/03/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water) - cont.									
Reporting Units: ug/l									
Hexachloroethane	EPA 625	11B3516	3.47	9.90	ND	0.99	up	03/03/11	
Indeno(1,2,3-cd)pyrene	EPA 625	11B3516	3.47	19.8	ND	0.99	up	03/03/11	C
Isophorone	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Naphthalene	EPA 625	11B3516	2.97	9.90	ND	0.99	up	03/03/11	
Nitrobenzene	EPA 625	11B3516	2.97	19.8	ND	0.99	up	03/03/11	
2-Nitrophenol	EPA 625	11B3516	3.47	9.90	ND	0.99	up	03/03/11	
4-Nitrophenol	EPA 625	11B3516	5.45	19.8	ND	0.99	up	03/03/11	
N-Nitroso-di-n-propylamine	EPA 625	11B3516	3.47	9.90	ND	0.99	up	03/03/11	
N-Nitrosodimethylamine	EPA 625	11B3516	2.48	19.8	ND	0.99	up	03/03/11	
N-Nitrosodiphenylamine	EPA 625	11B3516	1.98	9.90	ND	0.99	up	03/03/11	
Pentachlorophenol	EPA 625	11B3516	3.47	19.8	ND	0.99	up	03/03/11	
Phenanthrene	EPA 625	11B3516	3.47	9.90	ND	0.99	up	03/03/11	
Phenol	EPA 625	11B3516	1.98	9.90	ND	0.99	up	03/03/11	
Pyrene	EPA 625	11B3516	3.96	9.90	ND	0.99	up	03/03/11	C
1,2,4-Trichlorobenzene	EPA 625	11B3516	2.48	9.90	ND	0.99	up	03/03/11	
2,4,6-Trichlorophenol	EPA 625	11B3516	4.46	19.8	ND	0.99	up	03/03/11	
Surrogate: 2,4,6-Tribromophenol (40-120%)					73 %				
Surrogate: 2-Fluorobiphenyl (50-120%)					80 %				
Surrogate: 2-Fluorophenol (30-120%)					62 %				
Surrogate: Nitrobenzene-d5 (45-120%)					74 %				
Surrogate: Phenol-d6 (35-120%)					57 %				
Surrogate: Terphenyl-d14 (50-125%)					49 %				Z

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Debby Wilson
 Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water) - cont.									
Reporting Units: ug/l									
Chlorpyrifos	EPA 525.2	11B3468	0.010	1.0	ND	1	JM	03/02/11	
Diazinon	EPA 525.2	11B3468	0.10	0.25	ND	1	JM	03/02/11	
<i>Surrogate: 1,3-Dimethyl-2-nitrobenzene (70-130%)</i>					<i>105 %</i>				
<i>Surrogate: Triphenylphosphate (70-130%)</i>					<i>127 %</i>				
<i>Surrogate: Perylene-d12 (70-130%)</i>					<i>100 %</i>				

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 Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water) - cont.									
Reporting Units: ug/l									
4,4'-DDD	EPA 608	11C0141	0.0039	0.0049	ND	0.98	CN	03/11/11	C
4,4'-DDE	EPA 608	11C0141	0.0029	0.0049	ND	0.98	CN	03/11/11	
4,4'-DDT	EPA 608	11C0141	0.0039	0.0098	ND	0.98	CN	03/11/11	C5
Aldrin	EPA 608	11C0141	0.0015	0.0049	ND	0.98	CN	03/11/11	
alpha-BHC	EPA 608	11C0141	0.0025	0.0049	ND	0.98	CN	03/11/11	
beta-BHC	EPA 608	11C0141	0.0039	0.0098	ND	0.98	CN	03/11/11	
delta-BHC	EPA 608	11C0141	0.0034	0.0049	ND	0.98	CN	03/11/11	
Dieldrin	EPA 608	11C0141	0.0020	0.0049	ND	0.98	CN	03/11/11	
Endosulfan I	EPA 608	11C0141	0.0020	0.0049	ND	0.98	CN	03/11/11	
Endosulfan II	EPA 608	11C0141	0.0029	0.0049	ND	0.98	CN	03/11/11	
Endosulfan sulfate	EPA 608	11C0141	0.0029	0.0098	ND	0.98	CN	03/11/11	
Endrin	EPA 608	11C0141	0.0020	0.0049	ND	0.98	CN	03/11/11	
Endrin aldehyde	EPA 608	11C0141	0.0020	0.0098	ND	0.98	CN	03/11/11	
gamma-BHC (Lindane)	EPA 608	11C0141	0.0029	0.020	ND	0.98	CN	03/11/11	
Heptachlor	EPA 608	11C0141	0.0029	0.0098	ND	0.98	CN	03/11/11	
Heptachlor epoxide	EPA 608	11C0141	0.0025	0.0049	ND	0.98	CN	03/11/11	
Chlordane	EPA 608	11C0141	0.078	0.098	ND	0.98	CN	03/11/11	
Toxaphene	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/11/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					54 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					68 %				

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Project Manager

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IUB2814 <Page 9 of 72>

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/03/11	
Aroclor 1221	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/03/11	
Aroclor 1232	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/03/11	
Aroclor 1242	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/03/11	
Aroclor 1248	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/03/11	
Aroclor 1254	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/03/11	
Aroclor 1260	EPA 608	11C0141	0.25	0.49	ND	0.98	CN	03/03/11	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					46 %				

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-01 (Outfall 010 (Grab) - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C1560	1.3	4.8	ND	1	DA	03/11/11	

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 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: mg/l									
Hardness (as CaCO3)	SM2340B	[CALC]		0.33	86	1	DT	03/08/11	
Boron	EPA 200.7	11C0647	0.020	0.050	0.020	1	DT	03/08/11	J
Calcium	EPA 200.7	11C0647	0.050	0.10	29	1	DT	03/08/11	
Iron	EPA 200.7	11C0647	0.015	0.040	1.4	1	DT	03/08/11	
Magnesium	EPA 200.7	11C0647	0.012	0.020	3.6	1	DT	03/08/11	
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: ug/l									
Aluminum	EPA 200.7	11C0647	40	50	1500	1	LL	03/14/11	
Mercury	EPA 245.1	11C0579	0.10	0.20	ND	1	DB	03/04/11	
Arsenic	EPA 200.7	11C0647	7.0	10	ND	1	DT	03/08/11	
Antimony	EPA 200.8	11C0773	0.30	2.0	0.71	1	RDC	03/07/11	J
Beryllium	EPA 200.7	11C0647	0.90	2.0	ND	1	DT	03/08/11	
Chromium	EPA 200.7	11C0647	2.0	5.0	2.8	1	DT	03/08/11	J
Nickel	EPA 200.7	11C0647	2.0	10	2.2	1	DT	03/08/11	J
Silver	EPA 200.7	11C0647	6.0	10	ND	1	DT	03/08/11	
Cadmium	EPA 200.8	11C0773	0.10	1.0	0.19	1	RDC	03/07/11	J
Vanadium	EPA 200.7	11C0647	3.0	10	3.7	1	DT	03/08/11	J
Copper	EPA 200.8	11C0773	0.500	2.00	3.82	1	RDC	03/07/11	
Lead	EPA 200.8	11C0773	0.20	1.0	1.3	1	RDC	03/07/11	
Selenium	EPA 200.8	11C0773	0.50	2.0	ND	1	RDC	03/07/11	
Thallium	EPA 200.8	11C0773	0.20	1.0	ND	1	RDC	03/07/11	
Sample ID: IUB2814-03RE2 (Outfall 010 (Composite) - Water)									
Reporting Units: ug/l									
Zinc	EPA 200.7	11C2736	6.00	20.0	161	1	DT	03/21/11	

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 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water) - cont.									
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]		0.33	21	1	DP	03/09/11	
Boron	EPA 200.7-Diss	11B3548	0.020	0.050	ND	1	LL	03/09/11	
Calcium	EPA 200.7-Diss	11B3548	0.050	0.10	7.3	1	DP	03/09/11	
Iron	EPA 200.7-Diss	11B3548	0.015	0.040	0.027	1	DP	03/09/11	J
Magnesium	EPA 200.7-Diss	11B3548	0.012	0.020	0.72	1	DP	03/09/11	

Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)

Reporting Units: ug/l

Aluminum	EPA 200.7-Diss	11B3548	40	50	ND	1	LL	03/09/11	
Mercury	EPA 245.1-Diss	11C0168	0.10	0.20	ND	1	DB	03/02/11	
Arsenic	EPA 200.7-Diss	11B3548	7.0	10	ND	1	DP	03/09/11	
Antimony	EPA 200.8-Diss	11C0285	0.30	2.0	0.91	1	RDC	03/03/11	J
Beryllium	EPA 200.7-Diss	11B3548	0.90	2.0	ND	1	LL	03/09/11	
Chromium	EPA 200.7-Diss	11B3548	2.0	5.0	ND	1	LL	03/09/11	
Nickel	EPA 200.7-Diss	11B3548	2.0	10	ND	1	LL	03/09/11	
Silver	EPA 200.7-Diss	11B3548	6.0	10	ND	1	LL	03/09/11	
Cadmium	EPA 200.8-Diss	11C0285	0.10	1.0	ND	1	RDC	03/03/11	
Vanadium	EPA 200.7-Diss	11B3548	3.0	10	ND	1	LL	03/09/11	
Copper	EPA 200.8-Diss	11C0285	0.500	2.00	2.21	1	RDC	03/03/11	
Lead	EPA 200.8-Diss	11C0285	0.20	1.0	ND	1	RDC	03/03/11	
Selenium	EPA 200.8-Diss	11C0285	0.50	2.0	ND	1	RDC	03/03/11	
Thallium	EPA 200.8-Diss	11C0285	0.20	1.0	ND	1	RDC	03/03/11	

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Annual Outfall 010
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DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03RE2 (Outfall 010 (Composite) - Water) - cont.									
Reporting Units: ug/l									
Zinc	EPA 200.7-Diss	11C2737	6.00	20.0	70.5	1	DT	03/21/11	

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DISSOLVED INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-01 (Outfall 010 (Grab) - Water)									
Reporting Units: ug/l									
Chromium VI	EPA 218.6	11B3425	0.250	1.00	ND	1	EL	02/26/11	

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: mg/l									
Chloride	EPA 300.0	11B3465	0.30	0.50	13	1	KS	02/27/11	
Fluoride	SM 4500-F-C	11C0005	0.020	0.10	0.35	1	FZ	03/01/11	
Nitrate/Nitrite-N	EPA 300.0	11B3465	0.15	0.26	0.56	1	KS	02/27/11	
Sulfate	EPA 300.0	11B3465	0.30	0.50	6.3	1	KS	02/27/11	
Total Dissolved Solids	SM2540C	11C0204	1.0	10	230	1	MC	03/02/11	
Total Suspended Solids	SM 2540D	11C0554	1.0	10	25	1	DC	03/03/11	
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11C0021	0.90	4.0	ND	1	mn	03/01/11	
Total Cyanide	SM4500CN-E	11C0158	2.2	5.0	ND	1	HH	03/01/11	

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-01 (Outfall 010 (Grab) - Water)									
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11B3420	2.00	2.00	22.0	1	AK	03/01/11	
E. Coli	SM9221 A,B,C,E	11B3420	2.00	2.00	22.0	1	AK	03/01/11	

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Sampled: 02/26/11
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8665

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: pCi/L									
Uranium, Total	8665	8665		1	0.618	1	TSC	03/15/11	Jb
Sample ID: IUB2814-04 (Trip Blanks - Water)									
Reporting Units: pCi/L									
Uranium, Total	8665	8665		1	ND	1	TSC	03/15/11	U

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900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: pCi/L									
Gross Alpha	900	8665		3	1.04	1	LS	03/14/11	Jb
Gross Beta	900	8665		4	4.34	1	LS	03/14/11	
Sample ID: IUB2814-04 (Trip Blanks - Water)									
Reporting Units: pCi/L									
Gross Alpha	900	8665		3	-0.023	1	LS	03/14/11	U
Gross Beta	900	8665		4	-0.137	1	LS	03/14/11	U

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Project ID: Annual Outfall 010
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Sampled: 02/26/11
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901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: pCi/L									
Cesium-137	901.1	8665		20	ND	1	LS	03/08/11	U
Potassium-40	901.1	8665		25	ND	1	LS	03/08/11	U
Sample ID: IUB2814-04 (Trip Blanks - Water)									
Reporting Units: pCi/L									
Cesium-137	901.1	8665		20	ND	1	LS	03/08/11	U
Potassium-40	901.1	8665		25	ND	1	LS	03/08/11	U

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903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: pCi/L									
Radium-226	903.1	8665		1	0.436	1	ASM	03/19/11	U
Sample ID: IUB2814-04 (Trip Blanks - Water)									
Reporting Units: pCi/L									
Radium-226	903.1	8665		1	-0.042	1	ASM	03/19/11	U

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904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: pCi/L									
Radium-228	904	8665		1	0.016	1	ASM	03/18/11	U
Sample ID: IUB2814-04 (Trip Blanks - Water)									
Reporting Units: pCi/L									
Radium-228	904	8665		1	-0.17	1	ASM	03/18/11	U

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Project ID: Annual Outfall 010
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 Received: 02/26/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: pCi/L									
Strontium-90	905	8665		2	-0.031	1	ASM	03/16/11	U
Sample ID: IUB2814-04 (Trip Blanks - Water)									
Reporting Units: pCi/L									
Strontium-90	905	8665		2	0.085	1	ASM	03/16/11	U

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Project ID: Annual Outfall 010
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Sampled: 02/26/11
Received: 02/26/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)									
Reporting Units: pCi/L									
Tritium	906	8665		500	-106	1	WL	03/22/11	U

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Sampled: 02/26/11
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EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water) - cont.									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1062414	0.0000022	0.00005	9.8e-006	0.97	LH	03/07/11	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1062414	0.0000018	0.00005	1.6e-006	0.97	LH	03/07/11	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1062414	0.000003	0.00005	ND	0.97	LH	03/07/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1062414	0.000003	0.00005	ND	0.97	LH	03/07/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1062414	0.0000024	0.00005	ND	0.97	LH	03/07/11	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1062414	0.0000026	0.00005	ND	0.97	LH	03/07/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1062414	0.0000022	0.00005	ND	0.97	LH	03/07/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1062414	0.0000023	0.00005	ND	0.97	LH	03/07/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1062414	0.0000034	0.00005	ND	0.97	LH	03/07/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1062414	0.0000061	0.00005	ND	0.97	LH	03/07/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1062414	0.0000085	0.00005	ND	0.97	LH	03/07/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1062414	0.0000022	0.00005	ND	0.97	LH	03/07/11	
2,3,4,7,8-PeCDD	EPA-5 1613B	1062414	0.0000089	0.00005	ND	0.97	LH	03/07/11	
2,3,7,8-TCDD	EPA-5 1613B	1062414	0.0000025	0.00001	ND	0.97	LH	03/07/11	
2,3,7,8-TCDF	EPA-5 1613B	1062414	0.0000038	0.00001	ND	0.97	LH	03/07/11	
OCDD	EPA-5 1613B	1062414	0.0000079	0.0001	9.9e-005	0.97	LH	03/07/11	B
OCDF	EPA-5 1613B	1062414	0.0000061	0.0001	1.5e-005	0.97	LH	03/07/11	J
Total HpCDD	EPA-5 1613B	1062414	0.0000022	0.00005	2.3e-005	0.97	LH	03/07/11	J, B
Total HpCDF	EPA-5 1613B	1062414	0.0000023	0.00005	6.4e-006	0.97	LH	03/07/11	J, Q, B
Total HxCDD	EPA-5 1613B	1062414	0.0000023	0.00005	ND	0.97	LH	03/07/11	
Total HxCDF	EPA-5 1613B	1062414	0.0000022	0.00005	ND	0.97	LH	03/07/11	
Total PeCDD	EPA-5 1613B	1062414	0.0000061	0.00005	ND	0.97	LH	03/07/11	
Total PeCDF	EPA-5 1613B	1062414	0.0000085	0.00005	ND	0.97	LH	03/07/11	
Total TCDD	EPA-5 1613B	1062414	0.0000025	0.00001	3.8e-006	0.97	LH	03/07/11	J, Q
Total TCDF	EPA-5 1613B	1062414	0.0000038	0.00001	ND	0.97	LH	03/07/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%) 87 %
 Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%) 109 %
 Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%) 99 %
 Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%) 83 %
 Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%) 100 %
 Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%) 89 %
 Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%) 111 %
 Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%) 94 %
 Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%) 58 %
 Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%) 68 %
 Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%) 105 %
 Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%) 71 %
 Surrogate: 13C-2,3,7,8-TCDD (25-164%) 64 %
 Surrogate: 13C-2,3,7,8-TCDF (24-169%) 71 %
 Surrogate: 13C-OCDD (17-157%) 72 %
 Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%) 87 %

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Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 010 (Grab) (IUB2814-01) - Water					
EPA 218.6	1	02/26/2011 12:00	02/26/2011 14:40	02/26/2011 17:30	02/26/2011 19:25
EPA 624	3	02/26/2011 12:00	02/26/2011 14:40	02/27/2011 09:24	02/27/2011 19:36
SM9221 A,B,C,E	0	02/26/2011 12:00	02/26/2011 14:40	02/26/2011 15:00	03/01/2011 11:25
Sample ID: Trip Blanks (IUB2814-02) - Water					
EPA 624	3	02/26/2011 12:00	02/26/2011 14:40	02/27/2011 09:24	02/27/2011 19:08
Sample ID: Outfall 010 (Composite) (IUB2814-03) - Water					
EPA 300.0	2	02/26/2011 20:26	02/26/2011 14:40	02/27/2011 16:15	02/27/2011 16:23
EPA 525.2	1	02/26/2011 20:26	02/26/2011 14:40	02/27/2011 17:19	03/02/2011 01:39
Filtration	1	02/26/2011 20:26	02/26/2011 14:40	02/27/2011 20:30	02/27/2011 20:30

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Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C1594 Extracted: 03/11/11											
Blank Analyzed: 03/11/2011 (11C1594-BLK1)											
Benzene	ND	0.50	0.28	ug/l							
Bromodichloromethane	ND	0.50	0.30	ug/l							
Bromoform	ND	0.50	0.40	ug/l							
Bromomethane	ND	1.0	0.42	ug/l							
Carbon tetrachloride	ND	0.50	0.28	ug/l							
Chlorobenzene	ND	0.50	0.36	ug/l							
Chloroethane	ND	1.0	0.40	ug/l							
Chloroform	ND	0.50	0.33	ug/l							
Chloromethane	ND	0.50	0.40	ug/l							
Dibromochloromethane	ND	0.50	0.40	ug/l							
1,2-Dichlorobenzene	ND	0.50	0.32	ug/l							
1,3-Dichlorobenzene	ND	0.50	0.35	ug/l							
1,4-Dichlorobenzene	ND	0.50	0.37	ug/l							
1,1-Dichloroethane	ND	0.50	0.40	ug/l							
1,2-Dichloroethane	ND	0.50	0.28	ug/l							
1,1-Dichloroethene	ND	0.50	0.42	ug/l							
trans-1,2-Dichloroethene	ND	0.50	0.30	ug/l							
1,2-Dichloropropane	ND	0.50	0.35	ug/l							
cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l							
trans-1,3-Dichloropropene	ND	0.50	0.32	ug/l							
Ethylbenzene	ND	0.50	0.25	ug/l							
Methylene chloride	ND	1.0	0.95	ug/l							
1,1,2,2-Tetrachloroethane	ND	0.50	0.30	ug/l							
Tetrachloroethene	ND	0.50	0.32	ug/l							
Toluene	ND	0.50	0.36	ug/l							
1,1,1-Trichloroethane	ND	0.50	0.30	ug/l							
1,1,2-Trichloroethane	ND	0.50	0.30	ug/l							
Trichloroethene	ND	0.50	0.26	ug/l							
Trichlorofluoromethane	ND	0.50	0.34	ug/l							
Vinyl chloride	ND	0.50	0.40	ug/l							
Xylenes, Total	ND	1.5	0.90	ug/l							
Surrogate: 4-Bromofluorobenzene	26.0			ug/l	25.0		104	80-120			
Surrogate: Dibromofluoromethane	26.8			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	27.7			ug/l	25.0		111	80-120			

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Annual Outfall 010
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C1594 Extracted: 03/11/11											
LCS Analyzed: 03/11/2011 (11C1594-BS1)											
Benzene	22.7	0.50	0.28	ug/l	25.0		91	70-120			
Bromodichloromethane	26.6	0.50	0.30	ug/l	25.0		106	70-135			
Bromoform	20.2	0.50	0.40	ug/l	25.0		81	55-130			
Bromomethane	21.4	1.0	0.42	ug/l	25.0		86	65-140			
Carbon tetrachloride	25.2	0.50	0.28	ug/l	25.0		101	65-140			
Chlorobenzene	23.5	0.50	0.36	ug/l	25.0		94	75-120			
Chloroethane	23.1	1.0	0.40	ug/l	25.0		92	60-140			
Chloroform	24.6	0.50	0.33	ug/l	25.0		98	70-130			
Chloromethane	22.0	0.50	0.40	ug/l	25.0		88	50-140			
Dibromochloromethane	21.7	0.50	0.40	ug/l	25.0		87	70-140			
1,2-Dichlorobenzene	25.4	0.50	0.32	ug/l	25.0		102	75-120			
1,3-Dichlorobenzene	24.8	0.50	0.35	ug/l	25.0		99	75-120			
1,4-Dichlorobenzene	24.4	0.50	0.37	ug/l	25.0		98	75-120			
1,1-Dichloroethane	23.5	0.50	0.40	ug/l	25.0		94	70-125			
1,2-Dichloroethane	26.1	0.50	0.28	ug/l	25.0		104	60-140			
1,1-Dichloroethene	22.5	0.50	0.42	ug/l	25.0		90	70-125			
trans-1,2-Dichloroethene	23.2	0.50	0.30	ug/l	25.0		93	70-125			
1,2-Dichloropropane	24.2	0.50	0.35	ug/l	25.0		97	70-125			
cis-1,3-Dichloropropene	25.1	0.50	0.22	ug/l	25.0		100	75-125			
trans-1,3-Dichloropropene	22.6	0.50	0.32	ug/l	25.0		90	70-125			
Ethylbenzene	24.6	0.50	0.25	ug/l	25.0		98	75-125			
Methylene chloride	20.9	1.0	0.95	ug/l	25.0		84	55-130			
1,1,2,2-Tetrachloroethane	24.4	0.50	0.30	ug/l	25.0		98	55-130			
Tetrachloroethene	22.9	0.50	0.32	ug/l	25.0		92	70-125			
Toluene	24.8	0.50	0.36	ug/l	25.0		99	70-120			
1,1,1-Trichloroethane	25.7	0.50	0.30	ug/l	25.0		103	65-135			
1,1,2-Trichloroethane	24.7	0.50	0.30	ug/l	25.0		99	70-125			
Trichloroethene	24.5	0.50	0.26	ug/l	25.0		98	70-125			
Trichlorofluoromethane	24.6	0.50	0.34	ug/l	25.0		98	65-145			
Vinyl chloride	21.1	0.50	0.40	ug/l	25.0		84	55-135			
Xylenes, Total	75.8	1.5	0.90	ug/l	75.0		101	70-125			
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			
Surrogate: Dibromofluoromethane	28.0			ug/l	25.0		112	80-120			
Surrogate: Toluene-d8	27.8			ug/l	25.0		111	80-120			

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Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C1594 Extracted: 03/11/11											
Matrix Spike Analyzed: 03/11/2011 (11C1594-MS1)						Source: IUB2816-01					
Benzene	27.6	0.50	0.28	ug/l	25.0	ND	110	65-125			
Bromodichloromethane	33.7	0.50	0.30	ug/l	25.0	ND	135	70-135			
Bromoform	24.1	0.50	0.40	ug/l	25.0	ND	96	55-135			
Bromomethane	25.8	1.0	0.42	ug/l	25.0	ND	103	55-145			
Carbon tetrachloride	29.3	0.50	0.28	ug/l	25.0	ND	117	65-140			
Chlorobenzene	28.6	0.50	0.36	ug/l	25.0	ND	114	75-125			
Chloroethane	27.3	1.0	0.40	ug/l	25.0	ND	109	55-140			
Chloroform	31.0	0.50	0.33	ug/l	25.0	ND	124	65-135			
Chloromethane	26.6	0.50	0.40	ug/l	25.0	ND	106	45-145			
Dibromochloromethane	26.2	0.50	0.40	ug/l	25.0	ND	105	65-140			
1,2-Dichlorobenzene	30.3	0.50	0.32	ug/l	25.0	ND	121	75-125			
1,3-Dichlorobenzene	29.7	0.50	0.35	ug/l	25.0	ND	119	75-125			
1,4-Dichlorobenzene	29.2	0.50	0.37	ug/l	25.0	ND	117	75-125			
1,1-Dichloroethane	29.3	0.50	0.40	ug/l	25.0	ND	117	65-130			
1,2-Dichloroethane	31.8	0.50	0.28	ug/l	25.0	ND	127	60-140			
1,1-Dichloroethene	25.5	0.50	0.42	ug/l	25.0	ND	102	60-130			
trans-1,2-Dichloroethene	28.2	0.50	0.30	ug/l	25.0	ND	113	65-130			
1,2-Dichloropropane	30.4	0.50	0.35	ug/l	25.0	ND	121	65-130			
cis-1,3-Dichloropropene	31.2	0.50	0.22	ug/l	25.0	ND	125	70-130			
trans-1,3-Dichloropropene	28.7	0.50	0.32	ug/l	25.0	ND	115	65-135			
Ethylbenzene	29.2	0.50	0.25	ug/l	25.0	ND	117	65-130			
Methylene chloride	26.3	1.0	0.95	ug/l	25.0	ND	105	50-135			
1,1,2,2-Tetrachloroethane	26.7	0.50	0.30	ug/l	25.0	ND	107	55-135			
Tetrachloroethene	26.5	0.50	0.32	ug/l	25.0	ND	106	65-130			
Toluene	30.1	0.50	0.36	ug/l	25.0	ND	120	70-125			
1,1,1-Trichloroethane	30.7	0.50	0.30	ug/l	25.0	ND	123	65-140			
1,1,2-Trichloroethane	29.6	0.50	0.30	ug/l	25.0	ND	119	65-130			
Trichloroethene	28.4	0.50	0.26	ug/l	25.0	ND	114	65-125			
Trichlorofluoromethane	28.6	0.50	0.34	ug/l	25.0	ND	114	60-145			
Vinyl chloride	25.6	0.50	0.40	ug/l	25.0	ND	103	45-140			
Xylenes, Total	90.1	1.5	0.90	ug/l	75.0	ND	120	60-130			
Surrogate: 4-Bromofluorobenzene	27.4			ug/l	25.0		110	80-120			
Surrogate: Dibromofluoromethane	29.0			ug/l	25.0		116	80-120			
Surrogate: Toluene-d8	28.1			ug/l	25.0		112	80-120			

