APPENDIX G

Section 27

Outfall 009 – January 3, 2011

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUA0079

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:	IUA0079
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 (composite)	IUA0079-02	S101015-01, G1A050541-001	Water	1/3/2011 11:20:00 AM	245.1, 245.1-Diss, 900, 901.1, 903.1, 904, 905, 906,1613B, SM2540D, D5174

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at Eberline above the temperature limit at 7.3°C; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at TestAmerica-West Sacramento below the temperature limit at 1°C; however, as the samples were not noted to be frozen or damaged, no qualifications were required. The samples in this SDG were received at TestAmerica-Irvine within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the samples were delivered to TestAmerica-Irvine by courier, no custody seals were required. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: February 21, 2011

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

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

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

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

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

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.

- Blanks: The method blank had detects between the EDL and the RL for 1,2,3,4,7,8-HxCDD, 1,2,3,4,6,7,8-HpCDD, OCDD, OCDF, and totals for HxCDD and HpCDD. Some method blank detects were reported as EMPCs; however, due to the extent of the method blank contamination, the reviewer considered it appropriate to use the EMPCs to qualify sample results. The method blank concentration of OCDD was insufficient to qualify the

associated sample and 1,2,3,4,7,8-HxCDD was not detected. The sample results for OCDF and 1,2,3,4,6,7,8-HpCDD were qualified as nondetected, "U," at the level of contamination. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J," as only a portion of the total was considered method blank contamination.

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

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

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

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

- Internal Standards Performance: The labeled standard recoveries in the sample were within the acceptance criteria listed in Table 7 of Method 1613.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. Any individual isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Any totals containing EMPCs were qualified as estimated, "J." Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks
Date Reviewed: February 16, 2011

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

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

- Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and the initial and continuing calibration recoveries were within 85-115% for mercury. CRA recoveries were within the control limits of 70-130%.

- Blanks: Method blanks and CCBs had no detects.

- Interference Check Samples: Not applicable to this analysis.

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the dissolved fraction of the sample in this SDG. Both recoveries and the RPD were within laboratory-established QC limits.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: Not applicable to this analysis.

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

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

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

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

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: February 16, 2011

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

- Holding Times: The tritium sample was analyzed within 180 days of collection. The remaining aliquots were prepared within the five-day analytical holding time for unpreserved samples.

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

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

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

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

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

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

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

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

A notation in the sample preparation logbook indicated that the aliquots for radium-226, radium-228, and strontium were filtered and that the filter was digested and added to the aliquot.

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

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

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

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: February 16, 2011

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

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

- Calibration: The balance calibration logs were acceptable.

- Blanks: The method blanks had no detects.

- 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 IUA0079

Analysis Method 8658

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.092	1	0.016	pCi/L	Jb	J	DNQ

Analysis Method 900

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.929	3	0.378	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	1.22	4	0.891	pCi/L	Jb	J	DNQ

Analysis Method 901.1

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.19	pCi/L	U	U	
Potassium-40	13966002	ND	25	23.9	pCi/L	U	U	

Analysis Method 903.1

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.441	1	0.715	pCi/L	U	U	

Analysis Method 904

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.186	1	0.433	pCi/L	U	U	

Analysis Method 905

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.02	2	1.03	pCi/L	U	U	

Analysis Method 906

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-84	500	263	pCi/L	U	U	

Analysis Method EPA 245.1

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 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 009 (composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 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 009 (composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000006	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000007	ug/L	J, Q	UJ	*III
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000008	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000008	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	7.7e-007	0.00005	0.0000002	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000007	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000003	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000015	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000003	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000005	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000003	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000005	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000004	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000003	ug/L		U	
OCDD	3268-87-9	0.00018	0.0001	0.0000011	ug/L	B		
OCDF	39001-02-0	ND	0.0001	0.0000005	ug/L	J, B	U	B
Total HpCDD	37871-00-4	4.8e-005	0.00005	0.0000006	ug/L	J, B	J	B, DNQ
Total HpCDF	38998-75-3	1.3e-005	0.00005	0.0000007	ug/L	J, Q	J	DNQ, *III
Total HxCDD	34465-46-8	2e-006	0.00005	0.0000002	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDF	55684-94-1	4.3e-006	0.00005	0.0000002	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000005	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000004	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000003	ug/L		U	

Analysis Method SM 2540D

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

Lab Sample Name: IUA0079-02 **Sample Date:** 1/3/2011 11:20:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	2.0	10	1.0	mg/l	J	J	DNQ

APPENDIX G

Section 28

Outfall 009 – January 3, 2011

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

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

Project: Routine Outfall 009

Sampled: 01/03/11-01/04/11
Received: 01/03/11
Issued: 02/08/11 09:32

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

SAMPLE CROSS REFERENCE

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

ADDITIONAL INFORMATION: WATER, 1613B, Dioxins/Furans with Totals

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

LABORATORY ID	CLIENT ID	MATRIX
IUA0079-01	Outfall 009 (Grab)	Water
IUA0079-02	Outfall 009 (composite)	Water
IUA0079-03	Trip Blank	Water

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

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-01 (Outfall 009 (Grab) - Water)					**Sampled: 01/03/11**				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11A1479	1.3	4.7	ND	1	DA	01/14/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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MWH-Pasadena/Boeing
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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: ug/l									
Mercury	EPA 245.1	11A0243	0.10	0.20	ND	1	DB	01/04/11	
Antimony	EPA 200.8	11A0917	0.30	2.0	**1.9**	1	RDC	01/11/11	J
Cadmium	EPA 200.8	11A0917	0.10	1.0	ND	1	RDC	01/11/11	
Copper	EPA 200.8	11A0917	0.500	2.00	**3.34**	1	RDC	01/11/11	
Lead	EPA 200.8	11A0917	0.200	1.00	**1.87**	1	RDC	01/11/11	
Thallium	EPA 200.8	11A0917	0.20	1.0	ND	1	RDC	01/11/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water) - cont.					**Sampled: 01/03/11**				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11A0249	0.10	0.20	ND	1	DB	01/04/11	
Antimony	EPA 200.8-Diss	11A1040	0.30	2.0	**1.7**	1	RDC	01/12/11	J
Cadmium	EPA 200.8-Diss	11A1040	0.10	1.0	ND	1	RDC	01/12/11	
Copper	EPA 200.8-Diss	11A1040	0.500	2.00	**2.59**	1	RDC	01/12/11	
Lead	EPA 200.8-Diss	11A1040	0.20	1.0	**0.29**	1	RDC	01/12/11	J
Thallium	EPA 200.8-Diss	11A1040	0.20	1.0	ND	1	RDC	01/12/11	

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water) - cont.					**Sampled: 01/03/11**				
Reporting Units: mg/l									
Chloride	EPA 300.0	11A0202	0.25	0.50	**5.8**	1	NN	01/04/11	
Nitrate/Nitrite-N	EPA 300.0	11A0202	0.15	0.26	**0.52**	1	NN	01/04/11	
Sulfate	EPA 300.0	11A0202	0.20	0.50	**7.4**	1	NN	01/04/11	
Total Dissolved Solids	SM2540C	11A0170	1.0	10	**75**	1	MC	01/04/11	
Total Suspended Solids	SM 2540D	11A0627	1.0	10	**2.0**	1	DK	01/06/11	J
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	11A0255	2.2	5.0	ND	1	HH	01/04/11	

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Sampled: 01/03/11-01/04/11
Received: 01/03/11

8658

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water) - cont.					**Sampled: 01/03/11**				
Reporting Units: pCi/L									
Uranium, Total	8658	8658		1	**0.092**	1	CSS	02/01/11	Jb
Sample ID: IUA0079-03 (Trip Blank - Water)					**Sampled: 01/04/11**				
Reporting Units: pCi/L									
Uranium, Total	8658	8658		1	ND	1	CSS	02/01/11	U

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Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: pCi/L									
Gross Alpha	900	8658		3	**0.929**	1	MH	01/17/11	Jb
Gross Beta	900	8658		4	**1.22**	1	MH	01/17/11	Jb
Sample ID: IUA0079-03 (Trip Blank - Water)					**Sampled: 01/04/11**				
Reporting Units: pCi/L									
Gross Alpha	900	8658		3	**0.228**	1	MH	01/21/11	U
Gross Beta	900	8658		4	**0.108**	1	MH	01/21/11	U

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Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8658		20	ND	1	LS	01/14/11	U
Potassium-40	901.1	8658		25	ND	1	LS	01/14/11	U
Sample ID: IUA0079-03 (Trip Blank - Water)					**Sampled: 01/04/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8658		20	ND	1	LS	01/20/11	U
Potassium-40	901.1	8658		25	ND	1	LS	01/20/11	U

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Received: 01/03/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8658		1	**0.441**	1	ASM	01/27/11	U
Sample ID: IUA0079-03 (Trip Blank - Water)					**Sampled: 01/04/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8658		1	**0.079**	1	ASM	01/27/11	U

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Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: pCi/L									
Radium-228	904	8658		1	**0.186**	1	ASM	01/26/11	U
Sample ID: IUA0079-03 (Trip Blank - Water)					**Sampled: 01/04/11**				
Reporting Units: pCi/L									
Radium-228	904	8658		1	-0.108	1	ASM	01/26/11	U

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Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: pCi/L									
Strontium-90	905	8658		2	-0.02	1	TSC	01/26/11	U
Sample ID: IUA0079-03 (Trip Blank - Water)					**Sampled: 01/04/11**				
Reporting Units: pCi/L									
Strontium-90	905	8658		2	-0.442	1	TSC	01/26/11	U

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Received: 01/03/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)					**Sampled: 01/03/11**				
Reporting Units: pCi/L									
Tritium	906	8658		500	-84	1	JO	01/24/11	U

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Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water) - cont.					**Sampled: 01/03/11**				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1006302	0.0000006	0.00005	**1.9e-005**	1.01	SO	01/07/11	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1006302	0.0000007	0.00005	**5.7e-006**	1.01	SO	01/07/11	J, Q
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1006302	0.00000089	0.00005	ND	1.01	SO	01/07/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1006302	0.00000082	0.00005	ND	1.01	SO	01/07/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1006302	0.00000029	0.00005	**7.7e-007**	1.01	SO	01/07/11	J
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1006302	0.00000076	0.00005	ND	1.01	SO	01/07/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1006302	0.00000031	0.00005	ND	1.01	SO	01/07/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1006302	0.0000015	0.00005	ND	1.01	SO	01/07/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1006302	0.00000032	0.00005	ND	1.01	SO	01/07/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1006302	0.00000069	0.00005	ND	1.01	SO	01/07/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1006302	0.00000051	0.00005	ND	1.01	SO	01/07/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1006302	0.00000035	0.00005	ND	1.01	SO	01/07/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1006302	0.00000057	0.00005	ND	1.01	SO	01/07/11	
2,3,7,8-TCDD	EPA-5 1613B	1006302	0.0000004	0.00001	ND	1.01	SO	01/07/11	
2,3,7,8-TCDF	EPA-5 1613B	1006302	0.00000036	0.00001	ND	1.01	SO	01/07/11	
OCDD	EPA-5 1613B	1006302	0.0000011	0.0001	**0.00018**	1.01	SO	01/07/11	B
OCDF	EPA-5 1613B	1006302	0.0000005	0.0001	**1.3e-005**	1.01	SO	01/07/11	J, B
Total HpCDD	EPA-5 1613B	1006302	0.0000006	0.00005	**4.8e-005**	1.01	SO	01/07/11	J, B
Total HpCDF	EPA-5 1613B	1006302	0.00000079	0.00005	**1.3e-005**	1.01	SO	01/07/11	J, Q
Total HxCDD	EPA-5 1613B	1006302	0.00000024	0.00005	**2e-006**	1.01	SO	01/07/11	J, Q, B
Total HxCDF	EPA-5 1613B	1006302	0.00000029	0.00005	**4.3e-006**	1.01	SO	01/07/11	J, Q
Total PeCDD	EPA-5 1613B	1006302	0.00000069	0.00005	ND	1.01	SO	01/07/11	
Total PeCDF	EPA-5 1613B	1006302	0.00000051	0.00005	ND	1.01	SO	01/07/11	
Total TCDD	EPA-5 1613B	1006302	0.0000004	0.00001	ND	1.01	SO	01/07/11	
Total TCDF	EPA-5 1613B	1006302	0.00000036	0.00001	ND	1.01	SO	01/07/11	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*91 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*85 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*92 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*80 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*83 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*96 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*83 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*81 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*95 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*97 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*84 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*97 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*82 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*81 %*				
Surrogate: 13C-OCDD (17-157%)					*89 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*88 %*				

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Received: 01/03/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water) - cont.						**Sampled: 01/03/11**			
Reporting Units: ug/L									

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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) (IUA0079-02) - Water					
EPA 300.0	2	01/03/2011 11:20	01/03/2011 17:50	01/04/2011 13:00	01/04/2011 15:19
Filtration	1	01/03/2011 11:20	01/03/2011 17:50	01/04/2011 11:15	01/04/2011 11:34

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A1479 Extracted: 01/14/11										
Blank Analyzed: 01/14/2011 (11A1479-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 01/14/2011 (11A1479-BS1)										**MNR1**
Hexane Extractable Material (Oil & Grease)	18.7	5.0	mg/l	20.0		94	78-114			
LCS Dup Analyzed: 01/14/2011 (11A1479-BSD1)										
Hexane Extractable Material (Oil & Grease)	19.0	5.0	mg/l	20.0		95	78-114	2	11	

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0243 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0243-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 01/04/2011 (11A0243-BS1)										
Mercury	8.07	0.20	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 01/04/2011 (11A0243-MS1)					**Source: ITL2734-01**					
Mercury	8.05	0.20	ug/l	8.00	ND	101	70-130			
Matrix Spike Dup Analyzed: 01/04/2011 (11A0243-MSD1)					**Source: ITL2734-01**					
Mercury	8.03	0.20	ug/l	8.00	ND	100	70-130	0.1	20	
Batch: 11A0917 Extracted: 01/10/11										
Blank Analyzed: 01/11/2011 (11A0917-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.00	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 01/11/2011 (11A0917-BS1)										
Antimony	83.9	2.0	ug/l	80.0		105	85-115			
Cadmium	82.4	1.0	ug/l	80.0		103	85-115			
Copper	82.9	2.00	ug/l	80.0		104	85-115			
Lead	81.8	1.00	ug/l	80.0		102	85-115			
Thallium	82.6	1.0	ug/l	80.0		103	85-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0917 Extracted: 01/10/11										
Matrix Spike Analyzed: 01/11/2011 (11A0917-MS1)					**Source: IUA0579-01**					
Antimony	84.6	2.0	ug/l	80.0	0.302	105	70-130			
Cadmium	80.9	1.0	ug/l	80.0	ND	101	70-130			
Copper	76.5	2.00	ug/l	80.0	3.47	91	70-130			
Lead	80.6	1.00	ug/l	80.0	ND	101	70-130			
Thallium	82.3	1.0	ug/l	80.0	ND	103	70-130			
Matrix Spike Analyzed: 01/11/2011 (11A0917-MS2)					**Source: IUA0081-03**					
Antimony	85.3	2.0	ug/l	80.0	ND	107	70-130			
Cadmium	83.4	1.0	ug/l	80.0	ND	104	70-130			
Copper	80.9	2.00	ug/l	80.0	2.51	98	70-130			
Lead	80.1	1.00	ug/l	80.0	ND	100	70-130			
Thallium	81.0	1.0	ug/l	80.0	ND	101	70-130			
Matrix Spike Dup Analyzed: 01/11/2011 (11A0917-MSD1)					**Source: IUA0579-01**					
Antimony	84.5	2.0	ug/l	80.0	0.302	105	70-130	0.07	20	
Cadmium	82.0	1.0	ug/l	80.0	ND	103	70-130	1	20	
Copper	78.6	2.00	ug/l	80.0	3.47	94	70-130	3	20	
Lead	78.2	1.00	ug/l	80.0	ND	98	70-130	3	20	
Thallium	79.8	1.0	ug/l	80.0	ND	100	70-130	3	20	

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Sampled: 01/03/11-01/04/11
Received: 01/03/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0249 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0249-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 01/04/2011 (11A0249-BS1)										
Mercury	8.17	0.20	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 01/04/2011 (11A0249-MS1)					**Source: IUA0079-02**					
Mercury	8.20	0.20	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 01/04/2011 (11A0249-MSD1)					**Source: IUA0079-02**					
Mercury	8.14	0.20	ug/l	8.00	ND	102	70-130	0.6	20	
Batch: 11A1040 Extracted: 01/11/11										
Blank Analyzed: 01/12/2011 (11A1040-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 01/12/2011 (11A1040-BS1)										
Antimony	81.0	2.0	ug/l	80.0		101	85-115			
Cadmium	77.7	1.0	ug/l	80.0		97	85-115			
Copper	82.8	2.00	ug/l	80.0		104	85-115			
Lead	85.6	1.0	ug/l	80.0		107	85-115			
Thallium	84.7	1.0	ug/l	80.0		106	85-115			

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Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A1040 Extracted: 01/11/11										
Matrix Spike Analyzed: 01/12/2011 (11A1040-MS1)					**Source: IUA0617-01**					
Antimony	82.3	2.0	ug/l	80.0	ND	103	70-130			
Cadmium	76.6	1.0	ug/l	80.0	ND	96	70-130			
Copper	82.5	2.00	ug/l	80.0	1.56	101	70-130			
Lead	82.9	1.0	ug/l	80.0	ND	104	70-130			
Thallium	80.9	1.0	ug/l	80.0	ND	101	70-130			
Matrix Spike Analyzed: 01/12/2011 (11A1040-MS2)					**Source: IUA0500-02**					
Antimony	79.8	2.0	ug/l	80.0	ND	100	70-130			
Cadmium	74.4	1.0	ug/l	80.0	ND	93	70-130			
Copper	82.2	2.00	ug/l	80.0	1.69	101	70-130			
Lead	80.7	1.0	ug/l	80.0	ND	101	70-130			
Thallium	79.7	1.0	ug/l	80.0	ND	100	70-130			
Matrix Spike Dup Analyzed: 01/12/2011 (11A1040-MSD1)					**Source: IUA0617-01**					
Antimony	82.9	2.0	ug/l	80.0	ND	104	70-130	0.8	20	
Cadmium	76.3	1.0	ug/l	80.0	ND	95	70-130	0.5	20	
Copper	82.9	2.00	ug/l	80.0	1.56	102	70-130	0.5	20	
Lead	80.6	1.0	ug/l	80.0	ND	101	70-130	3	20	
Thallium	79.0	1.0	ug/l	80.0	ND	99	70-130	2	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0170 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0170-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 01/04/2011 (11A0170-BS1)										
Total Dissolved Solids	1000	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 01/04/2011 (11A0170-DUP1)					**Source: ITL2807-01**					
Total Dissolved Solids	86.0	10	mg/l		88.0			2	10	
Batch: 11A0202 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0202-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 01/04/2011 (11A0202-BS1)										
Chloride	4.86	0.50	mg/l	5.00		97	90-110			*M-3*
Sulfate	9.88	0.50	mg/l	10.0		99	90-110			*M-3*
Matrix Spike Analyzed: 01/04/2011 (11A0202-MS1)					**Source: IUA0079-02**					
Chloride	10.8	0.50	mg/l	5.00	5.80	100	80-120			
Sulfate	18.0	0.50	mg/l	10.0	7.37	106	80-120			
Matrix Spike Dup Analyzed: 01/04/2011 (11A0202-MSD1)					**Source: IUA0079-02**					
Chloride	10.5	0.50	mg/l	5.00	5.80	94	80-120	3	20	
Sulfate	18.0	0.50	mg/l	10.0	7.37	106	80-120	0.2	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11A0255 Extracted: 01/04/11										
Blank Analyzed: 01/04/2011 (11A0255-BLK1)										
Total Cyanide	ND	5.0	ug/l							
LCS Analyzed: 01/04/2011 (11A0255-BS1)										
Total Cyanide	185	5.0	ug/l	200		92	90-110			
Matrix Spike Analyzed: 01/04/2011 (11A0255-MS1)					**Source: IUA0075-04**					
Total Cyanide	200	5.0	ug/l	200	ND	100	70-115			
Matrix Spike Dup Analyzed: 01/04/2011 (11A0255-MSD1)					**Source: IUA0075-04**					
Total Cyanide	200	5.0	ug/l	200	ND	100	70-115	0.2	15	
Batch: 11A0627 Extracted: 01/06/11										
Blank Analyzed: 01/06/2011 (11A0627-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 01/06/2011 (11A0627-BS1)										
Total Suspended Solids	992	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 01/06/2011 (11A0627-DUP1)					**Source: IUA0087-02**					
Total Suspended Solids	14.0	10	mg/l		14.0			0	10	

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METHOD BLANK/QC DATA

8658

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8658 Extracted: 02/01/11										
LCS Analyzed: 02/01/2011 (S101015-03)					**Source:**					
Uranium, Total	59.8	1	pCi/L	56.5		106	80-120			
Blank Analyzed: 02/01/2011 (S101015-04)					**Source:**					
Uranium, Total	0	1	pCi/L				-			*U*
Duplicate Analyzed: 02/01/2011 (S101015-05)					**Source: IUA0079-02**					
Uranium, Total	0.102	1	pCi/L		0.092		-	10		*Jb*

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METHOD BLANK/QC DATA

900

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8658 Extracted: 01/17/11										
LCS Analyzed: 01/17/2011 (S101015-03)					**Source:**					
Gross Alpha	39.3	3	pCi/L	40.4		97	70-130			
Gross Beta	35.5	4	pCi/L	35		101	70-130			
Blank Analyzed: 01/17/2011 (S101015-04)					**Source:**					
Gross Alpha	0.122	3	pCi/L				-			*U*
Gross Beta	0.089	4	pCi/L				-			*U*
Duplicate Analyzed: 01/17/2011 (S101015-05)					**Source: IUA0079-02**					
Gross Alpha	0.592	3	pCi/L		0.929		-	44		*Jb*
Gross Beta	2.03	4	pCi/L		1.22		-	50		*Jb*

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8658 Extracted: 01/13/11										
LCS Analyzed: 01/14/2011 (S101015-03)					**Source:**					
Cobalt-60	129	10	pCi/L	128		101	80-120			
Cesium-137	118	20	pCi/L	110		107	80-120			
Blank Analyzed: 01/14/2011 (S101015-04)					**Source:**					
Cesium-137	ND	20	pCi/L				-			*U*
Potassium-40	ND	25	pCi/L				-			*U*
Duplicate Analyzed: 01/15/2011 (S101015-05)					**Source: IUA0079-02**					
Cesium-137	ND	20	pCi/L		0		-	0		*U*
Potassium-40	ND	25	pCi/L		0		-	0		*U*

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METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8658 Extracted: 01/27/11										
LCS Analyzed: 01/27/2011 (S101015-03)					**Source:**					
Radium-226	47.3	1	pCi/L	55.7		85	80-120			
Blank Analyzed: 01/27/2011 (S101015-04)					**Source:**					
Radium-226	-0.022	1	pCi/L				-			*U*
Duplicate Analyzed: 01/27/2011 (S101015-05)					**Source: IUA0079-02**					
Radium-226	0.426	1	pCi/L		0.441		-	0		*U*

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METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8658 Extracted: 01/26/11										
LCS Analyzed: 01/26/2011 (S101015-03)					**Source:**					
Radium-228	4.07	1	pCi/L	4.62		88	60-140			
Blank Analyzed: 01/26/2011 (S101015-04)					**Source:**					
Radium-228	-0.112	1	pCi/L				-			*U*
Duplicate Analyzed: 01/26/2011 (S101015-05)					**Source: IUA0079-02**					
Radium-228	-0.069	1	pCi/L		0.186		-	0		*U*

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Received: 01/03/11

METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8658 Extracted: 01/19/11										
LCS Analyzed: 01/26/2011 (S101015-03)					**Source:**					
Strontium-90	18.6	2	pCi/L	17.5		106	80-120			
Blank Analyzed: 01/26/2011 (S101015-04)					**Source:**					
Strontium-90	-0.096	2	pCi/L				-			*U*
Duplicate Analyzed: 01/26/2011 (S101015-05)					**Source: IUA0079-02**					
Strontium-90	-0.142	2	pCi/L		-0.02		-	0		*U*

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METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8658 Extracted: 01/24/11										
LCS Analyzed: 01/24/2011 (S101015-03)					**Source:**					
Tritium	2110	500	pCi/L	2240		94	80-120			
Blank Analyzed: 01/24/2011 (S101015-04)					**Source:**					
Tritium	4.53	500	pCi/L				-			*U*
Duplicate Analyzed: 01/24/2011 (S101015-05)					**Source: IUA0079-02**					
Tritium	-54.4	500	pCi/L		-84		-	0		*U*

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1006302 Extracted: 01/06/11										
Blank Analyzed: 01/07/2011 (G1A060000302B)					**Source:**					
1,2,3,4,6,7,8-HpCDD	8.5e-007	0.00005	ug/L				-			*J, Q*
1,2,3,4,6,7,8-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDD	7.5e-007	0.00005	ug/L				-			*J*
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	5.7e-006	0.0001	ug/L				-			*J*
OCDF	1.8e-006	0.0001	ug/L				-			*J, Q*
Total HpCDD	2.2e-006	0.00005	ug/L				-			*J, Q*
Total HpCDF	ND	0.00005	ug/L				-			
Total HxCDD	7.5e-007	0.00005	ug/L				-			*J*
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.0019*		*ug/L*	*0.002*		*94*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.0018*		*ug/L*	*0.002*		*88*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.0019*		*ug/L*	*0.002*		*95*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0016*		*ug/L*	*0.002*		*82*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.0017*		*ug/L*	*0.002*		*85*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.0021*		*ug/L*	*0.002*		*103*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.0017*		*ug/L*	*0.002*		*85*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.0017*		*ug/L*	*0.002*		*85*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.002*		*ug/L*	*0.002*		*102*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.0021*		*ug/L*	*0.002*		*104*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.0017*		*ug/L*	*0.002*		*87*	*28-136*			

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1006302 Extracted: 01/06/11										
Blank Analyzed: 01/07/2011 (G1A060000302B)					**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.0021*		*ug/L*	*0.002*		*105*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.0017*		*ug/L*	*0.002*		*86*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.0016*		*ug/L*	*0.002*		*82*	*24-169*			
Surrogate: 13C-OCDD	*0.0037*		*ug/L*	*0.004*		*92*	*17-157*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00081*		*ug/L*	*0.0008*		*101*	*35-197*			
LCS Analyzed: 01/07/2011 (G1A060000302C)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.000924	0.00005	ug/L	0.001		92	70-140			*B*
1,2,3,4,6,7,8-HpCDF	0.000987	0.00005	ug/L	0.001		99	82-122			
1,2,3,4,7,8,9-HpCDF	0.000958	0.00005	ug/L	0.001		96	78-138			
1,2,3,4,7,8-HxCDD	0.000966	0.00005	ug/L	0.001		97	70-164			*B*
1,2,3,4,7,8-HxCDF	0.000893	0.00005	ug/L	0.001		89	72-134			
1,2,3,6,7,8-HxCDD	0.000897	0.00005	ug/L	0.001		90	76-134			
1,2,3,6,7,8-HxCDF	0.000917	0.00005	ug/L	0.001		92	84-130			
1,2,3,7,8,9-HxCDD	0.00093	0.00005	ug/L	0.001		93	64-162			
1,2,3,7,8,9-HxCDF	0.000918	0.00005	ug/L	0.001		92	78-130			
1,2,3,7,8-PeCDD	0.000987	0.00005	ug/L	0.001		99	70-142			
1,2,3,7,8-PeCDF	0.000871	0.00005	ug/L	0.001		87	80-134			
2,3,4,6,7,8-HxCDF	0.000934	0.00005	ug/L	0.001		93	70-156			
2,3,4,7,8-PeCDF	0.00086	0.00005	ug/L	0.001		86	68-160			
2,3,7,8-TCDD	0.000186	0.00001	ug/L	0.0002		93	67-158			
2,3,7,8-TCDF	0.000173	0.00001	ug/L	0.0002		86	75-158			
OCDD	0.00173	0.0001	ug/L	0.002		86	78-144			*B*
OCDF	0.0017	0.0001	ug/L	0.002		85	63-170			*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00183*		*ug/L*	*0.002*		*91*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.0017*		*ug/L*	*0.002*		*85*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.0018*		*ug/L*	*0.002*		*90*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.00169*		*ug/L*	*0.002*		*85*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00159*		*ug/L*	*0.002*		*80*	*19-202*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.0019*		*ug/L*	*0.002*		*95*	*25-163*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00171*		*ug/L*	*0.002*		*85*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00163*		*ug/L*	*0.002*		*81*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00186*		*ug/L*	*0.002*		*93*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00189*		*ug/L*	*0.002*		*95*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00169*		*ug/L*	*0.002*		*84*	*22-176*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00192*		*ug/L*	*0.002*		*96*	*13-328*			

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1006302 Extracted: 01/06/11										
LCS Analyzed: 01/07/2011 (G1A060000302C)					**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00164*		*ug/L*	*0.002*		*82*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00157*		*ug/L*	*0.002*		*79*	*22-152*			
Surrogate: 13C-OCDD	*0.00355*		*ug/L*	*0.004*		*89*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000739*		*ug/L*	*0.0008*		*92*	*31-191*			

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Received: 01/03/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUA0079-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.095	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
IUA0079-02	Cadmium-200.8	Cadmium	ug/l	0.035	1.0	3.1
IUA0079-02	Chloride - 300.0	Chloride	mg/l	5.80	0.50	150
IUA0079-02	Copper-200.8	Copper	ug/l	3.34	2.00	14
IUA0079-02	Lead-200.8	Lead	ug/l	1.87	1.00	5.2
IUA0079-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.52	0.26	8
IUA0079-02	Sulfate-300.0	Sulfate	mg/l	7.37	0.50	300
IUA0079-02	TDS - SM2540C	Total Dissolved Solids	mg/l	75	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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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).
U	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

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	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2540C	Water	X	
SM4500CN-E	Water	X	X

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

Subcontracted Laboratories

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUA0079-02, IUA0079-03

Analysis Performed: Gross Alpha
Samples: IUA0079-02, IUA0079-03

Analysis Performed: Gross Beta
Samples: IUA0079-02, IUA0079-03

Analysis Performed: Level 4 Data Package
Samples: IUA0079-02, IUA0079-03

Analysis Performed: Radium, Combined
Samples: IUA0079-02, IUA0079-03

Analysis Performed: Strontium 90
Samples: IUA0079-02, IUA0079-03

Analysis Performed: Tritium
Samples: IUA0079-02, IUA0079-03

Analysis Performed: Uranium, Combined
Samples: IUA0079-02, IUA0079-03

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618 Michillinda Avenue, Suite 200
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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: IUA0079

Sampled: 01/03/11-01/04/11
Received: 01/03/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8658
Samples: IUA0079-02, IUA0079-03

Method Performed: 900
Samples: IUA0079-02, IUA0079-03

Method Performed: 901.1
Samples: IUA0079-02, IUA0079-03

Method Performed: 903.1
Samples: IUA0079-02, IUA0079-03

Method Performed: 904
Samples: IUA0079-02, IUA0079-03

Method Performed: 905
Samples: IUA0079-02, IUA0079-03

Method Performed: 906
Samples: IUA0079-02

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUA0079-02

TestAmerica Irvine

Debby Wilson
Project Manager

CHAIN OF CUSTODY FORM

IUA0079

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** **GRAB** HIGH Stormwater at ~~SW-13~~ WS-13	ANALYSIS REQUIRED	Field readings: (Log in and include in report Temp and pH) Temp °F = 41.0 pH = 7.1 Time of readings = 09:00
Project Manager: Bronwyn Kelly Sampler: Rick Banaga	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)														Comments
Outfall 009	W	1L Amber	2	1-3-2010 09:00	HCl	1A, 1B	X														

VS 01/04/11 8:00

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Banaga (signature)	1-3-2011 13:00	Matt (signature)	1-3-11 13:00
Matt (signature)	1-3-11 17:50	VuBanh (signature)	1/3/11 17:50

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

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

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

03U04 3.1

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide							Comments
Outfall 009	W	1L Poly	1	1-3-2011 11:20	HNO_3	2A	X														
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X														
Outfall 009	W	1L Amber	2		None	3A, 3B		X													
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 009	W	500 mL Poly	1		None	5				X											
Outfall 009	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1	1-3-2011 11:20	None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
~~Outfall 009~~	~~W~~	~~1 Gal Poly~~	1		None	8															~~Only test if first or second rain events of the year~~
Outfall 009	W	500 mL Poly	1	1-3-2011 11:20	NaOH	9								X							

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

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

Relinquished By	Date/Time:	Received By	Date/Time:
	1-3-2011 13:00		1-3-11 13:00
Relinquished By	Date/Time:	Received By	Date/Time:
	1-3-11 17:50	VuBanh	1/3/11 17:50
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)

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

48 Hour: _____ 5 Day: _____ Normal: X

Sample Integrity: (Check)

Intact: ✓ On Ice: ✓

Data Requirements: (Check)

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

03 Mo4 3.1

EBERLINE SERVICES

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

February 7, 2011

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

Reference: **Test America-Irvine IUA0079**
Eberline Analytical Report S101015-8658
Sample Delivery Group 8658

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUA0079. The samples were received on January 5, 2011.

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

Sincerely,

Rodney Melgard for

N. Joseph Verville
Client Services Manager

RM/ljb

Enclosure: Level IV CLP-like Data Package CD

1.0 General Comments

Sample delivery group 8658 consists of the analytical results and supporting documentation for two water samples. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

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 2σerror (Total):

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

4.0 Analysis Notes

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

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

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

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

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

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

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

5.0 Case Narrative Certification Statement

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

Rodney Melgard for — 2/7/11

N. Joseph Derville **Date**
Client Services Manager

E B E R L I N E A N A L Y T I C A L
SDG 8658

SDG 8658	Client Test America, Inc.
Contact N. Joseph Verville	Contract IUA0079

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

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

About this section	1
Sample Summaries	3
Prep Batch Summary	5
Work Summary	6
Method Blanks	8
Lab Control Samples	9
Duplicates	10
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End of Section	35

VB

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	02/07/11

SDG 8658
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUA0079

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

DUPLICATES

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/07/11

SDG 8658
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUA0079

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

LAB SAMPLE SUMMARY

SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S101015-01	IUA0079-02	Boeing - SSFL	WATER			IUA0079	01/03/11 11:20
S101015-02	IUA0079-03 (TRIP BLANK)	Boeing - SSFL	WATER			IUA0079	01/04/11 11:45
S101015-03	Lab Control Sample		WATER				
S101015-04	Method Blank		WATER				
S101015-05	Duplicate (S101015-01)	Boeing - SSFL	WATER				01/03/11 11:20

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

SDG 8658
Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract IUA0079

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS RECEIVED	DAYS COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8658	IUA0079	IUA0079-02	WATER		10.0 L		01/05/11	2	S101015-01	8658-001
		IUA0079-03 (TRIP BLANK)	WATER		10.0 L		01/05/11	1	S101015-02	8658-002
		Method Blank	WATER						S101015-04	8658-004
		Lab Control Sample	WATER						S101015-03	8658-003
		Duplicate (S101015-01)	WATER		10.0 L		01/05/11	2	S101015-05	8658-005

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

PREP BATCH SUMMARY

SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7221-041	10.4	2			1	1	1/1		
SR	WATER	Strontium-90 in Water	7221-041	10.4	2			1	1	1/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7221-041	20.6	2			1	1	1/1		
80B	WATER	Gross Beta in Water	7221-041	11.0	2			1	1	1/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7221-041	7.0	2			1	1	1/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7221-041		2			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7221-041	10.0	1			1	1	1/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7221-041	16.4	2			1	1	1/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

LAB WORK SUMMARY

SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S101015-01	IUA0079-02		8658-001	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water
01/03/11	Boeing - SSFL	WATER	8658-001	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water
01/05/11	IUA0079		8658-001	AC		01/26/11	02/04/11	BW	Radium-228 in Water
			8658-001	GAM		01/14/11	01/24/11	MWT	Gamma Emitters in Water
			8658-001	H		01/24/11	01/26/11	BW	Tritium in Water
			8658-001	RA		01/27/11	01/28/11	BW	Radium-226 in Water
			8658-001	SR		01/26/11	02/04/11	BW	Strontium-90 in Water
			8658-001	U_T		02/01/11	02/03/11	BW	Uranium, Total
S101015-02	IUA0079-03 (TRIP BLANK)		8658-002	80A/80		01/21/11	02/04/11	BW	Gross Alpha in Water
01/04/11	Boeing - SSFL	WATER	8658-002	80B/80		01/21/11	02/04/11	BW	Gross Beta in Water
01/05/11	IUA0079		8658-002	AC		01/26/11	02/04/11	BW	Radium-228 in Water
			8658-002	GAM		01/20/11	01/24/11	MWT	Gamma Emitters in Water
			8658-002	RA		01/27/11	01/28/11	BW	Radium-226 in Water
			8658-002	SR		01/26/11	02/04/11	BW	Strontium-90 in Water
			8658-002	U_T		02/01/11	02/03/11	BW	Uranium, Total
S101015-03	Lab Control Sample		8658-003	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water
		WATER	8658-003	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water
			8658-003	AC		01/26/11	02/04/11	BW	Radium-228 in Water
			8658-003	GAM		01/14/11	01/24/11	MWT	Gamma Emitters in Water
			8658-003	H		01/24/11	01/26/11	BW	Tritium in Water
			8658-003	RA		01/27/11	01/28/11	BW	Radium-226 in Water
			8658-003	SR		01/26/11	02/04/11	BW	Strontium-90 in Water
			8658-003	U_T		02/01/11	02/03/11	BW	Uranium, Total
S101015-04	Method Blank		8658-004	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water
		WATER	8658-004	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water
			8658-004	AC		01/26/11	02/04/11	BW	Radium-228 in Water
			8658-004	GAM		01/14/11	01/24/11	MWT	Gamma Emitters in Water
			8658-004	H		01/24/11	01/26/11	BW	Tritium in Water
			8658-004	RA		01/27/11	01/28/11	BW	Radium-226 in Water
			8658-004	SR		01/26/11	02/04/11	BW	Strontium-90 in Water
			8658-004	U_T		02/01/11	02/03/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/07/11

SDG 8658
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract IUA0079

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S101015-05	Duplicate (S101015-01)			8658-005	80A/80		01/17/11	02/04/11	BW	Gross Alpha in Water
01/03/11	Boeing - SSFL		WATER	8658-005	80B/80		01/17/11	02/04/11	BW	Gross Beta in Water
01/05/11				8658-005	AC		01/26/11	02/04/11	BW	Radium-228 in Water
				8658-005	GAM		01/15/11	01/24/11	MWT	Gamma Emitters in Water
				8658-005	H		01/24/11	01/26/11	BW	Tritium in Water
				8658-005	RA		01/27/11	01/28/11	BW	Radium-226 in Water
				8658-005	SR		01/26/11	02/04/11	BW	Strontium-90 in Water
				8658-005	U_T		02/01/11	02/03/11	BW	Uranium, Total

COUNTS OF TESTS BY SAMPLE TYPE

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

8658-004 Method Blank

METHOD BLANK

SDG	8658	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUA0079
Lab sample id	S101015-04	Client sample id	Method Blank
Dept sample id	8658-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.122	0.30	0.620	3.00	U	80A
Gross Beta	12587472	0.089	0.57	0.952	4.00	U	80B
Tritium	10028178	4.53	160	269	500	U	H
Radium-226	13982633	-0.022	0.34	0.630	1.00	U	RA
Radium-228	15262201	-0.112	0.20	0.448	1.00	U	AC
Strontium-90	10098972	-0.096	0.76	1.81	2.00	U	SR
Uranium, Total		0	0.007	0.016	1.00	U	U_T
Potassium-40	13966002	U		23.8	25.0	U	GAM
Cesium-137	10045973	U		1.10	20.0	U	GAM

QC-BLANK #76761

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/07/11

EBERLINE ANALYTICAL

SDG 8658

8658-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8658 | Client Test America, Inc.