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Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C1594 Extracted: 03/11/11											
Matrix Spike Dup Analyzed: 03/11/2011 (11C1594-MSD1)						Source: IUB2816-01					
Benzene	26.0	0.50	0.28	ug/l	25.0	ND	104	65-125	6	20	
Bromodichloromethane	32.0	0.50	0.30	ug/l	25.0	ND	128	70-135	5	20	
Bromoform	23.7	0.50	0.40	ug/l	25.0	ND	95	55-135	2	25	
Bromomethane	24.3	1.0	0.42	ug/l	25.0	ND	97	55-145	6	25	
Carbon tetrachloride	27.9	0.50	0.28	ug/l	25.0	ND	111	65-140	5	25	
Chlorobenzene	27.0	0.50	0.36	ug/l	25.0	ND	108	75-125	6	20	
Chloroethane	25.8	1.0	0.40	ug/l	25.0	ND	103	55-140	6	25	
Chloroform	29.1	0.50	0.33	ug/l	25.0	ND	116	65-135	6	20	
Chloromethane	25.2	0.50	0.40	ug/l	25.0	ND	101	45-145	5	25	
Dibromochloromethane	25.4	0.50	0.40	ug/l	25.0	ND	102	65-140	3	25	
1,2-Dichlorobenzene	28.6	0.50	0.32	ug/l	25.0	ND	115	75-125	6	20	
1,3-Dichlorobenzene	28.0	0.50	0.35	ug/l	25.0	ND	112	75-125	6	20	
1,4-Dichlorobenzene	27.6	0.50	0.37	ug/l	25.0	ND	111	75-125	5	20	
1,1-Dichloroethane	27.7	0.50	0.40	ug/l	25.0	ND	111	65-130	6	20	
1,2-Dichloroethane	30.5	0.50	0.28	ug/l	25.0	ND	122	60-140	4	20	
1,1-Dichloroethene	24.2	0.50	0.42	ug/l	25.0	ND	97	60-130	5	20	
trans-1,2-Dichloroethene	26.6	0.50	0.30	ug/l	25.0	ND	107	65-130	6	20	
1,2-Dichloropropane	28.8	0.50	0.35	ug/l	25.0	ND	115	65-130	5	20	
cis-1,3-Dichloropropene	29.8	0.50	0.22	ug/l	25.0	ND	119	70-130	5	20	
trans-1,3-Dichloropropene	27.3	0.50	0.32	ug/l	25.0	ND	109	65-135	5	25	
Ethylbenzene	27.1	0.50	0.25	ug/l	25.0	ND	109	65-130	7	20	
Methylene chloride	24.9	1.0	0.95	ug/l	25.0	ND	100	50-135	5	20	
1,1,2,2-Tetrachloroethane	25.6	0.50	0.30	ug/l	25.0	ND	102	55-135	4	30	
Tetrachloroethene	25.0	0.50	0.32	ug/l	25.0	ND	100	65-130	6	20	
Toluene	28.2	0.50	0.36	ug/l	25.0	ND	113	70-125	7	20	
1,1,1-Trichloroethane	29.2	0.50	0.30	ug/l	25.0	ND	117	65-140	5	20	
1,1,2-Trichloroethane	28.6	0.50	0.30	ug/l	25.0	ND	114	65-130	4	25	
Trichloroethene	27.5	0.50	0.26	ug/l	25.0	ND	110	65-125	3	20	
Trichlorofluoromethane	26.9	0.50	0.34	ug/l	25.0	ND	108	60-145	6	25	
Vinyl chloride	23.9	0.50	0.40	ug/l	25.0	ND	96	45-140	7	30	
Xylenes, Total	83.6	1.5	0.90	ug/l	75.0	ND	111	60-130	8	20	
Surrogate: 4-Bromofluorobenzene	27.5			ug/l	25.0		110	80-120			
Surrogate: Dibromofluoromethane	29.1			ug/l	25.0		116	80-120			
Surrogate: Toluene-d8	27.9			ug/l	25.0		112	80-120			

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METHOD BLANK/QC DATA

PURGEABLES-- GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3452 Extracted: 02/27/11											
Blank Analyzed: 02/27/2011 (11B3452-BLK1)											
Acrolein	ND	5.0	4.0	ug/l							
Acrylonitrile	ND	2.0	1.2	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l							
Surrogate: 4-Bromofluorobenzene	24.0			ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	23.5			ug/l	25.0		94	80-120			
Surrogate: Toluene-d8	25.2			ug/l	25.0		101	80-120			
LCS Analyzed: 02/27/2011 (11B3452-BS1)											
2-Chloroethyl vinyl ether	25.4	5.0	1.8	ug/l	25.0		102	25-170			
Surrogate: 4-Bromofluorobenzene	24.1			ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	24.3			ug/l	25.0		97	80-120			
Surrogate: Toluene-d8	25.3			ug/l	25.0		101	80-120			
Matrix Spike Analyzed: 02/27/2011 (11B3452-MS1)						Source: IUB1996-01					
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l	25.0	ND		25-170			M13
Surrogate: 4-Bromofluorobenzene	24.0			ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	24.3			ug/l	25.0		97	80-120			
Surrogate: Toluene-d8	25.7			ug/l	25.0		103	80-120			
Matrix Spike Dup Analyzed: 02/27/2011 (11B3452-MSD1)						Source: IUB1996-01					
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l	25.0	ND		25-170		25	M13
Surrogate: 4-Bromofluorobenzene	24.1			ug/l	25.0		96	80-120			
Surrogate: Dibromofluoromethane	24.6			ug/l	25.0		98	80-120			
Surrogate: Toluene-d8	25.3			ug/l	25.0		101	80-120			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 11B3516 Extracted: 02/28/11											
Blank Analyzed: 03/03/2011 (11B3516-BLK1)											
Acenaphthene	ND	10.0	3.00	ug/l							
Acenaphthylene	ND	10.0	3.00	ug/l							
Anthracene	ND	10.0	2.50	ug/l							
Benzidine	ND	20.0	10.0	ug/l							
Benzo(a)anthracene	ND	10.0	2.50	ug/l							
Benzo(a)pyrene	ND	10.0	3.00	ug/l							
Benzo(b)fluoranthene	ND	10.0	2.00	ug/l							
Benzo(g,h,i)perylene	ND	10.0	4.00	ug/l							
Benzo(k)fluoranthene	ND	10.0	2.50	ug/l							
4-Bromophenyl phenyl ether	ND	10.0	3.00	ug/l							
Butyl benzyl phthalate	ND	20.0	4.00	ug/l							
4-Chloro-3-methylphenol	ND	20.0	2.50	ug/l							
Bis(2-chloroethoxy)methane	ND	10.0	3.00	ug/l							
Bis(2-chloroethyl)ether	ND	10.0	3.00	ug/l							
Bis(2-chloroisopropyl)ether	ND	10.0	2.50	ug/l							
Bis(2-ethylhexyl)phthalate	ND	50.0	4.00	ug/l							
2-Chloronaphthalene	ND	10.0	3.00	ug/l							
2-Chlorophenol	ND	10.0	3.00	ug/l							
4-Chlorophenyl phenyl ether	ND	10.0	2.50	ug/l							
Chrysene	ND	10.0	2.50	ug/l							
Dibenz(a,h)anthracene	ND	20.0	3.00	ug/l							
Di-n-butyl phthalate	ND	20.0	3.00	ug/l							
1,2-Dichlorobenzene	ND	10.0	3.00	ug/l							
1,3-Dichlorobenzene	ND	10.0	3.00	ug/l							
1,4-Dichlorobenzene	ND	10.0	2.50	ug/l							
3,3'-Dichlorobenzidine	ND	20.0	7.50	ug/l							
2,4-Dichlorophenol	ND	10.0	3.50	ug/l							
Diethyl phthalate	ND	10.0	3.50	ug/l							
2,4-Dimethylphenol	ND	20.0	3.50	ug/l							
Dimethyl phthalate	ND	10.0	2.50	ug/l							
4,6-Dinitro-2-methylphenol	ND	20.0	4.00	ug/l							
2,4-Dinitrophenol	ND	20.0	8.00	ug/l							
2,4-Dinitrotoluene	ND	10.0	3.50	ug/l							
2,6-Dinitrotoluene	ND	10.0	2.00	ug/l							
Di-n-octyl phthalate	ND	20.0	3.50	ug/l							

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3516 Extracted: 02/28/11											
Blank Analyzed: 03/03/2011 (11B3516-BLK1)											
1,2-Diphenylhydrazine/Azobenzene	ND	20.0	2.50	ug/l							
Fluoranthene	ND	10.0	3.00	ug/l							
Fluorene	ND	10.0	3.00	ug/l							
Hexachlorobenzene	ND	10.0	3.00	ug/l							
Hexachlorobutadiene	ND	10.0	4.00	ug/l							
Hexachlorocyclopentadiene	ND	20.0	5.00	ug/l							
Hexachloroethane	ND	10.0	3.50	ug/l							
Indeno(1,2,3-cd)pyrene	ND	20.0	3.50	ug/l							
Isophorone	ND	10.0	3.00	ug/l							
Naphthalene	ND	10.0	3.00	ug/l							
Nitrobenzene	ND	20.0	3.00	ug/l							
2-Nitrophenol	ND	10.0	3.50	ug/l							
4-Nitrophenol	ND	20.0	5.50	ug/l							
N-Nitroso-di-n-propylamine	ND	10.0	3.50	ug/l							
N-Nitrosodimethylamine	ND	20.0	2.50	ug/l							
N-Nitrosodiphenylamine	ND	10.0	2.00	ug/l							
Pentachlorophenol	ND	20.0	3.50	ug/l							
Phenanthrene	ND	10.0	3.50	ug/l							
Phenol	ND	10.0	2.00	ug/l							
Pyrene	ND	10.0	4.00	ug/l							
1,2,4-Trichlorobenzene	ND	10.0	2.50	ug/l							
2,4,6-Trichlorophenol	ND	20.0	4.50	ug/l							
Surrogate: 2,4,6-Tribromophenol	143			ug/l	200		71	40-120			
Surrogate: 2-Fluorobiphenyl	82.1			ug/l	100		82	50-120			
Surrogate: 2-Fluorophenol	124			ug/l	200		62	30-120			
Surrogate: Nitrobenzene-d5	76.5			ug/l	100		76	45-120			
Surrogate: Phenol-d6	127			ug/l	200		64	35-120			
Surrogate: Terphenyl-d14	91.7			ug/l	100		92	50-125			

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Debby Wilson
 Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3516 Extracted: 02/28/11											
LCS Analyzed: 03/03/2011 (11B3516-BS1)											MNR1
Acenaphthene	84.2	10.0	3.00	ug/l	100		84	60-120			
Acenaphthylene	93.8	10.0	3.00	ug/l	100		94	60-120			
Anthracene	91.6	10.0	2.50	ug/l	100		92	65-120			
Benidine	95.6	20.0	10.0	ug/l	100		96	30-160			
Benzo(a)anthracene	93.1	10.0	2.50	ug/l	100		93	65-120			
Benzo(a)pyrene	102	10.0	3.00	ug/l	100		102	55-130			
Benzo(b)fluoranthene	94.1	10.0	2.00	ug/l	100		94	55-125			
Benzo(g,h,i)perylene	118	10.0	4.00	ug/l	100		118	45-135			
Benzo(k)fluoranthene	101	10.0	2.50	ug/l	100		101	50-125			
4-Bromophenyl phenyl ether	92.6	10.0	3.00	ug/l	100		93	60-120			
Butyl benzyl phthalate	109	20.0	4.00	ug/l	100		109	55-130			
4-Chloro-3-methylphenol	77.5	20.0	2.50	ug/l	100		78	60-120			
Bis(2-chloroethoxy)methane	77.8	10.0	3.00	ug/l	100		78	55-120			
Bis(2-chloroethyl)ether	69.5	10.0	3.00	ug/l	100		69	50-120			
Bis(2-chloroisopropyl)ether	69.3	10.0	2.50	ug/l	100		69	45-120			
Bis(2-ethylhexyl)phthalate	103	50.0	4.00	ug/l	100		103	65-130			
2-Chloronaphthalene	79.6	10.0	3.00	ug/l	100		80	60-120			
2-Chlorophenol	66.3	10.0	3.00	ug/l	100		66	45-120			
4-Chlorophenyl phenyl ether	82.7	10.0	2.50	ug/l	100		83	65-120			
Chrysene	93.6	10.0	2.50	ug/l	100		94	65-120			
Dibenz(a,h)anthracene	101	20.0	3.00	ug/l	100		101	50-135			
Di-n-butyl phthalate	102	20.0	3.00	ug/l	100		102	60-125			
1,2-Dichlorobenzene	59.8	10.0	3.00	ug/l	100		60	40-120			
1,3-Dichlorobenzene	57.1	10.0	3.00	ug/l	100		57	35-120			
1,4-Dichlorobenzene	58.8	10.0	2.50	ug/l	100		59	35-120			
3,3'-Dichlorobenzidine	62.8	20.0	7.50	ug/l	100		63	45-135			
2,4-Dichlorophenol	76.1	10.0	3.50	ug/l	100		76	55-120			
Diethyl phthalate	91.4	10.0	3.50	ug/l	100		91	55-120			
2,4-Dimethylphenol	67.0	20.0	3.50	ug/l	100		67	40-120			
Dimethyl phthalate	90.6	10.0	2.50	ug/l	100		91	30-120			
4,6-Dinitro-2-methylphenol	95.9	20.0	4.00	ug/l	100		96	45-120			
2,4-Dinitrophenol	101	20.0	8.00	ug/l	100		101	40-120			
2,4-Dinitrotoluene	91.6	10.0	3.50	ug/l	100		92	65-120			
2,6-Dinitrotoluene	91.5	10.0	2.00	ug/l	100		92	65-120			
Di-n-octyl phthalate	101	20.0	3.50	ug/l	100		101	65-135			

TestAmerica Irvine

Debby Wilson
Project Manager

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3516 Extracted: 02/28/11											
LCS Analyzed: 03/03/2011 (11B3516-BS1)											
1,2-Diphenylhydrazine/Azobenzene	81.8	20.0	2.50	ug/l	100		82	60-120			MNR1
Fluoranthene	95.5	10.0	3.00	ug/l	100		96	60-120			
Fluorene	84.8	10.0	3.00	ug/l	100		85	65-120			
Hexachlorobenzene	91.7	10.0	3.00	ug/l	100		92	60-120			
Hexachlorobutadiene	62.2	10.0	4.00	ug/l	100		62	40-120			
Hexachlorocyclopentadiene	79.5	20.0	5.00	ug/l	100		80	25-120			
Hexachloroethane	53.9	10.0	3.50	ug/l	100		54	35-120			
Indeno(1,2,3-cd)pyrene	111	20.0	3.50	ug/l	100		111	45-135			
Isophorone	81.1	10.0	3.00	ug/l	100		81	50-120			
Naphthalene	70.3	10.0	3.00	ug/l	100		70	55-120			
Nitrobenzene	72.9	20.0	3.00	ug/l	100		73	55-120			
2-Nitrophenol	81.4	10.0	3.50	ug/l	100		81	50-120			
4-Nitrophenol	70.8	20.0	5.50	ug/l	100		71	45-120			
N-Nitroso-di-n-propylamine	79.7	10.0	3.50	ug/l	100		80	45-120			
N-Nitrosodimethylamine	68.7	20.0	2.50	ug/l	100		69	45-120			
N-Nitrosodiphenylamine	87.1	10.0	2.00	ug/l	100		87	60-120			
Pentachlorophenol	90.8	20.0	3.50	ug/l	100		91	24-121			
Phenanthrene	89.2	10.0	3.50	ug/l	100		89	65-120			
Phenol	62.4	10.0	2.00	ug/l	100		62	40-120			
Pyrene	113	10.0	4.00	ug/l	100		113	55-125			
1,2,4-Trichlorobenzene	66.1	10.0	2.50	ug/l	100		66	45-120			
2,4,6-Trichlorophenol	83.6	20.0	4.50	ug/l	100		84	55-120			
Surrogate: 2,4,6-Tribromophenol	167			ug/l	200		84	40-120			
Surrogate: 2-Fluorobiphenyl	79.7			ug/l	100		80	50-120			
Surrogate: 2-Fluorophenol	119			ug/l	200		59	30-120			
Surrogate: Nitrobenzene-d5	73.7			ug/l	100		74	45-120			
Surrogate: Phenol-d6	126			ug/l	200		63	35-120			
Surrogate: Terphenyl-d14	113			ug/l	100		113	50-125			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3516 Extracted: 02/28/11											
LCS Dup Analyzed: 03/03/2011 (11B3516-BSD1)											
Acenaphthene	74.1	10.0	3.00	ug/l	100	74	60-120	13	20		
Acenaphthylene	87.4	10.0	3.00	ug/l	100	87	60-120	7	20		
Anthracene	86.0	10.0	2.50	ug/l	100	86	65-120	6	20		
Benizidine	93.3	20.0	10.0	ug/l	100	93	30-160	2	35		
Benzo(a)anthracene	89.0	10.0	2.50	ug/l	100	89	65-120	4	20		
Benzo(a)pyrene	96.4	10.0	3.00	ug/l	100	96	55-130	6	25		
Benzo(b)fluoranthene	89.6	10.0	2.00	ug/l	100	90	55-125	5	25		
Benzo(g,h,i)perylene	112	10.0	4.00	ug/l	100	112	45-135	5	25		
Benzo(k)fluoranthene	95.8	10.0	2.50	ug/l	100	96	50-125	5	20		
4-Bromophenyl phenyl ether	85.2	10.0	3.00	ug/l	100	85	60-120	8	25		
Butyl benzyl phthalate	102	20.0	4.00	ug/l	100	102	55-130	7	20		
4-Chloro-3-methylphenol	72.9	20.0	2.50	ug/l	100	73	60-120	6	25		
Bis(2-chloroethoxy)methane	74.1	10.0	3.00	ug/l	100	74	55-120	5	20		
Bis(2-chloroethyl)ether	70.3	10.0	3.00	ug/l	100	70	50-120	1	20		
Bis(2-chloroisopropyl)ether	69.6	10.0	2.50	ug/l	100	70	45-120	0.5	20		
Bis(2-ethylhexyl)phthalate	94.0	50.0	4.00	ug/l	100	94	65-130	9	20		
2-Chloronaphthalene	75.5	10.0	3.00	ug/l	100	75	60-120	5	20		
2-Chlorophenol	64.5	10.0	3.00	ug/l	100	65	45-120	3	25		
4-Chlorophenyl phenyl ether	78.7	10.0	2.50	ug/l	100	79	65-120	5	20		
Chrysene	89.4	10.0	2.50	ug/l	100	89	65-120	5	20		
Dibenz(a,h)anthracene	95.9	20.0	3.00	ug/l	100	96	50-135	5	25		
Di-n-butyl phthalate	95.1	20.0	3.00	ug/l	100	95	60-125	6	20		
1,2-Dichlorobenzene	61.0	10.0	3.00	ug/l	100	61	40-120	2	25		
1,3-Dichlorobenzene	58.6	10.0	3.00	ug/l	100	59	35-120	3	25		
1,4-Dichlorobenzene	59.1	10.0	2.50	ug/l	100	59	35-120	0.4	25		
3,3'-Dichlorobenzidine	57.1	20.0	7.50	ug/l	100	57	45-135	10	25		
2,4-Dichlorophenol	71.1	10.0	3.50	ug/l	100	71	55-120	7	20		
Diethyl phthalate	85.7	10.0	3.50	ug/l	100	86	55-120	6	30		
2,4-Dimethylphenol	65.1	20.0	3.50	ug/l	100	65	40-120	3	25		
Dimethyl phthalate	84.5	10.0	2.50	ug/l	100	85	30-120	7	30		
4,6-Dinitro-2-methylphenol	94.7	20.0	4.00	ug/l	100	95	45-120	1	25		
2,4-Dinitrophenol	98.1	20.0	8.00	ug/l	100	98	40-120	3	25		
2,4-Dinitrotoluene	87.5	10.0	3.50	ug/l	100	87	65-120	5	20		
2,6-Dinitrotoluene	86.8	10.0	2.00	ug/l	100	87	65-120	5	20		
Di-n-octyl phthalate	93.1	20.0	3.50	ug/l	100	93	65-135	8	20		

TestAmerica Irvine

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Project Manager

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Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3516 Extracted: 02/28/11											
LCS Dup Analyzed: 03/03/2011 (11B3516-BSD1)											
1,2-Diphenylhydrazine/Azobenzene	76.4	20.0	2.50	ug/l	100		76	60-120	7	25	
Fluoranthene	91.4	10.0	3.00	ug/l	100		91	60-120	4	20	
Fluorene	79.7	10.0	3.00	ug/l	100		80	65-120	6	20	
Hexachlorobenzene	85.7	10.0	3.00	ug/l	100		86	60-120	7	20	
Hexachlorobutadiene	60.6	10.0	4.00	ug/l	100		61	40-120	3	25	
Hexachlorocyclopentadiene	73.0	20.0	5.00	ug/l	100		73	25-120	9	30	
Hexachloroethane	54.5	10.0	3.50	ug/l	100		55	35-120	1	25	
Indeno(1,2,3-cd)pyrene	103	20.0	3.50	ug/l	100		103	45-135	7	25	
Isophorone	77.3	10.0	3.00	ug/l	100		77	50-120	5	20	
Naphthalene	68.4	10.0	3.00	ug/l	100		68	55-120	3	20	
Nitrobenzene	71.9	20.0	3.00	ug/l	100		72	55-120	1	25	
2-Nitrophenol	77.6	10.0	3.50	ug/l	100		78	50-120	5	25	
4-Nitrophenol	66.9	20.0	5.50	ug/l	100		67	45-120	6	30	
N-Nitroso-di-n-propylamine	77.8	10.0	3.50	ug/l	100		78	45-120	2	20	
N-Nitrosodimethylamine	66.4	20.0	2.50	ug/l	100		66	45-120	3	20	
N-Nitrosodiphenylamine	81.5	10.0	2.00	ug/l	100		81	60-120	7	20	
Pentachlorophenol	83.6	20.0	3.50	ug/l	100		84	24-121	8	25	
Phenanthrene	83.8	10.0	3.50	ug/l	100		84	65-120	6	20	
Phenol	59.1	10.0	2.00	ug/l	100		59	40-120	5	25	
Pyrene	108	10.0	4.00	ug/l	100		108	55-125	4	25	
1,2,4-Trichlorobenzene	64.7	10.0	2.50	ug/l	100		65	45-120	2	20	
2,4,6-Trichlorophenol	76.8	20.0	4.50	ug/l	100		77	55-120	9	30	
Surrogate: 2,4,6-Tribromophenol	158			ug/l	200		79	40-120			
Surrogate: 2-Fluorobiphenyl	74.8			ug/l	100		75	50-120			
Surrogate: 2-Fluorophenol	111			ug/l	200		55	30-120			
Surrogate: Nitrobenzene-d5	72.7			ug/l	100		73	45-120			
Surrogate: Phenol-d6	121			ug/l	200		60	35-120			
Surrogate: Terphenyl-d14	109			ug/l	100		109	50-125			

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METHOD BLANK/QC DATA

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3468 Extracted: 02/27/11											
Blank Analyzed: 03/01/2011 (11B3468-BLK1)											
Chlorpyrifos	ND	1.0	0.010	ug/l							
Diazinon	ND	0.25	0.10	ug/l							
Surrogate: 1,3-Dimethyl-2-nitrobenzene	4.51			ug/l	5.00		90	70-130			
Surrogate: Triphenylphosphate	6.10			ug/l	5.00		122	70-130			
Surrogate: Perylene-d12	4.54			ug/l	5.00		91	70-130			
LCS Analyzed: 03/02/2011 (11B3468-BS1)											
Chlorpyrifos	5.41	1.0	0.010	ug/l	5.00		108	70-130			MNR1
Diazinon	5.67	0.25	0.10	ug/l	5.00		113	70-130			
Surrogate: 1,3-Dimethyl-2-nitrobenzene	4.47			ug/l	5.00		89	70-130			
Surrogate: Triphenylphosphate	5.44			ug/l	5.00		109	70-130			
Surrogate: Perylene-d12	4.66			ug/l	5.00		93	70-130			
LCS Dup Analyzed: 03/02/2011 (11B3468-BSD1)											
Chlorpyrifos	4.90	1.0	0.010	ug/l	5.00		98	70-130	10	30	
Diazinon	5.64	0.25	0.10	ug/l	5.00		113	70-130	0.5	30	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	5.38			ug/l	5.00		108	70-130			
Surrogate: Triphenylphosphate	5.29			ug/l	5.00		106	70-130			
Surrogate: Perylene-d12	4.73			ug/l	5.00		95	70-130			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 11C0141 Extracted: 03/01/11											
Blank Analyzed: 03/11/2011 (11C0141-BLK1)											
4,4'-DDD	ND	0.0050	0.0040	ug/l							
4,4'-DDE	ND	0.0050	0.0030	ug/l							
4,4'-DDT	ND	0.010	0.0040	ug/l							
Aldrin	ND	0.0050	0.0015	ug/l							
alpha-BHC	ND	0.0050	0.0025	ug/l							
beta-BHC	ND	0.010	0.0040	ug/l							
delta-BHC	ND	0.0050	0.0035	ug/l							
Dieldrin	ND	0.0050	0.0020	ug/l							
Endosulfan I	ND	0.0050	0.0020	ug/l							
Endosulfan II	ND	0.0050	0.0030	ug/l							
Endosulfan sulfate	ND	0.010	0.0030	ug/l							
Endrin	ND	0.0050	0.0020	ug/l							
Endrin aldehyde	ND	0.010	0.0020	ug/l							
gamma-BHC (Lindane)	ND	0.020	0.0030	ug/l							
Heptachlor	ND	0.010	0.0030	ug/l							
Heptachlor epoxide	ND	0.0050	0.0025	ug/l							
Chlordane	ND	0.10	0.080	ug/l							
Toxaphene	ND	0.50	0.25	ug/l							
Surrogate: Decachlorobiphenyl	0.340			ug/l	0.500		68	45-120			
Surrogate: Tetrachloro-m-xylene	0.323			ug/l	0.500		65	35-115			

LCS Analyzed: 03/11/2011 (11C0141-BS1)

MNR1

4,4'-DDD	0.388	0.0050	0.0040	ug/l	0.500		78	55-120			
4,4'-DDE	0.374	0.0050	0.0030	ug/l	0.500		75	50-120			
4,4'-DDT	0.397	0.010	0.0040	ug/l	0.500		79	55-120			
Aldrin	0.332	0.0050	0.0015	ug/l	0.500		66	40-115			
alpha-BHC	0.354	0.0050	0.0025	ug/l	0.500		71	45-115			
beta-BHC	0.338	0.010	0.0040	ug/l	0.500		68	55-115			
delta-BHC	0.391	0.0050	0.0035	ug/l	0.500		78	55-115			
Dieldrin	0.387	0.0050	0.0020	ug/l	0.500		77	55-115			
Endosulfan I	0.364	0.0050	0.0020	ug/l	0.500		73	55-115			
Endosulfan II	0.391	0.0050	0.0030	ug/l	0.500		78	55-120			
Endosulfan sulfate	0.412	0.010	0.0030	ug/l	0.500		82	60-120			
Endrin	0.406	0.0050	0.0020	ug/l	0.500		81	55-115			
Endrin aldehyde	0.356	0.010	0.0020	ug/l	0.500		71	50-120			
gamma-BHC (Lindane)	0.358	0.020	0.0030	ug/l	0.500		72	45-115			