Contact N. Joseph Verville | Contract IUA0079

Lab sample id S101015-03 | Client sample id Lab Control Sample

Dept sample id 8658-003 | Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	39.3	2.4	0.581	3.00		80A	40.4	1.6	97	79-121	70-130
Gross Beta	35.5	1.5	1.23	4.00		80B	35.0	1.4	101	87-113	70-130
Tritium	2110	250	270	500		H	2240	90	94	85-115	80-120
Radium-226	47.3	2.2	0.815	1.00		RA	55.7	2.2	85	85-115	80-120
Radium-228	4.07	1.8	0.425	1.00		AC	4.62	0.18	88	60-140	60-140
Strontium-90	18.6	1.9	1.04	2.00		SR	17.5	0.70	106	84-116	80-120
Uranium, Total	59.8	6.7	0.160	1.00		U_T	56.5	2.3	106	87-113	80-120
Cobalt-60	129	5.8	3.18	10.0		GAM	128	5.1	101	91-109	80-120
Cesium-137	118	5.2	3.91	20.0		GAM	110	4.4	107	90-110	80-120

QC-LCS #76760

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

8658-005 IUA0079-02

DUPLICATE

SDG 8658 Client Test America, Inc.

Contact N. Joseph Verville Contract IUA0079

DUPLICATE ORIGINAL

Lab sample id S101015-05 Lab sample id S101015-01 Client sample id IUA0079-02

Dept sample id 8658-005 Dept sample id 8658-001 Location/Matrix Boeing - SSFL WATER

Received 01/05/11 Collected/Volume 01/03/11 11:20 10.0 L

Chain of custody id IUA0079

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.592	0.26	0.292	3.00	J	80A	0.929	0.34	0.378	J	44	96	1.4
Gross Beta	2.03	0.54	0.785	4.00	J	80B	1.22	0.58	0.891	J	50	77	1.9
Tritium	-54.4	150	269	500	U	H	-84.0	150	263	U	-		0.3
Radium-226	0.426	0.39	0.616	1.00	U	RA	0.441	0.44	0.715	U	-		0.1
Radium-228	-0.069	0.23	0.501	1.00	U	AC	0.186	0.21	0.433	U	-		1.6
Strontium-90	-0.142	0.64	1.58	2.00	U	SR	-0.020	0.44	1.03	U	-		0.3
Uranium, Total	0.102	0.013	0.016	1.00	J	U_T	0.092	0.012	0.016	J	10	27	1.1
Potassium-40	U		19.1	25.0	U	GAM	U		23.9	U	-		0.3
Cesium-137	U		1.63	20.0	U	GAM	U		1.19	U	-		0.4

QC-DUP#1 76762

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

8658-001 IUA0079-02

DATA SHEET

SDG	8658	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUA0079
Lab sample id	S101015-01	Client sample id	IUA0079-02
Dept sample id	8658-001	Location/Matrix	Boeing - SSFL WATER
Received	01/05/11	Collected/Volume	01/03/11 11:20 10.0 L
		Chain of custody id	IUA0079

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.929	0.34	0.378	3.00	J	80A
Gross Beta	12587472	1.22	0.58	0.891	4.00	J	80B
Tritium	10028178	-84.0	150	263	500	U	H
Radium-226	13982633	0.441	0.44	0.715	1.00	U	RA
Radium-228	15262201	0.186	0.21	0.433	1.00	U	AC
Strontium-90	10098972	-0.020	0.44	1.03	2.00	U	SR
Uranium, Total		0.092	0.012	0.016	1.00	J	U_T
Potassium-40	13966002	U		23.9	25.0	U	GAM
Cesium-137	10045973	U		1.19	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/07/11

EBERLINE ANALYTICAL

SDG 8658

8658-002 IUA0079-03 (TRIP BLANK)

DATA SHEET

SDG 8658 Client Test America, Inc.
Contact N. Joseph Verville Contract IUA0079

Lab sample id S101015-02 Client sample id IUA0079-03 (TRIP BLANK)
Dept sample id 8658-002 Location/Matrix Boeing - SSFL WATER
Received 01/05/11 Collected/Volume 01/04/11 11:45 10.0 L
Chain of custody id IUA0079

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.228	0.16	0.246	3.00	U	80A
Gross Beta	12587472	0.108	0.52	0.898	4.00	U	80B
Radium-226	13982633	0.079	0.35	0.627	1.00	U	RA
Radium-228	15262201	-0.108	0.25	0.520	1.00	U	AC
Strontium-90	10098972	-0.442	0.49	1.34	2.00	U	SR
Uranium, Total		0	0.007	0.016	1.00	U	U_T
Potassium-40	13966002	U		15.7	25.0	U	GAM
Cesium-137	10045973	U		1.23	20.0	U	GAM

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

Test AC Matrix WATER
SDG 8658
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7221-041						
S101015-01			8658-001	IUA0079-02	U	
S101015-02			8658-002	IUA0079-03 (TRIP BLANK)	U	
S101015-03			8658-003	Lab Control Sample	ok	
S101015-04			8658-004	Method Blank	U	
S101015-05			8658-005	Duplicate (S101015-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error 10.4 %	Reference Lab Notebook No. 7221 p.41												
S101015-01			IUA0079-02	0.433	1.80			78		150			23	01/26/11	01/26	GRB-223
S101015-02			IUA0079-03 (TRIP BLANK)	0.520	1.80			78		150			22	01/26/11	01/26	GRB-224
S101015-03			Lab Control Sample	0.425	1.80			89		150				01/26/11	01/26	GRB-217
S101015-04			Method Blank	0.448	1.80			84		150				01/26/11	01/26	GRB-220
S101015-05			Duplicate (S101015-01)	0.501	1.80			73		150			23	01/26/11	01/26	GRB-225
Nominal values and limits from method				1.00	1.80			30-105		50			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.465 ± 0.085
YIELD 80 ± 12

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7221-041						
S101015-01			8658-001	IUA0079-02	U	
S101015-02			8658-002	IUA0079-03 (TRIP BLANK)	U	
S101015-03			8658-003	Lab Control Sample	ok	
S101015-04			8658-004	Method Blank	U	
S101015-05			8658-005	Duplicate (S101015-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error 10.4 %	Reference Lab Notebook No. 7221 p.41												
S101015-01			IUA0079-02	1.03	0.500			75	50				23	01/19/11	01/26	GRB-220
S101015-02			IUA0079-03 (TRIP BLANK)	1.34	0.500			70	50				22	01/19/11	01/26	GRB-229
S101015-03			Lab Control Sample	1.04	0.500			61	50					01/19/11	01/26	GRB-222
S101015-04			Method Blank	1.81	0.500			52	50					01/19/11	01/26	GRB-231
S101015-05			Duplicate (S101015-01)	1.58	0.500			56	50				23	01/19/11	01/26	GRB-232
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 FOR 5 SAMPLES
MDA 1.36 ± 0.680
YIELD 63 ± 19

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

Test 80A Matrix WATER
SDG 8658
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7221-041						
S101015-01	80		8658-001	IUA0079-02	0.929	J
S101015-02	80		8658-002	IUA0079-03 (TRIP BLANK)	U	
S101015-03	80		8658-003	Lab Control Sample	ok	
S101015-04	80		8658-004	Method Blank	U	
S101015-05	80		8658-005	Duplicate (S101015-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error 20.6 %	Reference Lab Notebook No. 7221 p.41												
S101015-01	80		IUA0079-02	0.378	0.300			21		400			14	01/17/11	01/17	GRB-101
S101015-02	80		IUA0079-03 (TRIP BLANK)	0.246	0.300			0		400			17	01/20/11	01/21	GRB-214
S101015-03	80		Lab Control Sample	0.581	0.250			62		400				01/17/11	01/17	GRB-103
S101015-04	80		Method Blank	0.620	0.250			61		400				01/17/11	01/17	GRB-104
S101015-05	80		Duplicate (S101015-01)	0.292	0.300			0		400			14	01/17/11	01/17	GRB-109
Nominal values and limits from method				3.00	0.250			0-200		100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.423 ± 0.338
RESIDUE 29 ± 62

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

Test 80B Matrix WATER
SDG 8658
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7221-041						
S101015-01	80		8658-001	IUA0079-02	1.22	J
S101015-02	80		8658-002	IUA0079-03 (TRIP BLANK)	U	
S101015-03	80		8658-003	Lab Control Sample	ok	
S101015-04	80		8658-004	Method Blank	U	
S101015-05	80		8658-005	Duplicate (S101015-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error 11.0 %	Reference Lab Notebook No. 7221 p.41												
S101015-01	80		IUA0079-02	0.891	0.300			21		400			14	01/17/11	01/17	GRB-101
S101015-02	80		IUA0079-03 (TRIP BLANK)	0.898	0.300			0		400			17	01/20/11	01/21	GRB-214
S101015-03	80		Lab Control Sample	1.23	0.250			62		400				01/17/11	01/17	GRB-103
S101015-04	80		Method Blank	0.952	0.250			61		400				01/17/11	01/17	GRB-104
S101015-05	80		Duplicate (S101015-01)	0.785	0.300			0		400			14	01/17/11	01/17	GRB-109
Nominal values and limits from method				4.00	0.250			0-200		100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.951 ± 0.334
RESIDUE 29 ± 62

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7221-041							
S101015-01			8658-001	IUA0079-02		U	
S101015-02			8658-002	IUA0079-03 (TRIP BLANK)		U	
S101015-03			8658-003	Lab Control Sample	ok	ok	
S101015-04			8658-004	Method Blank		U	
S101015-05			8658-005	Duplicate (S101015-01)		-	U
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error 7.0 %		Reference Lab Notebook No. 7221 p.41											
S101015-01			IUA0079-02		2.00					907			11	01/13/11	01/14	01,01,00
S101015-02			IUA0079-03 (TRIP BLANK)		2.00					563			16	01/13/11	01/20	MB,08,00
S101015-03			Lab Control Sample		2.00					907				01/13/11	01/14	MB,05,00
S101015-04			Method Blank		2.00					907				01/13/11	01/14	01,02,00
S101015-05			Duplicate (S101015-01)		2.00					401			12	01/13/11	01/15	MB,08,00
Nominal values and limits from method				6.00	2.00					400			180			

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total	
Preparation batch 7221-041						
S101015-01			8658-001	IUA0079-02	0.092	J
S101015-02			8658-002	IUA0079-03 (TRIP BLANK)	U	
S101015-03			8658-003	Lab Control Sample	ok	
S101015-04			8658-004	Method Blank	U	
S101015-05			8658-005	Duplicate (S101015-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error		Reference Lab Notebook No. 7221 p.41											
S101015-01			IUA0079-02	0.016	0.0200								29	02/01/11	02/01	KPA-001
S101015-02			IUA0079-03 (TRIP BLANK)	0.016	0.0200								28	02/01/11	02/01	KPA-001
S101015-03			Lab Control Sample	0.160	0.0200									02/01/11	02/01	KPA-001
S101015-04			Method Blank	0.016	0.0200									02/01/11	02/01	KPA-001
S101015-05			Duplicate (S101015-01)	0.016	0.0200								29	02/01/11	02/01	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.045 ± 0.129
YIELD ____ ± ____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7221-041						
S101015-01			8658-001	IUA0079-02	U	
S101015-03			8658-003	Lab Control Sample	ok	
S101015-04			8658-004	Method Blank	U	
S101015-05			8658-005	Duplicate (S101015-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT keV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error 10.0 %	Reference Lab Notebook No. 7221 p.41												
S101015-01			IUA0079-02	263	0.0100			100		50			21	01/24/11	01/24	LSC-007
S101015-03			Lab Control Sample	270	0.100			10		50				01/24/11	01/24	LSC-007
S101015-04			Method Blank	269	0.100			10		50				01/24/11	01/24	LSC-007
S101015-05			Duplicate (S101015-01)	269	0.0100			100		50			21	01/24/11	01/24	LSC-007
Nominal values and limits from method				500	0.0100					100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 268 ± 6.40
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

EBERLINE ANALYTICAL

SDG 8658

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8658
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUA0079

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7221-041						
S101015-01			8658-001	IUA0079-02	U	
S101015-02			8658-002	IUA0079-03 (TRIP BLANK)	U	
S101015-03			8658-003	Lab Control Sample	ok	
S101015-04			8658-004	Method Blank	U	
S101015-05			8658-005	Duplicate (S101015-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7221-041			2σ prep error 16.4 %	Reference Lab Notebook No. 7221 p.41												
S101015-01			IUA0079-02	0.715	0.100			100		106			24	01/27/11	01/27	RN-011
S101015-02			IUA0079-03 (TRIP BLANK)	0.627	0.100			100		106			23	01/27/11	01/27	RN-012
S101015-03			Lab Control Sample	0.815	0.100			100		106				01/27/11	01/27	RN-009
S101015-04			Method Blank	0.630	0.100			100		106				01/27/11	01/27	RN-010
S101015-05			Duplicate (S101015-01)	0.616	0.100			100		106			24	01/27/11	01/27	RN-013
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.681 ± 0.170
YIELD 100 ± 0

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Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/07/11

SDG 8658
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUA0079

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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Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/07/11

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Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUA0079

PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

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

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REPORT GUIDE

Client Test America, Inc.
Contract IUA0079

WORK SUMMARY

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

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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DATA SHEET

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

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

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

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

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

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DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

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

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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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DUPLICATE

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

* The RPD is underlined if it is greater than either limit.

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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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.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

* Count times are underlined if less than the nominal value

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GUIDE, cont.

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METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

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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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SUBCONTRACT ORDER
TestAmerica Irvine

IUA0079 8658

SENDING LABORATORY:

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

RECEIVING LABORATORY:

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

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

Analysis	Units	Expires	Comments
Sample ID: IUA0079-02 (Outfall 009 (composite) - Water)		Sampled: **01/03/11 11:20**	
Gamma Spec-O	mg/kg	01/03/12 11:20	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	07/02/11 11:20	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	07/02/11 11:20	Out Eberline Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	01/31/11 11:20	
Radium, Combined-O	pCi/L	01/03/12 11:20	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	01/03/12 11:20	Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	01/03/12 11:20	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/03/12 11:20	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
2.5 gal Poly (J) HNO_3 500 mL Amber (K)			
Sample ID: IUA0079-03 (Trip Blank - Water)		Sampled: **01/04/11 11:45**	
Gamma Spec-O	mg/kg	01/04/12 11:45	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	07/03/11 11:45	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	07/03/11 11:45	Out Eberline Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	02/01/11 11:45	
Radium, Combined-O	pCi/L	01/04/12 11:45	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	01/04/12 11:45	Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	01/04/12 11:45	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/04/12 11:45	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
2.5 gal Poly (A) HNO_3			

Released By	1/4/11 Date/Time	Fed-Ex Received By	1/4/11 1700 Date/Time
FEDEX Released By	1/5/11 Date/Time	Alex Kelenson Received By	KELENSON 1/5/11 10:00 Date/Time

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 1/5/11 10:00 CoC No. 1144 0079

Container I.D. No. 386 Requested TAT (Days) STAND 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 [ ] N/A ✓
6. Number of samples in shipping container: 2 Sample Matrix WATER
7. Number of containers per sample: _____ (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 Preservative HNO3
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by AK Date: 1/5/11 Time: 12:40

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
ALL Samples < 60							

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 100482 Calibration date 24 Sep. 2010

APPENDIX G

Section 29

Outfall 009 – February 16, 2011

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUB1765

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:	IUB1765
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	III, IV
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009 (Composite)	IUB1765-03	S102185-001, G1B190453-001	Water	2/16/11 15:43	100.2, 200.7, 200.7 (Diss), 245.1, 245.1 (Diss), 525.2, 625, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, SM2540D, SM2340B, 1613B, ASTM 5174-91

II. Sample Management

No anomalies were observed regarding sample management. The samples were received at ambient temperature at Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the sample was couriered to TestAmerica-Irvine, 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 100.2—Asbestos

Reviewed By: P. Meeks
Date Reviewed: March 24, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 100.2*, and the *National Functional Guidelines for Inorganic Data Review* (10/2004).

- Holding Times: The sample was filtered within the 48-hour holding time. There is no analysis holding time; however, the sample was analyzed within 5 days of collection.

- Calibration: The refractive index calibration was not supplied by the laboratory.

- Blanks: A method blank was analyzed with the site sample. Asbestos was not detected in the method blank.

- Blank Spikes and Laboratory Control Samples: Not applicable to this analysis.

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

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

- Sample Result Verification: The sample result was verified against the raw data. No transcription errors were noted. Any detects reported below 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.

B. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: March 24, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^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 RL for OCDD; however, the method blank concentration was insufficient to qualify the associated sample result.

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

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

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

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

- Internal Standards Performance: The labeled standard recoveries in the sample were within the acceptance criteria listed in Table 7 of Method 1613.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Totals containing EMPCs were qualified as estimated, "J." Any detects reported between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

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

Reviewed By: P. Meeks
Date Reviewed: March 24, 2011

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

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

- Tuning: Not applicable to these analyses.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were $\geq$0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP metals and 85-115% for mercury. The CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Method blanks and CCBs had no applicable detects.

- Interference Check Samples: Recoveries were within 80-120%. There were no applicable detects in the ICSA.

- 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: A matrix spike analysis was performed on the total 200.7 analytes. Aluminum was recovered above the control limit; therefore, total aluminum in the sample was qualified as estimated, "J." Remaining recoveries were within laboratory-established QC limits. Method accuracy for mercury was evaluated based on the LCS results.

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

- Internal Standards Performance: Not applicable to these analyses.

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

  Calcium was detected at a nominally larger concentration in the dissolved fraction than in the total fraction.

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

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

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

D. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: March 24, 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 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 recovery for radium-226 was below the control limit; therefore, the nondetected result for this analyte was qualified as estimated, "UJ." The remaining recoveries were within laboratory-established control limits.

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

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

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

A notation in the preparation logs indicated that the aliquots for strontium, radium-226, and radium-228 were filtered and that the filtrate was dissolved and added to the sample aliquot.

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

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

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

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

Reviewed By: P. Meeks
Date Reviewed: March 24, 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 ≤35%. The second source verification and continuing calibration RRFs were ≥0.05 and recoveries were within the method QC limits of 70-130%.

- Blanks: The method blank had no applicable 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. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: March 24, 2011

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Methods SM2340B, SM2540D,* and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: Analytical holding times were met.

- Calibration: Balance calibration logs were considered 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 IUB1765

Analysis Method 8662

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.092	1	0.017	pCi/L	Jb	J	DNQ

Analysis Method 900

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.515	3	0.36	pCi/L	Jb	J	DNQ
Gross Beta	12587472	1.13	4	0.902	pCi/L	Jb	J	E, DNQ

Analysis Method 901.1

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.19	pCi/L	U	U	
Potassium-40	13966002	ND	25	16.8	pCi/L	U	U	

Analysis Method 903.1

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.122	1	0.464	pCi/L	U	UJ	L

Analysis Method 904

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.168	1	0.644	pCi/L	U	U	

Analysis Method 905

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.121	2	0.897	pCi/L	U	U	

Analysis Method 906

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-103	500	222	pCi/L	U	U	

Analysis Method EPA 200.7

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	410	50	40	ug/l		J	Q
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	0.047	0.050	0.020	mg/l	Ja	J	DNQ
Calcium	7440-70-2	6.2	0.10	0.050	mg/l			
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U	
Iron	7439-89-6	0.50	0.040	0.015	mg/l			
Magnesium	7439-95-4	1.7	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	ND	20.0	6.00	ug/l		U	

Analysis Method EPA 200.7-Diss

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	130	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	0.043	0.050	0.020	mg/l	Ja	J	DNQ
Calcium	7440-70-2	6.3	0.10	0.050	mg/l			
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U	
Iron	7439-89-6	0.061	0.040	0.015	mg/l			
Magnesium	7439-95-4	1.7	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	ND	20.0	6.00	ug/l		U	

Analysis Method EPA 245.1

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 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: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 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 525.2

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 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-5 1613B

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 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	1.6e-005	0.00005	0.0000009	ug/L	J	J	DNQ
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000005	ug/L	J, Q	UJ	*III
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000007	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000006	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000004	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000006	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000003	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	6.5e-007	0.00005	0.0000005	ug/L	J	J	DNQ
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000001	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000005	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000002	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000006	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000003	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000005	ug/L		U	
OCDD	3268-87-9	0.00023	0.0001	0.0000018	ug/L	B		
OCDF	39001-02-0	1.2e-005	0.0001	0.0000007	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	3.9e-005	0.00005	0.0000009	ug/L	J	J	DNQ
Total HpCDF	38998-75-3	8.1e-006	0.00005	0.0000006	ug/L	J, Q	J	DNQ, *III
Total HxCDD	34465-46-8	4.4e-006	0.00005	0.0000006	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	3.9e-006	0.00005	0.0000002	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000005	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000003	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000005	ug/L		U	

Analysis Method SM 2540D

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

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

Analysis Method SM2340B

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness (as CaCO3)	NA	23	0.33	0.17	mg/l			

Analysis Method SM2340B-Diss

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness as CaCO3		23	0.33	0.17	mg/l			

Analysis Method TEM

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

Lab Sample Name: IUB1765-03 **Sample Date:** 2/16/2011 3:43:00 PM

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

APPENDIX G

Section 30

Outfall 009 – February 16, 2011

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

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

Project: Annual Outfall 009

Sampled: 02/16/11-02/17/11
Received: 02/16/11
Issued: 03/28/11 08:47

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

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.

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 and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.
Revised report to correct aluminum units to ug/L.

LABORATORY ID	CLIENT ID	MATRIX
IUB1765-01	Outfall 009 (Grab)	Water
IUB1765-02	Trip Blanks	Water
IUB1765-03	Outfall 009 (Composite)	Water

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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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: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

LABORATORY ID	CLIENT ID	MATRIX
IUB1765-04	Trip Blank	Water

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

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

CORRECTIVE ACTION REPORT

Department: Pesticides
Method: EPA 608
QC Batch: 11B2380

Date: 03/07/2011
Matrix: Water

Identification and Definition of Problem:

The surrogate recoveries in the method blank and LCS for batch 11B2380 were below laboratory control limits.

Determination of the Cause of the Problem:

A definitive cause for the QC failures has not been determined. All the associated samples had passing surrogates. It is suspected the problem was related to the laboratory's reagent water supply.

Corrective Action Taken:

The presence of non-detect samples in the batch serves to demonstrate passing negative (blank) control. This is based on the fact that the laboratory water is used only for the batch QC (method blank and LCS), it would have no impact on sample results. Where additional volume was available, samples were re-extracted in a batch with passing QC. Both the original and the re-extraction results have been reported to demonstrate comparbility. Corrective action on the laboratory's water system is in progress.

Quality Assurance Approval:  Date: 03/16/2011 08:21 AM

Dave Dawes

TestAmerica Irvine

Debby Wilson
Project Manager

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

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-01 (Outfall 009 (Grab) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Benzene	EPA 624	11B2180	0.28	0.50	ND	1	NA	02/17/11	
Bromodichloromethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
Bromoform	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
Bromomethane	EPA 624	11B2180	0.42	1.0	ND	1	NA	02/17/11	
Carbon tetrachloride	EPA 624	11B2180	0.28	0.50	ND	1	NA	02/17/11	
Chlorobenzene	EPA 624	11B2180	0.36	0.50	ND	1	NA	02/17/11	
Chloroethane	EPA 624	11B2180	0.40	1.0	ND	1	NA	02/17/11	
Chloroform	EPA 624	11B2180	0.33	0.50	ND	1	NA	02/17/11	
Chloromethane	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
Dibromochloromethane	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
1,2-Dichlorobenzene	EPA 624	11B2180	0.32	0.50	ND	1	NA	02/17/11	
1,3-Dichlorobenzene	EPA 624	11B2180	0.35	0.50	ND	1	NA	02/17/11	
1,4-Dichlorobenzene	EPA 624	11B2180	0.37	0.50	ND	1	NA	02/17/11	
1,1-Dichloroethane	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
1,2-Dichloroethane	EPA 624	11B2180	0.28	0.50	ND	1	NA	02/17/11	
1,1-Dichloroethene	EPA 624	11B2180	0.42	0.50	ND	1	NA	02/17/11	
trans-1,2-Dichloroethene	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
1,2-Dichloropropane	EPA 624	11B2180	0.35	0.50	ND	1	NA	02/17/11	
cis-1,3-Dichloropropene	EPA 624	11B2180	0.22	0.50	ND	1	NA	02/17/11	
trans-1,3-Dichloropropene	EPA 624	11B2180	0.32	0.50	ND	1	NA	02/17/11	
Ethylbenzene	EPA 624	11B2180	0.25	0.50	ND	1	NA	02/17/11	
Methylene chloride	EPA 624	11B2180	0.95	1.0	ND	1	NA	02/17/11	
1,1,2,2-Tetrachloroethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
Tetrachloroethene	EPA 624	11B2180	0.32	0.50	ND	1	NA	02/17/11	
Toluene	EPA 624	11B2180	0.36	0.50	ND	1	NA	02/17/11	
1,1,1-Trichloroethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
1,1,2-Trichloroethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
Trichloroethene	EPA 624	11B2180	0.26	0.50	ND	1	NA	02/17/11	
Trichlorofluoromethane	EPA 624	11B2180	0.34	0.50	ND	1	NA	02/17/11	
Vinyl chloride	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
Xylenes, Total	EPA 624	11B2180	0.90	1.5	ND	1	NA	02/17/11	
Surrogate: 4-Bromofluorobenzene (80-120%)					*94 %*				
Surrogate: Dibromofluoromethane (80-120%)					*98 %*				
Surrogate: Toluene-d8 (80-120%)					*100 %*				

TestAmerica Irvine

Debby Wilson
Project Manager

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 009

Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-02 (Trip Blanks - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Benzene	EPA 624	11B2180	0.28	0.50	ND	1	NA	02/17/11	
Bromodichloromethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
Bromoform	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
Bromomethane	EPA 624	11B2180	0.42	1.0	ND	1	NA	02/17/11	
Carbon tetrachloride	EPA 624	11B2180	0.28	0.50	ND	1	NA	02/17/11	
Chlorobenzene	EPA 624	11B2180	0.36	0.50	ND	1	NA	02/17/11	
Chloroethane	EPA 624	11B2180	0.40	1.0	ND	1	NA	02/17/11	
Chloroform	EPA 624	11B2180	0.33	0.50	ND	1	NA	02/17/11	
Chloromethane	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
Dibromochloromethane	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
1,2-Dichlorobenzene	EPA 624	11B2180	0.32	0.50	ND	1	NA	02/17/11	
1,3-Dichlorobenzene	EPA 624	11B2180	0.35	0.50	ND	1	NA	02/17/11	
1,4-Dichlorobenzene	EPA 624	11B2180	0.37	0.50	ND	1	NA	02/17/11	
1,1-Dichloroethane	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
1,2-Dichloroethane	EPA 624	11B2180	0.28	0.50	ND	1	NA	02/17/11	
1,1-Dichloroethene	EPA 624	11B2180	0.42	0.50	ND	1	NA	02/17/11	
trans-1,2-Dichloroethene	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
1,2-Dichloropropane	EPA 624	11B2180	0.35	0.50	ND	1	NA	02/17/11	
cis-1,3-Dichloropropene	EPA 624	11B2180	0.22	0.50	ND	1	NA	02/17/11	
trans-1,3-Dichloropropene	EPA 624	11B2180	0.32	0.50	ND	1	NA	02/17/11	
Ethylbenzene	EPA 624	11B2180	0.25	0.50	ND	1	NA	02/17/11	
Methylene chloride	EPA 624	11B2180	0.95	1.0	ND	1	NA	02/17/11	
1,1,2,2-Tetrachloroethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
Tetrachloroethene	EPA 624	11B2180	0.32	0.50	ND	1	NA	02/17/11	
Toluene	EPA 624	11B2180	0.36	0.50	ND	1	NA	02/17/11	
1,1,1-Trichloroethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
1,1,2-Trichloroethane	EPA 624	11B2180	0.30	0.50	ND	1	NA	02/17/11	
Trichloroethene	EPA 624	11B2180	0.26	0.50	ND	1	NA	02/17/11	
Trichlorofluoromethane	EPA 624	11B2180	0.34	0.50	ND	1	NA	02/17/11	
Vinyl chloride	EPA 624	11B2180	0.40	0.50	ND	1	NA	02/17/11	
Xylenes, Total	EPA 624	11B2180	0.90	1.5	ND	1	NA	02/17/11	
Surrogate: 4-Bromofluorobenzene (80-120%)					*96 %*				
Surrogate: Dibromofluoromethane (80-120%)					*98 %*				
Surrogate: Toluene-d8 (80-120%)					*102 %*				

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-01 (Outfall 009 (Grab) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Acrolein	EPA 624	11B2170	4.0	5.0	ND	1	SS	02/18/11	
Acrylonitrile	EPA 624	11B2170	1.2	2.0	ND	1	SS	02/18/11	
2-Chloroethyl vinyl ether	EPA 624	11B2170	1.8	5.0	ND	1	SS	02/18/11	
Surrogate: 4-Bromofluorobenzene (80-120%)					*98 %*				
Surrogate: Dibromofluoromethane (80-120%)					*111 %*				
Surrogate: Toluene-d8 (80-120%)					*111 %*				
Sample ID: IUB1765-02 (Trip Blanks - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Acrolein	EPA 624	11B2170	4.0	5.0	ND	1	SS	02/18/11	
Acrylonitrile	EPA 624	11B2170	1.2	2.0	ND	1	SS	02/18/11	
2-Chloroethyl vinyl ether	EPA 624	11B2170	1.8	5.0	ND	1	SS	02/18/11	
Surrogate: 4-Bromofluorobenzene (80-120%)					*99 %*				
Surrogate: Dibromofluoromethane (80-120%)					*108 %*				
Surrogate: Toluene-d8 (80-120%)					*111 %*				

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

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: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Acenaphthene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Acenaphthylene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Anthracene	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
Benzidine	EPA 625	11B2402	9.52	19.0	ND	0.952	DF/	02/24/11	
Benzo(a)anthracene	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
Benzo(a)pyrene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Benzo(b)fluoranthene	EPA 625	11B2402	1.90	9.52	ND	0.952	DF/	02/24/11	
Benzo(g,h,i)perylene	EPA 625	11B2402	3.81	9.52	ND	0.952	DF/	02/24/11	
Benzo(k)fluoranthene	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
4-Bromophenyl phenyl ether	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Butyl benzyl phthalate	EPA 625	11B2402	3.81	19.0	ND	0.952	DF/	02/24/11	
4-Chloro-3-methylphenol	EPA 625	11B2402	2.38	19.0	ND	0.952	DF/	02/24/11	
Bis(2-chloroethoxy)methane	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Bis(2-chloroethyl)ether	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Bis(2-chloroisopropyl)ether	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	C
Bis(2-ethylhexyl)phthalate	EPA 625	11B2402	3.81	47.6	ND	0.952	DF/	02/24/11	
2-Chloronaphthalene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
2-Chlorophenol	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
4-Chlorophenyl phenyl ether	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
Chrysene	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
Dibenz(a,h)anthracene	EPA 625	11B2402	2.86	19.0	ND	0.952	DF/	02/24/11	
Di-n-butyl phthalate	EPA 625	11B2402	2.86	19.0	ND	0.952	DF/	02/24/11	
1,2-Dichlorobenzene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
1,3-Dichlorobenzene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
1,4-Dichlorobenzene	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
3,3'-Dichlorobenzidine	EPA 625	11B2402	7.14	19.0	ND	0.952	DF/	02/24/11	
2,4-Dichlorophenol	EPA 625	11B2402	3.33	9.52	ND	0.952	DF/	02/24/11	
Diethyl phthalate	EPA 625	11B2402	3.33	9.52	ND	0.952	DF/	02/24/11	
2,4-Dimethylphenol	EPA 625	11B2402	3.33	19.0	ND	0.952	DF/	02/24/11	
Dimethyl phthalate	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
4,6-Dinitro-2-methylphenol	EPA 625	11B2402	3.81	19.0	ND	0.952	DF/	02/24/11	
2,4-Dinitrophenol	EPA 625	11B2402	7.62	19.0	ND	0.952	DF/	02/24/11	
2,4-Dinitrotoluene	EPA 625	11B2402	3.33	9.52	ND	0.952	DF/	02/24/11	
2,6-Dinitrotoluene	EPA 625	11B2402	1.90	9.52	ND	0.952	DF/	02/24/11	
Di-n-octyl phthalate	EPA 625	11B2402	3.33	19.0	ND	0.952	DF/	02/24/11	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	11B2402	2.38	19.0	ND	0.952	DF/	02/24/11	
Fluoranthene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Fluorene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Hexachlorobenzene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Hexachlorobutadiene	EPA 625	11B2402	3.81	9.52	ND	0.952	DF/	02/24/11	
Hexachlorocyclopentadiene	EPA 625	11B2402	4.76	19.0	ND	0.952	DF/	02/24/11	

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

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: IUB1765-03 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Hexachloroethane	EPA 625	11B2402	3.33	9.52	ND	0.952	DF/	02/24/11	
Indeno(1,2,3-cd)pyrene	EPA 625	11B2402	3.33	19.0	ND	0.952	DF/	02/24/11	
Isophorone	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Naphthalene	EPA 625	11B2402	2.86	9.52	ND	0.952	DF/	02/24/11	
Nitrobenzene	EPA 625	11B2402	2.86	19.0	ND	0.952	DF/	02/24/11	
2-Nitrophenol	EPA 625	11B2402	3.33	9.52	ND	0.952	DF/	02/24/11	
4-Nitrophenol	EPA 625	11B2402	5.24	19.0	ND	0.952	DF/	02/24/11	
N-Nitroso-di-n-propylamine	EPA 625	11B2402	3.33	9.52	ND	0.952	DF/	02/24/11	C
N-Nitrosodimethylamine	EPA 625	11B2402	2.38	19.0	ND	0.952	DF/	02/24/11	
N-Nitrosodiphenylamine	EPA 625	11B2402	1.90	9.52	ND	0.952	DF/	02/24/11	
Pentachlorophenol	EPA 625	11B2402	3.33	19.0	ND	0.952	DF/	02/24/11	
Phenanthrene	EPA 625	11B2402	3.33	9.52	ND	0.952	DF/	02/24/11	
Phenol	EPA 625	11B2402	1.90	9.52	ND	0.952	DF/	02/24/11	
Pyrene	EPA 625	11B2402	3.81	9.52	ND	0.952	DF/	02/24/11	
1,2,4-Trichlorobenzene	EPA 625	11B2402	2.38	9.52	ND	0.952	DF/	02/24/11	
2,4,6-Trichlorophenol	EPA 625	11B2402	4.29	19.0	ND	0.952	DF/	02/24/11	
Surrogate: 2,4,6-Tribromophenol (40-120%)					*97 %*				
Surrogate: 2-Fluorobiphenyl (50-120%)					*90 %*				
Surrogate: 2-Fluorophenol (30-120%)					*68 %*				
Surrogate: Nitrobenzene-d5 (45-120%)					*85 %*				
Surrogate: Phenol-d6 (35-120%)					*71 %*				
Surrogate: Terphenyl-d14 (50-125%)					*43 %*				*Z*

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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: IUB1765-03 (Outfall 009 (Composite) - Water) - cont.						**Sampled: 02/16/11**			
Reporting Units: ug/l									
Chlorpyrifos	EPA 525.2	11B1999	0.010	1.0	ND	1	JM	02/27/11	
Diazinon	EPA 525.2	11B1999	0.10	0.25	ND	1	JM	02/27/11	
Surrogate: 1,3-Dimethyl-2-nitrobenzene (70-130%)					*88 %*				
Surrogate: Triphenylphosphate (70-130%)					*127 %*				
Surrogate: Perylene-d12 (70-130%)					*105 %*				

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 02/16/11**				
Reporting Units: ug/l									
4,4'-DDD	EPA 608	11B2380	0.0038	0.0048	ND	0.962	CN	02/23/11	
4,4'-DDE	EPA 608	11B2380	0.0029	0.0048	ND	0.962	CN	02/23/11	
4,4'-DDT	EPA 608	11B2380	0.0038	0.0096	ND	0.962	CN	02/23/11	
Aldrin	EPA 608	11B2380	0.0014	0.0048	ND	0.962	CN	02/23/11	
alpha-BHC	EPA 608	11B2380	0.0024	0.0048	ND	0.962	CN	02/23/11	
beta-BHC	EPA 608	11B2380	0.0038	0.0096	ND	0.962	CN	02/23/11	
delta-BHC	EPA 608	11B2380	0.0034	0.0048	ND	0.962	CN	02/23/11	
Dieldrin	EPA 608	11B2380	0.0019	0.0048	ND	0.962	CN	02/23/11	
Endosulfan I	EPA 608	11B2380	0.0019	0.0048	ND	0.962	CN	02/23/11	
Endosulfan II	EPA 608	11B2380	0.0029	0.0048	ND	0.962	CN	02/23/11	
Endosulfan sulfate	EPA 608	11B2380	0.0029	0.0096	ND	0.962	CN	02/23/11	
Endrin	EPA 608	11B2380	0.0019	0.0048	ND	0.962	CN	02/23/11	
Endrin aldehyde	EPA 608	11B2380	0.0019	0.0096	ND	0.962	CN	02/23/11	
gamma-BHC (Lindane)	EPA 608	11B2380	0.0029	0.019	ND	0.962	CN	02/23/11	
Heptachlor	EPA 608	11B2380	0.0029	0.0096	ND	0.962	CN	02/23/11	
Heptachlor epoxide	EPA 608	11B2380	0.0024	0.0048	ND	0.962	CN	02/23/11	
Chlordane	EPA 608	11B2380	0.077	0.096	ND	0.962	CN	02/23/11	
Toxaphene	EPA 608	11B2380	0.24	0.48	ND	0.962	CN	02/23/11	
Surrogate: Decachlorobiphenyl (45-120%)					*54 %*				
Surrogate: Tetrachloro-m-xylene (35-115%)					*53 %*				

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TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Aroclor 1016	EPA 608	11B2380	0.24	0.48	ND	0.962	JSM	02/22/11	
Aroclor 1221	EPA 608	11B2380	0.24	0.48	ND	0.962	JSM	02/22/11	
Aroclor 1232	EPA 608	11B2380	0.24	0.48	ND	0.962	JSM	02/22/11	
Aroclor 1242	EPA 608	11B2380	0.24	0.48	ND	0.962	JSM	02/22/11	
Aroclor 1248	EPA 608	11B2380	0.24	0.48	ND	0.962	JSM	02/22/11	
Aroclor 1254	EPA 608	11B2380	0.24	0.48	ND	0.962	JSM	02/22/11	
Aroclor 1260	EPA 608	11B2380	0.24	0.48	ND	0.962	JSM	02/22/11	
Surrogate: Decachlorobiphenyl (45-120%)					*49 %*				

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HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-01 (Outfall 009 (Grab) - Water)					**Sampled: 02/16/11**				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C0411	1.3	4.8	ND	1	DA	03/03/11	