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Annual Outfall 010
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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0141 Extracted: 03/01/11											
LCS Analyzed: 03/11/2011 (11C0141-BS1)											
Heptachlor	0.331	0.010	0.0030	ug/l	0.500		66	45-115			MNR1
Heptachlor epoxide	0.360	0.0050	0.0025	ug/l	0.500		72	55-115			
Surrogate: Decachlorobiphenyl	0.319			ug/l	0.500		64	45-120			
Surrogate: Tetrachloro-m-xylene	0.296			ug/l	0.500		59	35-115			
LCS Dup Analyzed: 03/11/2011 (11C0141-BSD1)											
4,4'-DDD	0.429	0.0050	0.0040	ug/l	0.500		86	55-120	10	30	
4,4'-DDE	0.422	0.0050	0.0030	ug/l	0.500		84	50-120	12	30	
4,4'-DDT	0.455	0.010	0.0040	ug/l	0.500		91	55-120	14	30	
Aldrin	0.387	0.0050	0.0015	ug/l	0.500		77	40-115	15	30	
alpha-BHC	0.403	0.0050	0.0025	ug/l	0.500		81	45-115	13	30	
beta-BHC	0.376	0.010	0.0040	ug/l	0.500		75	55-115	11	30	
delta-BHC	0.435	0.0050	0.0035	ug/l	0.500		87	55-115	11	30	
Dieldrin	0.432	0.0050	0.0020	ug/l	0.500		86	55-115	11	30	
Endosulfan I	0.407	0.0050	0.0020	ug/l	0.500		81	55-115	11	30	
Endosulfan II	0.430	0.0050	0.0030	ug/l	0.500		86	55-120	9	30	
Endosulfan sulfate	0.460	0.010	0.0030	ug/l	0.500		92	60-120	11	30	
Endrin	0.455	0.0050	0.0020	ug/l	0.500		91	55-115	11	30	
Endrin aldehyde	0.397	0.010	0.0020	ug/l	0.500		79	50-120	11	30	
gamma-BHC (Lindane)	0.408	0.020	0.0030	ug/l	0.500		82	45-115	13	30	
Heptachlor	0.377	0.010	0.0030	ug/l	0.500		75	45-115	13	30	
Heptachlor epoxide	0.405	0.0050	0.0025	ug/l	0.500		81	55-115	12	30	
Surrogate: Decachlorobiphenyl	0.402			ug/l	0.500		80	45-120			
Surrogate: Tetrachloro-m-xylene	0.339			ug/l	0.500		68	35-115			

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METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0141 Extracted: 03/01/11											
Blank Analyzed: 03/02/2011 (11C0141-BLK1)											
Aroclor 1016	ND	0.50	0.25	ug/l							
Aroclor 1221	ND	0.50	0.25	ug/l							
Aroclor 1232	ND	0.50	0.25	ug/l							
Aroclor 1242	ND	0.50	0.25	ug/l							
Aroclor 1248	ND	0.50	0.25	ug/l							
Aroclor 1254	ND	0.50	0.25	ug/l							
Aroclor 1260	ND	0.50	0.25	ug/l							
Surrogate: Decachlorobiphenyl	0.254			ug/l	0.500		51	45-120			
LCS Analyzed: 03/03/2011 (11C0141-BS2)											
Aroclor 1016	3.21	0.50	0.25	ug/l	4.00		80	50-115			MNR1
Aroclor 1260	2.66	0.50	0.25	ug/l	4.00		67	60-120			
Surrogate: Decachlorobiphenyl	0.278			ug/l	0.500		56	45-120			
LCS Dup Analyzed: 03/03/2011 (11C0141-BSD2)											
Aroclor 1016	3.21	0.50	0.25	ug/l	4.00		80	50-115	0.1	30	
Aroclor 1260	2.65	0.50	0.25	ug/l	4.00		66	60-120	0.5	25	
Surrogate: Decachlorobiphenyl	0.279			ug/l	0.500		56	45-120			

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C1560 Extracted: 03/11/11											
Blank Analyzed: 03/11/2011 (11C1560-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 03/11/2011 (11C1560-BS1)											
Hexane Extractable Material (Oil & Grease)	18.7	5.0	1.4	mg/l	20.0		94	78-114			MNR1
LCS Dup Analyzed: 03/11/2011 (11C1560-BSD1)											
Hexane Extractable Material (Oil & Grease)	19.0	5.0	1.4	mg/l	20.0		95	78-114	2	11	

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C0579 Extracted: 03/03/11</u>											
Blank Analyzed: 03/04/2011 (11C0579-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/04/2011 (11C0579-BS1)											
Mercury	8.17	0.20	0.10	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 03/04/2011 (11C0579-MS1)											
						Source: IUC0246-01					
Mercury	8.11	0.20	0.10	ug/l	8.00	ND	101	70-130			
Matrix Spike Dup Analyzed: 03/04/2011 (11C0579-MSD1)											
						Source: IUC0246-01					
Mercury	7.62	0.20	0.10	ug/l	8.00	ND	95	70-130	6	20	
<u>Batch: 11C0647 Extracted: 03/04/11</u>											
Blank Analyzed: 03/07/2011-03/08/2011 (11C0647-BLK1)											
Aluminum	ND	50	40	ug/l							
Arsenic	ND	10	7.0	ug/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.020	mg/l							
Calcium	0.0635	0.10	0.050	mg/l							J
Chromium	ND	5.0	2.0	ug/l							
Iron	ND	0.040	0.015	mg/l							
Magnesium	ND	0.020	0.012	mg/l							
Nickel	ND	10	2.0	ug/l							
Silver	ND	10	6.0	ug/l							
Vanadium	ND	10	3.0	ug/l							
LCS Analyzed: 03/07/2011-03/08/2011 (11C0647-BS1)											
Aluminum	535	50	40	ug/l	500		107	85-115			
Arsenic	560	10	7.0	ug/l	500		112	85-115			
Beryllium	549	2.0	0.90	ug/l	500		110	85-115			
Boron	0.562	0.050	0.020	mg/l	0.500		112	85-115			
Calcium	2.70	0.10	0.050	mg/l	2.50		108	85-115			
Chromium	563	5.0	2.0	ug/l	500		113	85-115			
Iron	0.559	0.040	0.015	mg/l	0.500		112	85-115			
Magnesium	2.88	0.020	0.012	mg/l	2.50		115	85-115			
Nickel	549	10	2.0	ug/l	500		110	85-115			
Silver	271	10	6.0	ug/l	250		108	85-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0647 Extracted: 03/04/11											
LCS Analyzed: 03/07/2011-03/08/2011 (11C0647-BS1)											
Vanadium	538	10	3.0	ug/l	500		108	85-115			
Matrix Spike Analyzed: 03/07/2011-03/08/2011 (11C0647-MS1) Source: IUC0168-01											
Aluminum	1030	50	40	ug/l	500	351	137	70-130			MI
Arsenic	559	10	7.0	ug/l	500	ND	112	70-130			
Beryllium	547	2.0	0.90	ug/l	500	ND	109	70-130			
Boron	0.596	0.050	0.020	mg/l	0.500	0.0401	111	70-130			
Calcium	36.0	0.10	0.050	mg/l	2.50	32.0	161	70-130			MHA
Chromium	575	5.0	2.0	ug/l	500	21.8	111	70-130			
Iron	1.12	0.040	0.015	mg/l	0.500	0.512	122	70-130			
Magnesium	9.49	0.020	0.012	mg/l	2.50	6.35	125	70-130			
Nickel	526	10	2.0	ug/l	500	ND	105	70-130			
Silver	242	10	6.0	ug/l	250	ND	97	70-130			
Vanadium	547	10	3.0	ug/l	500	16.8	106	70-130			
Matrix Spike Analyzed: 03/07/2011-03/08/2011 (11C0647-MS2) Source: IUC0168-04											
Aluminum	661	50	40	ug/l	500	118	109	70-130			
Arsenic	515	10	7.0	ug/l	500	ND	103	70-130			
Beryllium	500	2.0	0.90	ug/l	500	ND	100	70-130			
Boron	0.550	0.050	0.020	mg/l	0.500	0.0360	103	70-130			
Calcium	36.7	0.10	0.050	mg/l	2.50	32.8	154	70-130			MHA
Chromium	525	5.0	2.0	ug/l	500	19.9	101	70-130			
Iron	0.619	0.040	0.015	mg/l	0.500	0.119	100	70-130			
Magnesium	8.53	0.020	0.012	mg/l	2.50	5.97	102	70-130			
Nickel	481	10	2.0	ug/l	500	ND	96	70-130			
Silver	238	10	6.0	ug/l	250	ND	95	70-130			
Vanadium	503	10	3.0	ug/l	500	15.5	98	70-130			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0647 Extracted: 03/04/11											
Matrix Spike Dup Analyzed: 03/07/2011-03/08/2011 (11C0647-MSD1)						Source: IUC0168-01					
Aluminum	1010	50	40	ug/l	500	351	133	70-130	2	20	MI
Arsenic	509	10	7.0	ug/l	500	ND	102	70-130	9	20	
Beryllium	498	2.0	0.90	ug/l	500	ND	100	70-130	9	20	
Boron	0.543	0.050	0.020	mg/l	0.500	0.0401	101	70-130	9	20	
Calcium	36.4	0.10	0.050	mg/l	2.50	32.0	174	70-130	0.9	20	MHA
Chromium	517	5.0	2.0	ug/l	500	21.8	99	70-130	11	20	
Iron	1.01	0.040	0.015	mg/l	0.500	0.512	100	70-130	10	20	
Magnesium	8.61	0.020	0.012	mg/l	2.50	6.35	90	70-130	10	20	
Nickel	479	10	2.0	ug/l	500	ND	96	70-130	9	20	
Silver	217	10	6.0	ug/l	250	ND	87	70-130	11	20	
Vanadium	500	10	3.0	ug/l	500	16.8	97	70-130	9	20	

Batch: 11C0773 Extracted: 03/06/11

Blank Analyzed: 03/07/2011 (11C0773-BLK1)

Antimony	0.386	2.0	0.30	ug/l							J
Cadmium	0.102	1.0	0.10	ug/l							J
Copper	ND	2.00	0.500	ug/l							
Lead	ND	1.0	0.20	ug/l							
Selenium	ND	2.0	0.50	ug/l							
Thallium	ND	1.0	0.20	ug/l							

LCS Analyzed: 03/07/2011 (11C0773-BS1)

Antimony	84.2	2.0	0.30	ug/l	80.0		105	85-115			
Cadmium	80.4	1.0	0.10	ug/l	80.0		100	85-115			
Copper	81.5	2.00	0.500	ug/l	80.0		102	85-115			
Lead	79.2	1.0	0.20	ug/l	80.0		99	85-115			
Selenium	82.8	2.0	0.50	ug/l	80.0		103	85-115			
Thallium	81.8	1.0	0.20	ug/l	80.0		102	85-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0773 Extracted: 03/06/11											
Matrix Spike Analyzed: 03/07/2011 (11C0773-MS1)						Source: IUC0221-01					
Antimony	87.5	2.0	0.30	ug/l	80.0	0.548	109	70-130			
Cadmium	79.3	1.0	0.10	ug/l	80.0	0.145	99	70-130			
Copper	84.9	2.00	0.500	ug/l	80.0	5.13	100	70-130			
Lead	72.1	1.0	0.20	ug/l	80.0	ND	90	70-130			
Selenium	85.5	2.0	0.50	ug/l	80.0	1.71	105	70-130			
Thallium	74.5	1.0	0.20	ug/l	80.0	ND	93	70-130			
Matrix Spike Analyzed: 03/07/2011 (11C0773-MS2)						Source: IUC0178-01					
Antimony	86.6	2.0	0.30	ug/l	80.0	1.83	106	70-130			
Cadmium	82.5	1.0	0.10	ug/l	80.0	0.621	102	70-130			
Copper	105	2.00	0.500	ug/l	80.0	23.2	103	70-130			
Lead	76.7	1.0	0.20	ug/l	80.0	0.678	95	70-130			
Selenium	82.3	2.0	0.50	ug/l	80.0	ND	103	70-130			
Thallium	78.3	1.0	0.20	ug/l	80.0	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/07/2011 (11C0773-MSD1)						Source: IUC0221-01					
Antimony	85.9	2.0	0.30	ug/l	80.0	0.548	107	70-130	2	20	
Cadmium	77.5	1.0	0.10	ug/l	80.0	0.145	97	70-130	2	20	
Copper	84.1	2.00	0.500	ug/l	80.0	5.13	99	70-130	1	20	
Lead	72.3	1.0	0.20	ug/l	80.0	ND	90	70-130	0.3	20	
Selenium	84.4	2.0	0.50	ug/l	80.0	1.71	103	70-130	1	20	
Thallium	74.9	1.0	0.20	ug/l	80.0	ND	94	70-130	0.5	20	
Batch: 11C2736 Extracted: 03/21/11											
Blank Analyzed: 03/21/2011 (11C2736-BLK1)											
Zinc	ND	20.0	6.00	ug/l							

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2736 Extracted: 03/21/11											
LCS Analyzed: 03/21/2011 (11C2736-BS1)											
Zinc	504	20.0	6.00	ug/l	500		101	85-115			
Matrix Spike Analyzed: 03/21/2011 (11C2736-MS1)											
Zinc	570	20.0	6.00	ug/l	500	60.3	102	70-130			
Matrix Spike Analyzed: 03/21/2011 (11C2736-MS2)											
Zinc	529	20.0	6.00	ug/l	500	14.0	103	70-130			
Matrix Spike Dup Analyzed: 03/21/2011 (11C2736-MSD1)											
Zinc	586	20.0	6.00	ug/l	500	60.3	105	70-130	3	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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Batch: 11B3548 Extracted: 02/28/11

Blank Analyzed: 03/02/2011-03/03/2011 (11B3548-BLK1)

Aluminum	ND	50	40	ug/l							
Arsenic	ND	10	7.0	ug/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.020	mg/l							
Calcium	ND	0.10	0.050	mg/l							
Chromium	ND	5.0	2.0	ug/l							
Iron	ND	0.040	0.015	mg/l							
Magnesium	ND	0.020	0.012	mg/l							
Nickel	ND	10	2.0	ug/l							
Silver	ND	10	6.0	ug/l							
Vanadium	ND	10	3.0	ug/l							

LCS Analyzed: 03/02/2011-03/03/2011 (11B3548-BS1)

Aluminum	478	50	40	ug/l	500		96	85-115			
Arsenic	507	10	7.0	ug/l	500		101	85-115			
Beryllium	511	2.0	0.90	ug/l	500		102	85-115			
Boron	0.525	0.050	0.020	mg/l	0.500		105	85-115			
Calcium	2.57	0.10	0.050	mg/l	2.50		103	85-115			
Chromium	517	5.0	2.0	ug/l	500		103	85-115			
Iron	0.510	0.040	0.015	mg/l	0.500		102	85-115			
Magnesium	2.61	0.020	0.012	mg/l	2.50		104	85-115			
Nickel	499	10	2.0	ug/l	500		100	85-115			
Silver	246	10	6.0	ug/l	250		99	85-115			
Vanadium	506	10	3.0	ug/l	500		101	85-115			

Matrix Spike Analyzed: 03/02/2011-03/03/2011 (11B3548-MS1)

Source: IUB2647-01

Aluminum	498	50	40	ug/l	500	ND	100	70-130			
Arsenic	508	10	7.0	ug/l	500	ND	102	70-130			
Beryllium	508	2.0	0.90	ug/l	500	ND	102	70-130			
Boron	0.545	0.050	0.020	mg/l	0.500	0.0313	103	70-130			
Calcium	68.4	0.10	0.050	mg/l	2.50	67.0	53	70-130			
Chromium	516	5.0	2.0	ug/l	500	3.31	102	70-130			
Iron	0.501	0.040	0.015	mg/l	0.500	ND	100	70-130			
Magnesium	12.3	0.020	0.012	mg/l	2.50	9.87	97	70-130			
Nickel	473	10	2.0	ug/l	500	ND	95	70-130			
Silver	248	10	6.0	ug/l	250	ND	99	70-130			

MHA

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3548 Extracted: 02/28/11											
Matrix Spike Analyzed: 03/02/2011-03/03/2011 (11B3548-MS1)						Source: IUB2647-01					
Vanadium	502	10	3.0	ug/l	500	5.00	99	70-130			
Matrix Spike Analyzed: 03/03/2011-03/07/2011 (11B3548-MS2)						Source: IUB2630-01					
Aluminum	498	100	80	ug/l	500	ND	100	70-130			
Arsenic	499	20	14	ug/l	500	ND	100	70-130			
Beryllium	490	4.0	1.8	ug/l	500	ND	98	70-130			
Boron	0.602	0.10	0.040	mg/l	0.500	0.120	96	70-130			
Calcium	621	0.20	0.10	mg/l	2.50	681	-2390	70-130			MHA
Chromium	475	10	4.0	ug/l	500	ND	95	70-130			
Iron	0.431	0.080	0.030	mg/l	0.500	ND	86	70-130			
Magnesium	104	0.040	0.024	mg/l	2.50	109	-198	70-130			MHA
Nickel	464	20	4.0	ug/l	500	13.0	90	70-130			
Silver	167	20	12	ug/l	250	ND	67	70-130			M2
Vanadium	489	20	6.0	ug/l	500	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2011-03/03/2011 (11B3548-MSD1)						Source: IUB2647-01					
Aluminum	495	50	40	ug/l	500	ND	99	70-130	0.5	20	
Arsenic	503	10	7.0	ug/l	500	ND	101	70-130	0.8	20	
Beryllium	504	2.0	0.90	ug/l	500	ND	101	70-130	0.9	20	
Boron	0.544	0.050	0.020	mg/l	0.500	0.0313	102	70-130	0.3	20	
Calcium	69.2	0.10	0.050	mg/l	2.50	67.0	87	70-130	1	20	MHA
Chromium	509	5.0	2.0	ug/l	500	3.31	101	70-130	1	20	
Iron	0.500	0.040	0.015	mg/l	0.500	ND	100	70-130	0.3	20	
Magnesium	12.3	0.020	0.012	mg/l	2.50	9.87	97	70-130	0.002	20	
Nickel	467	10	2.0	ug/l	500	ND	93	70-130	1	20	
Silver	244	10	6.0	ug/l	250	ND	98	70-130	1	20	
Vanadium	500	10	3.0	ug/l	500	5.00	99	70-130	0.4	20	

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C0168 Extracted: 03/01/11</u>											
Blank Analyzed: 03/02/2011 (11C0168-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/02/2011 (11C0168-BS1)											
Mercury	7.30	0.20	0.10	ug/l	8.00		91	85-115			
Matrix Spike Analyzed: 03/02/2011 (11C0168-MS1)											
						Source: IUB2647-01					
Mercury	7.27	0.20	0.10	ug/l	8.00	ND	91	70-130			
Matrix Spike Dup Analyzed: 03/02/2011 (11C0168-MSD1)											
						Source: IUB2647-01					
Mercury	7.31	0.20	0.10	ug/l	8.00	ND	91	70-130	0.4	20	
<u>Batch: 11C0285 Extracted: 03/02/11</u>											
Blank Analyzed: 03/03/2011 (11C0285-BLK1)											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.00	0.500	ug/l							
Lead	ND	1.0	0.20	ug/l							
Selenium	ND	2.0	0.50	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/03/2011 (11C0285-BS1)											
Antimony	86.7	2.0	0.30	ug/l	80.0		108	85-115			
Cadmium	81.9	1.0	0.10	ug/l	80.0		102	85-115			
Copper	80.2	2.00	0.500	ug/l	80.0		100	85-115			
Lead	82.5	1.0	0.20	ug/l	80.0		103	85-115			
Selenium	80.8	2.0	0.50	ug/l	80.0		101	85-115			
Thallium	79.3	1.0	0.20	ug/l	80.0		99	85-115			

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0285 Extracted: 03/02/11											
Matrix Spike Analyzed: 03/03/2011 (11C0285-MS1)						Source: IUB2862-01					
Antimony	88.0	2.0	0.30	ug/l	80.0	0.480	109	70-130			
Cadmium	80.4	1.0	0.10	ug/l	80.0	ND	101	70-130			
Copper	79.3	2.00	0.500	ug/l	80.0	ND	99	70-130			
Lead	77.4	1.0	0.20	ug/l	80.0	ND	97	70-130			
Selenium	80.9	2.0	0.50	ug/l	80.0	ND	101	70-130			
Thallium	74.6	1.0	0.20	ug/l	80.0	ND	93	70-130			
Matrix Spike Analyzed: 03/03/2011 (11C0285-MS2)						Source: IUB2647-01					
Antimony	87.7	2.0	0.30	ug/l	80.0	0.505	109	70-130			
Cadmium	80.1	1.0	0.10	ug/l	80.0	ND	100	70-130			
Copper	79.0	2.00	0.500	ug/l	80.0	ND	99	70-130			
Lead	78.3	1.0	0.20	ug/l	80.0	ND	98	70-130			
Selenium	79.1	2.0	0.50	ug/l	80.0	ND	99	70-130			
Thallium	74.8	1.0	0.20	ug/l	80.0	ND	94	70-130			
Matrix Spike Dup Analyzed: 03/03/2011 (11C0285-MSD1)						Source: IUB2862-01					
Antimony	88.4	2.0	0.30	ug/l	80.0	0.480	110	70-130	0.4	20	
Cadmium	80.5	1.0	0.10	ug/l	80.0	ND	101	70-130	0.04	20	
Copper	78.4	2.00	0.500	ug/l	80.0	ND	98	70-130	1	20	
Lead	78.6	1.0	0.20	ug/l	80.0	ND	98	70-130	1	20	
Selenium	80.6	2.0	0.50	ug/l	80.0	ND	101	70-130	0.3	20	
Thallium	75.0	1.0	0.20	ug/l	80.0	ND	94	70-130	0.6	20	
Batch: 11C2737 Extracted: 03/21/11											
Blank Analyzed: 03/21/2011 (11C2737-BLK1)											
Zinc	ND	20.0	6.00	ug/l							

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DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2737 Extracted: 03/21/11											
LCS Analyzed: 03/21/2011 (11C2737-BS1)											
Zinc	499	20.0	6.00	ug/l	500		100	85-115			
Matrix Spike Analyzed: 03/21/2011 (11C2737-MS1)											
Zinc	589	20.0	6.00	ug/l	500	70.5	104	70-130			
Matrix Spike Dup Analyzed: 03/21/2011 (11C2737-MSD1)											
Zinc	572	20.0	6.00	ug/l	500	70.5	100	70-130	3	20	

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DISSOLVED INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B3425 Extracted: 02/26/11											
Blank Analyzed: 02/26/2011 (11B3425-BLK1)											
Chromium VI	ND	1.00	0.250	ug/l							
LCS Analyzed: 02/26/2011 (11B3425-BS1)											
Chromium VI	49.8	1.00	0.250	ug/l	50.0		100	90-110			
Matrix Spike Analyzed: 02/26/2011 (11B3425-MS1)											
						Source: IUB2814-01					
Chromium VI	49.2	1.00	0.250	ug/l	50.0	ND	98	90-110			
Matrix Spike Dup Analyzed: 02/26/2011 (11B3425-MSD1)											
						Source: IUB2814-01					
Chromium VI	48.9	1.00	0.250	ug/l	50.0	ND	98	90-110	0.7	10	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11B3465 Extracted: 02/27/11</u>											
Blank Analyzed: 02/27/2011 (11B3465-BLK1)											
Chloride	ND	0.50	0.30	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.30	mg/l							
LCS Analyzed: 02/27/2011 (11B3465-BS1)											
Chloride	4.57	0.50	0.30	mg/l	5.00		91	90-110			
Sulfate	9.78	0.50	0.30	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 02/27/2011 (11B3465-MS1) Source: IUB2814-03											
Chloride	18.0	0.50	0.30	mg/l	5.00	12.6	109	80-120			
Sulfate	16.2	0.50	0.30	mg/l	10.0	6.25	99	80-120			
Matrix Spike Dup Analyzed: 02/27/2011 (11B3465-MSD1) Source: IUB2814-03											
Chloride	17.7	0.50	0.30	mg/l	5.00	12.6	103	80-120	2	20	
Sulfate	15.9	0.50	0.30	mg/l	10.0	6.25	96	80-120	2	20	
<u>Batch: 11C0005 Extracted: 03/01/11</u>											
Blank Analyzed: 03/01/2011 (11C0005-BLK1)											
Fluoride	ND	0.10	0.020	mg/l							
LCS Analyzed: 03/01/2011 (11C0005-BS1)											
Fluoride	1.01	0.10	0.020	mg/l	1.00		101	90-110			
Matrix Spike Analyzed: 03/01/2011 (11C0005-MS1) Source: IUB2874-01											
Fluoride	1.12	0.10	0.020	mg/l	1.00	0.144	98	80-120			

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C0005 Extracted: 03/01/11</u>											
Matrix Spike Dup Analyzed: 03/01/2011 (11C0005-MSD1)						Source: IUB2874-01					
Fluoride	1.13	0.10	0.020	mg/l	1.00	0.144	99	80-120	0.8	20	
<u>Batch: 11C0021 Extracted: 03/01/11</u>											
Blank Analyzed: 03/01/2011 (11C0021-BLK1)											
Perchlorate	ND	4.0	0.90	ug/l							
LCS Analyzed: 03/01/2011 (11C0021-BS1)											
Perchlorate	26.1	4.0	0.90	ug/l	25.0		105	85-115			
Matrix Spike Analyzed: 03/01/2011 (11C0021-MS1)						Source: IUB2737-03					
Perchlorate	29.7	4.0	0.90	ug/l	25.0	3.55	105	80-120			
Matrix Spike Dup Analyzed: 03/01/2011 (11C0021-MSD1)						Source: IUB2737-03					
Perchlorate	29.8	4.0	0.90	ug/l	25.0	3.55	105	80-120	0.5	20	
<u>Batch: 11C0158 Extracted: 03/01/11</u>											
Blank Analyzed: 03/01/2011 (11C0158-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/01/2011 (11C0158-BS1)											
Total Cyanide	196	5.0	2.2	ug/l	196		100	90-110			
Matrix Spike Analyzed: 03/01/2011 (11C0158-MS1)						Source: IUB2819-03					
Total Cyanide	201	5.0	2.2	ug/l	196	ND	102	70-115			

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C0158 Extracted: 03/01/11</u>											
Matrix Spike Dup Analyzed: 03/01/2011 (11C0158-MSD1)						Source: IUB2819-03					
Total Cyanide	199	5.0	2.2	ug/l	196	ND	101	70-115	0.9	15	
<u>Batch: 11C0204 Extracted: 03/02/11</u>											
Blank Analyzed: 03/02/2011 (11C0204-BLK1)											
Total Dissolved Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/02/2011 (11C0204-BS1)											
Total Dissolved Solids	1020	10	1.0	mg/l	1000		102	90-110			
Duplicate Analyzed: 03/02/2011 (11C0204-DUP1)						Source: IUB2750-01					
Total Dissolved Solids	365	10	1.0	mg/l		352			4	10	
<u>Batch: 11C0554 Extracted: 03/03/11</u>											
Blank Analyzed: 03/03/2011 (11C0554-BLK1)											
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/03/2011 (11C0554-BS1)											
Total Suspended Solids	999	10	1.0	mg/l	1000		100	85-115			
Duplicate Analyzed: 03/03/2011 (11C0554-DUP1)						Source: IUB2816-03					
Total Suspended Solids	68.0	10	1.0	mg/l		68.0			0	10	