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METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: mg/l									
Hardness (as CaCO3)	SM2340B	[CALC]		0.33	**23**	1	FR	02/24/11	
Boron	EPA 200.7	11B2701	0.020	0.050	**0.047**	1	FR	02/24/11	Ja
Calcium	EPA 200.7	11B2701	0.050	0.10	**6.2**	1	FR	02/24/11	
Iron	EPA 200.7	11B2701	0.015	0.040	**0.50**	1	FR	02/24/11	
Magnesium	EPA 200.7	11B2701	0.012	0.020	**1.7**	1	FR	02/24/11	
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Aluminum	EPA 200.7	11B2701	40	50	**410**	1	FR	02/24/11	
Mercury	EPA 245.1	11B2879	0.10	0.20	ND	1	DB	02/23/11	
Arsenic	EPA 200.7	11B2701	7.0	10	ND	1	FR	02/24/11	
Antimony	EPA 200.8	11B2677	0.30	2.0	**0.32**	1	KB1	02/22/11	Ja
Beryllium	EPA 200.7	11B2701	0.90	2.0	ND	1	FR	02/24/11	
Chromium	EPA 200.7	11B2701	2.0	5.0	ND	1	FR	02/24/11	
Nickel	EPA 200.7	11B2701	2.0	10	ND	1	FR	02/24/11	
Silver	EPA 200.7	11B2701	6.0	10	ND	1	FR	02/24/11	
Cadmium	EPA 200.8	11B2677	0.10	1.0	ND	1	KB1	02/22/11	
Vanadium	EPA 200.7	11B2701	3.0	10	ND	1	FR	02/24/11	
Copper	EPA 200.8	11B2677	0.500	2.00	**3.06**	1	KB1	02/22/11	
Lead	EPA 200.8	11B2677	0.20	1.0	**1.2**	1	KB1	02/22/11	
Selenium	EPA 200.8	11B2677	0.50	2.0	ND	1	KB1	02/22/11	
Thallium	EPA 200.8	11B2677	0.20	1.0	ND	1	KB1	02/22/11	
Sample ID: IUB1765-03RE1 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Zinc	EPA 200.7	11C0690	6.00	20.0	ND	1	NH	03/07/11	

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DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 02/16/11**				
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]		0.33	**23**	1	FR	02/24/11	
Boron	EPA 200.7-Diss	11B2496	0.020	0.050	**0.043**	1	DT	02/22/11	Ja
Calcium	EPA 200.7-Diss	11B2496	0.050	0.10	**6.3**	1	FR	02/24/11	
Iron	EPA 200.7-Diss	11B2496	0.015	0.040	**0.061**	1	DT	02/22/11	
Magnesium	EPA 200.7-Diss	11B2496	0.012	0.020	**1.7**	1	FR	02/24/11	
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Aluminum	EPA 200.7-Diss	11B2496	40	50	**130**	1	FR	02/24/11	
Mercury	EPA 245.1-Diss	11B2762	0.10	0.20	ND	1	DB	02/23/11	
Arsenic	EPA 200.7-Diss	11B2496	7.0	10	ND	1	FR	02/24/11	
Antimony	EPA 200.8-Diss	11B2681	0.30	2.0	**0.30**	1	RDC	02/22/11	Ja
Beryllium	EPA 200.7-Diss	11B2496	0.90	2.0	ND	1	FR	02/24/11	
Chromium	EPA 200.7-Diss	11B2496	2.0	5.0	ND	1	FR	02/24/11	
Nickel	EPA 200.7-Diss	11B2496	2.0	10	ND	1	FR	02/24/11	
Silver	EPA 200.7-Diss	11B2496	6.0	10	ND	1	FR	02/24/11	
Cadmium	EPA 200.8-Diss	11B2681	0.10	1.0	ND	1	RDC	02/22/11	
Vanadium	EPA 200.7-Diss	11B2496	3.0	10	ND	1	DT	02/22/11	
Copper	EPA 200.8-Diss	11B2681	0.500	2.00	**2.11**	1	RDC	02/22/11	
Lead	EPA 200.8-Diss	11B2681	0.20	1.0	ND	1	RDC	02/22/11	
Selenium	EPA 200.8-Diss	11B2681	0.50	2.0	ND	1	RDC	02/22/11	
Thallium	EPA 200.8-Diss	11B2681	0.20	1.0	ND	1	RDC	02/22/11	

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DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03RE1 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Zinc	EPA 200.7-Diss	11C0687	6.00	20.0	ND	1	NH	03/07/11	

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DISSOLVED INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-01 (Outfall 009 (Grab) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Chromium VI	EPA 218.6	11B2032	0.25	1.0	ND	1	EL	02/16/11	

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: mg/l									
Chloride	EPA 300.0	11B2211	0.30	0.50	**1.8**	1	KS	02/18/11	
Fluoride	SM 4500-F-C	11B2818	0.020	0.10	**0.12**	1	FZ	02/23/11	
Nitrate/Nitrite-N	EPA 300.0	11B2211	0.15	0.26	**0.33**	1	KS	02/18/11	
Sulfate	EPA 300.0	11B2377	0.30	0.50	**3.9**	1	NN	02/18/11	
Total Dissolved Solids	SM2540C	11B2621	1.0	10	**66**	1	MC	02/22/11	
Total Suspended Solids	SM 2540D	11B2895	1.0	10	**1.0**	1	DK1	02/23/11	Ja
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	11B2817	0.90	4.0	ND	1	mn	02/24/11	
Total Cyanide	SM4500CN-E	11B2925	2.2	5.0	ND	1	HH	02/23/11	

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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: IUB1765-01 (Outfall 009 (Grab) - Water)					**Sampled: 02/16/11**				
Reporting Units: MPN/100 ml									
Fecal Coliform	SM9221 A,B,C,E	11B2125	2.00	2.00	**1200**	1	SK	02/19/11	
E. Coli	SM9221 A,B,C,E	11B2125	2.00	2.00	**1200**	1	SK	02/19/11	

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Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: pCi/L									
Uranium, Total	8662	8662		1	**0.092**	1	TSC	03/01/11	Jb
Sample ID: IUB1765-04 (Trip Blank - Water)					**Sampled: 02/17/11**				
Reporting Units: pCi/L									
Uranium, Total	8662	8662		1	ND	1	TSC	03/01/11	U

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Received: 02/16/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: pCi/L									
Gross Alpha	900	8662		3	**0.515**	1	LS	03/08/11	Jb
Gross Beta	900	8662		4	**1.13**	1	LS	03/08/11	Jb
Sample ID: IUB1765-04 (Trip Blank - Water)					**Sampled: 02/17/11**				
Reporting Units: pCi/L									
Gross Alpha	900	8662		3	-0.005	1	LS	03/02/11	U
Gross Beta	900	8662		4	-0.352	1	LS	03/02/11	U

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8662		20	ND	1	LS	02/23/11	U
Potassium-40	901.1	8662		25	ND	1	LS	02/23/11	U
Sample ID: IUB1765-04 (Trip Blank - Water)					**Sampled: 02/17/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8662		20	ND	1	LS	02/23/11	U
Potassium-40	901.1	8662		25	ND	1	LS	02/23/11	U

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8662		1	**0.122**	1	ASM	03/04/11	U
Sample ID: IUB1765-04 (Trip Blank - Water)					**Sampled: 02/17/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8662		1	**0.031**	1	ASM	03/04/11	U

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: pCi/L									
Radium-228	904	8662		1	**0.168**	1	ASM	03/09/11	U
Sample ID: IUB1765-04 (Trip Blank - Water)					**Sampled: 02/17/11**				
Reporting Units: pCi/L									
Radium-228	904	8662		1	-0.201	1	ASM	03/09/11	U

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: pCi/L									
Strontium-90	905	8662		2	-0.121	1	TSC	03/01/11	U
Sample ID: IUB1765-04 (Trip Blank - Water)					**Sampled: 02/17/11**				
Reporting Units: pCi/L									
Strontium-90	905	8662		2	-0.083	1	TSC	03/01/11	U

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)					**Sampled: 02/16/11**				
Reporting Units: pCi/L									
Tritium	906	8662		500	-103	1	WL	03/10/11	U

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

EPA 600 R 94 134, 100.2

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 02/16/11**				
Reporting Units: MFL									
ASBESTOS	TEM	142454		NA	**<2.2**	1	LK	02/25/11	

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 02/16/11**				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1054371	0.00000092	0.00005	**1.6e-005**	0.99	SK	02/24/11	J
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1054371	0.00000054	0.00005	**3.9e-006**	0.99	SK	02/24/11	J, Q
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1054371	0.00000072	0.00005	ND	0.99	SK	02/24/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1054371	0.00000065	0.00005	ND	0.99	SK	02/24/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1054371	0.00000042	0.00005	ND	0.99	SK	02/24/11	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1054371	0.00000062	0.00005	**8.6e-007**	0.99	SK	02/24/11	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1054371	0.00000033	0.00005	ND	0.99	SK	02/24/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1054371	0.00000056	0.00005	**6.5e-007**	0.99	SK	02/24/11	J
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1054371	0.00000017	0.00005	ND	0.99	SK	02/24/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1054371	0.00000062	0.00005	ND	0.99	SK	02/24/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1054371	0.00000057	0.00005	ND	0.99	SK	02/24/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1054371	0.00000026	0.00005	ND	0.99	SK	02/24/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1054371	0.00000062	0.00005	ND	0.99	SK	02/24/11	
2,3,7,8-TCDD	EPA-5 1613B	1054371	0.00000034	0.00001	ND	0.99	SK	02/24/11	
2,3,7,8-TCDF	EPA-5 1613B	1054371	0.00000051	0.00001	ND	0.99	SK	02/24/11	
OCDD	EPA-5 1613B	1054371	0.0000018	0.0001	**0.00023**	0.99	SK	02/24/11	B
OCDF	EPA-5 1613B	1054371	0.00000076	0.0001	**1.2e-005**	0.99	SK	02/24/11	J
Total HpCDD	EPA-5 1613B	1054371	0.00000092	0.00005	**3.9e-005**	0.99	SK	02/24/11	J
Total HpCDF	EPA-5 1613B	1054371	0.00000062	0.00005	**8.1e-006**	0.99	SK	02/24/11	J, Q
Total HxCDD	EPA-5 1613B	1054371	0.00000061	0.00005	**4.4e-006**	0.99	SK	02/24/11	J, Q
Total HxCDF	EPA-5 1613B	1054371	0.0000002	0.00005	**3.9e-006**	0.99	SK	02/24/11	J, Q
Total PeCDD	EPA-5 1613B	1054371	0.00000062	0.00005	ND	0.99	SK	02/24/11	
Total PeCDF	EPA-5 1613B	1054371	0.00000058	0.00005	ND	0.99	SK	02/24/11	
Total TCDD	EPA-5 1613B	1054371	0.00000034	0.00001	ND	0.99	SK	02/24/11	
Total TCDF	EPA-5 1613B	1054371	0.00000051	0.00001	ND	0.99	SK	02/24/11	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*102 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*91 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*91 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*94 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*93 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*87 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*87 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*91 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*76 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*80 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*93 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*82 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*78 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*79 %*				
Surrogate: 13C-OCDD (17-157%)					*87 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*88 %*				

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

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 (Grab) (IUB1765-01) - Water					
EPA 218.6	1	02/16/2011 11:35	02/16/2011 15:20	02/16/2011 19:30	02/16/2011 19:40
EPA 624	3	02/16/2011 11:35	02/16/2011 15:20	02/17/2011 17:01	02/18/2011 03:24
SM9221 A,B,C,E	0	02/16/2011 11:35	02/16/2011 15:20	02/16/2011 15:50	02/19/2011 14:30
Sample ID: Trip Blanks (IUB1765-02) - Water					
EPA 624	3	02/16/2011 11:30	02/16/2011 15:20	02/17/2011 17:01	02/18/2011 03:54
Sample ID: Outfall 009 (Composite) (IUB1765-03) - Water					
EPA 300.0	2	02/16/2011 15:43	02/16/2011 15:20	02/17/2011 12:00	02/18/2011 03:54
EPA 525.2	1	02/16/2011 15:43	02/16/2011 15:20	02/17/2011 10:29	02/27/2011 21:26
Filtration	1	02/16/2011 15:43	02/16/2011 15:20	02/18/2011 13:51	02/18/2011 13:54

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Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2180 Extracted: 02/17/11										
Blank Analyzed: 02/17/2011 (11B2180-BLK1)										
Benzene	ND	0.50	ug/l							
Bromodichloromethane	ND	0.50	ug/l							
Bromoform	ND	0.50	ug/l							
Bromomethane	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	0.50	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	0.50	ug/l							
Chloromethane	ND	0.50	ug/l							
Dibromochloromethane	ND	0.50	ug/l							
1,2-Dichlorobenzene	ND	0.50	ug/l							
1,3-Dichlorobenzene	ND	0.50	ug/l							
1,4-Dichlorobenzene	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
trans-1,2-Dichloroethene	ND	0.50	ug/l							
1,2-Dichloropropane	ND	0.50	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Methylene chloride	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
Toluene	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Surrogate: 4-Bromofluorobenzene	*23.9*		*ug/l*	*25.0*		*95*	*80-120*			
Surrogate: Dibromofluoromethane	*24.9*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Toluene-d8	*25.6*		*ug/l*	*25.0*		*102*	*80-120*			

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Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2180 Extracted: 02/17/11										
LCS Analyzed: 02/17/2011 (11B2180-BS1)										
Benzene	24.9	0.50	ug/l	25.0		100	70-120			
Bromodichloromethane	30.1	0.50	ug/l	25.0		120	70-135			
Bromoform	21.6	0.50	ug/l	25.0		86	55-130			
Bromomethane	27.8	1.0	ug/l	25.0		111	65-140			
Carbon tetrachloride	27.4	0.50	ug/l	25.0		110	65-140			
Chlorobenzene	27.4	0.50	ug/l	25.0		109	75-120			
Chloroethane	26.7	1.0	ug/l	25.0		107	60-140			
Chloroform	25.0	0.50	ug/l	25.0		100	70-130			
Chloromethane	23.9	0.50	ug/l	25.0		96	50-140			
Dibromochloromethane	24.7	0.50	ug/l	25.0		99	70-140			
1,2-Dichlorobenzene	25.6	0.50	ug/l	25.0		102	75-120			
1,3-Dichlorobenzene	25.8	0.50	ug/l	25.0		103	75-120			
1,4-Dichlorobenzene	25.8	0.50	ug/l	25.0		103	75-120			
1,1-Dichloroethane	24.2	0.50	ug/l	25.0		97	70-125			
1,2-Dichloroethane	22.8	0.50	ug/l	25.0		91	60-140			
1,1-Dichloroethene	23.5	0.50	ug/l	25.0		94	70-125			
trans-1,2-Dichloroethene	25.1	0.50	ug/l	25.0		101	70-125			
1,2-Dichloropropane	26.4	0.50	ug/l	25.0		106	70-125			
cis-1,3-Dichloropropene	28.9	0.50	ug/l	25.0		116	75-125			
trans-1,3-Dichloropropene	30.1	0.50	ug/l	25.0		120	70-125			
Ethylbenzene	26.9	0.50	ug/l	25.0		108	75-125			
Methylene chloride	24.0	1.0	ug/l	25.0		96	55-130			
1,1,2,2-Tetrachloroethane	25.8	0.50	ug/l	25.0		103	55-130			
Tetrachloroethene	25.7	0.50	ug/l	25.0		103	70-125			
Toluene	26.8	0.50	ug/l	25.0		107	70-120			
1,1,1-Trichloroethane	24.3	0.50	ug/l	25.0		97	65-135			
1,1,2-Trichloroethane	26.2	0.50	ug/l	25.0		105	70-125			
Trichloroethene	27.4	0.50	ug/l	25.0		110	70-125			
Vinyl chloride	29.4	0.50	ug/l	25.0		117	55-135			
Surrogate: 4-Bromofluorobenzene	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			
Surrogate: Dibromofluoromethane	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.7*		*ug/l*	*25.0*		*103*	*80-120*			

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Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2180 Extracted: 02/17/11										
Matrix Spike Analyzed: 02/17/2011 (11B2180-MS1)					**Source: IUB1087-03**					
Benzene	23.3	0.50	ug/l	25.0	ND	93	65-125			
Bromodichloromethane	28.1	0.50	ug/l	25.0	ND	113	70-135			
Bromoform	21.7	0.50	ug/l	25.0	ND	87	55-135			
Bromomethane	22.5	1.0	ug/l	25.0	ND	90	55-145			
Carbon tetrachloride	26.9	0.50	ug/l	25.0	ND	107	65-140			
Chlorobenzene	26.0	0.50	ug/l	25.0	ND	104	75-125			
Chloroethane	25.1	1.0	ug/l	25.0	ND	100	55-140			
Chloroform	23.1	0.50	ug/l	25.0	ND	93	65-135			
Chloromethane	19.3	0.50	ug/l	25.0	ND	77	45-145			
Dibromochloromethane	23.8	0.50	ug/l	25.0	ND	95	65-140			
1,2-Dichlorobenzene	24.0	0.50	ug/l	25.0	ND	96	75-125			
1,3-Dichlorobenzene	24.2	0.50	ug/l	25.0	ND	97	75-125			
1,4-Dichlorobenzene	24.1	0.50	ug/l	25.0	ND	97	75-125			
1,1-Dichloroethane	21.9	0.50	ug/l	25.0	ND	87	65-130			
1,2-Dichloroethane	55.5	0.50	ug/l	25.0	32.8	91	60-140			
1,1-Dichloroethene	21.8	0.50	ug/l	25.0	ND	87	60-130			
trans-1,2-Dichloroethene	22.7	0.50	ug/l	25.0	ND	91	65-130			
1,2-Dichloropropane	25.0	0.50	ug/l	25.0	ND	100	65-130			
cis-1,3-Dichloropropene	26.6	0.50	ug/l	25.0	ND	106	70-130			
trans-1,3-Dichloropropene	28.7	0.50	ug/l	25.0	ND	115	65-135			
Ethylbenzene	26.3	0.50	ug/l	25.0	ND	105	65-130			
Methylene chloride	20.3	1.0	ug/l	25.0	ND	81	50-135			
1,1,2,2-Tetrachloroethane	28.1	0.50	ug/l	25.0	ND	112	55-135			
Tetrachloroethene	25.2	0.50	ug/l	25.0	ND	101	65-130			
Toluene	25.6	0.50	ug/l	25.0	ND	102	70-125			
1,1,1-Trichloroethane	23.5	0.50	ug/l	25.0	ND	94	65-140			
1,1,2-Trichloroethane	26.0	0.50	ug/l	25.0	ND	104	65-130			
Trichloroethene	26.1	0.50	ug/l	25.0	ND	104	65-125			
Vinyl chloride	25.1	0.50	ug/l	25.0	ND	101	45-140			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Toluene-d8	*25.9*		*ug/l*	*25.0*		*104*	*80-120*			

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2180 Extracted: 02/17/11										
Matrix Spike Dup Analyzed: 02/17/2011 (11B2180-MSD1)					**Source: IUB1087-03**					
Benzene	23.0	0.50	ug/l	25.0	ND	92	65-125	2	20	
Bromodichloromethane	28.5	0.50	ug/l	25.0	ND	114	70-135	1	20	
Bromoform	22.2	0.50	ug/l	25.0	ND	89	55-135	3	25	
Bromomethane	22.2	1.0	ug/l	25.0	ND	89	55-145	1	25	
Carbon tetrachloride	26.2	0.50	ug/l	25.0	ND	105	65-140	2	25	
Chlorobenzene	25.7	0.50	ug/l	25.0	ND	103	75-125	1	20	
Chloroethane	25.4	1.0	ug/l	25.0	ND	102	55-140	1	25	
Chloroform	23.6	0.50	ug/l	25.0	ND	94	65-135	2	20	
Chloromethane	19.4	0.50	ug/l	25.0	ND	78	45-145	0.9	25	
Dibromochloromethane	23.8	0.50	ug/l	25.0	ND	95	65-140	0.08	25	
1,2-Dichlorobenzene	24.5	0.50	ug/l	25.0	ND	98	75-125	2	20	
1,3-Dichlorobenzene	24.5	0.50	ug/l	25.0	ND	98	75-125	1	20	
1,4-Dichlorobenzene	24.0	0.50	ug/l	25.0	ND	96	75-125	0.5	20	
1,1-Dichloroethane	22.5	0.50	ug/l	25.0	ND	90	65-130	3	20	
1,2-Dichloroethane	54.7	0.50	ug/l	25.0	32.8	88	60-140	2	20	
1,1-Dichloroethene	21.7	0.50	ug/l	25.0	ND	87	60-130	0.1	20	
trans-1,2-Dichloroethene	23.1	0.50	ug/l	25.0	ND	92	65-130	1	20	
1,2-Dichloropropane	24.8	0.50	ug/l	25.0	ND	99	65-130	0.5	20	
cis-1,3-Dichloropropene	27.3	0.50	ug/l	25.0	ND	109	70-130	3	20	
trans-1,3-Dichloropropene	29.4	0.50	ug/l	25.0	ND	118	65-135	2	25	
Ethylbenzene	25.3	0.50	ug/l	25.0	ND	101	65-130	4	20	
Methylene chloride	21.2	1.0	ug/l	25.0	ND	85	50-135	5	20	
1,1,2,2-Tetrachloroethane	28.4	0.50	ug/l	25.0	ND	114	55-135	1	30	
Tetrachloroethene	24.5	0.50	ug/l	25.0	ND	98	65-130	3	20	
Toluene	25.1	0.50	ug/l	25.0	ND	100	70-125	2	20	
1,1,1-Trichloroethane	23.6	0.50	ug/l	25.0	ND	94	65-140	0.3	20	
1,1,2-Trichloroethane	26.4	0.50	ug/l	25.0	ND	106	65-130	1	25	
Trichloroethene	26.2	0.50	ug/l	25.0	ND	105	65-125	0.2	20	
Vinyl chloride	25.6	0.50	ug/l	25.0	ND	103	45-140	2	30	
Surrogate: 4-Bromofluorobenzene	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			
Surrogate: Dibromofluoromethane	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.7*		*ug/l*	*25.0*		*103*	*80-120*			

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Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

PURGEABLES-- GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2170 Extracted: 02/17/11										
Blank Analyzed: 02/17/2011 (11B2170-BLK1)										
Acrolein	ND	5.0	ug/l							
Acrylonitrile	ND	2.0	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*25.7*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Dibromofluoromethane	*25.3*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Toluene-d8	*27.5*		*ug/l*	*25.0*		*110*	*80-120*			
LCS Analyzed: 02/17/2011 (11B2170-BS1)										
2-Chloroethyl vinyl ether	25.0	5.0	ug/l	25.0		100	25-170			
Surrogate: 4-Bromofluorobenzene	*27.0*		*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: Dibromofluoromethane	*27.0*		*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: Toluene-d8	*27.4*		*ug/l*	*25.0*		*110*	*80-120*			
Matrix Spike Analyzed: 02/17/2011 (11B2170-MS1)					**Source: IUB1152-02**					
2-Chloroethyl vinyl ether	ND	5.0	ug/l	25.0	ND		25-170			*M13*
Surrogate: 4-Bromofluorobenzene	*27.2*		*ug/l*	*25.0*		*109*	*80-120*			
Surrogate: Dibromofluoromethane	*28.3*		*ug/l*	*25.0*		*113*	*80-120*			
Surrogate: Toluene-d8	*27.5*		*ug/l*	*25.0*		*110*	*80-120*			
Matrix Spike Dup Analyzed: 02/17/2011 (11B2170-MSD1)					**Source: IUB1152-02**					
2-Chloroethyl vinyl ether	ND	5.0	ug/l	25.0	ND		25-170		25	*M13*
Surrogate: 4-Bromofluorobenzene	*26.9*		*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: Dibromofluoromethane	*27.4*		*ug/l*	*25.0*		*110*	*80-120*			
Surrogate: Toluene-d8	*27.3*		*ug/l*	*25.0*		*109*	*80-120*			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2402 Extracted: 02/18/11										
Blank Analyzed: 02/24/2011 (11B2402-BLK1)										
Acenaphthene	ND	10.0	ug/l							
Acenaphthylene	ND	10.0	ug/l							
Anthracene	ND	10.0	ug/l							
Benzidine	ND	20.0	ug/l							
Benzo(a)anthracene	ND	10.0	ug/l							
Benzo(a)pyrene	ND	10.0	ug/l							
Benzo(b)fluoranthene	ND	10.0	ug/l							
Benzo(g,h,i)perylene	ND	10.0	ug/l							
Benzo(k)fluoranthene	ND	10.0	ug/l							
4-Bromophenyl phenyl ether	ND	10.0	ug/l							
Butyl benzyl phthalate	ND	20.0	ug/l							
4-Chloro-3-methylphenol	ND	20.0	ug/l							
Bis(2-chloroethoxy)methane	ND	10.0	ug/l							
Bis(2-chloroethyl)ether	ND	10.0	ug/l							
Bis(2-chloroisopropyl)ether	ND	10.0	ug/l							
Bis(2-ethylhexyl)phthalate	ND	50.0	ug/l							
2-Chloronaphthalene	ND	10.0	ug/l							
2-Chlorophenol	ND	10.0	ug/l							
4-Chlorophenyl phenyl ether	ND	10.0	ug/l							
Chrysene	ND	10.0	ug/l							
Dibenz(a,h)anthracene	ND	20.0	ug/l							
Di-n-butyl phthalate	ND	20.0	ug/l							
1,2-Dichlorobenzene	ND	10.0	ug/l							
1,3-Dichlorobenzene	ND	10.0	ug/l							
1,4-Dichlorobenzene	ND	10.0	ug/l							
3,3'-Dichlorobenzidine	ND	20.0	ug/l							
2,4-Dichlorophenol	ND	10.0	ug/l							
Diethyl phthalate	ND	10.0	ug/l							
2,4-Dimethylphenol	ND	20.0	ug/l							
Dimethyl phthalate	ND	10.0	ug/l							
4,6-Dinitro-2-methylphenol	ND	20.0	ug/l							
2,4-Dinitrophenol	ND	20.0	ug/l							
2,4-Dinitrotoluene	ND	10.0	ug/l							
2,6-Dinitrotoluene	ND	10.0	ug/l							
Di-n-octyl phthalate	ND	20.0	ug/l							
1,2-Diphenylhydrazine/Azobenzene	ND	20.0	ug/l							

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Report Number: IUB1765

Sampled: 02/16/11-02/17/11
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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2402 Extracted: 02/18/11										
Blank Analyzed: 02/24/2011 (11B2402-BLK1)										
Fluoranthene	ND	10.0	ug/l							
Fluorene	ND	10.0	ug/l							
Hexachlorobenzene	ND	10.0	ug/l							
Hexachlorobutadiene	ND	10.0	ug/l							
Hexachlorocyclopentadiene	ND	20.0	ug/l							
Hexachloroethane	ND	10.0	ug/l							
Indeno(1,2,3-cd)pyrene	ND	20.0	ug/l							
Isophorone	ND	10.0	ug/l							
Naphthalene	ND	10.0	ug/l							
Nitrobenzene	ND	20.0	ug/l							
2-Nitrophenol	ND	10.0	ug/l							
4-Nitrophenol	ND	20.0	ug/l							
N-Nitroso-di-n-propylamine	ND	10.0	ug/l							
N-Nitrosodimethylamine	ND	20.0	ug/l							
N-Nitrosodiphenylamine	ND	10.0	ug/l							
Pentachlorophenol	ND	20.0	ug/l							
Phenanthrene	ND	10.0	ug/l							
Phenol	ND	10.0	ug/l							
Pyrene	ND	10.0	ug/l							
1,2,4-Trichlorobenzene	ND	10.0	ug/l							
2,4,6-Trichlorophenol	ND	20.0	ug/l							
Surrogate: 2,4,6-Tribromophenol	*169*		*ug/l*	*200*		*84*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*85.2*		*ug/l*	*100*		*85*	*50-120*			
Surrogate: 2-Fluorophenol	*131*		*ug/l*	*200*		*65*	*30-120*			
Surrogate: Nitrobenzene-d5	*85.2*		*ug/l*	*100*		*85*	*45-120*			
Surrogate: Phenol-d6	*141*		*ug/l*	*200*		*71*	*35-120*			
Surrogate: Terphenyl-d14	*98.8*		*ug/l*	*100*		*99*	*50-125*			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2402 Extracted: 02/18/11										
LCS Analyzed: 02/24/2011 (11B2402-BS1)										**MNR1**
Acenaphthene	98.1	10.0	ug/l	100		98	60-120			
Acenaphthylene	106	10.0	ug/l	100		106	60-120			
Anthracene	98.8	10.0	ug/l	100		99	65-120			
Benzidine	79.5	20.0	ug/l	100		79	30-160			
Benzo(a)anthracene	99.5	10.0	ug/l	100		99	65-120			
Benzo(a)pyrene	106	10.0	ug/l	100		106	55-130			
Benzo(b)fluoranthene	95.8	10.0	ug/l	100		96	55-125			
Benzo(g,h,i)perylene	99.1	10.0	ug/l	100		99	45-135			
Benzo(k)fluoranthene	106	10.0	ug/l	100		106	50-125			
4-Bromophenyl phenyl ether	97.8	10.0	ug/l	100		98	60-120			
Butyl benzyl phthalate	106	20.0	ug/l	100		106	55-130			
4-Chloro-3-methylphenol	84.5	20.0	ug/l	100		85	60-120			
Bis(2-chloroethoxy)methane	89.6	10.0	ug/l	100		90	55-120			
Bis(2-chloroethyl)ether	82.6	10.0	ug/l	100		83	50-120			
Bis(2-chloroisopropyl)ether	83.4	10.0	ug/l	100		83	45-120			
Bis(2-ethylhexyl)phthalate	102	50.0	ug/l	100		102	65-130			
2-Chloronaphthalene	89.3	10.0	ug/l	100		89	60-120			
2-Chlorophenol	76.4	10.0	ug/l	100		76	45-120			
4-Chlorophenyl phenyl ether	99.7	10.0	ug/l	100		100	65-120			
Chrysene	99.4	10.0	ug/l	100		99	65-120			
Dibenz(a,h)anthracene	103	20.0	ug/l	100		103	50-135			
Di-n-butyl phthalate	104	20.0	ug/l	100		104	60-125			
1,2-Dichlorobenzene	70.8	10.0	ug/l	100		71	40-120			
1,3-Dichlorobenzene	67.6	10.0	ug/l	100		68	35-120			
1,4-Dichlorobenzene	68.6	10.0	ug/l	100		69	35-120			
3,3'-Dichlorobenzidine	65.4	20.0	ug/l	100		65	45-135			
2,4-Dichlorophenol	85.0	10.0	ug/l	100		85	55-120			
Diethyl phthalate	104	10.0	ug/l	100		104	55-120			
2,4-Dimethylphenol	80.1	20.0	ug/l	100		80	40-120			
Dimethyl phthalate	100	10.0	ug/l	100		100	30-120			
4,6-Dinitro-2-methylphenol	98.7	20.0	ug/l	100		99	45-120			
2,4-Dinitrophenol	110	20.0	ug/l	100		110	40-120			
2,4-Dinitrotoluene	106	10.0	ug/l	100		106	65-120			
2,6-Dinitrotoluene	102	10.0	ug/l	100		102	65-120			
Di-n-octyl phthalate	107	20.0	ug/l	100		107	65-135			
1,2-Diphenylhydrazine/Azobenzene	99.9	20.0	ug/l	100		100	60-120			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2402 Extracted: 02/18/11										
LCS Analyzed: 02/24/2011 (11B2402-BS1)										**MNR1**
Fluoranthene	105	10.0	ug/l	100		105	60-120			
Fluorene	101	10.0	ug/l	100		101	65-120			
Hexachlorobenzene	97.3	10.0	ug/l	100		97	60-120			
Hexachlorobutadiene	72.7	10.0	ug/l	100		73	40-120			
Hexachlorocyclopentadiene	72.9	20.0	ug/l	100		73	25-120			
Hexachloroethane	64.5	10.0	ug/l	100		64	35-120			
Indeno(1,2,3-cd)pyrene	104	20.0	ug/l	100		104	45-135			
Isophorone	91.5	10.0	ug/l	100		91	50-120			
Naphthalene	82.1	10.0	ug/l	100		82	55-120			
Nitrobenzene	90.2	20.0	ug/l	100		90	55-120			
2-Nitrophenol	89.2	10.0	ug/l	100		89	50-120			
4-Nitrophenol	91.2	20.0	ug/l	100		91	45-120			
N-Nitroso-di-n-propylamine	89.3	10.0	ug/l	100		89	45-120			
N-Nitrosodimethylamine	79.7	20.0	ug/l	100		80	45-120			
N-Nitrosodiphenylamine	92.7	10.0	ug/l	100		93	60-120			
Pentachlorophenol	98.8	20.0	ug/l	100		99	24-121			
Phenanthrene	97.3	10.0	ug/l	100		97	65-120			
Phenol	71.9	10.0	ug/l	100		72	40-120			
Pyrene	101	10.0	ug/l	100		101	55-125			
1,2,4-Trichlorobenzene	76.6	10.0	ug/l	100		77	45-120			
2,4,6-Trichlorophenol	91.6	20.0	ug/l	100		92	55-120			
Surrogate: 2,4,6-Tribromophenol	*178*		*ug/l*	*200*		*89*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*87.5*		*ug/l*	*100*		*88*	*50-120*			
Surrogate: 2-Fluorophenol	*129*		*ug/l*	*200*		*65*	*30-120*			
Surrogate: Nitrobenzene-d5	*89.5*		*ug/l*	*100*		*89*	*45-120*			
Surrogate: Phenol-d6	*144*		*ug/l*	*200*		*72*	*35-120*			
Surrogate: Terphenyl-d14	*99.3*		*ug/l*	*100*		*99*	*50-125*			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2402 Extracted: 02/18/11										
LCS Dup Analyzed: 02/24/2011 (11B2402-BSD1)										
Acenaphthene	94.1	10.0	ug/l	100		94	60-120	4	20	
Acenaphthylene	101	10.0	ug/l	100		101	60-120	5	20	
Anthracene	93.3	10.0	ug/l	100		93	65-120	6	20	
Benzidine	87.0	20.0	ug/l	100		87	30-160	9	35	
Benzo(a)anthracene	96.0	10.0	ug/l	100		96	65-120	4	20	
Benzo(a)pyrene	101	10.0	ug/l	100		101	55-130	5	25	
Benzo(b)fluoranthene	91.4	10.0	ug/l	100		91	55-125	5	25	
Benzo(g,h,i)perylene	94.5	10.0	ug/l	100		94	45-135	5	25	
Benzo(k)fluoranthene	101	10.0	ug/l	100		101	50-125	5	20	
4-Bromophenyl phenyl ether	96.1	10.0	ug/l	100		96	60-120	2	25	
Butyl benzyl phthalate	102	20.0	ug/l	100		102	55-130	4	20	
4-Chloro-3-methylphenol	88.7	20.0	ug/l	100		89	60-120	5	25	
Bis(2-chloroethoxy)methane	86.1	10.0	ug/l	100		86	55-120	4	20	
Bis(2-chloroethyl)ether	78.3	10.0	ug/l	100		78	50-120	5	20	
Bis(2-chloroisopropyl)ether	78.7	10.0	ug/l	100		79	45-120	6	20	
Bis(2-ethylhexyl)phthalate	97.0	50.0	ug/l	100		97	65-130	5	20	
2-Chloronaphthalene	84.1	10.0	ug/l	100		84	60-120	6	20	
2-Chlorophenol	73.5	10.0	ug/l	100		74	45-120	4	25	
4-Chlorophenyl phenyl ether	94.0	10.0	ug/l	100		94	65-120	6	20	
Chrysene	94.6	10.0	ug/l	100		95	65-120	5	20	
Dibenz(a,h)anthracene	97.6	20.0	ug/l	100		98	50-135	6	25	
Di-n-butyl phthalate	95.1	20.0	ug/l	100		95	60-125	9	20	
1,2-Dichlorobenzene	65.7	10.0	ug/l	100		66	40-120	8	25	
1,3-Dichlorobenzene	63.2	10.0	ug/l	100		63	35-120	7	25	
1,4-Dichlorobenzene	64.1	10.0	ug/l	100		64	35-120	7	25	
3,3'-Dichlorobenzidine	64.4	20.0	ug/l	100		64	45-135	2	25	
2,4-Dichlorophenol	85.4	10.0	ug/l	100		85	55-120	0.4	20	
Diethyl phthalate	96.3	10.0	ug/l	100		96	55-120	7	30	
2,4-Dimethylphenol	79.6	20.0	ug/l	100		80	40-120	0.7	25	
Dimethyl phthalate	95.6	10.0	ug/l	100		96	30-120	5	30	
4,6-Dinitro-2-methylphenol	99.7	20.0	ug/l	100		100	45-120	1	25	
2,4-Dinitrophenol	117	20.0	ug/l	100		117	40-120	7	25	
2,4-Dinitrotoluene	99.6	10.0	ug/l	100		100	65-120	6	20	
2,6-Dinitrotoluene	99.8	10.0	ug/l	100		100	65-120	2	20	
Di-n-octyl phthalate	99.6	20.0	ug/l	100		100	65-135	7	20	
1,2-Diphenylhydrazine/Azobenzene	92.5	20.0	ug/l	100		93	60-120	8	25	

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Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2402 Extracted: 02/18/11										
LCS Dup Analyzed: 02/24/2011 (11B2402-BSD1)										
Fluoranthene	96.2	10.0	ug/l	100		96	60-120	9	20	
Fluorene	95.2	10.0	ug/l	100		95	65-120	6	20	
Hexachlorobenzene	97.6	10.0	ug/l	100		98	60-120	0.3	20	
Hexachlorobutadiene	66.8	10.0	ug/l	100		67	40-120	8	25	
Hexachlorocyclopentadiene	68.0	20.0	ug/l	100		68	25-120	7	30	
Hexachloroethane	60.1	10.0	ug/l	100		60	35-120	7	25	
Indeno(1,2,3-cd)pyrene	98.0	20.0	ug/l	100		98	45-135	6	25	
Isophorone	91.3	10.0	ug/l	100		91	50-120	0.1	20	
Naphthalene	81.1	10.0	ug/l	100		81	55-120	1	20	
Nitrobenzene	85.7	20.0	ug/l	100		86	55-120	5	25	
2-Nitrophenol	91.4	10.0	ug/l	100		91	50-120	3	25	
4-Nitrophenol	90.9	20.0	ug/l	100		91	45-120	0.3	30	
N-Nitroso-di-n-propylamine	88.1	10.0	ug/l	100		88	45-120	1	20	
N-Nitrosodimethylamine	75.7	20.0	ug/l	100		76	45-120	5	20	
N-Nitrosodiphenylamine	90.5	10.0	ug/l	100		90	60-120	2	20	
Pentachlorophenol	99.3	20.0	ug/l	100		99	24-121	0.5	25	
Phenanthrene	92.1	10.0	ug/l	100		92	65-120	6	20	
Phenol	73.0	10.0	ug/l	100		73	40-120	1	25	
Pyrene	98.4	10.0	ug/l	100		98	55-125	2	25	
1,2,4-Trichlorobenzene	73.0	10.0	ug/l	100		73	45-120	5	20	
2,4,6-Trichlorophenol	91.3	20.0	ug/l	100		91	55-120	0.3	30	
Surrogate: 2,4,6-Tribromophenol	*184*		*ug/l*	*200*		*92*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*81.1*		*ug/l*	*100*		*81*	*50-120*			
Surrogate: 2-Fluorophenol	*122*		*ug/l*	*200*		*61*	*30-120*			
Surrogate: Nitrobenzene-d5	*85.0*		*ug/l*	*100*		*85*	*45-120*			
Surrogate: Phenol-d6	*141*		*ug/l*	*200*		*70*	*35-120*			
Surrogate: Terphenyl-d14	*95.7*		*ug/l*	*100*		*96*	*50-125*			