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8665

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8665 Extracted: 03/15/11											
LCS Analyzed: 03/15/2011 (S103013-03)											
Uranium, Total	53.9	1	N/A	pCi/L	56.5		95	80-120			
Blank Analyzed: 03/15/2011 (S103013-04)											
Uranium, Total	ND	1	N/A	pCi/L				-			U
Duplicate Analyzed: 03/15/2011 (S103013-05)											
Uranium, Total	0.574	1	N/A	pCi/L		0.618		-	7		Jb

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900

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8665 Extracted: 03/11/11											
LCS Analyzed: 03/14/2011 (S103013-03)						Source:					
Gross Alpha	107	3	N/A	pCi/L	101		106	70-130			
Gross Beta	86.8	4	N/A	pCi/L	87.2		100	70-130			
Blank Analyzed: 03/14/2011 (S103013-04)						Source:					
Gross Alpha	0.089	3	N/A	pCi/L				-			U
Gross Beta	0.136	4	N/A	pCi/L				-			U
Duplicate Analyzed: 03/14/2011 (S103013-05)						Source: IUB2814-03					
Gross Alpha	1.44	3	N/A	pCi/L		1.04		-	32		Jb
Gross Beta	3.86	4	N/A	pCi/L		4.34		-	12		Jb

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901.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8665 Extracted: 03/03/11											
LCS Analyzed: 03/08/2011 (S103013-03)						Source:					
Cobalt-60	123	10	N/A	pCi/L	126		98	80-120			
Cesium-137	116	20	N/A	pCi/L	110		106	80-120			
Blank Analyzed: 03/08/2011 (S103013-04)						Source:					
Cesium-137	ND	20	N/A	pCi/L				-			U
Potassium-40	ND	25	N/A	pCi/L				-			U
Duplicate Analyzed: 03/10/2011 (S103013-05)						Source: IUB2814-03					
Cesium-137	ND	20	N/A	pCi/L		0		-	0		U
Potassium-40	ND	25	N/A	pCi/L		0		-	0		U

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903.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8665 Extracted: 03/25/11											
LCS Analyzed: 03/25/2011 (S103013-03)											
Radium-226	59.5	1	N/A	pCi/L	55.7		107	80-120			
Blank Analyzed: 03/19/2011 (S103013-04)											
Radium-226	0.156	1	N/A	pCi/L				-			U
Duplicate Analyzed: 03/19/2011 (S103013-05)											
Radium-226	0.467	1	N/A	pCi/L		0.436		-	0		U

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904

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8665 Extracted: 03/18/11											
LCS Analyzed: 03/18/2011 (S103013-03)											
Radium-228	16.1	1	N/A	pCi/L	15.1		107	60-140			
Blank Analyzed: 03/18/2011 (S103013-04)											
Radium-228	-0.11	1	N/A	pCi/L				-			U
Duplicate Analyzed: 03/18/2011 (S103013-05)											
Radium-228	0.062	1	N/A	pCi/L		0.016		-	0		U

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905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8665 Extracted: 03/15/11											
LCS Analyzed: 03/16/2011 (S103013-03)											
Strontium-90	20.3	2	N/A	pCi/L	17.4		117	80-120			
Blank Analyzed: 03/16/2011 (S103013-04)											
Strontium-90	-0.258	2	N/A	pCi/L				-			U
Duplicate Analyzed: 03/16/2011 (S103013-05)											
Strontium-90	-0.199	2	N/A	pCi/L				-	0		U

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906

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8665 Extracted: 03/19/11											
LCS Analyzed: 03/22/2011 (S103013-03)											
Tritium	2780	500	N/A	pCi/L	2940		95	80-120			
Blank Analyzed: 03/22/2011 (S103013-04)											
Tritium	-28	500	N/A	pCi/L							U
Duplicate Analyzed: 03/22/2011 (S103013-05)											
Tritium	-42.1	500	N/A	pCi/L							U

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
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Batch: 1062414 Extracted: 03/03/11

Blank Analyzed: 03/07/2011 (G1C030000414B)

Source:

1,2,3,4,6,7,8-HpCDD	3.5e-006	0.00005	0.0000023	ug/L			-				J
1,2,3,4,6,7,8-HpCDF	3e-006	0.00005	0.0000019	ug/L			-				J
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000031	ug/L			-				
1,2,3,4,7,8-HxCDD	ND	0.00005	0.0000027	ug/L			-				
1,2,3,4,7,8-HxCDF	ND	0.00005	0.0000026	ug/L			-				
1,2,3,6,7,8-HxCDD	ND	0.00005	0.0000023	ug/L			-				
1,2,3,6,7,8-HxCDF	ND	0.00005	0.0000023	ug/L			-				
1,2,3,7,8,9-HxCDD	2.8e-006	0.00005	0.000002	ug/L			-				J, Q
1,2,3,7,8,9-HxCDF	ND	0.00005	0.0000033	ug/L			-				
1,2,3,7,8-PeCDD	ND	0.00005	0.0000069	ug/L			-				
1,2,3,7,8-PeCDF	ND	0.00005	0.0000091	ug/L			-				
2,3,4,6,7,8-HxCDF	ND	0.00005	0.0000022	ug/L			-				
2,3,4,7,8-PeCDF	ND	0.00005	0.0000098	ug/L			-				
2,3,7,8-TCDD	ND	0.00001	0.0000026	ug/L			-				
2,3,7,8-TCDF	ND	0.00001	0.0000039	ug/L			-				
OCDD	8.9e-006	0.0001	0.0000075	ug/L			-				J, Q
OCDF	ND	0.0001	0.0000049	ug/L			-				
Total HpCDD	5.7e-006	0.00005	0.0000023	ug/L			-				J
Total HpCDF	3e-006	0.00005	0.0000024	ug/L			-				J
Total HxCDD	2.8e-006	0.00005	0.0000023	ug/L			-				J, Q
Total HxCDF	ND	0.00005	0.0000022	ug/L			-				
Total PeCDD	ND	0.00005	0.0000069	ug/L			-				
Total PeCDF	ND	0.00005	0.0000046	ug/L			-				
Total TCDD	ND	0.00001	0.0000026	ug/L			-				
Total TCDF	ND	0.00001	0.0000039	ug/L			-				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0018			ug/L	0.002		91	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0023			ug/L	0.002		116	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0021			ug/L	0.002		107	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0018			ug/L	0.002		91	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.002			ug/L	0.002		102	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.002			ug/L	0.002		99	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0023			ug/L	0.002		115	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0022			ug/L	0.002		112	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0013			ug/L	0.002		66	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0015			ug/L	0.002		78	24-185			

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1062414 Extracted: 03/03/11											
Blank Analyzed: 03/07/2011 (G1C030000414B)						Source:					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0024			ug/L	0.002		118	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0016			ug/L	0.002		79	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0015			ug/L	0.002		77	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0016			ug/L	0.002		81	24-169			
Surrogate: 13C-OCDD	0.0031			ug/L	0.004		78	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00072			ug/L	0.0008		90	35-197			
LCS Analyzed: 03/07/2011 (G1C030000414C)						Source:					
1,2,3,4,6,7,8-HpCDD	0.00114	0.00005	0.0000076	ug/L	0.001		114	70-140			B
1,2,3,4,6,7,8-HpCDF	0.00104	0.00005	0.0000068	ug/L	0.001		104	82-122			B
1,2,3,4,7,8,9-HpCDF	0.00105	0.00005	0.000001	ug/L	0.001		105	78-138			
1,2,3,4,7,8-HxCDD	0.0012	0.00005	0.0000026	ug/L	0.001		120	70-164			
1,2,3,4,7,8-HxCDF	0.00113	0.00005	0.0000023	ug/L	0.001		113	72-134			
1,2,3,6,7,8-HxCDD	0.00116	0.00005	0.0000024	ug/L	0.001		116	76-134			
1,2,3,6,7,8-HxCDF	0.00112	0.00005	0.000002	ug/L	0.001		112	84-130			
1,2,3,7,8,9-HxCDD	0.00115	0.00005	0.0000021	ug/L	0.001		115	64-162			B
1,2,3,7,8,9-HxCDF	0.00121	0.00005	0.000003	ug/L	0.001		121	78-130			
1,2,3,7,8-PeCDD	0.00118	0.00005	0.0000068	ug/L	0.001		118	70-142			
1,2,3,7,8-PeCDF	0.00109	0.00005	0.000013	ug/L	0.001		109	80-134			
2,3,4,6,7,8-HxCDF	0.0011	0.00005	0.0000021	ug/L	0.001		110	70-156			
2,3,4,7,8-PeCDF	0.0011	0.00005	0.000014	ug/L	0.001		110	68-160			
2,3,7,8-TCDD	0.000221	0.00001	0.0000029	ug/L	0.0002		110	67-158			
2,3,7,8-TCDF	0.000186	0.00001	0.0000039	ug/L	0.0002		93	75-158			
OCDD	0.00235	0.0001	0.000013	ug/L	0.002		117	78-144			B
OCDF	0.00281	0.0001	0.0000071	ug/L	0.002		140	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00202			ug/L	0.002		101	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00245			ug/L	0.002		123	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00228			ug/L	0.002		114	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00178			ug/L	0.002		89	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00228			ug/L	0.002		114	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00201			ug/L	0.002		100	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00234			ug/L	0.002		117	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00221			ug/L	0.002		111	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00127			ug/L	0.002		64	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00156			ug/L	0.002		78	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00243			ug/L	0.002		122	22-176			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1062414 Extracted: 03/03/11											
LCS Analyzed: 03/07/2011 (G1C030000414C)											
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00156			ug/L	0.002		78	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.0015			ug/L	0.002		75	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00161			ug/L	0.002		80	22-152			
Surrogate: 13C-OCDD	0.00345			ug/L	0.004		86	13-199			
Surrogate: 37C14-2,3,7,8-TCDD	0.000689			ug/L	0.0008		86	31-191			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUB2814-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.19	4.8	15

Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUB2814-03	Antimony-200.8	Antimony	ug/l	0.71	2.0	6
IUB2814-03	Boron-200.7	Boron	mg/l	0.020	0.050	1
IUB2814-03	Cadmium-200.8	Cadmium	ug/l	0.19	1.0	4
IUB2814-03	Chloride - 300.0	Chloride	mg/l	13	0.50	150
IUB2814-03	Copper-200.8	Copper	ug/l	3.82	2.00	14
IUB2814-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-3	5.0	9500
IUB2814-03	Fluoride SM4500F,C	Fluoride	mg/l	0.35	0.10	1.6
IUB2814-03	Lead-200.8	Lead	ug/l	1.30	1.0	5.2
IUB2814-03	Mercury - 245.1	Mercury	ug/l	0.017	0.20	0.13
IUB2814-03	Nickel-200.7	Nickel	ug/l	2.16	10	100
IUB2814-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.56	0.26	10
IUB2814-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0.32	4.0	6
IUB2814-03	Sulfate-300.0	Sulfate	mg/l	6.25	0.50	250
IUB2814-03	TDS - SM2540C	Total Dissolved Solids	mg/l	234	10	850
IUB2814-03	Thallium-200.8	Thallium	ug/l	0.038	1.0	2

Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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TestAmerica Irvine

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Project Manager

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IUB2814 <Page 68 of 72>

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

DATA QUALIFIERS AND DEFINITIONS

- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- C5** Calibration Verification recovery was below the method control limit for this analyte. An additional check standard was analyzed at the reporting limit to ensure instrument sensitivity at the reporting limit. Samples ND.
- J** Estimated result. Result is less than the reporting limit.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M13** The sample spiked had a pH of less than 2. 2-Chloroethylvinylether degrades under acidic conditions.
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- P-HS** Sample container contained headspace.
- Q** Estimated maximum possible concentration (EMPC).
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- Z** Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

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

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
 Annual Outfall 010
 Report Number: IUB2814

Sampled: 02/26/11
 Received: 02/26/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.7-Diss	Water	X	N/A
EPA 200.7	Water	X	N/A
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 218.6	Water	X	X
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
EPA 314.0	Water	X	N/A
EPA 525.2	Water	X	N/A
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM 4500-F-C	Water	X	N/A
SM2340B-Diss	Water		
SM2340B	Water	X	N/A
SM2540C	Water	X	N/A
SM4500CN-E	Water	X	N/A
SM9221 A,B,C,E	Water		

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

Subcontracted Laboratories

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnrc
 Samples: IUB2814-03

Analysis Performed: Bioassay-Acute 96hr
 Samples: IUB2814-01

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUB2814-03, IUB2814-04

Analysis Performed: Gross Alpha
Samples: IUB2814-03, IUB2814-04

Analysis Performed: Gross Beta
Samples: IUB2814-03, IUB2814-04

Analysis Performed: Radium, Combined
Samples: IUB2814-03, IUB2814-04

Analysis Performed: Strontium 90
Samples: IUB2814-03, IUB2814-04

Analysis Performed: Tritium
Samples: IUB2814-03

Analysis Performed: Uranium, Combined
Samples: IUB2814-03, IUB2814-04

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8665
Samples: IUB2814-03, IUB2814-04

Method Performed: 900
Samples: IUB2814-03, IUB2814-04

Method Performed: 901.1
Samples: IUB2814-03, IUB2814-04

Method Performed: 903.1
Samples: IUB2814-03, IUB2814-04

Method Performed: 904
Samples: IUB2814-03, IUB2814-04

Method Performed: 905
Samples: IUB2814-03, IUB2814-04

Method Performed: 906
Samples: IUB2814-03

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 010
Annual Outfall 010
Report Number: IUB2814

Sampled: 02/26/11
Received: 02/26/11

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUB2814-03

TestAmerica Irvine

Debby Wilson
Project Manager

LABORATORY REPORT



**Aquatic
Testing
Laboratories**

"dedicated to providing quality aquatic toxicity testing"

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

Date: March 5, 2011
Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

Laboratory No.: A-11022701-001, A-11022703-001
Sample I.D.: IUB2814-01, IUB2814-03 (Outfall 010)

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

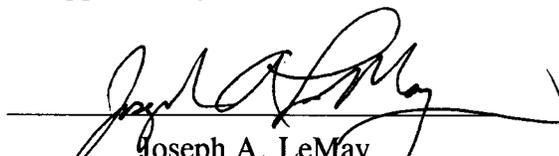
Date Sampled: 02/26/11
Date Received: 02/27/11
Temp. Received: 2.7°C, 4.9°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 02/27/11 to 03/05/11

Sample Analysis: The following analyses were performed on your sample:
Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).
Attached are the test data generated from the analysis of your sample.

Result Summary:

Acute:	<u>Survival</u>	<u>TUa</u>
Fathead Minnow:	100%	0.0
Chronic:	<u>NOEC</u>	<u>TUc</u>
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

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



Lab No.: A-11022701-001
Client/ID: TestAmerica IUB2814-01

Start Date: 02/27/2011

TEST SUMMARY

Species: *Pimephales promelas*.
Age: 7 (1-14) days.
Regulations: NPDES.
Test solution volume: 250 ml.
Feeding: prior to renewal at 48 hrs.
Number of replicates: 2.
Control water: Moderately hard reconstituted water.
Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.
Test type: Static-Renewal.
Test Protocol: EPA-821-R-02-012.
Endpoints: Percent Survival at 96 hrs.
Test chamber: 600 ml beakers.
Temperature: 20 +/- 1°C.
Number of fish per chamber: 10.
QA/QC No.: RT-110201.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.1	8.7	8.1	0	0	R 1215
	100%	20.0	9.6	7.7	0	0	
24 Hr	Control	19.4	8.4	7.8	0	0	R 1130
	100%	19.4	8.6	7.8	0	0	
48 Hr	Control	19.4	8.2	7.9	0	0	R 1200
	100%	19.5	8.2	7.9	0	0	
Renewal	Control	20.1	8.6	8.0	0	0	R 1200
	100%	20.6	9.7	7.6	0	0	
72 Hr	Control	19.6	8.1	7.8	0	0	R 1150
	100%	19.6	8.2	7.9	0	0	
96 Hr	Control	20.1	7.9	7.8	0	0	R 1200
	100%	20.1	8.4	7.9	0	0	

Comments:

Sample as received: Chlorine: 0.0 mg/l; pH: 7.7; Conductivity: 369 umho; Temp: 2.7°C;
DO: 10.5 mg/l; Alkalinity: 103 mg/l; Hardness: 72 mg/l; NH₃-N: 0.2 mg/l.
Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / No.
Control: Alkalinity: 76 mg/l; Hardness: 92 mg/l; Conductivity: 339 umho.
Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / No.
Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.
Dissolved Oxygen (DO) readings in mg/l O₂.

RESULTS

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

CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

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

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-11022703-001
Client/ID: Test America – IUB2814-03 (Outfall 010)

Date Tested: 02/27/11 to 03/05/11

TEST SUMMARY

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

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

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	25.4
100% Sample	100%	27.0
Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥ 15 young per surviving control female	Pass (25.4 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 8.6%)
Statistically significantly different concentrations relative difference > 13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date: 2/27/2011 13:00 Test ID: 11022703c Sample ID: Outfall 010
 End Date: 3/5/2011 12:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater
 Sample Date: 2/26/2011 20:26 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia
 Comments:

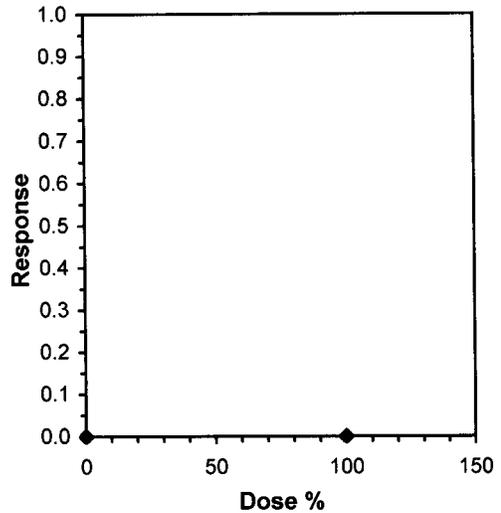
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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

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

Linear Interpolation (200 Resamples)

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



Ceriodaphnia Survival and Reproduction Test-Reproduction

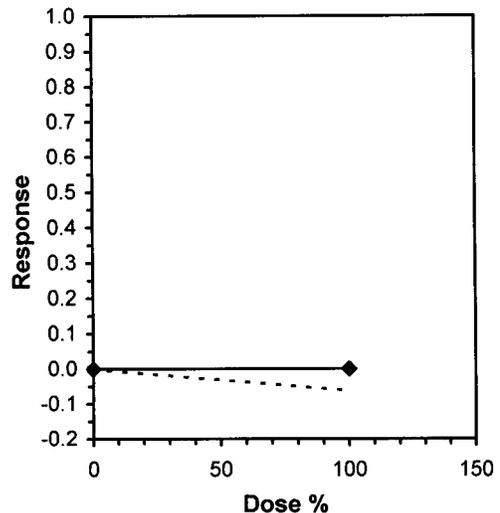
Start Date: 2/27/2011 13:00 Test ID: 11022703c Sample ID: Outfall 010
 End Date: 3/5/2011 12:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater
 Sample Date: 2/26/2011 20:26 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	27.000	27.000	26.000	24.000	24.000	28.000	21.000	28.000	27.000	22.000
100	26.000	30.000	21.000	29.000	31.000	30.000	25.000	27.000	24.000	27.000

Conc-%	Mean	N-Mean	Transform: Untransformed					N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
D-Control	25.400	1.0000	25.400	21.000	28.000	9.856	10				26.200	1.0000	
100	27.000	1.0630	27.000	21.000	31.000	11.581	10	-1.263	1.734	2.196	26.200	1.0000	

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95012	0.905	-0.5815	-0.4684		
F-Test indicates equal variances (p = 0.52)	1.56028	6.54109				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences Treatments vs D-Control	2.19648	0.08648	12.8	8.02222	0.22265	1, 18

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



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet



Lab No.: A-11022703-001

Client ID: TestAmerica - Outfall 010

Start Date: 02/27/2011

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr										
Analyst Initials:		[Signature]		— —											
Time of Readings:		1300	1300	1300	1230	1230	1400	1330	1330	1300	1200	1200	1200	—	—
Control	DO	8.3	8.1	9.0	8.8	9.0	8.1	9.4	8.2	9.2	8.3	9.0	8.6	—	—
	pH	8.0	8.0	7.9	8.0	8.0	8.0	7.9	8.0	8.0	8.0	8.0	8.0	—	—
	Temp	24.4	25.3	25.4	24.9	24.3	25.6	24.7	25.0	24.9	24.3	24.4	24.9	—	—
100%	DO	9.8	7.6	9.9	8.9	9.8	7.9	8.8	8.4	9.2	8.2	9.6	9.1	—	—
	pH	7.5	7.8	7.4	8.0	7.6	8.0	7.6	8.0	7.6	7.8	7.7	8.1	—	—
	Temp	25.0	25.6	25.3	25.1	25.2	25.6	25.5	25.0	24.8	24.2	24.5	25.3	—	—

Additional Parameters	Control	100% Sample
Conductivity (umohms)	355	345
Alkalinity (mg/l CaCO ₃)	76	106
Hardness (mg/l CaCO ₃)	94	75
Ammonia (mg/l NH ₃ -N)	<0.1	0.2

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	6A	6B	5B	4D	5E	6F	5G	4H	5I	4J	

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials	
		A	B	C	D	E	F	G	H	I	J				
Control	1	0	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	2	0	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	3	5	4	5	3	3	5	3	3	0	3	34	10	[Signature]	
	4	7	0	7	7	6	7	7	8	4	7	60	10	[Signature]	
	5	0	9	0	14	0	16	0	0	9	0	48	10	[Signature]	
	6	15	14	14	0	15	0	11	17	14	12	112	10	[Signature]	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	27	27	26	24	24	28	21	28	27	22	254	10	[Signature]	
100%	1	0	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	2	0	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]
	3	3	5	3	4	5	4	3	4	4	4	39	10	[Signature]	
	4	8	0	7	9	7	9	7	8	7	7	69	10	[Signature]	
	5	15	7	0	16	19	17	15	0	0	16	105	10	[Signature]	
	6	10	18	11	0	0	18	19	15	13	0	57	10	[Signature]	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	26	30	21	29	31	30	25	27	24	27	270	10	[Signature]	

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



***CHAIN
OF
CUSTODY***

Subcontract Order - TestAmerica Irvine (IUB2814)

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
 4350 Transport Street, Unit 107
 Ventura, CA 93003
 Phone : (805) 650-0546
 Fax: (805) 650-0756
 Project Location: California
 Receipt Temperature: 2-7 °C Ice: Y / N

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

Analysis	Units	Expires	Comments
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Sample ID: IUB2814-01 (Outfall 010 (Grab) - Water)

Sampled: 02/26/11 12:00

Bioassay-Acute 96hr	% Survival	02/28/11 00:00	FH minnow, EPA/821-R02-012, Sub to Aquatic testing
---------------------	------------	----------------	--

Containers Supplied:
 1 gal Poly (L)

Released By [Signature]
 Released By [Signature]

2-27-11/8:00
 Date/Time
2-27-11/11:40
 Date/Time

Received By [Signature]
 Received By [Signature]
2-27-11/8:00
 Date/Time
2-27-11
 Date/Time 11:40

Subcontract Order - TestAmerica Irvine (IUB2814)

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
4350 Transport Street, Unit 107
Ventura, CA 93003
Phone: (805) 650-0546
Fax: (805) 650-0756
Project Location: California
Receipt Temperature: 4.9 °C Ice: (Y) N

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

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

Sample ID: IUB2814-01 (Outfall 010 (Grab) - Water)

Sampled: 02/26/11 12:00

Bioassay-Acute 96hr	% Survival	02/28/11 00:00	FH minnow, EPA/821-R02-012. Sub to Aquatic testing
---------------------	------------	----------------	--

Containers Supplied:
1 gal Poly (L)

Sample ID: IUB2814-03 (Outfall 010 (Composite) - Water)

Sampled: 02/26/11 20:26

Bioassay-7 dy Chrn	N/A	02/28/11 08:26	Cerio, EPA/821-R02-013, Sub to Aquatic testing
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Containers Supplied:
1 gal Poly (O)


Released By

2/27/11
Date/Time


Received By

2-27-11 11:40
Date/Time

Released By

Date/Time

Received By

Date/Time



***REFERENCE
TOXICANT
DATA***

FATHEAD MINNOW ACUTE
Method 2000.0
Reference Toxicant - SDS



QA/QC Batch No.: RT-110201

TEST SUMMARY

Species: *Pimephales promelas*.

Age: 13 days old.

Regulations: NPDES.

Test chamber volume: 250 ml.

Feeding: Prior to renewal at 48 hrs.

Temperature: 20 +/- 1°C.

Number of replicates: 2.

Dilution water: MHSF.

Source: In-lab culture.

Test type: Static-Renewal.

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

Endpoints: LC50 at 96 hrs.

Test chamber: 600 ml beakers.

Aeration: None.

Number of organisms per chamber: 10.

Photoperiod: 16/8 hrs light/dark.