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METHOD BLANK/QC DATA

ORGANIC COMPOUNDS BY GC/MS (EPA 525.2)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B1999 Extracted: 02/17/11										
Blank Analyzed: 03/01/2011 (11B1999-BLK1)										
Chlorpyrifos	ND	1.0	ug/l							
Diazinon	ND	0.25	ug/l							
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.72*		*ug/l*	*5.00*		*94*	*70-130*			
Surrogate: Triphenylphosphate	*4.84*		*ug/l*	*5.00*		*97*	*70-130*			
Surrogate: Perylene-d12	*4.37*		*ug/l*	*5.00*		*87*	*70-130*			
LCS Analyzed: 02/27/2011 (11B1999-BS1)										**MNR1**
Chlorpyrifos	5.37	1.0	ug/l	5.00		107	70-130			
Diazinon	6.32	0.25	ug/l	5.00		126	70-130			
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*5.64*		*ug/l*	*5.00*		*113*	*70-130*			
Surrogate: Triphenylphosphate	*5.73*		*ug/l*	*5.00*		*115*	*70-130*			
Surrogate: Perylene-d12	*4.61*		*ug/l*	*5.00*		*92*	*70-130*			
LCS Dup Analyzed: 02/27/2011 (11B1999-BSD1)										
Chlorpyrifos	6.12	1.0	ug/l	5.00		122	70-130	13	30	
Diazinon	6.27	0.25	ug/l	5.00		125	70-130	0.8	30	
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*4.82*		*ug/l*	*5.00*		*96*	*70-130*			
Surrogate: Triphenylphosphate	*5.14*		*ug/l*	*5.00*		*103*	*70-130*			
Surrogate: Perylene-d12	*4.47*		*ug/l*	*5.00*		*89*	*70-130*			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2380 Extracted: 02/18/11										
Blank Analyzed: 02/22/2011 (11B2380-BLK1)										
4,4'-DDD	ND	0.0050	ug/l							
4,4'-DDE	ND	0.0050	ug/l							
4,4'-DDT	ND	0.010	ug/l							
Aldrin	ND	0.0050	ug/l							
alpha-BHC	ND	0.0050	ug/l							
beta-BHC	ND	0.010	ug/l							
delta-BHC	ND	0.0050	ug/l							
Dieldrin	ND	0.0050	ug/l							
Endosulfan I	ND	0.0050	ug/l							
Endosulfan II	ND	0.0050	ug/l							
Endosulfan sulfate	ND	0.010	ug/l							
Endrin	ND	0.0050	ug/l							
Endrin aldehyde	ND	0.010	ug/l							
gamma-BHC (Lindane)	ND	0.020	ug/l							
Heptachlor	ND	0.010	ug/l							
Heptachlor epoxide	ND	0.0050	ug/l							
Chlordane	ND	0.10	ug/l							
Toxaphene	ND	0.50	ug/l							
Surrogate: Decachlorobiphenyl	*0.143*		*ug/l*	*0.500*		*29*	*45-120*			*Z6*
Surrogate: Tetrachloro-m-xylene	*0.343*		*ug/l*	*0.500*		*69*	*35-115*			
LCS Analyzed: 02/22/2011 (11B2380-BS1)										
4,4'-DDD	0.450	0.0050	ug/l	0.500		90	55-120			
4,4'-DDE	0.414	0.0050	ug/l	0.500		83	50-120			
4,4'-DDT	0.469	0.010	ug/l	0.500		94	55-120			
Aldrin	0.341	0.0050	ug/l	0.500		68	40-115			
alpha-BHC	0.398	0.0050	ug/l	0.500		80	45-115			
beta-BHC	0.458	0.010	ug/l	0.500		92	55-115			
delta-BHC	0.430	0.0050	ug/l	0.500		86	55-115			
Dieldrin	0.470	0.0050	ug/l	0.500		94	55-115			
Endosulfan I	0.440	0.0050	ug/l	0.500		88	55-115			
Endosulfan II	0.457	0.0050	ug/l	0.500		91	55-120			
Endosulfan sulfate	0.425	0.010	ug/l	0.500		85	60-120			
Endrin	0.461	0.0050	ug/l	0.500		92	55-115			
Endrin aldehyde	0.399	0.010	ug/l	0.500		80	50-120			
gamma-BHC (Lindane)	0.410	0.020	ug/l	0.500		82	45-115			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2380 Extracted: 02/18/11										
LCS Analyzed: 02/22/2011 (11B2380-BS1)										
Heptachlor	0.424	0.010	ug/l	0.500		85	45-115			
Heptachlor epoxide	0.445	0.0050	ug/l	0.500		89	55-115			
Surrogate: Decachlorobiphenyl	*0.153*		*ug/l*	*0.500*		*31*	*45-120*			*Z6*
Surrogate: Tetrachloro-m-xylene	*0.358*		*ug/l*	*0.500*		*72*	*35-115*			
Matrix Spike Analyzed: 02/22/2011 (11B2380-MS1)					**Source: IUB1601-02**					
4,4'-DDD	0.455	0.0050	ug/l	0.500	ND	91	50-125			
4,4'-DDE	0.419	0.0050	ug/l	0.500	ND	84	45-125			
4,4'-DDT	0.480	0.010	ug/l	0.500	ND	96	50-125			
Aldrin	0.336	0.0050	ug/l	0.500	ND	67	35-120			
alpha-BHC	0.385	0.0050	ug/l	0.500	ND	77	40-120			
beta-BHC	0.456	0.010	ug/l	0.500	ND	91	50-120			
delta-BHC	0.425	0.0050	ug/l	0.500	ND	85	50-120			
Dieldrin	0.463	0.0050	ug/l	0.500	ND	93	50-120			
Endosulfan I	0.445	0.0050	ug/l	0.500	ND	89	50-120			
Endosulfan II	0.453	0.0050	ug/l	0.500	ND	91	50-125			
Endosulfan sulfate	0.432	0.010	ug/l	0.500	ND	86	55-125			
Endrin	0.466	0.0050	ug/l	0.500	ND	93	50-120			
Endrin aldehyde	0.419	0.010	ug/l	0.500	ND	84	45-125			
gamma-BHC (Lindane)	0.403	0.020	ug/l	0.500	ND	81	40-120			
Heptachlor	0.425	0.010	ug/l	0.500	ND	85	40-120			
Heptachlor epoxide	0.462	0.0050	ug/l	0.500	ND	92	50-120			
Surrogate: Decachlorobiphenyl	*0.395*		*ug/l*	*0.500*		*79*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.345*		*ug/l*	*0.500*		*69*	*35-115*			
Matrix Spike Dup Analyzed: 02/22/2011 (11B2380-MSD1)					**Source: IUB1601-02**					
4,4'-DDD	0.448	0.0050	ug/l	0.500	ND	90	50-125	1	30	
4,4'-DDE	0.415	0.0050	ug/l	0.500	ND	83	45-125	1	30	
4,4'-DDT	0.475	0.010	ug/l	0.500	ND	95	50-125	1	30	
Aldrin	0.331	0.0050	ug/l	0.500	ND	66	35-120	2	30	
alpha-BHC	0.379	0.0050	ug/l	0.500	ND	76	40-120	1	30	
beta-BHC	0.453	0.010	ug/l	0.500	ND	91	50-120	0.7	30	
delta-BHC	0.420	0.0050	ug/l	0.500	ND	84	50-120	1	30	
Dieldrin	0.455	0.0050	ug/l	0.500	ND	91	50-120	2	30	
Endosulfan I	0.438	0.0050	ug/l	0.500	ND	88	50-120	2	30	
Endosulfan II	0.447	0.0050	ug/l	0.500	ND	89	50-125	1	30	
Endosulfan sulfate	0.428	0.010	ug/l	0.500	ND	86	55-125	0.8	30	

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2380 Extracted: 02/18/11										
Matrix Spike Dup Analyzed: 02/22/2011 (11B2380-MSD1)					**Source: IUB1601-02**					
Endrin	0.460	0.0050	ug/l	0.500	ND	92	50-120	1	30	
Endrin aldehyde	0.415	0.010	ug/l	0.500	ND	83	45-125	1	30	
gamma-BHC (Lindane)	0.398	0.020	ug/l	0.500	ND	80	40-120	1	30	
Heptachlor	0.419	0.010	ug/l	0.500	ND	84	40-120	1	30	
Heptachlor epoxide	0.456	0.0050	ug/l	0.500	ND	91	50-120	1	30	
Surrogate: Decachlorobiphenyl	*0.393*		*ug/l*	*0.500*		*79*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.341*		*ug/l*	*0.500*		*68*	*35-115*			

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METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2380 Extracted: 02/18/11										
Blank Analyzed: 02/22/2011 (11B2380-BLK1)										
Aroclor 1016	ND	0.50	ug/l							
Aroclor 1221	ND	0.50	ug/l							
Aroclor 1232	ND	0.50	ug/l							
Aroclor 1242	ND	0.50	ug/l							
Aroclor 1248	ND	0.50	ug/l							
Aroclor 1254	ND	0.50	ug/l							
Aroclor 1260	ND	0.50	ug/l							
Surrogate: Decachlorobiphenyl	*0.137*		*ug/l*	*0.500*		*27*	*45-120*			*Z6*
LCS Analyzed: 02/22/2011 (11B2380-BS2)										
Aroclor 1016	2.91	0.50	ug/l	4.00		73	50-115			
Aroclor 1260	2.93	0.50	ug/l	4.00		73	60-120			
Surrogate: Decachlorobiphenyl	*0.166*		*ug/l*	*0.500*		*33*	*45-120*			*Z6*
Matrix Spike Analyzed: 02/22/2011 (11B2380-MS2)					**Source: IUB1601-02**					
Aroclor 1016	2.64	0.48	ug/l	3.85	ND	69	45-120			
Aroclor 1260	2.77	0.48	ug/l	3.85	ND	72	55-125			
Surrogate: Decachlorobiphenyl	*0.369*		*ug/l*	*0.481*		*77*	*45-120*			
Matrix Spike Dup Analyzed: 02/22/2011 (11B2380-MSD2)					**Source: IUB1601-02**					
Aroclor 1016	2.64	0.48	ug/l	3.85	ND	69	45-120	0.002	30	
Aroclor 1260	2.75	0.48	ug/l	3.85	ND	72	55-125	0.7	25	
Surrogate: Decachlorobiphenyl	*0.370*		*ug/l*	*0.481*		*77*	*45-120*			

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0411 Extracted: 03/03/11										
Blank Analyzed: 03/03/2011 (11C0411-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 03/03/2011 (11C0411-BS1)										**MNR1**
Hexane Extractable Material (Oil & Grease)	18.8	5.0	mg/l	20.0		94	78-114			
LCS Dup Analyzed: 03/03/2011 (11C0411-BSD1)										
Hexane Extractable Material (Oil & Grease)	19.1	5.0	mg/l	20.0		96	78-114	2	11	

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2677 Extracted: 02/22/11										
Blank Analyzed: 02/22/2011 (11B2677-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.00	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 02/22/2011 (11B2677-BS1)										
Antimony	82.1	2.0	ug/l	80.0		103	85-115			
Cadmium	82.8	1.0	ug/l	80.0		103	85-115			
Copper	82.8	2.00	ug/l	80.0		104	85-115			
Lead	82.4	1.0	ug/l	80.0		103	85-115			
Selenium	84.4	2.0	ug/l	80.0		105	85-115			
Thallium	81.9	1.0	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 02/22/2011 (11B2677-MS1)					**Source: IUB1999-07**					
Antimony	92.2	4.0	ug/l	80.0	1.30	114	70-130			
Cadmium	84.8	2.0	ug/l	80.0	1.17	105	70-130			
Copper	95.5	4.00	ug/l	80.0	7.68	110	70-130			
Lead	84.9	2.0	ug/l	80.0	ND	106	70-130			
Selenium	211	4.0	ug/l	80.0	112	125	70-130			
Thallium	85.3	2.0	ug/l	80.0	ND	107	70-130			
Matrix Spike Analyzed: 02/22/2011 (11B2677-MS2)					**Source: IUB1999-06**					
Antimony	98.9	4.0	ug/l	80.0	1.24	122	70-130			
Cadmium	92.6	2.0	ug/l	80.0	0.348	115	70-130			
Copper	105	4.00	ug/l	80.0	8.65	120	70-130			
Lead	89.2	2.0	ug/l	80.0	0.414	111	70-130			
Selenium	219	4.0	ug/l	80.0	95.9	154	70-130			*M1*
Thallium	88.8	2.0	ug/l	80.0	ND	111	70-130			

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Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2677 Extracted: 02/22/11										
Matrix Spike Dup Analyzed: 02/22/2011 (11B2677-MSD1)					**Source: IUB1999-07**					
Antimony	92.5	4.0	ug/l	80.0	1.30	114	70-130	0.3	20	
Cadmium	85.6	2.0	ug/l	80.0	1.17	106	70-130	0.9	20	
Copper	96.7	4.00	ug/l	80.0	7.68	111	70-130	1	20	
Lead	86.2	2.0	ug/l	80.0	ND	108	70-130	2	20	
Selenium	215	4.0	ug/l	80.0	112	130	70-130	2	20	
Thallium	86.0	2.0	ug/l	80.0	ND	108	70-130	0.8	20	
Batch: 11B2701 Extracted: 02/22/11										
Blank Analyzed: 02/24/2011 (11B2701-BLK1)										
Aluminum	ND	50	ug/l							
Arsenic	ND	10	ug/l							
Beryllium	ND	2.0	ug/l							
Boron	ND	0.050	mg/l							
Calcium	0.0987	0.10	mg/l							*Ja*
Chromium	ND	5.0	ug/l							
Iron	ND	0.040	mg/l							
Magnesium	ND	0.020	mg/l							
Nickel	ND	10	ug/l							
Silver	ND	10	ug/l							
Vanadium	ND	10	ug/l							
LCS Analyzed: 02/24/2011 (11B2701-BS1)										
Aluminum	459	50	ug/l	500		92	85-115			
Arsenic	461	10	ug/l	500		92	85-115			
Beryllium	485	2.0	ug/l	500		97	85-115			
Boron	0.492	0.050	mg/l	0.500		98	85-115			
Calcium	2.38	0.10	mg/l	2.50		95	85-115			
Chromium	467	5.0	ug/l	500		93	85-115			
Iron	0.494	0.040	mg/l	0.500		99	85-115			
Magnesium	2.41	0.020	mg/l	2.50		96	85-115			
Nickel	457	10	ug/l	500		91	85-115			
Silver	234	10	ug/l	250		93	85-115			
Vanadium	475	10	ug/l	500		95	85-115			

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2701 Extracted: 02/22/11										
Matrix Spike Analyzed: 02/24/2011 (11B2701-MS1)					**Source: IUB1771-01**					
Aluminum	2000	50	ug/l	500	1450	109	70-130			
Arsenic	509	10	ug/l	500	ND	102	70-130			
Beryllium	520	2.0	ug/l	500	ND	104	70-130			
Boron	0.848	0.050	mg/l	0.500	0.303	109	70-130			
Calcium	62.7	0.10	mg/l	2.50	62.3	15	70-130			*MHA*
Chromium	491	5.0	ug/l	500	ND	98	70-130			
Iron	0.566	0.040	mg/l	0.500	0.0620	101	70-130			
Magnesium	22.8	0.020	mg/l	2.50	19.7	125	70-130			*MHA*
Nickel	474	10	ug/l	500	ND	95	70-130			
Silver	253	10	ug/l	250	ND	101	70-130			
Vanadium	513	10	ug/l	500	5.03	102	70-130			
Matrix Spike Analyzed: 02/24/2011 (11B2701-MS2)					**Source: IUB1765-03**					
Aluminum	1030	50	ug/l	500	405	126	70-130			
Arsenic	494	10	ug/l	500	ND	99	70-130			
Beryllium	522	2.0	ug/l	500	ND	104	70-130			
Boron	0.553	0.050	mg/l	0.500	0.0470	101	70-130			
Calcium	8.49	0.10	mg/l	2.50	6.15	93	70-130			
Chromium	499	5.0	ug/l	500	ND	100	70-130			
Iron	1.02	0.040	mg/l	0.500	0.497	104	70-130			
Magnesium	4.21	0.020	mg/l	2.50	1.74	99	70-130			
Nickel	488	10	ug/l	500	ND	98	70-130			
Silver	255	10	ug/l	250	ND	102	70-130			
Vanadium	508	10	ug/l	500	ND	102	70-130			
Matrix Spike Dup Analyzed: 02/24/2011 (11B2701-MSD1)					**Source: IUB1771-01**					
Aluminum	1990	50	ug/l	500	1450	108	70-130	0.2	20	
Arsenic	518	10	ug/l	500	ND	104	70-130	2	20	
Beryllium	523	2.0	ug/l	500	ND	105	70-130	0.5	20	
Boron	0.845	0.050	mg/l	0.500	0.303	108	70-130	0.4	20	
Calcium	63.3	0.10	mg/l	2.50	62.3	41	70-130	1	20	*MHA*
Chromium	497	5.0	ug/l	500	ND	99	70-130	1	20	
Iron	0.583	0.040	mg/l	0.500	0.0620	104	70-130	3	20	
Magnesium	22.6	0.020	mg/l	2.50	19.7	116	70-130	1	20	*MHA*
Nickel	472	10	ug/l	500	ND	94	70-130	0.4	20	
Silver	253	10	ug/l	250	ND	101	70-130	0.03	20	
Vanadium	518	10	ug/l	500	5.03	103	70-130	1	20	

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METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2879 Extracted: 02/23/11										
Blank Analyzed: 02/23/2011 (11B2879-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 02/23/2011 (11B2879-BS1)										
Mercury	8.11	0.20	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 02/23/2011 (11B2879-MS1)					**Source: IUB1955-02**					
Mercury	1.76	0.20	ug/l	8.00	0.605	14	70-130			*M2*
Matrix Spike Dup Analyzed: 02/23/2011 (11B2879-MSD1)					**Source: IUB1955-02**					
Mercury	1.59	0.20	ug/l	8.00	0.605	12	70-130	10	20	*M2*
Batch: 11C0690 Extracted: 03/04/11										
Blank Analyzed: 03/07/2011 (11C0690-BLK1)										
Zinc	ND	20.0	ug/l							
LCS Analyzed: 03/07/2011 (11C0690-BS1)										
Zinc	477	20.0	ug/l	500		95	85-115			
Matrix Spike Analyzed: 03/07/2011 (11C0690-MS1)					**Source: IUC0034-04**					
Zinc	455	20.0	ug/l	500	ND	91	70-130			
Matrix Spike Analyzed: 03/07/2011 (11C0690-MS2)					**Source: IUC0036-01**					
Zinc	452	20.0	ug/l	500	9.79	88	70-130			
Matrix Spike Dup Analyzed: 03/07/2011 (11C0690-MSD1)					**Source: IUC0034-04**					
Zinc	441	20.0	ug/l	500	ND	88	70-130	3	20	

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2496 Extracted: 02/19/11										
Blank Analyzed: 02/19/2011-02/24/2011 (11B2496-BLK1)										
Aluminum	ND	50	ug/l							
Arsenic	ND	10	ug/l							
Beryllium	ND	2.0	ug/l							
Boron	ND	0.050	mg/l							
Calcium	ND	0.10	mg/l							
Chromium	ND	5.0	ug/l							
Iron	ND	0.040	mg/l							
Magnesium	ND	0.020	mg/l							
Nickel	ND	10	ug/l							
Silver	ND	10	ug/l							
Vanadium	ND	10	ug/l							
LCS Analyzed: 02/19/2011-02/24/2011 (11B2496-BS1)										
Aluminum	501	50	ug/l	500		100	85-115			
Arsenic	479	10	ug/l	500		96	85-115			
Beryllium	489	2.0	ug/l	500		98	85-115			
Boron	0.516	0.050	mg/l	0.500		103	85-115			
Calcium	2.48	0.10	mg/l	2.50		99	85-115			
Chromium	507	5.0	ug/l	500		101	85-115			
Iron	0.491	0.040	mg/l	0.500		98	85-115			
Magnesium	2.62	0.020	mg/l	2.50		105	85-115			
Nickel	474	10	ug/l	500		95	85-115			
Silver	233	10	ug/l	250		93	85-115			
Vanadium	502	10	ug/l	500		100	85-115			
Matrix Spike Analyzed: 02/19/2011-02/24/2011 (11B2496-MS1)					**Source: IUB1866-02**					
Aluminum	531	50	ug/l	500	ND	106	70-130			
Arsenic	492	10	ug/l	500	ND	98	70-130			
Beryllium	491	2.0	ug/l	500	ND	98	70-130			
Boron	0.644	0.050	mg/l	0.500	0.146	100	70-130			
Calcium	64.2	0.10	mg/l	2.50	61.3	115	70-130			*MHA*
Chromium	501	5.0	ug/l	500	ND	100	70-130			
Iron	0.499	0.040	mg/l	0.500	ND	100	70-130			
Magnesium	13.7	0.020	mg/l	2.50	11.2	101	70-130			*MHA*
Nickel	474	10	ug/l	500	15.3	92	70-130			
Silver	258	10	ug/l	250	ND	103	70-130			
Vanadium	503	10	ug/l	500	5.66	99	70-130			