TEST DATA

Date/Time:	INITIAL			24 Hr					48 Hr				
	<u>2-1-11 1100</u>			<u>2-2-11 1030</u>					<u>2-3-11 1030</u>				
	<u>[Signature]</u>			<u>[Signature]</u>					<u>[Signature]</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
A							B	A				B	
Control	19.2	9.2	8.2	19.2	7.9	8.0	0	0	19.2	8.2	7.8	0	0
1.0 mg/l	19.2	9.1	8.2	19.1	7.9	8.0	0	0	19.1	8.4	7.8	0	0
2.0 mg/l	19.3	9.1	8.2	19.2	8.1	7.9	0	0	19.2	8.5	7.8	0	0
4.0 mg/l	19.3	9.2	8.2	19.1	8.2	7.9	2	4	19.1	8.2	7.9	0	0
8.0 mg/l	19.3	9.2	8.2	19.2	7.9	7.8	10	10	-	-	-	-	-

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

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

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

Yes (response curve normal)

No (dose interrupted indicated or non-normal)

TEST ORGANISM LOG



FATHEAD MINNOW - LARVAL (*Pimephales promelas*)

QA/QC BATCH NO.: RT-110201

SOURCE: In-Lab Culture

DATE HATCHED: (-18-11

APPROXIMATE QUANTITY: 400

GENERAL APPEARANCE: good

MORTALITIES 48 HOURS PRIOR TO
TO USE IN TESTING: 0

DATE USED IN LAB: 2/1/11

AVERAGE FISH WEIGHT: 0.006 gm

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

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

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

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

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

ACCLIMATION WATER QUALITY:

Temp.: 19.2°C

pH: 8.2

Ammonia: <0.1 mg/l NH₃-N

DO: 9.2 mg/l

Alkalinity: 66 mg/l

Hardness: 2 mg/l

READINGS RECORDED BY: _____

DATE: 2-2-11

Acute Fish Test-96 Hr Survival

Start Date: 2/1/2011 11:00 Test ID: RT110201 Sample ID: REF-Ref Toxicant
 End Date: 2/5/2011 10:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SDS-Sodium dodecyl sulfate
 Sample Date: 2/1/2011 Protocol: ACUTE-EPA-821-R-02-012 Test Species: PP-Pimephales promelas

Comments:

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

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

Auxiliary Tests

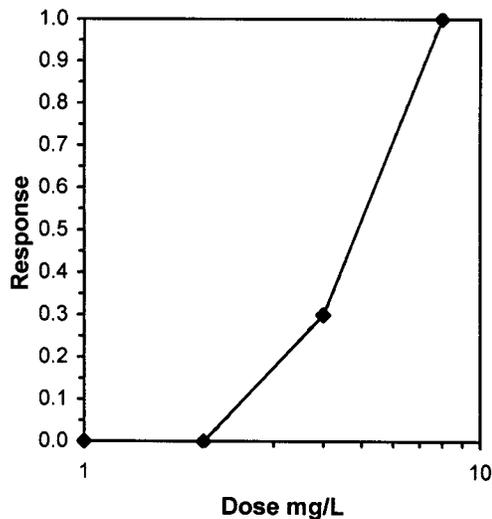
Normality of the data set cannot be confirmed

Equality of variance cannot be confirmed

Statistic Critical Skew Kurt

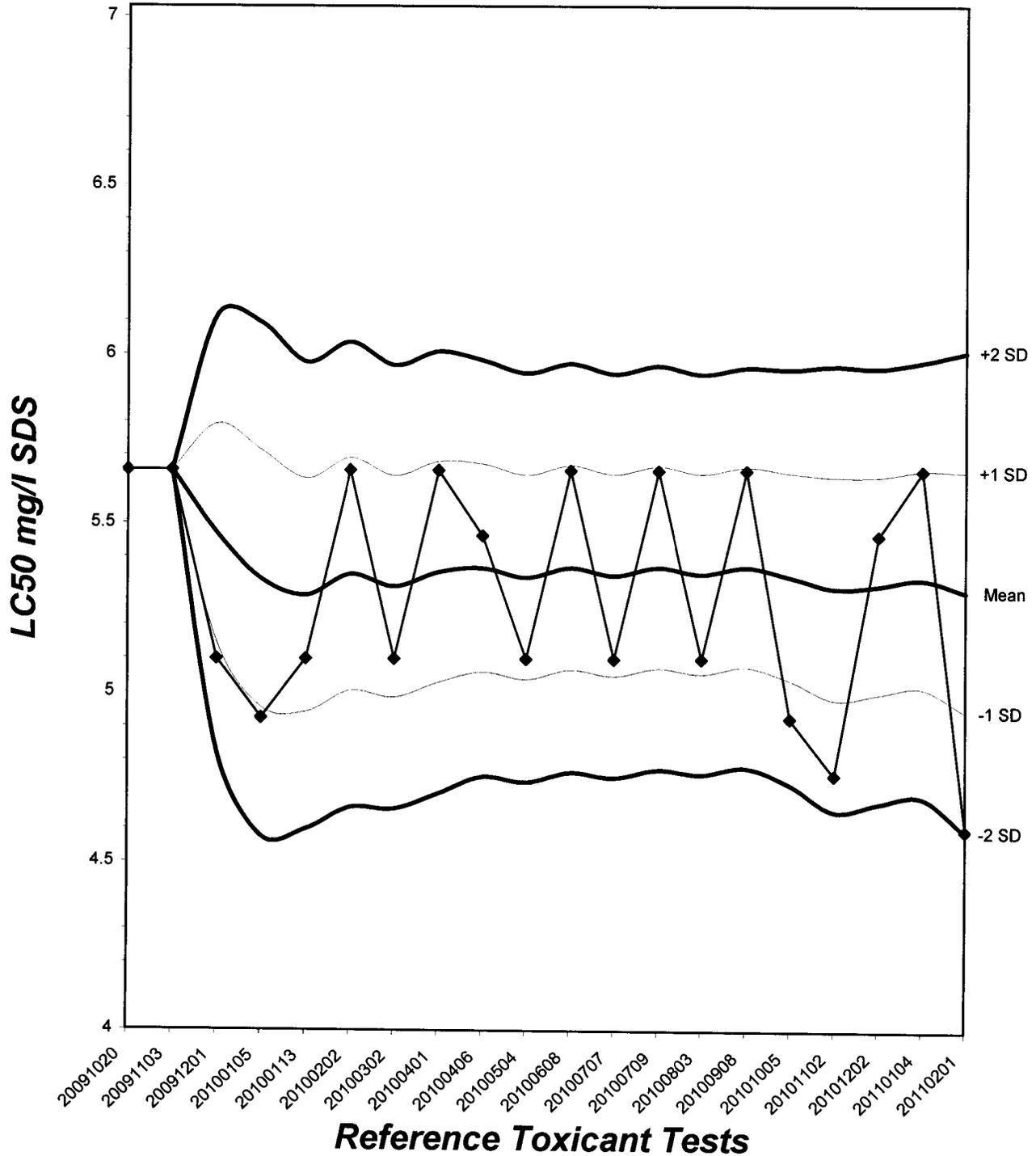
Trimmed Spearman-Kärber

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



Fathead Minnow Acute Laboratory Control Chart

CV% = 6.7

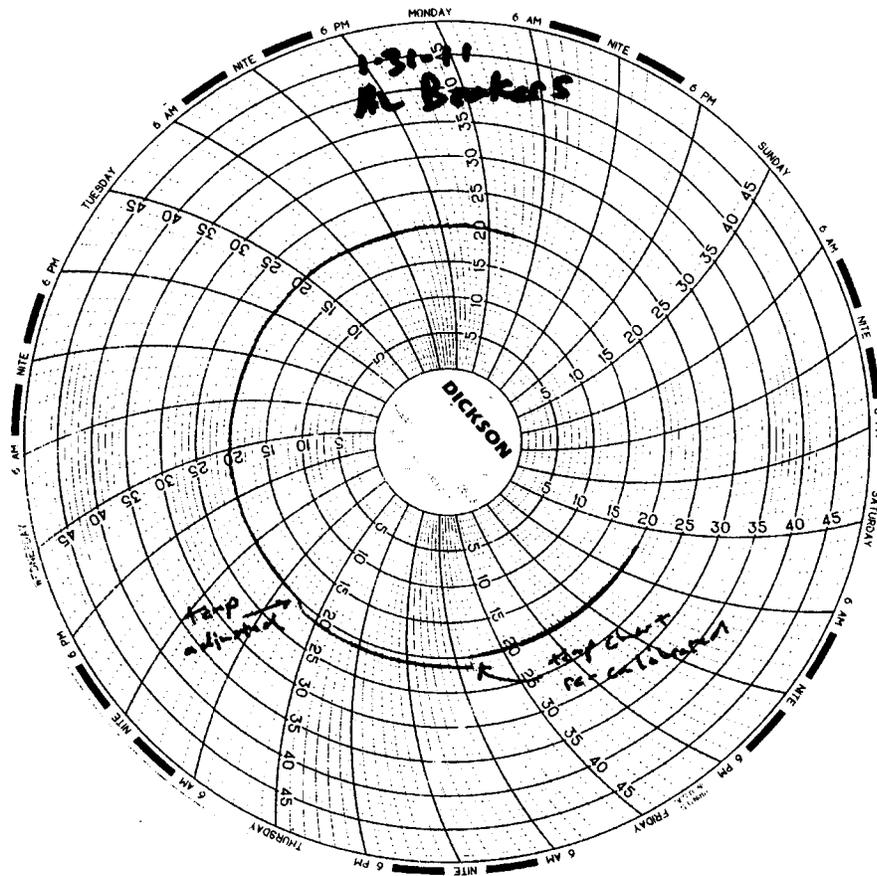


Test Temperature Chart

Test No: *RT-110201*

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

Acceptable Range: *20 +/- 1°C*





Ceriodaphnia dubia
Chronic Toxicity Test
Reference
Toxicant
Data

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-110208

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

TEST SUMMARY

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

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

RESULTS SUMMARY

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

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

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

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

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

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

Comments:

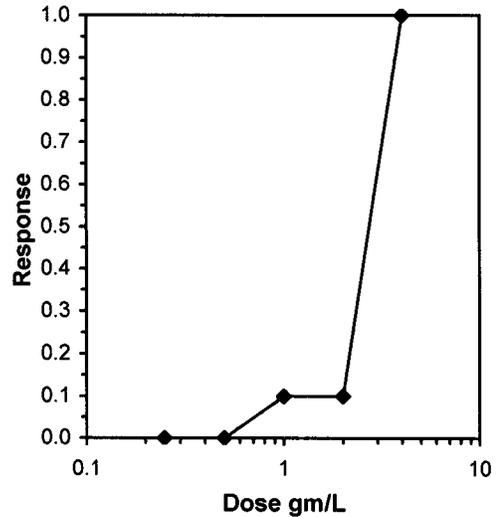
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000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

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

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

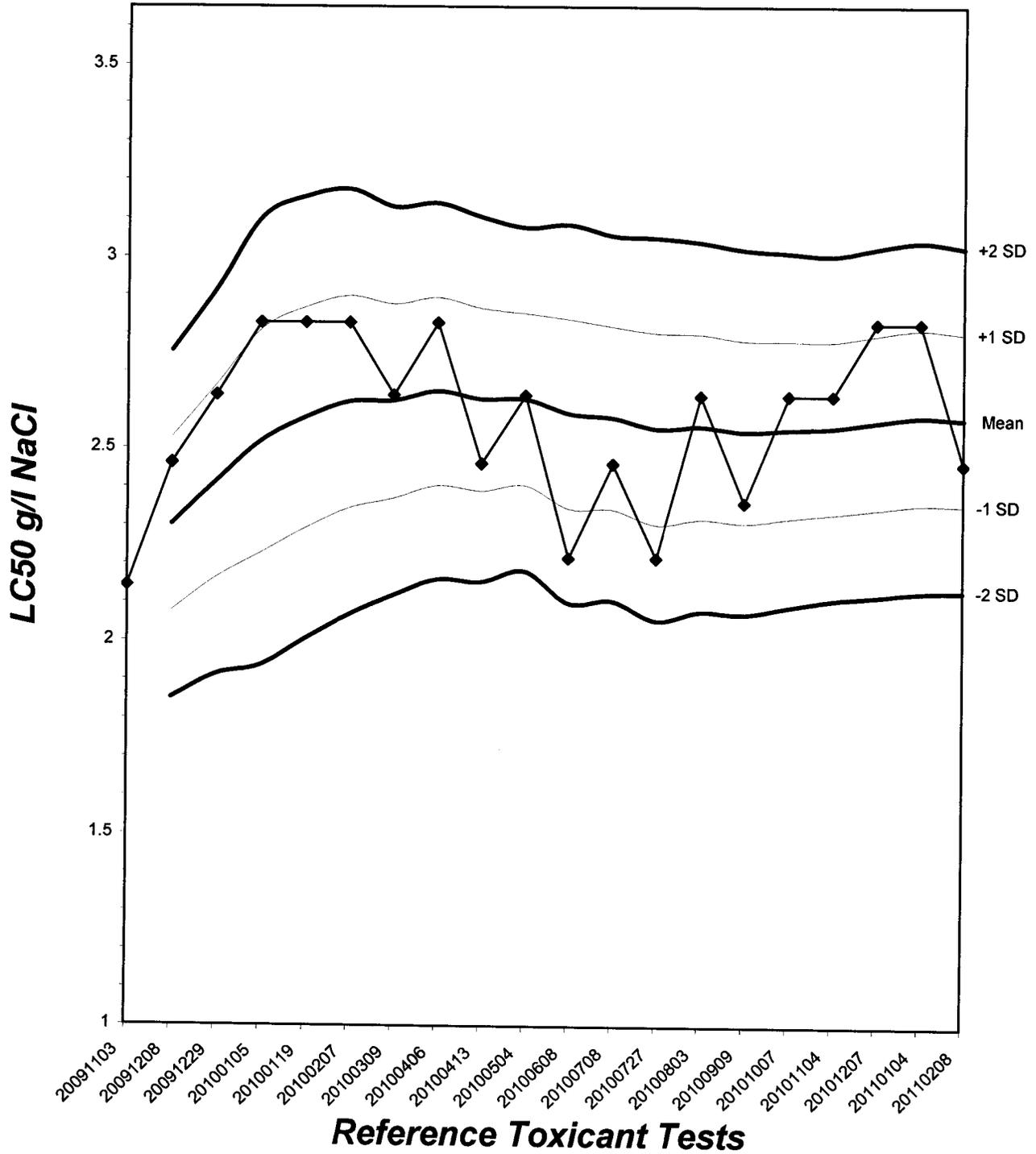
Trimmed Spearman-Kärber

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



Ceriodaphnia dubia Chronic Survival Laboratory Control Chart

CV% = 8.66



Ceriodaphnia Survival and Reproduction Test-Reproduction

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

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

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

Auxiliary Tests

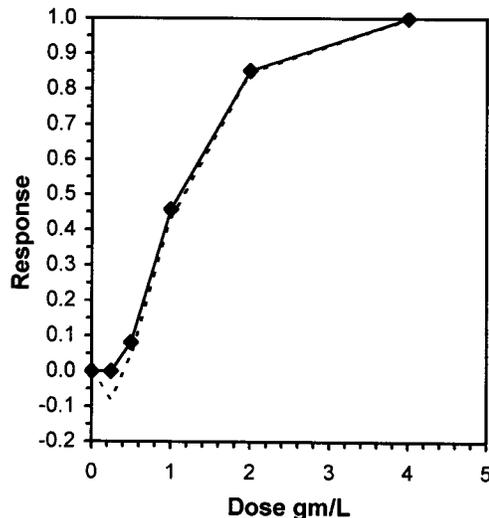
	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.93185	0.947	-0.9406	2.62377
Bartlett's Test indicates unequal variances (p = 7.37E-03)	13.9773	13.2767		

Hypothesis Test (1-tail, 0.05)

	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	
Treatments vs D-Control				

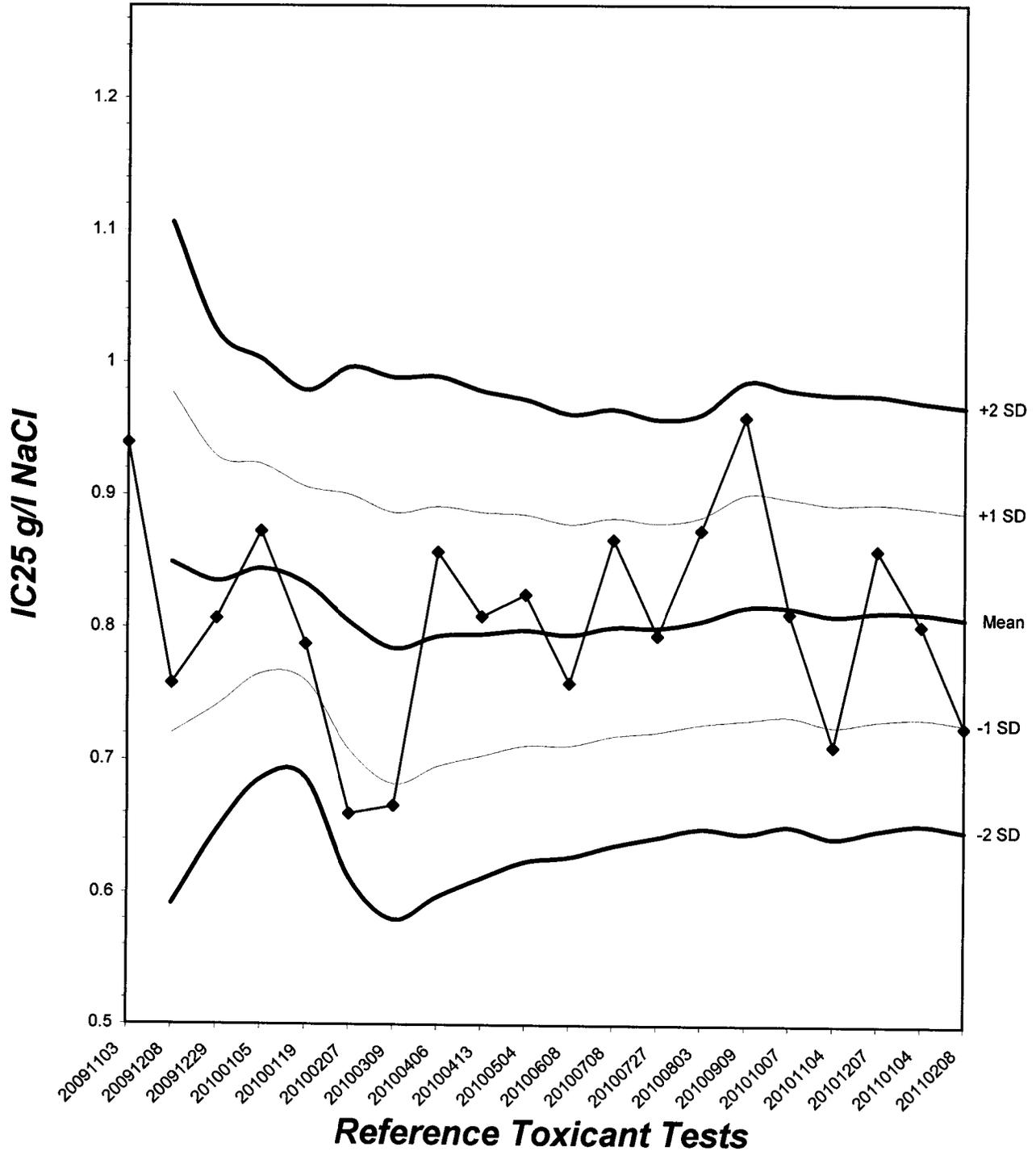
Linear Interpolation (200 Resamples)

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



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

CV% = 9.91



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



QA/QC No.: RT-110208

Start Date: 02/08/2011

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

Circled fourth brood not used in statistical analysis.

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

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



QA/QC No.: RT-110208

Start Date: 02/08/2011

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

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

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl Water Chemistries Raw Data Sheet



QA/QC No.: RT-110208

Start Date: 02/08/2011

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

Dissolved Oxygen (DO) readings are in mg/l O₂; Temperature (Temp) readings are in °C.

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

Source of Neonates

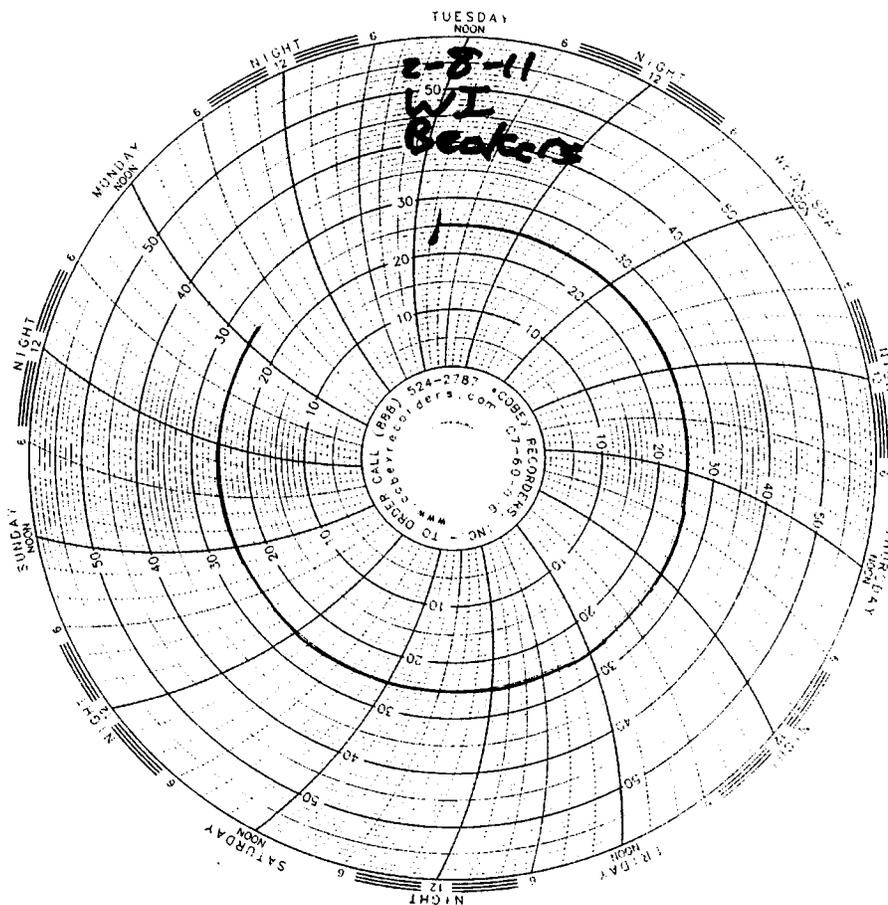
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	2A	3B	1C	2D	1E	1F	2G	3H	1I	3J

Test Temperature Chart

Test No: RT-110208

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

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





EBERLINE
SERVICES

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March 30, 2011

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

Reference: Test America-Irvine IUB2814
Eberline Analytical Report S103013-8665
Sample Delivery Group 8665

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUB2814. The samples were received on March 1, 2011.

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

Sincerely,

N. Joseph Verville
Client Services Manager

NJV/ljb

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8665 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

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

3.0 Method Errors

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

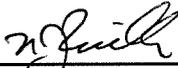
Analysis	Method Error
Gross alpha	20.6%
Gross beta	11.0%
Tritium	10.0%
Sr-90	10.4%
Ra-226	16.4%
Ra-228	10.4%
Uranium, Total	
Gamma Spec.	7.0%

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 other problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** – The initial Ra-226 QC LCS recovery was less than the lower control limit of 80% therefore the LCS was re-emanated and recounted. The LCS recovery after the rework was within control limits and is reported herein. No other problems were encountered during the processing of the samples.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.

5.0 Case Narrative Certification Statement

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



N. Joseph Verville
Client Services Manager

3/30/11

Date

EBERLINE ANALYTICAL
SDG 8665

SDG 8665
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2814

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

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UB

Prepared by _____

Reviewed by _____

N. Joseph Verville

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8665

SDG 8665
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB2814

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

DUPLICATES

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 1

Lab id EAS
Protocol TA
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Version 3.06
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EBERLINE ANALYTICAL

SDG 8665

SDG 8665
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUB2814

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 2

Lab id EAS
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EBERLINE ANALYTICAL

SDG 8665

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Client Test America, Inc.
Contract IUB2814

LAB SAMPLE SUMMARY

LAB							CHAIN OF	
SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CUSTODY	COLLECTED	
S103013-01	IUB2814-03	Boeing - SSFL	WATER			IUB2814	02/26/11 20:26	
S103013-02	IUB2814-04 (TRIP-BLANK)	Boeing - SSFL	WATER			IUB2814	02/26/11 20:26	
S103013-03	Lab Control Sample		WATER					
S103013-04	Method Blank		WATER					
S103013-05	Duplicate (S103013-01)	Boeing - SSFL	WATER				02/26/11 20:26	

LAB SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
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EBERLINE ANALYTICAL

SDG 8665

SDG 8665
 Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
 Contract IUB2814

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8665	IUB2814	IUB2814-03	WATER		10.0 L		03/01/11 3	S103013-01		8665-001
		IUB2814-04 (TRIP-BLANK)	WATER		10.0 L		03/01/11 3	S103013-02		8665-002
		Method Blank	WATER					S103013-04		8665-004
		Lab Control Sample	WATER					S103013-03		8665-003
		Duplicate (S103013-01)	WATER		10.0 L		03/01/11 3	S103013-05		8665-005

QC SUMMARY

Page 1

SUMMARY DATA SECTION

Page 4

Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8665

SDG 8665
Contact N. Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
Contract IUB2814

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED			QUALIFIERS	
			BATCH	2σ %	CLIENT	MORE	RE BLANK		LCS
Beta Counting									
AC	WATER	Radium-228 in Water	7281-046	10.4	2		1	1	1/1
SR	WATER	Strontium-90 in Water	7281-046	10.4	2		1	1	1/1
Gas Proportional Counting									
80A	WATER	Gross Alpha in Water	7281-046	20.6	2		1	1	1/1
80B	WATER	Gross Beta in Water	7281-046	11.0	2		1	1	1/1
Gamma Spectroscopy									
GAM	WATER	Gamma Emitters in Water	7281-046	7.0	2		1	1	1/1
Kinetic Phosphorimetry, ug									
U_T	WATER	Uranium, Total	7281-046		2		1	1	1/1
Liquid Scintillation Counting									
H	WATER	Tritium in Water	7281-046	10.0	1		1	1	1/1
Radon Counting									
RA	WATER	Radium-226 in Water	7281-046	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 03/30/11

EBERLINE ANALYTICAL

SDG 8665

SDG 8665
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2814

LAB WORK SUMMARY

LAB SAMPLE	CLIENT SAMPLE ID										
COLLECTED	LOCATION	MATRIX		SUF-							
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD		
S103013-01	IUB2814-03		8665-001	80A/80		03/14/11	03/15/11	BW	Gross Alpha in Water		
02/26/11	Boeing - SSFL	WATER	8665-001	80B/80		03/14/11	03/15/11	BW	Gross Beta in Water		
03/01/11	IUB2814		8665-001	AC		03/18/11	03/21/11	BW	Radium-228 in Water		
			8665-001	GAM		03/08/11	03/15/11	MWT	Gamma Emitters in Water		
			8665-001	H		03/22/11	03/25/11	BW	Tritium in Water		
			8665-001	RA		03/19/11	03/28/11	BW	Radium-226 in Water		
			8665-001	SR		03/16/11	03/22/11	BW	Strontium-90 in Water		
			8665-001	U_T		03/15/11	03/16/11	BW	Uranium, Total		
S103013-02	IUB2814-04 (TRIP-BLANK)		8665-002	80A/80		03/14/11	03/15/11	BW	Gross Alpha in Water		
02/26/11	Boeing - SSFL	WATER	8665-002	80B/80		03/14/11	03/15/11	BW	Gross Beta in Water		
03/01/11	IUB2814		8665-002	AC		03/18/11	03/21/11	BW	Radium-228 in Water		
			8665-002	GAM		03/08/11	03/15/11	MWT	Gamma Emitters in Water		
			8665-002	RA		03/19/11	03/28/11	BW	Radium-226 in Water		
			8665-002	SR		03/16/11	03/22/11	BW	Strontium-90 in Water		
			8665-002	U_T		03/15/11	03/16/11	BW	Uranium, Total		
S103013-03	Lab Control Sample		8665-003	80A/80		03/14/11	03/15/11	BW	Gross Alpha in Water		
		WATER	8665-003	80B/80		03/14/11	03/15/11	BW	Gross Beta in Water		
			8665-003	AC		03/18/11	03/21/11	BW	Radium-228 in Water		
			8665-003	GAM		03/08/11	03/15/11	MWT	Gamma Emitters in Water		
			8665-003	H		03/22/11	03/25/11	BW	Tritium in Water		
			8665-003	RA	R1	03/25/11	03/28/11	BW	Radium-226 in Water		
			8665-003	SR		03/16/11	03/22/11	BW	Strontium-90 in Water		
			8665-003	U_T		03/15/11	03/16/11	BW	Uranium, Total		
S103013-04	Method Blank		8665-004	80A/80		03/14/11	03/15/11	BW	Gross Alpha in Water		
		WATER	8665-004	80B/80		03/14/11	03/15/11	BW	Gross Beta in Water		
			8665-004	AC		03/18/11	03/21/11	BW	Radium-228 in Water		
			8665-004	GAM		03/08/11	03/15/11	MWT	Gamma Emitters in Water		
			8665-004	H		03/22/11	03/25/11	BW	Tritium in Water		
			8665-004	RA		03/19/11	03/28/11	BW	Radium-226 in Water		
			8665-004	SR		03/16/11	03/22/11	BW	Strontium-90 in Water		
			8665-004	U_T		03/15/11	03/16/11	BW	Uranium, Total		

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8665

SDG 8665
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2814

WORK SUMMARY, cont.

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX	SUF-							
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S103013-05	Duplicate (S103013-01)			8665-005	80A/80	03/14/11	03/15/11	BW	Gross Alpha in Water	
02/26/11	Boeing - SSFL	WATER		8665-005	80B/80	03/14/11	03/15/11	BW	Gross Beta in Water	
03/01/11				8665-005	AC	03/18/11	03/21/11	BW	Radium-228 in Water	
				8665-005	GAM	03/10/11	03/15/11	MWT	Gamma Emitters in Water	
				8665-005	H	03/22/11	03/25/11	BW	Tritium in Water	
				8665-005	RA	03/19/11	03/28/11	BW	Radium-226 in Water	
				8665-005	SR	03/16/11	03/22/11	BW	Strontium-90 in Water	
				8665-005	U_T	03/15/11	03/16/11	BW	Uranium, Total	

COUNTS OF TESTS BY SAMPLE TYPE

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

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EBERLINE ANALYTICAL

SDG 8665

8665-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8665</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUB2814</u>
Lab sample id <u>S103013-03</u>	Client sample id <u>Lab Control Sample</u>
Dept sample id <u>8665-003</u>	Material/Matrix <u>WATER</u>

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ IMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	107	5.7	1.56	3.00		80A	101	4.0	106	77-123	70-130
Gross Beta	86.8	3.5	2.39	4.00		80B	87.2	3.5	100	88-112	70-130
Tritium	2780	160	168	500		H	2940	120	95	88-112	80-120
Radium-226	59.5	2.4	0.867	1.00		RA	55.7	2.2	107	82-118	80-120
Radium-228	16.1	0.55	0.429	1.00		AC	15.1	0.60	107	88-112	60-140
Strontium-90	20.3	1.8	0.961	2.00		SR	17.4	0.70	117	84-116	80-120
Uranium, Total	53.9	6.4	0.223	1.00		U_T	56.5	2.3	95	88-112	80-120
Cobalt-60	123	4.6	2.31	10.0		GAM	126	5.0	98	91-109	80-120
Cesium-137	116	4.0	2.64	20.0		GAM	110	4.4	106	91-109	80-120

QC-LCS #77579

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>03/30/11</u>

EBERLINE ANALYTICAL

SDG 8665

8665-005

IUB2814-03

DUPLICATE

SDG <u>8665</u> Contact <u>N. Joseph Verville</u> DUPLICATE Lab sample id <u>S103013-05</u> Dept sample id <u>8665-005</u>	ORIGINAL Lab sample id <u>S103013-01</u> Dept sample id <u>8665-001</u> Received <u>03/01/11</u>	Client <u>Test America, Inc.</u> Contract <u>IUB2814</u> Client sample id <u>IUB2814-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>02/26/11 20:26</u> <u>10.0 L</u> Chain of custody id <u>IUB2814</u>
---	--	--

ANALYTE	DUPLICATE		MDA		RDL		QUALI- FIERS	TEST	ORIGINAL		MDA		QUALI- FIERS	RPD %	3σ TOT	DER σ
	pCi/L	2σ ERR (COUNT)	pCi/L		pCi/L				pCi/L	2σ ERR (COUNT)	pCi/L					
Gross Alpha	1.44	0.58	0.572		3.00		J	80A	1.04	0.53	0.645		J	32	105	0.9
Gross Beta	3.86	0.91	1.35		4.00		J	80B	4.34	0.69	0.934			12	48	0.7
Tritium	-42.1	99	170		500		U	H	-106	98	172		U	-		0.9
Radium-226	0.467	0.39	0.618		1.00		U	RA	0.436	0.36	0.562		U	-		0.1
Radium-228	0.062	0.16	0.406		1.00		U	AC	0.016	0.17	0.421		U	-		0.4
Strontium-90	-0.199	0.43	1.10		2.00		U	SR	-0.031	0.62	1.35		U	-		0.4
Uranium, Total	0.574	0.065	0.022		1.00		J	U_T	0.618	0.070	0.022		J	7	24	0.9
Potassium-40	U		24.8		25.0		U	GAM	U		19.0		U	-		0.4
Cesium-137	U		1.52		20.0		U	GAM	U		1.67		U	-		0.1

QC-DUP#1 77581

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>03/30/11</u>

EBERLINE ANALYTICAL

SDG 8665

8665-001

IUB2814-03

DATA SHEET

SDG <u>8665</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUB2814</u>
Lab sample id <u>S103013-01</u>	Client sample id <u>IUB2814-03</u>
Dept sample id <u>8665-001</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>03/01/11</u>	Collected/Volume <u>02/26/11 20:26</u> <u>10.0 L</u>
	Chain of custody id <u>IUB2814</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	1.04	0.53	0.645	3.00	J	80A
Gross Beta	12587472	4.34	0.69	0.934	4.00		80B
Tritium	10028178	<u>-106</u>	98	172	500	U	H
Radium-226	13982633	0.436	0.36	0.562	1.00	U	RA
Radium-228	15262201	0.016	0.17	0.421	1.00	U	AC
Strontium-90	10098972	-0.031	0.62	1.35	2.00	U	SR
Uranium, Total		0.618	0.070	0.022	1.00	J	U_T
Potassium-40	13966002	U		19.0	25.0	U	GAM
Cesium-137	10045973	U		1.67	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>03/30/11</u>

EBERLINE ANALYTICAL

SDG 8665

8665-002

IUB2814-04 (TRIP-BLANK)

DATA SHEET

SDG <u>8665</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUB2814</u>
Lab sample id <u>S103013-02</u>	Client sample id <u>IUB2814-04 (TRIP-BLANK)</u>
Dept sample id <u>8665-002</u>	Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u>
Received <u>03/01/11</u>	Collected/Volume <u>02/26/11 20:26</u> <u>10.0 L</u>
	Chain of custody id <u>IUB2814</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	-0.023	0.15	0.292	3.00	U	80A
Gross Beta	12587472	-0.137	0.58	0.971	4.00	U	80B
Radium-226	13982633	-0.042	0.32	0.605	1.00	U	RA
Radium-228	15262201	<u>-0.170</u>	0.15	0.404	1.00	U	AC
Strontium-90	10098972	0.085	0.56	1.21	2.00	U	SR
Uranium, Total		0	0.010	0.022	1.00	U	U_T
Potassium-40	13966002	U		16.0	25.0	U	GAM
Cesium-137	10045973	U		1.22	20.0	U	GAM

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>03/30/11</u>

EBERLINE ANALYTICAL

SDG 8665

Test SR Matrix WATER
 SDG 8665
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUB2814

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

RESULTS

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

Preparation batch 7281-046

S103013-01	8665-001	IUB2814-03	U
S103013-02	8665-002	IUB2814-04 (TRIP-BLANK)	U
S103013-03	8665-003	Lab Control Sample	ok
S103013-04	8665-004	Method Blank	U
S103013-05	8665-005	Duplicate (S103013-01)	- U

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

METHOD PERFORMANCE

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

Preparation batch 7281-046 2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg 046

S103013-01	IUB2814-03	1.35	0.500	78	50	18	03/15/11	03/16	GRB-206
S103013-02	IUB2814-04 (TRIP-BLANK)	1.21	0.500	81	50	18	03/15/11	03/16	GRB-207
S103013-03	Lab Control Sample	0.961	0.500	76	50		03/15/11	03/16	GRB-229
S103013-04	Method Blank	1.04	0.500	82	50		03/15/11	03/16	GRB-230
S103013-05	Duplicate (S103013-01)	1.10	0.500	84	50	18	03/15/11	03/16	GRB-231

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

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

AVERAGES ± 2 SD MDA 1.13 ± 0.304
 FOR 5 SAMPLES YIELD 80 ± 6

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 Version Ver 1.0
 Form DVD-LMS
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EBERLINE ANALYTICAL

SDG 8665

Test U T Matrix WATER

SDG 8665

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUB2814

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

RESULTS

LAB	RAW	SUF-		Uranium,	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7281-046					
S103013-01			8665-001	IUB2814-03	0.618 J
S103013-02			8665-002	IUB2814-04 (TRIP-BLANK)	U
S103013-03			8665-003	Lab Control Sample	ok
S103013-04			8665-004	Method Blank	U
S103013-05			8665-005	Duplicate (S103013-01)	ok J

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

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-				
SAMPLE ID	TEST	FIX	CLIENT	SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-046			2σ prep error		Reference Lab Notebook No. 7281 pg 046												
S103013-01			IUB2814-03		0.022	0.0200							17	03/15/11	03/15	KPA-001	
S103013-02			IUB2814-04 (TRIP-BLANK)		0.022	0.0200							17	03/15/11	03/15	KPA-001	
S103013-03			Lab Control Sample		0.223	0.0200								03/15/11	03/15	KPA-001	
S103013-04			Method Blank		0.022	0.0200								03/15/11	03/15	KPA-001	
S103013-05			Duplicate (S103013-01)		0.022	0.0200							17	03/15/11	03/15	KPA-001	

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD MDA 0.062 ± 0.180
FOR 5 SAMPLES YIELD _____ ± _____

METHOD SUMMARIES

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REPORT GUIDE

Client Test America, Inc.
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SAMPLE SUMMARY

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

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

The following notes apply to these reports:

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

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

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

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SDG 8665
 Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
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PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

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

These qualifiers should be reviewed as follows:

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

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

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WORK SUMMARY

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

The following notes apply to this report:

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

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DATA SHEET

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

The following notes apply to this report:

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

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

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

The following qualifiers are defined by the DVD system:

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

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SDG 8665

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 Contract IUB2814

DATA SHEET

- J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
 - B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.
- Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.
- For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.
- L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.
 - H Similar to 'L' except the recovery was high.
 - P The RESULT is 'preliminary'.
 - X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.
 - 2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

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

The following values are underlined to indicate possible problems:

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

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DATA SHEET

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

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

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Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
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SDG 8665

SDG 8665
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB2814

LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

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DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:

1. A fixed percentage specified in the protocol.

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

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

2. The error of ADDED.

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

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

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MATRIX SPIKE

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

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

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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

- * Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
 - * If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.
- MDAs are underlined if greater than the printed RDL.
- * Aliquots are underlined if less than the nominal value specified for the method.
 - * Preparation factors are underlined if greater than the nominal value specified for the method.
 - * Dilution factors are underlined if greater than the nominal value specified for the method.
 - * Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.
 - * Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.
 - * Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.
 - * Count times are underlined if less than the nominal value

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specified for the method.

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

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

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

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

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

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

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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.

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RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA
 Date/Time received 03/01/11 0940 CoC No. IUB2814
 Container I.D. No. 60 CTEST #5 Requested TAT (Days) STD P.O. Received Yes [] No []

INSPECTION

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

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
 15. Inspected by Mey Date: 03/02/11 Time: 1105

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>See Skipped</u>	<u>Low</u>						

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

APPENDIX G

Section 45

Outfall 010 – March 21, 2011

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC2361

Prepared by

MECX, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: IUC2361
 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 010	IUC2361-02	G1C240483-001, S103140	Water	3/21/2011 08:00	245.1, 245.1 (Diss), 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, ASTM 5174, SM2540D

II. Sample Management

No anomalies were observed regarding sample management. The samples were received above the temperature limit at Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: April 10, 2011

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

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

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

B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks

Date Reviewed: April 11, 2011

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA 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.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable to 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: April 11, 2011

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

- Holding Times: The tritium sample was analyzed within 180 days of collection. The remaining aliquots were prepared within the five-day analytical holding time for unpreserved samples.

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

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

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

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

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

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

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: April 11, 2011

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

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

Validated Sample Result Forms IUC2361

Analysis Method 900

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	3.19	3	0.415	pCi/L		J	C
Gross Beta	12587472	5.56	4	0.839	pCi/L			

Analysis Method 901.1

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.65	pCi/L	U	U	
Potassium-40	13966002	ND	25	33.4	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	-0.078	1	0.921	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.096	1	0.418	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.003	2	0.72	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-7.57	500	164	pCi/L	U	U	

Analysis Method ASTM 5174-91

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.673	1	0.02	pCi/L	Jb	J	DNQ

Analysis Method EPA 245.1

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 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	

Analysis Method EPA 245.1-Diss

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 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	

Analysis Method EPA-5 1613B

Sample Name Outfall 010 (Composite) **Matrix Type:** WATER **Validation Level:** IV
Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 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	3.3e-005	0.00005	0.0000025	ug/L	J	J	DNQ
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000022	ug/L	J, Q	UJ	*III
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000034	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000013	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000005	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDD	57653-85-7	1.2e-006	0.00005	0.0000012	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000004	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000011	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000006	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000015	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000012	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000004	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000012	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000009	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000011	ug/L		U	
OCDD	3268-87-9	0.0005	0.0001	0.0000059	ug/L	B		
OCDF	39001-02-0	5.5e-005	0.0001	0.0000038	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	8.2e-005	0.00005	0.0000025	ug/L	J	J	DNQ
Total HpCDF	38998-75-3	3.5e-005	0.00005	0.0000022	ug/L	J, Q	J	DNQ, *III
Total HxCDD	34465-46-8	4.4e-006	0.00005	0.0000011	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	6.1e-006	0.00005	0.0000004	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000015	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000012	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000009	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000011	ug/L		U	

Analysis Method SM 2540D

Sample Name Outfall 010 (Composite) **Matrix Type:** Water **Validation Level:** IV
Lab Sample Name: IUC2361-02 **Sample Date:** 3/21/2011 8:00:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	110	10	1.0	mg/l			

APPENDIX G

Section 46

Outfall 010 – March 21, 2011

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Routine Outfall 010

Sampled: 03/21/11-03/23/11
Received: 03/21/11
Issued: 04/15/11 06:45

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

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

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

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

COMMENTS: No significant observations were made.

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

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

Some analytes are reported at a concentration below the estimated detection limit (EDL). The data is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

LABORATORY ID

IUC2361-01
IUC2361-02
IUC2361-03

CLIENT ID

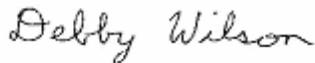
Outfall 010 (Grab)
Outfall 010 (Composite)
Trip Blank

MATRIX

Water
Water
Water

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

Reviewed By:



TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-01 (Outfall 010 (Grab) - Water)					Sampled: 03/21/11				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C3681	1.3	4.7	ND	1	DA	03/29/11	

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Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: ug/l									
Mercury	EPA 245.1	11C3102	0.10	0.20	ND	1	DB	03/23/11	
Antimony	EPA 200.8	11C3306	0.60	4.0	2.3	2	KB1	03/24/11	RL1, J
Cadmium	EPA 200.8	11C3306	0.20	2.0	ND	2	KB1	03/24/11	RL1
Copper	EPA 200.8	11C3306	1.0	4.0	6.4	2	KB1	03/24/11	
Lead	EPA 200.8	11C3306	0.40	2.0	4.4	2	KB1	03/24/11	
Thallium	EPA 200.8	11C3306	0.40	2.0	ND	2	KB1	03/24/11	RL1

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Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water) - cont.					Sampled: 03/21/11				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11C3105	0.10	0.20	ND	1	DB	03/23/11	
Antimony	EPA 200.8-Diss	11C3506	0.30	2.0	0.33	1	RDC	03/28/11	J
Cadmium	EPA 200.8-Diss	11C3506	0.10	1.0	ND	1	RDC	03/28/11	
Copper	EPA 200.8-Diss	11C3506	0.50	2.0	1.7	1	RDC	03/28/11	J
Lead	EPA 200.8-Diss	11C3506	0.20	1.0	ND	1	RDC	03/28/11	
Thallium	EPA 200.8-Diss	11C3506	0.20	1.0	ND	1	RDC	03/28/11	

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Sampled: 03/21/11-03/23/11
 Received: 03/21/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water) - cont.					Sampled: 03/21/11				
Reporting Units: mg/l									
Chloride	EPA 300.0	11C2884	0.30	0.50	18	1	NN	03/22/11	
Nitrate/Nitrite-N	EPA 300.0	11C2884	0.15	0.26	0.49	1	NN	03/22/11	
Sulfate	EPA 300.0	11C2884	0.30	0.50	8.5	1	NN	03/22/11	
Total Dissolved Solids	SM2540C	11C2991	1.0	10	200	1	MC	03/23/11	
Total Suspended Solids	SM 2540D	11C3176	1.0	10	110	1	DK1	03/23/11	
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	11C3661	2.2	5.0	ND	1	SLA	03/28/11	

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

8682

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water) - cont.					Sampled: 03/21/11				
Reporting Units: pCi/L									
Uranium, Total	8682	8682		1	0.673	1	TAC	03/29/11	Jb
Sample ID: IUC2361-03 (Trip Blank - Water)					Sampled: 03/23/11				
Reporting Units: pCi/L									
Uranium, Total	8682	8682		1	ND	1	TAC	03/29/11	U

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Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: pCi/L									
Gross Alpha	900	8682		3	3.19	1	LS	03/31/11	
Gross Beta	900	8682		4	5.56	1	LS	03/31/11	
Sample ID: IUC2361-03 (Trip Blank - Water)					Sampled: 03/23/11				
Reporting Units: pCi/L									
Gross Alpha	900	8682		3	0.106	1	LS	03/31/11	U
Gross Beta	900	8682		4	-0.27	1	LS	03/31/11	U

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Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8682		20	ND	1	LS	04/05/11	U
Potassium-40	901.1	8682		25	ND	1	LS	04/05/11	U
Sample ID: IUC2361-03 (Trip Blank - Water)					Sampled: 03/23/11				
Reporting Units: pCi/L									
Cesium-137	901.1	8682		20	ND	1	LS	04/01/11	U
Potassium-40	901.1	8682		25	ND	1	LS	04/01/11	U

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Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: pCi/L									
Radium-226	903.1	8682		1	-0.078	1	TM	04/05/11	U
Sample ID: IUC2361-03 (Trip Blank - Water)					Sampled: 03/23/11				
Reporting Units: pCi/L									
Radium-226	903.1	8682		1	0.11	1	TM	04/05/11	U

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Sampled: 03/21/11-03/23/11
Received: 03/21/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: pCi/L									
Radium-228	904	8682		1	0.096	1	LD	04/07/11	U
Sample ID: IUC2361-03 (Trip Blank - Water)					Sampled: 03/23/11				
Reporting Units: pCi/L									
Radium-228	904	8682		1	-0.111	1	LD	04/07/11	U

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Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: pCi/L									
Strontium-90	905	8682		2	-0.003	1	EMB	04/01/11	U
Sample ID: IUC2361-03 (Trip Blank - Water)					Sampled: 03/23/11				
Reporting Units: pCi/L									
Strontium-90	905	8682		2	-0.066	1	EMB	04/01/11	U

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water)					Sampled: 03/21/11				
Reporting Units: pCi/L									
Tritium	906	8682		500	-7.57	1	WL	03/30/11	U

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water) - cont.					Sampled: 03/21/11				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1083251	0.0000025	0.00005	3.3e-005	0.96	MO	03/26/11	J
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1083251	0.0000022	0.00005	9.3e-006	0.96	MO	03/26/11	J, Q
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1083251	0.0000034	0.00005	ND	0.96	MO	03/26/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1083251	0.0000013	0.00005	ND	0.96	MO	03/26/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1083251	0.0000005	0.00005	7.1e-007	0.96	MO	03/26/11	J, Q
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1083251	0.0000012	0.00005	1.2e-006	0.96	MO	03/26/11	J
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1083251	0.00000044	0.00005	3e-007	0.96	MO	03/26/11	J, Q
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1083251	0.0000011	0.00005	9.6e-007	0.96	MO	03/26/11	J, Q
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1083251	0.0000006	0.00005	ND	0.96	MO	03/26/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1083251	0.0000015	0.00005	ND	0.96	MO	03/26/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1083251	0.0000012	0.00005	ND	0.96	MO	03/26/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1083251	0.00000044	0.00005	ND	0.96	MO	03/26/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1083251	0.0000012	0.00005	ND	0.96	MO	03/26/11	
2,3,7,8-TCDD	EPA-5 1613B	1083251	0.00000091	0.00001	ND	0.96	MO	03/26/11	
2,3,7,8-TCDF	EPA-5 1613B	1083251	0.0000011	0.00001	ND	0.96	MO	03/26/11	
OCDD	EPA-5 1613B	1083251	0.0000059	0.0001	0.0005	0.96	MO	03/26/11	B
OCDF	EPA-5 1613B	1083251	0.0000038	0.0001	5.5e-005	0.96	MO	03/26/11	J
Total HpCDD	EPA-5 1613B	1083251	0.0000025	0.00005	8.2e-005	0.96	MO	03/26/11	J
Total HpCDF	EPA-5 1613B	1083251	0.0000022	0.00005	3.5e-005	0.96	MO	03/26/11	J, Q
Total HxCDD	EPA-5 1613B	1083251	0.0000011	0.00005	4.4e-006	0.96	MO	03/26/11	J, Q
Total HxCDF	EPA-5 1613B	1083251	0.0000004	0.00005	6.1e-006	0.96	MO	03/26/11	J, Q
Total PeCDD	EPA-5 1613B	1083251	0.0000015	0.00005	ND	0.96	MO	03/26/11	
Total PeCDF	EPA-5 1613B	1083251	0.0000012	0.00005	ND	0.96	MO	03/26/11	
Total TCDD	EPA-5 1613B	1083251	0.00000091	0.00001	ND	0.96	MO	03/26/11	
Total TCDF	EPA-5 1613B	1083251	0.0000011	0.00001	ND	0.96	MO	03/26/11	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	44 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	44 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	40 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	43 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	45 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	48 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	52 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	50 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	48 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	41 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	52 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	43 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	45 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	47 %
Surrogate: 13C-OCDD (17-157%)	43 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	79 %

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Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 010 (Composite) (IUC2361-02) - Water					
EPA 300.0	2	03/21/2011 08:00	03/21/2011 22:15	03/22/2011 21:30	03/22/2011 21:36
Filtration	1	03/21/2011 08:00	03/21/2011 22:15	03/22/2011 23:30	03/22/2011 23:30

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

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

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C3102 Extracted: 03/23/11</u>											
Blank Analyzed: 03/23/2011 (11C3102-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/23/2011 (11C3102-BS1)											
Mercury	8.13	0.20	0.10	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 03/23/2011 (11C3102-MS1)											
						Source: IUC2145-01					
Mercury	8.13	0.20	0.10	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 03/23/2011 (11C3102-MSD1)											
						Source: IUC2145-01					
Mercury	8.00	0.20	0.10	ug/l	8.00	ND	100	70-130	2	20	
<u>Batch: 11C3306 Extracted: 03/24/11</u>											
Blank Analyzed: 03/24/2011 (11C3306-BLK1)											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/24/2011 (11C3306-BS1)											
Antimony	80.8	2.0	0.30	ug/l	80.0		101	85-115			
Cadmium	81.0	1.0	0.10	ug/l	80.0		101	85-115			
Copper	81.5	2.0	0.50	ug/l	80.0		102	85-115			
Lead	79.7	1.0	0.20	ug/l	80.0		100	85-115			
Thallium	79.9	1.0	0.20	ug/l	80.0		100	85-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C3306 Extracted: 03/24/11											
Matrix Spike Analyzed: 03/24/2011 (11C3306-MS1)						Source: IUC2594-01					
Antimony	82.3	10	1.5	ug/l	80.0	ND	103	70-130			
Cadmium	81.5	5.0	0.50	ug/l	80.0	ND	102	70-130			
Copper	81.7	10	2.5	ug/l	80.0	4.06	97	70-130			
Lead	82.0	5.0	1.0	ug/l	80.0	ND	102	70-130			
Thallium	82.3	5.0	1.0	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 03/24/2011 (11C3306-MSD1)						Source: IUC2594-01					
Antimony	82.8	10	1.5	ug/l	80.0	ND	103	70-130	0.6	20	
Cadmium	82.1	5.0	0.50	ug/l	80.0	ND	103	70-130	0.7	20	
Copper	82.1	10	2.5	ug/l	80.0	4.06	98	70-130	0.5	20	
Lead	81.3	5.0	1.0	ug/l	80.0	ND	102	70-130	0.9	20	
Thallium	82.2	5.0	1.0	ug/l	80.0	ND	103	70-130	0.05	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C3105 Extracted: 03/23/11</u>											
Blank Analyzed: 03/23/2011 (11C3105-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/23/2011 (11C3105-BS1)											
Mercury	7.49	0.20	0.10	ug/l	8.00		94	85-115			
Matrix Spike Analyzed: 03/23/2011 (11C3105-MS1)											
						Source: IUC1914-01					
Mercury	7.53	0.20	0.10	ug/l	8.00	ND	94	70-130			
Matrix Spike Dup Analyzed: 03/23/2011 (11C3105-MSD1)											
						Source: IUC1914-01					
Mercury	7.56	0.20	0.10	ug/l	8.00	ND	94	70-130	0.4	20	
<u>Batch: 11C3506 Extracted: 03/26/11</u>											
Blank Analyzed: 03/28/2011 (11C3506-BLK1)											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 03/28/2011 (11C3506-BS1)											
Antimony	80.1	2.0	0.30	ug/l	80.0		100	85-115			
Cadmium	79.3	1.0	0.10	ug/l	80.0		99	85-115			
Copper	84.1	2.0	0.50	ug/l	80.0		105	85-115			
Lead	78.6	1.0	0.20	ug/l	80.0		98	85-115			
Thallium	78.5	1.0	0.20	ug/l	80.0		98	85-115			

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METHOD BLANK/QC DATA

DISSOLVED METALS

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

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C2884 Extracted: 03/22/11											
Blank Analyzed: 03/22/2011 (11C2884-BLK1)											
Chloride	ND	0.50	0.30	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/22/2011 (11C2884-BS1)											
Chloride	4.94	0.50	0.30	mg/l	5.00		99	90-110			M-3
Sulfate	9.96	0.50	0.30	mg/l	10.0		100	90-110			
Matrix Spike Analyzed: 03/22/2011 (11C2884-MS1) Source: IUC2181-03											
Chloride	7.84	0.50	0.30	mg/l	5.00	3.16	94	80-120			
Sulfate	13.8	0.50	0.30	mg/l	10.0	4.18	96	80-120			
Matrix Spike Analyzed: 03/22/2011 (11C2884-MS2) Source: IUC2320-01											
Sulfate	48.2	1.0	0.60	mg/l	10.0	38.8	95	80-120			
Matrix Spike Dup Analyzed: 03/22/2011 (11C2884-MSD1) Source: IUC2181-03											
Chloride	8.21	0.50	0.30	mg/l	5.00	3.16	101	80-120	5	20	
Sulfate	14.3	0.50	0.30	mg/l	10.0	4.18	101	80-120	4	20	
Batch: 11C2991 Extracted: 03/23/11											
Blank Analyzed: 03/23/2011 (11C2991-BLK1)											
Total Dissolved Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/23/2011 (11C2991-BS1)											
Total Dissolved Solids	1010	10	1.0	mg/l	1000		101	90-110			

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 11C2991 Extracted: 03/23/11</u>											
Duplicate Analyzed: 03/23/2011 (11C2991-DUP1)						Source: IUC2353-02					
Total Dissolved Solids	820	10	1.0	mg/l		829			1	10	
<u>Batch: 11C3176 Extracted: 03/23/11</u>											
Blank Analyzed: 03/23/2011 (11C3176-BLK1)											
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/23/2011 (11C3176-BS1)											
Total Suspended Solids	991	10	1.0	mg/l	1000		99	85-115			
Duplicate Analyzed: 03/23/2011 (11C3176-DUP1)						Source: IUC2361-02					
Total Suspended Solids	112	10	1.0	mg/l		113			0.9	10	
<u>Batch: 11C3661 Extracted: 03/28/11</u>											
Blank Analyzed: 03/28/2011 (11C3661-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/28/2011 (11C3661-BS1)											
Total Cyanide	180	5.0	2.2	ug/l	196		92	90-110			
Matrix Spike Analyzed: 03/28/2011 (11C3661-MS1)						Source: IUC2031-01					
Total Cyanide	193	5.0	2.2	ug/l	196	ND	98	70-115			
Matrix Spike Dup Analyzed: 03/28/2011 (11C3661-MSD1)						Source: IUC2031-01					
Total Cyanide	192	5.0	2.2	ug/l	196	ND	98	70-115	0.7	15	

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METHOD BLANK/QC DATA

8682

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8682 Extracted: 03/29/11											
LCS Analyzed: 03/29/2011 (S103143-02)						Source:					
Uranium, Total	55.3	1	N/A	pCi/L	56.5		98	80-120			
Blank Analyzed: 03/29/2011 (S103143-03)						Source:					
Uranium, Total	ND	1	N/A	pCi/L				-			U
Duplicate Analyzed: 03/29/2011 (S103143-04)						Source:					
Uranium, Total	0.292	1	N/A	pCi/L				-	9		Jb

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METHOD BLANK/QC DATA

900

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8682 Extracted: 03/31/11											
LCS Analyzed: 03/31/2011 (S103143-02)											
Gross Alpha	122	3	N/A	pCi/L	101		121	70-130			
Gross Beta	83.8	4	N/A	pCi/L	87.1		96	70-130			
Blank Analyzed: 03/31/2011 (S103143-03)											
Gross Alpha	0.261	3	N/A	pCi/L				-			U
Gross Beta	-0.333	4	N/A	pCi/L				-			U
Duplicate Analyzed: 03/31/2011 (S103143-04)											
Gross Alpha	1.94	3	N/A	pCi/L				-	15		Jb
Gross Beta	6.74	4	N/A	pCi/L				-	8		

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8682 Extracted: 03/24/11											
LCS Analyzed: 03/31/2011 (S103143-02)						Source:					
Cobalt-60	123	10	N/A	pCi/L	124		99	80-120			
Cesium-137	118	20	N/A	pCi/L	110		107	80-120			
Blank Analyzed: 03/31/2011 (S103143-03)						Source:					
Cesium-137	ND	20	N/A	pCi/L				-			U
Potassium-40	ND	25	N/A	pCi/L				-			U
Duplicate Analyzed: 03/31/2011 (S103143-04)						Source:					
Cesium-134	ND	20	N/A	pCi/L				-	0		U
Cesium-137	ND	20	N/A	pCi/L				-	0		U
Potassium-40	ND	25	N/A	pCi/L				-	0		U

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METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8682 Extracted: 04/05/11											
LCS Analyzed: 04/05/2011 (S103143-02)											
Radium-226	49	1	N/A	pCi/L	55.7		88	80-120			
Blank Analyzed: 04/05/2011 (S103143-03)											
Radium-226	0.031	1	N/A	pCi/L				-			U
Duplicate Analyzed: 04/05/2011 (S103143-04)											
Radium-226	0.283	1	N/A	pCi/L				-	0		U

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METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8682 Extracted: 04/07/11											
LCS Analyzed: 04/07/2011 (S103143-02)											
Radium-228	3.92	1	N/A	pCi/L	5.01		78	60-140			
Blank Analyzed: 04/07/2011 (S103143-03)											
Radium-228	-0.153	1	N/A	pCi/L							U
Duplicate Analyzed: 04/07/2011 (S103143-04)											
Radium-228	0.235	1	N/A	pCi/L					0		U

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8682 Extracted: 04/01/11											
LCS Analyzed: 04/01/2011 (S103143-02)											
Strontium-90	19.7	2	N/A	pCi/L	17.4		113	80-120			
Blank Analyzed: 04/01/2011 (S103143-03)											
Strontium-90	0.045	2	N/A	pCi/L				-			U
Duplicate Analyzed: 04/01/2011 (S103143-04)											
Strontium-90	0.078	2	N/A	pCi/L				-	0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8682 Extracted: 03/30/11											
LCS Analyzed: 03/30/2011 (S103143-02)											
Tritium	2150	500	N/A	pCi/L	2350		91	80-120			
Blank Analyzed: 03/30/2011 (S103143-03)											
Tritium	-30.1	500	N/A	pCi/L				-			U
Duplicate Analyzed: 03/30/2011 (S103143-04)											
Tritium	-10.9	500	N/A	pCi/L				-	0		U

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1083251 Extracted: 03/24/11											
Blank Analyzed: 03/25/2011 (G1C240000251B)						Source:					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	0.0000013	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	0.00000066	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.00000096	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	0.00000068	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	0.00000062	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	0.00000065	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	0.00000033	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	0.00000058	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.00000043	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.00000091	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.00000087	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.00000032	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000009	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.00000052	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.00000012	ug/L				-			
OCDD	2.2e-006	0.0001	0.00000019	ug/L				-			J
OCDF	ND	0.0001	0.00000021	ug/L				-			
Total HpCDD	ND	0.00005	0.00000013	ug/L				-			
Total HpCDF	ND	0.00005	0.00000066	ug/L				-			
Total HxCDD	ND	0.00005	0.00000058	ug/L				-			
Total HxCDF	ND	0.00005	0.00000032	ug/L				-			
Total PeCDD	ND	0.00005	0.00000091	ug/L				-			
Total PeCDF	ND	0.00005	0.00000087	ug/L				-			
Total TCDD	ND	0.00001	0.00000052	ug/L				-			
Total TCDF	ND	0.00001	0.00000012	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0012			ug/L	0.002		61	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0011			ug/L	0.002		57	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.001			ug/L	0.002		52	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0011			ug/L	0.002		55	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0011			ug/L	0.002		55	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0013			ug/L	0.002		64	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0013			ug/L	0.002		65	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0012			ug/L	0.002		61	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0013			ug/L	0.002		65	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0011			ug/L	0.002		53	24-185			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1083251 Extracted: 03/24/11											
Blank Analyzed: 03/25/2011 (G1C240000251B)						Source:					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0013			ug/L	0.002		65	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0011			ug/L	0.002		56	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0011			ug/L	0.002		53	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0012			ug/L	0.002		58	24-169			
Surrogate: 13C-OCDD	0.0024			ug/L	0.004		61	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00066			ug/L	0.0008		82	35-197			
LCS Analyzed: 03/25/2011 (G1C240000251C)						Source:					
1,2,3,4,6,7,8-HpCDD	0.00107	0.00005	0.0000086	ug/L	0.001		107	70-140			
1,2,3,4,6,7,8-HpCDF	0.00109	0.00005	0.0000018	ug/L	0.001		109	82-122			
1,2,3,4,7,8,9-HpCDF	0.00114	0.00005	0.0000027	ug/L	0.001		114	78-138			
1,2,3,4,7,8-HxCDD	0.00109	0.00005	0.00000078	ug/L	0.001		109	70-164			
1,2,3,4,7,8-HxCDF	0.00107	0.00005	0.0000053	ug/L	0.001		107	72-134			
1,2,3,6,7,8-HxCDD	0.0011	0.00005	0.00000071	ug/L	0.001		110	76-134			
1,2,3,6,7,8-HxCDF	0.0011	0.00005	0.0000048	ug/L	0.001		110	84-130			
1,2,3,7,8,9-HxCDD	0.00121	0.00005	0.00000065	ug/L	0.001		121	64-162			
1,2,3,7,8,9-HxCDF	0.00111	0.00005	0.0000064	ug/L	0.001		111	78-130			
1,2,3,7,8-PeCDD	0.000988	0.00005	0.0000025	ug/L	0.001		99	70-142			
1,2,3,7,8-PeCDF	0.00112	0.00005	0.0000034	ug/L	0.001		112	80-134			
2,3,4,6,7,8-HxCDF	0.0011	0.00005	0.0000047	ug/L	0.001		110	70-156			
2,3,4,7,8-PeCDF	0.00109	0.00005	0.0000036	ug/L	0.001		109	68-160			
2,3,7,8-TCDD	0.000219	0.00001	0.0000014	ug/L	0.0002		110	67-158			
2,3,7,8-TCDF	0.000263	0.00001	0.0000015	ug/L	0.0002		132	75-158			
OCDD	0.00207	0.0001	0.000014	ug/L	0.002		103	78-144			B
OCDF	0.00204	0.0001	0.000011	ug/L	0.002		102	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.000957			ug/L	0.002		48	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.000967			ug/L	0.002		48	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.000872			ug/L	0.002		44	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.000944			ug/L	0.002		47	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00102			ug/L	0.002		51	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00111			ug/L	0.002		56	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00109			ug/L	0.002		55	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00104			ug/L	0.002		52	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00111			ug/L	0.002		56	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00095			ug/L	0.002		48	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0011			ug/L	0.002		55	22-176			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
 Received: 03/21/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1083251 Extracted: 03/24/11											
LCS Analyzed: 03/25/2011 (G1C240000251C)											
Surrogate: 13C-2,3,4,7,8-PeCDF	0.000997			ug/L	0.002		50	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.000983			ug/L	0.002		49	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00103			ug/L	0.002		51	22-152			
Surrogate: 13C-OCDD	0.00197			ug/L	0.004		49	13-199			
Surrogate: 37C14-2,3,7,8-TCDD	0.000667			ug/L	0.0008		83	31-191			

TestAmerica Irvine

Debby Wilson
 Project Manager

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

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC2361-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC2361-02	Cadmium-200.8	Cadmium	ug/l	0.18	2.0	3.1
IUC2361-02	Chloride - 300.0	Chloride	mg/l	18	0.50	150
IUC2361-02	Copper-200.8	Copper	ug/l	6.39	4.0	14
IUC2361-02	Lead-200.8	Lead	ug/l	4.38	2.0	5.2
IUC2361-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.49	0.26	8
IUC2361-02	Sulfate-300.0	Sulfate	mg/l	8.51	0.50	300
IUC2361-02	TDS - SM2540C	Total Dissolved Solids	mg/l	195	10	950

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

DATA QUALIFIERS AND DEFINITIONS

- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- Jb** The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- RL1** Reporting limit raised due to sample matrix effects.
- U** The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.8-Diss	Water	X	N/A
EPA 200.8	Water	X	N/A
EPA 245.1-Diss	Water	X	N/A
EPA 245.1	Water	X	N/A
EPA 300.0	Water	X	N/A
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2540C	Water	X	N/A
SM4500CN-E	Water	X	N/A

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

Subcontracted Laboratories

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chmic

Samples: IUC2361-02

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUC2361-02, IUC2361-03

Analysis Performed: Gross Alpha
Samples: IUC2361-02, IUC2361-03

Analysis Performed: Gross Beta
Samples: IUC2361-02, IUC2361-03

Analysis Performed: Level 4 Data Package
Samples: IUC2361-02

Analysis Performed: Radium, Combined
Samples: IUC2361-02, IUC2361-03

Analysis Performed: Strontium 90
Samples: IUC2361-02, IUC2361-03

Analysis Performed: Tritium
Samples: IUC2361-02

Analysis Performed: Uranium, Combined
Samples: IUC2361-02, IUC2361-03

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IUC2361

Sampled: 03/21/11-03/23/11
Received: 03/21/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8682
Samples: IUC2361-02, IUC2361-03

Method Performed: 900
Samples: IUC2361-02, IUC2361-03

Method Performed: 901.1
Samples: IUC2361-02, IUC2361-03

Method Performed: 903.1
Samples: IUC2361-02, IUC2361-03

Method Performed: 904
Samples: IUC2361-02, IUC2361-03

Method Performed: 905
Samples: IUC2361-02, IUC2361-03

Method Performed: 906
Samples: IUC2361-02

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUC2361-02

TestAmerica Irvine

Debby Wilson
Project Manager

LABORATORY REPORT



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

"dedicated to providing quality aquatic toxicity testing"

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

Laboratory No.: A-11032208-001
Sample I.D.: IUC2361-02 (Outfall 010)

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

Date Sampled: 03/21/11
Date Received: 03/22/11
Temp. Received: 2.9°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 03/22/11 to 03/28/11

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

Result Summary:

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

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-11032208-001
Client/ID: Test America – IUC2361-02 (Outfall 010)

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

TEST SUMMARY

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

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

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	24.6
100% Sample	100%	25.7
Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (24.6 young)
≥60% surviving controls had 3 broods	Pass (90% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 13.9%)
Statistically significantly different concentrations relative difference >13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date: 3/22/2011 14:00 Test ID: 11032208c Sample ID: Outfall 010
 End Date: 3/28/2011 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater
 Sample Date: 3/21/2011 08:00 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia

Comments:

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

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

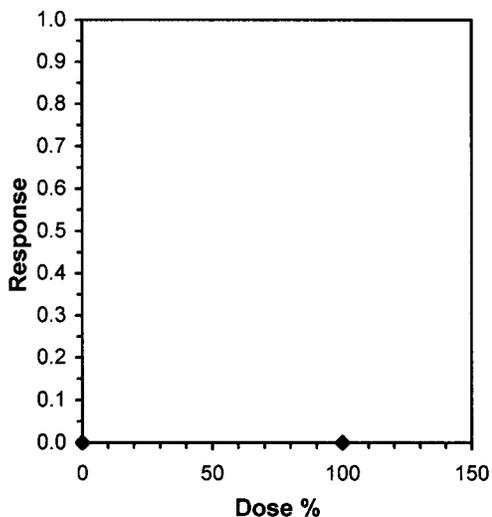
Hypothesis Test (1-tail, 0.05)

Fisher's Exact Test NOEC LOEC ChV TU

Treatments vs D-Control 100 >100 1

Linear Interpolation (200 Resamples)

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



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 3/22/2011 14:00 Test ID: 11032208c Sample ID: Outfall 010
 End Date: 3/28/2011 14:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater
 Sample Date: 3/21/2011 08:00 Protocol: FWCH EPA Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	21.000	11.000	26.000	26.000	28.000	29.000	24.000	23.000	29.000	29.000
100	24.000	26.000	30.000	20.000	26.000	25.000	26.000	28.000	23.000	29.000

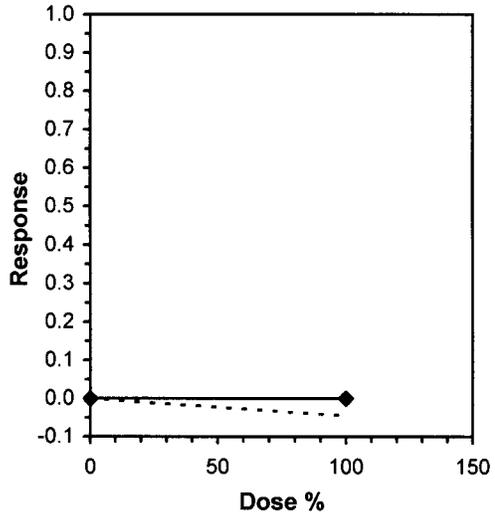
Conc-%	Mean	N-Mean	Transform: Untransformed					Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%	N			Mean	N-Mean
D-Control	24.600	1.0000	24.600	11.000	29.000	22.446	10			25.150	1.0000
100	25.700	1.0447	25.700	20.000	30.000	11.462	10	106.00	82.00	25.150	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.84727	0.905	-1.7187	4.28002
F-Test indicates equal variances (p = 0.08)	3.51344	6.54109		

Hypothesis Test (1-tail, 0.05)

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

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



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet



Lab No.: A-11032208-001

Client ID: TestAmerica - Outfall 010

Start Date: 03/22/2011

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr										
Analyst Initials:		[Signature]		-											
Time of Readings:		14W 14W		14W 14W		14W 13W		1300 14W		14W 1330		1330 14W		-	
Control	DO	9.2	9.0	9.1	8.8	9.2	8.1	8.6	8.0	8.8	9.0	9.0	8.8	-	-
	pH	7.9	8.1	7.9	8.1	8.0	8.1	8.1	8.0	8.1	8.0	8.0	8.1	-	-
	Temp	24.3	24.4	24.2	24.2	24.4	24.4	24.3	24.2	24.1	24.3	24.1	24.1	-	-
100%	DO	9.6	9.4	9.6	9.2	9.6	8.6	9.9	8.7	9.8	8.8	8.9	8.9	-	-
	pH	7.7	8.1	7.7	8.1	7.4	8.1	7.6	8.0	7.6	8.1	8.0	8.1	-	-
	Temp	24.3	24.4	24.2	24.3	24.2	24.5	24.2	24.4	24.2	24.3	24.2	24.2	-	-

Additional Parameters	Control	100% Sample
Conductivity (umohms)	340	246
Alkalinity (mg/l CaCO ₃)	68	80
Hardness (mg/l CaCO ₃)	96	82
Ammonia (mg/l NH ₃ -N)	0	0.1

Source of Neonates											
Replicate:	A	B	C	D	E	F	G	H	I	J	
Brood ID:	4A	5B	5C	5D	5E	5F	6G	5H	4I	4J	

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials	
		A	B	C	D	E	F	G	H	I	J				
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	0	10		
	3	3	0	4	5	4	4	4	3	0	0	27	10		
	4	6	4	0	0	0	0	0	0	4	5	19	10		
	5	12	0	6	7	7	8	6	6	9	7	68	10		
	6	17	7	16	14	17	17	14	14	16	17	132	10		
	7	-	-	-	-	-	-	-	-	-	-	-	-		-
	Total	21	11	26	26	28	29	24	23	29	29	246	10		
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	[Signature]	
	2	0	0	0	0	0	0	0	0	0	0	0	10		
	3	3	4	5	4	4	3	4	3	0	0	30	10		
	4	6	0	0	0	0	0	0	0	5	5	16	10		
	5	15	7	6	0	7	7	8	9	6	7	72	10		
	6	16	15	19	16	15	15	14	16	12	17	139	10		
	7	-	-	-	-	-	-	-	-	-	-	-	-		-
	Total	24	26	30	20	26	25	26	28	23	29	257	10		

Circled fourth brood not used in statistical analysis.

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

Subcontract Order -

stAmerica Irvine (IUC2361)

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
 4350 Transport Street, Unit 107
 Ventura, CA 93003
 Phone : (805) 650-0546
 Fax: (805) 650-0756
 Project Location: California
 Receipt Temperature: 2-9 °C

Ice: Y N

Analysis	Units	Due	Notes	Comments
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water			Sampled: 03/21/11 08:00	
Bioassay-7 dy Chrnrc	N/A	03/28/11	11 20:00	Cerio, EPA/821-R02-013, Sub to Aquatic testing
Containers Supplied: 1 gal Poly (L)				

[Signature] 3-22-11
 Released By Date/Time

 Released By Date/Time

[Signature] 3-22-11 13:30
 Received By Date/Time

 Received By Date/Time



***REFERENCE
TOXICANT
DATA***

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-110308

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

TEST SUMMARY

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

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

RESULTS SUMMARY

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

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

CHRONIC TOXICITY

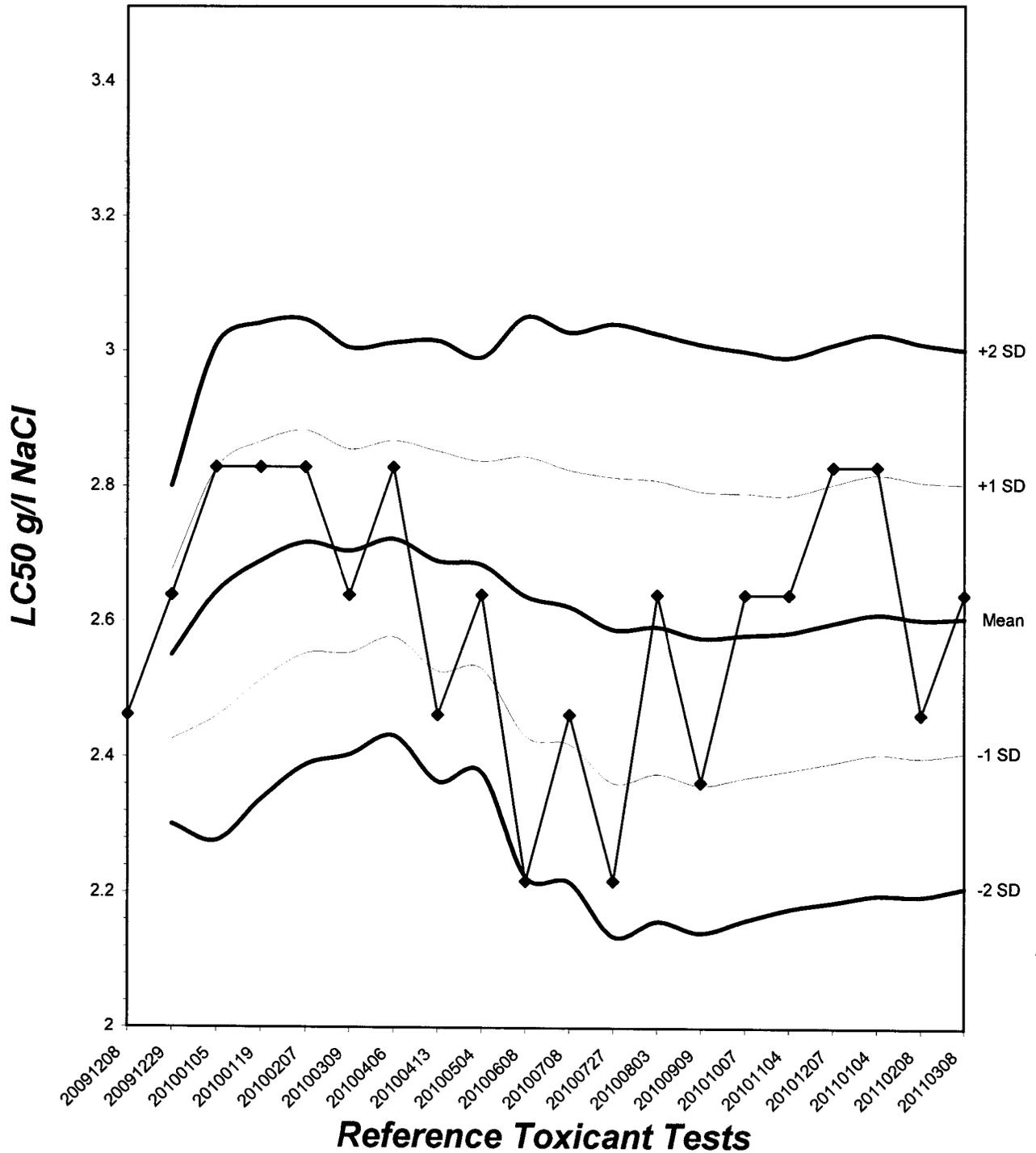
Survival LC50	2.6 g/l
Reproduction IC25	0.70 mg/l

QA/QC TEST ACCEPTABILITY

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

Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 7.62



Ceriodaphnia Survival and Reproduction Test-Reproduction

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

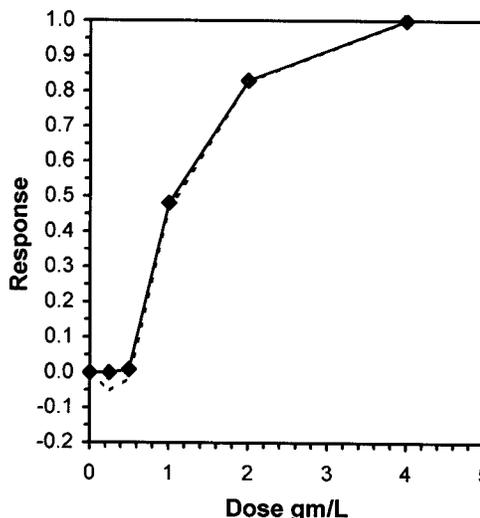
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	24.000	24.000	19.000	23.000	23.000	24.000	21.000	25.000	21.000	21.000
0.25	24.000	24.000	21.000	22.000	23.000	25.000	24.000	24.000	24.000	26.000
0.5	25.000	23.000	20.000	24.000	23.000	27.000	22.000	21.000	20.000	24.000
1	14.000	7.000	8.000	19.000	9.000	23.000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

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

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

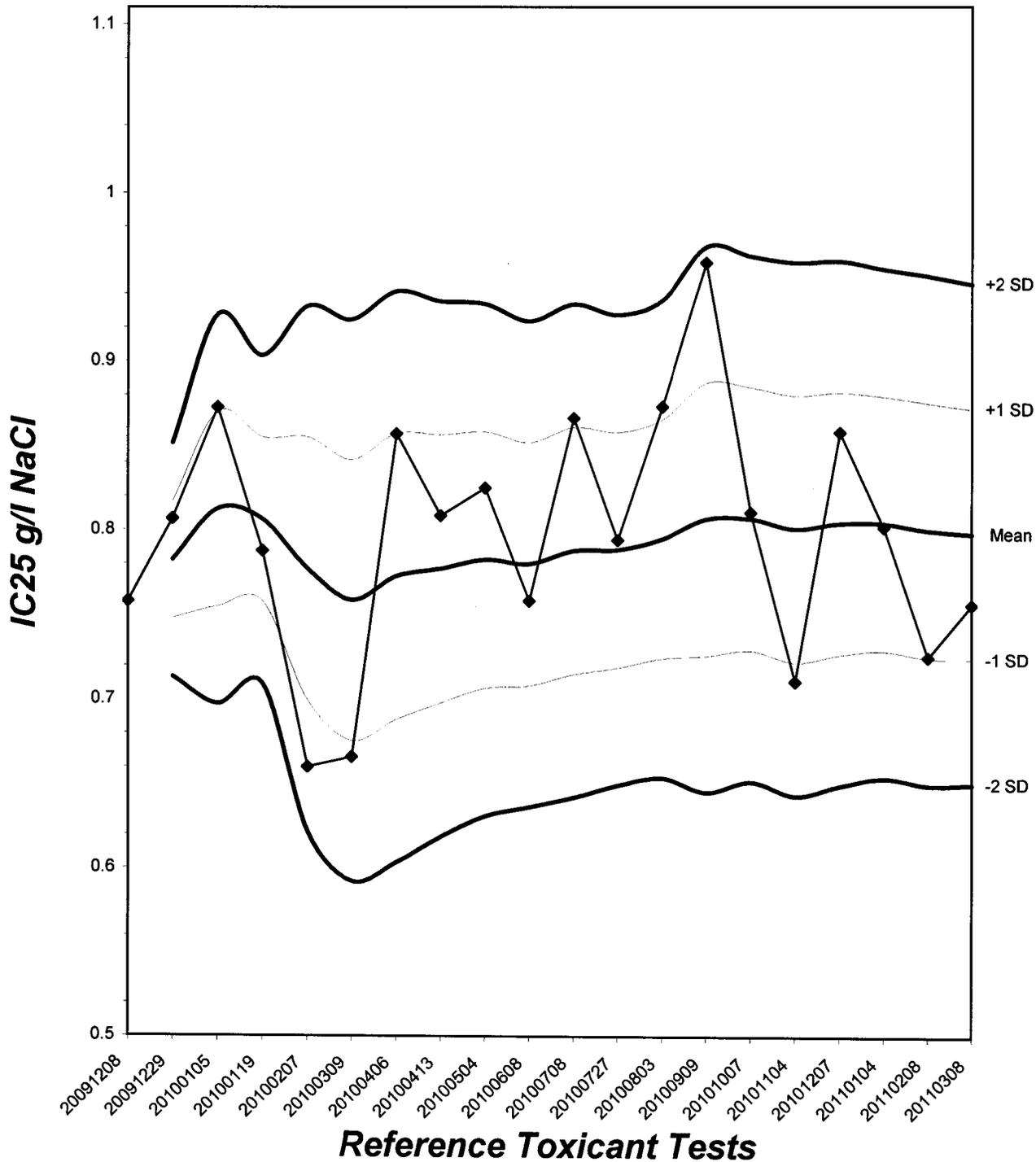
Linear Interpolation (200 Resamples)

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



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 9.31



CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-110308

Start Date: 03/08/2011

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

Circled fourth brood not used in statistical analysis.

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

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



QA/QC No.: RT-110308

Start Date:03/08/2011

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

Circled fourth brood not used in statistical analysis.

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

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl Water Chemistries Raw Data Sheet



QA/QC No.: RT-110308

Start Date: 03/08/2011

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final										
Analyst Initials:		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		— —	
Time of Readings:		1400 1300		1300 1330		1330 1300		1300 1330		1330 1320		1320 1400		— —	
Control	DO	8.9	8.6	7.8	7.9	8.1	7.8	8.7	8.2	8.8	8.5	8.4	8.2	—	—
	pH	7.9	8.1	8.1	8.1	8.1	7.9	8.0	8.1	8.0	8.1	8.0	7.9	—	—
	Temp	25.5	25.2	25.0	25.3	25.6	25.2	25.5	24.4	25.0	24.4	24.7	24.2	—	—
0.25 g/l	DO	8.5	8.6	8.2	7.9	8.6	8.1	8.8	8.2	9.0	8.4	8.7	8.5	—	—
	pH	8.0	8.8	8.1	8.1	8.1	7.9	8.1	8.1	8.1	8.1	8.1	7.9	—	—
	Temp	25.3	25.6	25.0	25.4	25.6	24.9	25.6	24.4	25.2	24.5	24.8	24.4	—	—
0.5 g/l	DO	9.1	8.9	8.3	8.0	8.6	8.2	8.4	8.2	8.9	8.3	8.5	8.0	—	—
	pH	8.0	8.1	8.1	8.1	8.1	7.9	8.1	8.1	8.1	8.1	8.1	7.9	—	—
	Temp	25.3	25.7	24.9	25.3	25.6	25.1	25.4	24.4	25.4	24.3	25.0	24.6	—	—
1.0 g/l	DO	8.9	8.5	8.7	8.2	8.3	8.2	8.3	8.4	9.1	8.3	8.8	8.3	—	—
	pH	8.1	8.1	8.1	8.1	8.1	7.9	8.1	8.0	8.1	8.1	8.1	7.9	—	—
	Temp	25.5	25.5	24.7	25.3	25.5	25.1	25.5	24.7	25.4	24.7	24.7	24.4	—	—
2.0 g/l	DO	8.8	8.9	8.9	8.0	8.1	8.2	8.4	8.4	8.6	8.1	8.7	8.5	—	—
	pH	8.0	8.1	8.1	8.1	8.0	7.9	8.0	8.0	8.0	8.0	8.0	7.9	—	—
	Temp	25.4	25.5	24.6	25.3	25.6	25.2	25.6	24.2	25.3	24.3	24.7	24.5	—	—
4.0 g/l	DO	8.8	8.8	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.0	8.0	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	25.6	25.2	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O₂; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	344	352	340	8020	2820	4060
Alkalinity (mg/l CaCO ₃)	64	65	66	64	65	68
Hardness (mg/l CaCO ₃)	92	92	92	93	92	93

Source of Neonates

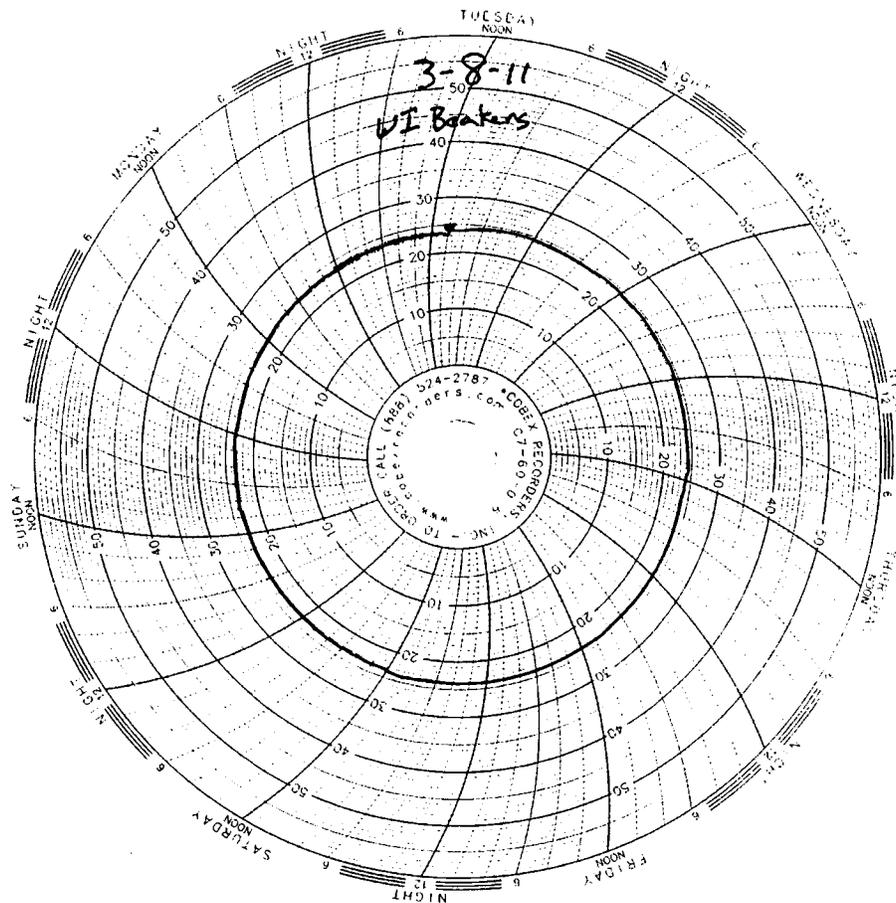
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1B	3B	3C	1D	3E	1F	3G	3H	1I	2J

Test Temperature Chart

Test No: RT-110308

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

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





EBERLINE

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Toll Free (800) 841-5487
www.eberlineservices.com

April 13, 2011

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

**Reference: Test America-Irvine IUC2361
Eberline Analytical Report S103146-8682
Sample Delivery Group 8682**

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUC2361. The samples were received on March 24, 2011.

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

Sincerely,

N. Joseph Verville
Client Services Manager

NJV/ljb

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8682 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 sample as received i.e. the sample was not filtered. The analytical volumes for all other analyses were subjected to a full nitric acid/hydrofluoric acid dissolution, and analyses were performed on the dissolution volumes.

2.0 Quality Control

Sample IUC2361-02 and IUC2361-03 (Trip Blank) were analyzed in a common prep batch with other outfall samples from this project. The QC samples from that common prep batch were assigned to SDG 8681 and are also reported herein. Quality Control Samples consisted of laboratory control samples (LCS), method blanks, duplicate analyses and matrix spike analyses. Included in the data package are copies of the Eberline Analytical radiometrics data sheets. The radiometrics data sheets for the QC LCS and QC blank samples indicate Eberline Analytical's standard QC aliquot of 1.0 sample; results for those QC types are calculated as pCi/sample. The QC LCS and QC blank sample results reported in the Summary Data Section have been divided by the appropriate method specific aliquot (see the Lab Method Summaries for specific aliquots) in order to make the results comparable to the field sample results. All QC sample results were within required control limits.

3.0 Method Errors

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

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

4.0 Analysis Notes

- 4.1 **Gross Alpha/Gross Beta Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.2 **Tritium Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.3 **Strontium-90 Analysis** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.4 **Radium-226 Analysis** –No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.5 **Radium-228 Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits
- 4.6 **Total Uranium Analysis** - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits.
- 4.7 **Gamma Spectroscopy** – No problems were encountered during the processing of the samples. All quality control sample results were within required control limits. The gamma spectroscopy planchets were counted for sufficient time to meet the required Cs-137 detection limit of 20 pCi/L. As a consequence of keying to the Cs-137 RDL, the detection limits for K-40 were not achieved for the sample.

5.0 Case Narrative Certification Statement

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



N. Joseph Verville
Client Services Manager

4/13/11

Date

E B E R L I N E A N A L Y T I C A L
SDG 8682

SDG 8682
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC2361

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

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VB

Prepared by

N. Joseph Verville

Reviewed by

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 04/13/11

EBERLINE ANALYTICAL

SDG 8682

SDG 8682
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC2361

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

DUPLICATES

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 1

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/13/11

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SDG 8682

SDG 8682
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC2361

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 2

Lab id EAS
Protocol TA
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EBERLINE ANALYTICAL

SDG 8682

SDG 8682

Contact N. Joseph Verville

LAB SAMPLE SUMMARY

Client Test America, Inc.

Contract IUC2361

LAB	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S103143-02	Lab Control Sample		WATER				
S103143-03	Method Blank		WATER				
S103143-04	Duplicate (S103143-01)	Boeing - SSFL	WATER				03/20/11 21:35
S103146-01	IUC2361-02	Boeing - SSFL	WATER			IUC2361	03/21/11 08:00
S103146-02	IUC2361-03 (TRIP-BLANK)	Boeing - SSFL	WATER			IUC2361	03/23/11 12:30

LAB SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LS

Version 3.06

Report date 04/13/11

EBERLINE ANALYTICAL

SDG 8682

SDG 8682
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2361

QC SUMMARY

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8681		Method Blank	WATER						S103143-03	8681-003
		Lab Control Sample	WATER						S103143-02	8681-002
		Duplicate (S103143-01)	WATER		10.0 L		03/23/11	3	S103143-04	8681-004
8682	IUC2361	IUC2361-02	WATER		10.0 L		03/24/11	3	S103146-01	8682-001
		IUC2361-03 (TRIP-BLANK)	WATER		10.0 L		03/24/11	1	S103146-02	8682-002

QC SUMMARY

Page 1

SUMMARY DATA SECTION

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Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 04/13/11

EBERLINE ANALYTICAL

SDG 8682

SDG 8682
Contact N. Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
Contract IUC2361

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

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

Lab id EAS
Protocol TA
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Form DVD-PBS
Version 3.06
Report date 04/13/11

EBERLINE ANALYTICAL

SDG 8682

Client Test America, Inc.

SDG 8682
Contact N. Joseph Verville

LAB WORK SUMMARY

Contract IUC2361

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S103143-02	Lab Control Sample	WATER	8681-002	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
			8681-002	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
			8681-002	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-002	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-002	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-002	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-002	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-002	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-03	Method Blank	WATER	8681-003	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
			8681-003	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
			8681-003	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-003	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-003	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-003	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-003	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-003	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103143-04	Duplicate (S103143-01) 03/20/11 Boeing - SSFL 03/23/11	WATER	8681-004	80A/80		03/31/11	04/01/11	MWT	Gross Alpha in Water	
			8681-004	80B/80		03/31/11	04/01/11	MWT	Gross Beta in Water	
			8681-004	AC		04/07/11	04/08/11	MWT	Radium-228 in Water	
			8681-004	GAM		03/31/11	04/04/11	MWT	Gamma Emitters in Water	
			8681-004	H		03/30/11	04/04/11	BW	Tritium in Water	
			8681-004	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8681-004	SR		04/01/11	04/08/11	MWT	Strontium-90 in Water	
			8681-004	U_T		03/29/11	03/29/11	BW	Uranium, Total	
S103146-01	IUC2361-02 03/21/11 Boeing - SSFL 03/24/11 IUC2361	WATER	8682-001	80A/80		03/31/11	04/01/11	KWP	Gross Alpha in Water	
			8682-001	80B/80		03/31/11	04/01/11	KWP	Gross Beta in Water	
			8682-001	AC		04/07/11	04/12/11	BW	Radium-228 in Water	
			8682-001	GAM		04/05/11	04/06/11	MWT	Gamma Emitters in Water	
			8682-001	H		03/30/11	04/06/11	BW	Tritium in Water	
			8682-001	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8682-001	SR		04/01/11	04/08/11	KWP	Strontium-90 in Water	
			8682-001	U_T		03/29/11	03/29/11	BW	Uranium, Total	

WORK SUMMARY

Page 1

SUMMARY DATA SECTION

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Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
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EBERLINE ANALYTICAL

SDG 8682

SDG 8682
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2361

WORK SUMMARY, cont.

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAS no	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S103146-02	IUC2361-03 (TRIP-BLANK)		8682-002	80A/80		03/31/11	04/01/11	KWP	Gross Alpha in Water	
03/23/11	Boeing - SSFL	WATER	8682-002	80B/80		03/31/11	04/01/11	KWP	Gross Beta in Water	
03/24/11	IUC2361		8682-002	AC		04/07/11	04/12/11	BW	Radium-228 in Water	
			8682-002	GAM		04/01/11	04/06/11	MWT	Gamma Emitters in Water	
			8682-002	RA		04/05/11	04/06/11	BW	Radium-226 in Water	
			8682-002	SR		04/01/11	04/08/11	KWP	Strontium-90 in Water	
			8682-002	U_T		03/29/11	03/29/11	BW	Uranium, Total	

COUNTS OF TESTS BY SAMPLE TYPE

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

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EAS
 Protocol TA
 Version Ver 1.0
 Form DVD-LWS
 Version 3.06
 Report date 04/13/11

EBERLINE ANALYTICAL

SDG 8682

8681-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>8682</u>	Client <u>Test America, Inc.</u>
Contact <u>N. Joseph Verville</u>	Contract <u>IUC2361</u>
Lab sample id <u>S103143-02</u>	Client sample id <u>Lab Control Sample</u>
Dept sample id <u>8681-002</u>	Material/Matrix <u>WATER</u>

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

QC-LCS #77924

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>04/13/11</u>

EBERLINE ANALYTICAL

SDG 8682

8681-004

IUC2187-03

DUPLICATE

SDG <u>8682</u> Contact <u>N. Joseph Verville</u> DUPLICATE Lab sample id <u>S103143-04</u> Dept sample id <u>8681-004</u>	ORIGINAL Lab sample id <u>S103143-01</u> Dept sample id <u>8681-001</u> Received <u>03/23/11</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2361</u> Client sample id <u>IUC2187-03</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>03/20/11 21:35</u> <u>10.0 L</u> Chain of custody id <u>IUC2187</u>
--	---	--

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

QC-DUP#1 77926

Lab id <u>EAS</u>
Protocol <u>TA</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>04/13/11</u>

EBERLINE ANALYTICAL
SDG 8682

8682-001

IUC2361-02

DATA SHEET

SDG <u>8682</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2361</u>
Lab sample id <u>S103146-01</u> Dept sample id <u>8682-001</u> Received <u>03/24/11</u>	Client sample id <u>IUC2361-02</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>03/21/11 08:00</u> <u>10.0 L</u> Chain of custody id <u>IUC2361</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	3.19	0.66	0.415	3.00		80A
Gross Beta	12587472	5.56	0.67	0.839	4.00		80B
Tritium	10028178	-7.57	97	164	500	U	H
Radium-226	13982633	-0.078	0.49	0.921	1.00	U	RA
Radium-228	15262201	0.096	0.44	0.418	1.00	U	AC
Strontium-90	10098972	-0.003	0.30	0.720	2.00	U	SR
Uranium, Total		0.673	0.078	0.020	1.00	J	U_T
Potassium-40	13966002	U		<u>33.4</u>	25.0	U	GAM
Cesium-137	10045973	U		1.65	20.0	U	GAM

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-DS</u> Version <u>3.06</u> Report date <u>04/13/11</u>

EBERLINE ANALYTICAL

SDG 8682

8682-002

IUC2361-03 (TRIP-BLANK)

D A T A S H E E T

SDG <u>8682</u> Contact <u>N. Joseph Verville</u>	Client <u>Test America, Inc.</u> Contract <u>IUC2361</u>
Lab sample id <u>S103146-02</u> Dept sample id <u>8682-002</u> Received <u>03/24/11</u>	Client sample id <u>IUC2361-03 (TRIP-BLANK)</u> Location/Matrix <u>Boeing - SSFL</u> <u>WATER</u> Collected/Volume <u>03/23/11 12:30</u> <u>10.0 L</u> Chain of custody id <u>IUC2361</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Gross Alpha	12587461	0.106	0.18	0.288	3.00	U	80A
Gross Beta	12587472	-0.270	0.49	0.828	4.00	U	80B
Radium-226	13982633	0.110	0.45	0.818	1.00	U	RA
Radium-228	15262201	-0.111	0.15	0.413	1.00	U	AC
Strontium-90	10098972	-0.066	0.30	0.732	2.00	U	SR
Uranium, Total		0	0.009	0.020	1.00	U	U_T
Potassium-40	13966002	U		20.4	25.0	U	GAM
Cesium-137	10045973	U		1.48	20.0	U	GAM

Lab id <u>EAS</u> Protocol <u>TA</u> Version <u>Ver 1.0</u> Form <u>DVD-DS</u> Version <u>3.06</u> Report date <u>04/13/11</u>

EBERLINE ANALYTICAL

SDG 8682

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
 SDG 8682
 Contact N. Joseph Verville

Client Test America, Inc.
 Contract IUC2361

RESULTS

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

Preparation batch 7281-071

S103143-02	80	8681-002	Lab Control Sample	ok
S103143-03	80	8681-003	Method Blank	U
S103143-04	80	8681-004	Duplicate (S103143-01)	ok J
S103146-01	80	8682-001	IUC2361-02	3.19
S103146-02	80	8682-002	IUC2361-03 (TRIP-BLANK)	U

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

METHOD PERFORMANCE

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

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

S103143-02	80	Lab Control Sample	1.21	0.100			60	400				03/31/11	03/31	GRB-103
S103143-03	80	Method Blank	1.85	0.100			60	400				03/31/11	03/31	GRB-104
S103143-04	80	Duplicate (S103143-01)	0.434	0.300			26	400			11	03/31/11	03/31	GRB-109
S103146-01	80	IUC2361-02	0.415	0.300			63	400			10	03/31/11	03/31	GRB-111
S103146-02	80	IUC2361-03 (TRIP-BLANK)	0.288	0.300			0	400			8	03/31/11	03/31	GRB-112

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

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

AVERAGES ± 2 SD MDA 0.839 ± 1.34
 FOR 5 SAMPLES RESIDUE 42 ± 56

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EAS
 Protocol TA
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 Form DVD-LMS
 Version 3.06
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EBERLINE ANALYTICAL

SDG 8682

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER

SDG 8682

Contact N. Joseph Verville

Client Test America, Inc.

Contract IUC2361

RESULTS

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

Preparation batch 7281-071

S103143-02	80	8681-002	Lab Control Sample	ok
S103143-03	80	8681-003	Method Blank	U
S103143-04	80	8681-004	Duplicate (S103143-01)	ok
S103146-01	80	8682-001	IUC2361-02	5.56
S103146-02	80	8682-002	IUC2361-03 (TRIP-BLANK)	U

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

METHOD PERFORMANCE

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

Preparation batch 7281-071 2σ prep error 11.0 % Reference Lab Notebook No. 7281 pg. 71

S103143-02	80	Lab Control Sample	3.06	0.100				60	400				03/31/11	03/31	GRB-103
S103143-03	80	Method Blank	2.40	0.100				60	400				03/31/11	03/31	GRB-104
S103143-04	80	Duplicate (S103143-01)	0.831	0.300				26	400			11	03/31/11	03/31	GRB-109
S103146-01	80	IUC2361-02	0.839	0.300				63	400			10	03/31/11	03/31	GRB-111
S103146-02	80	IUC2361-03 (TRIP-BLANK)	0.828	0.300				0	400			8	03/31/11	03/31	GRB-112

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

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

AVERAGES ± 2 SD MDA 1.59 ± 2.13
FOR 5 SAMPLES RESIDUE 42 ± 56

METHOD SUMMARIES

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Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/13/11

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LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
 SDG 8682
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 Contract IUC2361

RESULTS

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

Preparation batch 7281-071

S103143-02	8681-002	Lab Control Sample	ok	ok
S103143-03	8681-003	Method Blank		U
S103143-04	8681-004	Duplicate (S103143-01)		- U
S103146-01	8682-001	IUC2361-02		U
S103146-02	8682-002	IUC2361-03 (TRIP-BLANK)		U

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

METHOD PERFORMANCE

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

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

S103143-02	Lab Control Sample		2.00							401			03/24/11	03/31	MB,08,00
S103143-03	Method Blank		2.00							621			03/24/11	03/31	MB,05,00
S103143-04	Duplicate (S103143-01)		2.00							596		11	03/24/11	03/31	MB,08,00
S103146-01	IUC2361-02		2.00							429		15	03/24/11	04/05	01,02,00
S103146-02	IUC2361-03 (TRIP-BLANK)		2.00							405		9	03/24/11	04/01	MB,08,00

Nominal values and limits from method	6.00	2.00			400				180
---------------------------------------	------	------	--	--	-----	--	--	--	-----

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

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LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
SDG 8682
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RESULTS

LAB	RAW	SUF-		Uranium,
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Total
Preparation batch 7281-071				
S103143-02		8681-002	Lab Control Sample	ok
S103143-03		8681-003	Method Blank	U
S103143-04		8681-004	Duplicate (S103143-01)	ok J
S103146-01		8682-001	IUC2361-02	0.673 J
S103146-02		8682-002	IUC2361-03 (TRIP-BLANK)	U

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

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7281-071			2σ prep error		Reference Lab Notebook No. 7281 pg. 71										
S103143-02		Lab Control Sample	0.205	0.0200									03/29/11	03/29	KPA-001
S103143-03		Method Blank	0.020	0.0200									03/29/11	03/29	KPA-001
S103143-04		Duplicate (S103143-01)	0.020	0.0200								9	03/29/11	03/29	KPA-001
S103146-01		IUC2361-02	0.020	0.0200								8	03/29/11	03/29	KPA-001
S103146-02		IUC2361-03 (TRIP-BLANK)	0.020	0.0200								6	03/29/11	03/29	KPA-001

Nominal values and limits from method 1.00 0.0200 180

PROCEDURES REFERENCE D5174

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

METHOD SUMMARIES

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REPORT GUIDE

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SAMPLE SUMMARY

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

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

The following notes apply to these reports:

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

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

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

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PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

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

These qualifiers should be reviewed as follows:

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

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

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R E P O R T G U I D E

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W O R K S U M M A R Y

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

The following notes apply to this report:

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

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DATA SHEET

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

The following notes apply to this report:

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

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

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

The following qualifiers are defined by the DVD system:

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

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

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

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DATA SHEET

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

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

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LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

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DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:

1. A fixed percentage specified in the protocol.

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

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

2. The error of ADDED.

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

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

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MATRIX SPIKE

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

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

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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

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

MDAs are underlined if greater than the printed RDL.

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

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specified for the method.

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

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

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

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

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

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

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

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

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

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

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SUBCONTRACT ORDER

TestAmerica Irvine

IUC2361

3/29/11

New COC

8682

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Eberline Services
 2030 Wright Avenue
 Richmond, CA 94804
 Phone : (510) 235-2633
 Fax: (510) 235-0438

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: IUC2361-02	Water	Sampled: 03/21/11 08:00		
Uranium, Combined-O	03/29/11 12:00	03/20/12 08:00		Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	03/29/11 12:00	03/20/12 08:00		Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	03/29/11 12:00	03/20/12 08:00		Out St Louis, Boeing permit, DO NOT FILTER!
Radium, Combined-O	03/29/11 12:00	03/20/12 08:00		Out eberline Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	03/29/11 12:00	04/18/11 08:00		
Gross Beta-O	03/29/11 12:00	09/17/11 08:00		Out St Louis, Boeing permit, DO NOT FILTER!
Gross Alpha-O	03/29/11 12:00	09/17/11 08:00		Out St Louis, Boeing permit, DO NOT FILTER!
Gamma Spec-O	03/29/11 12:00	03/20/12 08:00		Out St Louis, K-40 and CS-137 only, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (J) 500 mL Amber (K)

Sample ID: IUC2361-03	Water	Sampled: 03/23/11 12:30		
Uranium, Combined-O	03/29/11 12:00	03/22/12 12:30		Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	03/29/11 12:00	03/22/12 12:30		Out St Louis, Boeing permit, DO NOT FILTER!
Radium, Combined-O	03/29/11 12:00	03/22/12 12:30		Out eberline Boeing permit, DO NOT FILTER!
Gross Beta-O	03/29/11 12:00	09/19/11 12:30		Out St Louis, Boeing permit, DO NOT FILTER!
Gross Alpha-O	03/29/11 12:00	09/19/11 12:30		Out St Louis, Boeing permit, DO NOT FILTER!
Gamma Spec-O	03/29/11 12:00	03/22/12 12:30		Out St Louis, K-40 and CS-137 only, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (A)

Released By	Date	Received By	Date
Released By	Date	Received By	Date

Subcontract Order - TestAmerica Irvine (IUC2361)

3/23/11
Old COC 8682

SENDING LABORATORY:

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

RECEIVING LABORATORY:

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

Analysis	Units	Due	Expires	Comments
Sample ID: IUC2361-02 (Outfall 010 (Composite) - Water) Sampled: 03/21/11 08:00				
Gamma Spec-O	mg/kg	03/28/11	03/20/12 08:00	Out St Louis, K-40 and CS-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	03/28/11	09/17/11 08:00	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	03/28/11	09/17/11 08:00	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	03/28/11	04/18/11 08:00	
Strontium 90-O	pCi/L	03/28/11	03/20/12 08:00	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/28/11	03/20/12 08:00	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/28/11	03/20/12 08:00	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (J) 500 mL Amber (K)

Sample ID: IUC2361-03 (Trip Blank - Water) Sampled: 03/23/11 12:30				
Gamma Spec-O	mg/kg	03/28/11	03/22/12 12:30	Out St Louis, K-40 and CS-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	03/28/11	09/19/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	03/28/11	09/19/11 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/28/11	03/22/12 12:30	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/28/11	03/22/12 12:30	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:

2.5 gal Poly (A)



Released By

3/23/11 17:00

Date/Time

FedEx

Received By

3/23/11 17:00

Date/Time

FED EX

Released By

Date/Time

Received By

03/24/11 09:30

Date/Time



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA
 Date/Time received 03/24/11 05:20 CoC No. 1UC2361
 Container I.D. No. ICE CTEST Requested TAT (Days) STD 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: 03/24/11 Time: 1045

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wide	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wide
<u>All Samples</u>	<u>460</u>						

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