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2496 Extracted: 02/19/11										
Matrix Spike Analyzed: 02/19/2011-02/24/2011 (11B2496-MS2)					**Source: IUB1624-01**					
Aluminum	666	50	ug/l	500	ND	133	70-130			*M1*
Arsenic	521	10	ug/l	500	22.5	100	70-130			
Beryllium	493	2.0	ug/l	500	ND	99	70-130			
Boron	3.86	0.050	mg/l	0.500	3.35	101	70-130			*MHA*
Calcium	432	0.10	mg/l	2.50	429	130	70-130			*MHA*
Chromium	502	5.0	ug/l	500	2.46	100	70-130			
Iron	34.8	0.040	mg/l	0.500	34.3	109	70-130			*MHA*
Magnesium	143	0.020	mg/l	2.50	137	250	70-130			*MHA*
Nickel	792	10	ug/l	500	352	88	70-130			
Silver	262	10	ug/l	250	ND	105	70-130			
Vanadium	498	10	ug/l	500	ND	100	70-130			
Matrix Spike Dup Analyzed: 02/19/2011-02/24/2011 (11B2496-MSD1)					**Source: IUB1866-02**					
Aluminum	527	50	ug/l	500	ND	105	70-130	0.8	20	
Arsenic	496	10	ug/l	500	ND	99	70-130	0.8	20	
Beryllium	495	2.0	ug/l	500	ND	99	70-130	0.7	20	
Boron	0.652	0.050	mg/l	0.500	0.146	101	70-130	1	20	
Calcium	64.5	0.10	mg/l	2.50	61.3	127	70-130	0.5	20	*MHA*
Chromium	505	5.0	ug/l	500	ND	101	70-130	0.8	20	
Iron	0.501	0.040	mg/l	0.500	ND	100	70-130	0.4	20	
Magnesium	13.6	0.020	mg/l	2.50	11.2	97	70-130	0.7	20	*MHA*
Nickel	478	10	ug/l	500	15.3	93	70-130	1	20	
Silver	252	10	ug/l	250	ND	101	70-130	2	20	
Vanadium	509	10	ug/l	500	5.66	101	70-130	1	20	
Batch: 11B2681 Extracted: 02/22/11										
Blank Analyzed: 02/22/2011 (11B2681-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	1.26	2.00	ug/l							*Ja*
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							
Thallium	ND	1.0	ug/l							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2681 Extracted: 02/22/11										
LCS Analyzed: 02/22/2011 (11B2681-BS1)										
Antimony	79.4	2.0	ug/l	80.0		99	85-115			
Cadmium	79.5	1.0	ug/l	80.0		99	85-115			
Copper	78.2	2.00	ug/l	80.0		98	85-115			
Lead	80.4	1.0	ug/l	80.0		100	85-115			
Selenium	80.1	2.0	ug/l	80.0		100	85-115			
Thallium	80.7	1.0	ug/l	80.0		101	85-115			
Matrix Spike Analyzed: 02/22/2011 (11B2681-MS1)					**Source: IUB1622-03**					
Antimony	81.0	2.0	ug/l	80.0	0.949	100	70-130			
Cadmium	78.1	1.0	ug/l	80.0	ND	98	70-130			
Copper	77.6	2.00	ug/l	80.0	1.35	95	70-130			
Lead	70.2	1.0	ug/l	80.0	ND	88	70-130			
Selenium	75.6	2.0	ug/l	80.0	ND	95	70-130			
Thallium	70.3	1.0	ug/l	80.0	0.222	88	70-130			
Matrix Spike Dup Analyzed: 02/22/2011 (11B2681-MSD1)					**Source: IUB1622-03**					
Antimony	82.1	2.0	ug/l	80.0	0.949	101	70-130	1	20	
Cadmium	78.4	1.0	ug/l	80.0	ND	98	70-130	0.4	20	
Copper	76.5	2.00	ug/l	80.0	1.35	94	70-130	1	20	
Lead	71.2	1.0	ug/l	80.0	ND	89	70-130	1	20	
Selenium	76.7	2.0	ug/l	80.0	ND	96	70-130	1	20	
Thallium	71.3	1.0	ug/l	80.0	0.222	89	70-130	1	20	
Batch: 11B2762 Extracted: 02/22/11										
Blank Analyzed: 02/23/2011 (11B2762-BLK1)										
Mercury	ND	0.20	ug/l							

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2762 Extracted: 02/22/11										
LCS Analyzed: 02/23/2011 (11B2762-BS1)										
Mercury	8.48	0.20	ug/l	8.00		106	85-115			
Matrix Spike Analyzed: 02/23/2011 (11B2762-MS1)					**Source: IUB1943-01**					
Mercury	8.04	0.20	ug/l	8.00	ND	101	70-130			
Matrix Spike Dup Analyzed: 02/23/2011 (11B2762-MSD1)					**Source: IUB1943-01**					
Mercury	8.01	0.20	ug/l	8.00	ND	100	70-130	0.4	20	
Batch: 11C0687 Extracted: 03/04/11										
Blank Analyzed: 03/07/2011 (11C0687-BLK1)										
Zinc	ND	20.0	ug/l							
LCS Analyzed: 03/07/2011 (11C0687-BS1)										
Zinc	462	20.0	ug/l	500		92	85-115			
Matrix Spike Analyzed: 03/07/2011 (11C0687-MS1)					**Source: IUB2822-04**					
Zinc	484	20.0	ug/l	500	ND	97	70-130			
Matrix Spike Analyzed: 03/07/2011 (11C0687-MS2)					**Source: IUB2822-01**					
Zinc	477	20.0	ug/l	500	ND	95	70-130			
Matrix Spike Dup Analyzed: 03/07/2011 (11C0687-MSD1)					**Source: IUB2822-04**					
Zinc	472	20.0	ug/l	500	ND	94	70-130	3	20	

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DISSOLVED INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2032 Extracted: 02/16/11										
Blank Analyzed: 02/16/2011 (11B2032-BLK1)										
Chromium VI	ND	1.0	ug/l							
LCS Analyzed: 02/16/2011 (11B2032-BS1)										
Chromium VI	51.8	1.0	ug/l	50.0		104	90-110			
Matrix Spike Analyzed: 02/16/2011 (11B2032-MS1)					**Source: IUB1686-01**					
Chromium VI	ND	1.0	ug/l	50.0	ND		90-110			*M2*
Matrix Spike Analyzed: 02/16/2011 (11B2032-MS2)					**Source: IUB1733-01**					
Chromium VI	53.6	1.0	ug/l	50.0	ND	107	90-110			
Matrix Spike Dup Analyzed: 02/16/2011 (11B2032-MSD1)					**Source: IUB1686-01**					
Chromium VI	ND	1.0	ug/l	50.0	ND		90-110		10	*M2*
Matrix Spike Dup Analyzed: 02/16/2011 (11B2032-MSD2)					**Source: IUB1733-01**					
Chromium VI	53.1	1.0	ug/l	50.0	ND	106	90-110	1	10	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2211 Extracted: 02/17/11										
Blank Analyzed: 02/17/2011 (11B2211-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
LCS Analyzed: 02/17/2011 (11B2211-BS1)										
Chloride	4.64	0.50	mg/l	5.00		93	90-110			
Duplicate Analyzed: 02/17/2011 (11B2211-DUP1)					**Source: IUB1789-06**					
Chloride	22.0	5.0	mg/l		22.1			0.3		
Nitrate/Nitrite-N	14.7	2.6	mg/l		14.7			0.06		
Matrix Spike Analyzed: 02/17/2011 (11B2211-MS1)					**Source: IUB1834-11**					
Chloride	229	25	mg/l	50.0	189	80	80-120			
Matrix Spike Analyzed: 02/18/2011 (11B2211-MS2)					**Source: IUB1930-01**					
Chloride	4.92	0.50	mg/l	5.00	ND	98	80-120			
Matrix Spike Dup Analyzed: 02/17/2011 (11B2211-MSD1)					**Source: IUB1834-11**					
Chloride	227	25	mg/l	50.0	189	77	80-120	0.7	20	*M2*
Batch: 11B2377 Extracted: 02/18/11										
Blank Analyzed: 02/18/2011 (11B2377-BLK1)										
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 02/18/2011 (11B2377-BS1)										
Sulfate	9.39	0.50	mg/l	10.0		94	90-110			

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Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2377 Extracted: 02/18/11										
Matrix Spike Analyzed: 02/18/2011 (11B2377-MS1)					**Source: IUB1964-05**					
Sulfate	321	10	mg/l	100	247	73	80-120			*M2*
Matrix Spike Analyzed: 02/18/2011 (11B2377-MS2)					**Source: IUB1965-05**					
Sulfate	213	10	mg/l	100	121	92	80-120			
Matrix Spike Dup Analyzed: 02/18/2011 (11B2377-MSD1)					**Source: IUB1964-05**					
Sulfate	332	10	mg/l	100	247	84	80-120	3	20	
Batch: 11B2621 Extracted: 02/22/11										
Blank Analyzed: 02/22/2011 (11B2621-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 02/22/2011 (11B2621-BS1)										
Total Dissolved Solids	998	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 02/22/2011 (11B2621-DUP1)					**Source: IUB2063-01**					
Total Dissolved Solids	15.0	10	mg/l		15.0			0	10	
Batch: 11B2817 Extracted: 02/23/11										
Blank Analyzed: 02/23/2011 (11B2817-BLK1)										
Perchlorate	ND	4.0	ug/l							
LCS Analyzed: 02/23/2011 (11B2817-BS1)										
Perchlorate	26.1	4.0	ug/l	25.0		104	85-115			

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2817 Extracted: 02/23/11										
Matrix Spike Analyzed: 02/23/2011 (11B2817-MS1)					**Source: IUB2211-15**					
Perchlorate	26.5	4.0	ug/l	25.0	ND	106	80-120			
Matrix Spike Dup Analyzed: 02/23/2011 (11B2817-MSD1)					**Source: IUB2211-15**					
Perchlorate	27.8	4.0	ug/l	25.0	ND	111	80-120	5	20	
Batch: 11B2818 Extracted: 02/23/11										
Blank Analyzed: 02/23/2011 (11B2818-BLK1)										
Fluoride	ND	0.10	mg/l							
LCS Analyzed: 02/23/2011 (11B2818-BS1)										
Fluoride	0.978	0.10	mg/l	1.00		98	90-110			
Matrix Spike Analyzed: 02/23/2011 (11B2818-MS1)					**Source: IUB1930-01**					
Fluoride	1.06	0.10	mg/l	1.00	0.0439	102	80-120			
Matrix Spike Dup Analyzed: 02/23/2011 (11B2818-MSD1)					**Source: IUB1930-01**					
Fluoride	1.05	0.10	mg/l	1.00	0.0439	100	80-120	1	20	
Batch: 11B2895 Extracted: 02/23/11										
Blank Analyzed: 02/23/2011 (11B2895-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 02/23/2011 (11B2895-BS1)										
Total Suspended Solids	993	10	mg/l	1000		99	85-115			

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11B2895 Extracted: 02/23/11										
Duplicate Analyzed: 02/23/2011 (11B2895-DUP1)					**Source: IUB1946-01**					
Total Suspended Solids	20.0	10	mg/l		21.0			5	10	
Batch: 11B2925 Extracted: 02/23/11										
Blank Analyzed: 02/23/2011 (11B2925-BLK1)										
Total Cyanide	ND	5.0	ug/l							
LCS Analyzed: 02/23/2011 (11B2925-BS1)										
Total Cyanide	185	5.0	ug/l	200		92	90-110			
Matrix Spike Analyzed: 02/23/2011 (11B2925-MS1)					**Source: IUB1828-01**					
Total Cyanide	185	5.0	ug/l	200	ND	92	70-115			
Matrix Spike Dup Analyzed: 02/23/2011 (11B2925-MSD1)					**Source: IUB1828-01**					
Total Cyanide	184	5.0	ug/l	200	ND	92	70-115	0.3	15	

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METHOD BLANK/QC DATA

8662

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8662 Extracted: 03/01/11										
LCS Analyzed: 03/01/2011 (S102185-03)					**Source:**					
Uranium, Total	53.9	1	pCi/L	56.5		95	80-120			
Blank Analyzed: 03/01/2011 (S102185-04)					**Source:**					
Uranium, Total	0	1	pCi/L				-			*U*
Duplicate Analyzed: 03/01/2011 (S102185-05)					**Source: IUB1765-03**					
Uranium, Total	0.08	1	pCi/L		0.092		-	14		*Jb*

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METHOD BLANK/QC DATA

900

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8662 Extracted: 03/02/11										
LCS Analyzed: 03/03/2011 (S102185-03)					**Source:**					
Gross Alpha	112	3	pCi/L	101		111	70-130			
Gross Beta	86.6	4	pCi/L	87.3		99	70-130			
Blank Analyzed: 03/03/2011 (S102185-04)					**Source:**					
Gross Alpha	-0.206	3	pCi/L				-			*U*
Gross Beta	-0.045	4	pCi/L				-			*U*
Duplicate Analyzed: 03/03/2011 (S102185-05)					**Source: IUB1765-03**					
Gross Alpha	0.661	3	pCi/L		0.515		-	25		*Jb*
Gross Beta	0.883	4	pCi/L		1.13		-	25		*Jb*

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METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8662 Extracted: 02/22/11										
LCS Analyzed: 02/23/2011 (S102185-03)					**Source:**					
Cobalt-60	128	10	pCi/L	126		102	80-120			
Cesium-137	118	20	pCi/L	110		107	80-120			
Blank Analyzed: 02/24/2011 (S102185-04)					**Source:**					
Cesium-137	ND	20	pCi/L				-			*U*
Potassium-40	ND	25	pCi/L				-			*U*
Duplicate Analyzed: 02/24/2011 (S102185-05)					**Source: IUB1765-03**					
Cesium-137	ND	20	pCi/L		0		-	0		*U*
Potassium-40	ND	25	pCi/L		0		-	0		*U*

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METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8662 Extracted: 03/04/11										
LCS Analyzed: 03/04/2011 (S102185-03)					**Source:**					
Radium-226	45.1	1	pCi/L	55.7		81	80-120			
Blank Analyzed: 03/04/2011 (S102185-04)					**Source:**					
Radium-226	0.05	1	pCi/L				-			*U*
Duplicate Analyzed: 03/04/2011 (S102185-05)					**Source: IUB1765-03**					
Radium-226	0.136	1	pCi/L		0.122		-	0		*U*

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METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8662 Extracted: 03/09/11										
LCS Analyzed: 03/09/2011 (S102185-03)					**Source:**					
Radium-228	15	1	pCi/L	15.2		99	60-140			
Blank Analyzed: 03/09/2011 (S102185-04)					**Source:**					
Radium-228	-0.175	1	pCi/L				-			*U*
Duplicate Analyzed: 03/09/2011 (S102185-05)					**Source: IUB1765-03**					
Radium-228	-0.116	1	pCi/L		0.168		-	0		*U*

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METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8662 Extracted: 02/25/11										
LCS Analyzed: 03/01/2011 (S102185-03)					**Source:**					
Strontium-90	19.2	2	pCi/L	17.5		110	80-120			
Blank Analyzed: 03/01/2011 (S102185-04)					**Source:**					
Strontium-90	-0.09	2	pCi/L				-			*U*
Duplicate Analyzed: 03/01/2011 (S102185-05)					**Source: IUB1765-03**					
Strontium-90	-0.155	2	pCi/L		-0.121		-	0		*U*

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METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8662 Extracted: 03/09/11										
LCS Analyzed: 03/10/2011 (S102185-03)					**Source:**					
Tritium	1940	500	pCi/L	2220		87	80-120			
Blank Analyzed: 03/10/2011 (S102185-04)					**Source:**					
Tritium	-30.1	500	pCi/L				-			*U*
Duplicate Analyzed: 03/10/2011 (S102185-05)					**Source: IUB1765-03**					
Tritium	0	500	pCi/L		-103		-	0		*U*

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METHOD BLANK/QC DATA

EPA 600 R 94 134, 100.2

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 142454 Extracted: 02/18/11										
BLANK Analyzed: 02/25/2011 (BLANK)					**Source: BLANK**					
ASBESTOS	ND	NA	MFL	0	ND		-			

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1054371 Extracted: 02/23/11										
Blank Analyzed: 02/24/2011 (G1B230000371B)					**Source:**					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	ug/L				-			
OCDD	4.8e-006	0.0001	ug/L				-			*J, Q*
OCDF	ND	0.0001	ug/L				-			
Total HpCDD	ND	0.00005	ug/L				-			
Total HpCDF	ND	0.00005	ug/L				-			
Total HxCDD	ND	0.00005	ug/L				-			
Total HxCDF	ND	0.00005	ug/L				-			
Total PeCDD	ND	0.00005	ug/L				-			
Total PeCDF	ND	0.00005	ug/L				-			
Total TCDD	ND	0.00001	ug/L				-			
Total TCDF	ND	0.00001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.0019*		*ug/L*	*0.002*		*96*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.0019*		*ug/L*	*0.002*		*96*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.002*		*ug/L*	*0.002*		*98*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0017*		*ug/L*	*0.002*		*86*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.0018*		*ug/L*	*0.002*		*88*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.0017*		*ug/L*	*0.002*		*85*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.0018*		*ug/L*	*0.002*		*89*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.0019*		*ug/L*	*0.002*		*96*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.0017*		*ug/L*	*0.002*		*85*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.0016*		*ug/L*	*0.002*		*78*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.0018*		*ug/L*	*0.002*		*91*	*28-136*			

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METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1054371 Extracted: 02/23/11										
Blank Analyzed: 02/24/2011 (G1B230000371B)					**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.0016*		*ug/L*	*0.002*		*81*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.0014*		*ug/L*	*0.002*		*70*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.0013*		*ug/L*	*0.002*		*67*	*24-169*			
Surrogate: 13C-OCDD	*0.0036*		*ug/L*	*0.004*		*90*	*17-157*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00068*		*ug/L*	*0*		*85*	*35-197*			
LCS Analyzed: 02/24/2011 (G1B230000371C)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00105	0.00005	ug/L	0.001		105	70-140			
1,2,3,4,6,7,8-HpCDF	0.00106	0.00005	ug/L	0.001		106	82-122			
1,2,3,4,7,8,9-HpCDF	0.00107	0.00005	ug/L	0.001		107	78-138			
1,2,3,4,7,8-HxCDD	0.001	0.00005	ug/L	0.001		100	70-164			
1,2,3,4,7,8-HxCDF	0.00111	0.00005	ug/L	0.001		111	72-134			
1,2,3,6,7,8-HxCDD	0.00126	0.00005	ug/L	0.001		126	76-134			
1,2,3,6,7,8-HxCDF	0.00103	0.00005	ug/L	0.001		103	84-130			
1,2,3,7,8,9-HxCDD	0.00121	0.00005	ug/L	0.001		121	64-162			
1,2,3,7,8,9-HxCDF	0.00109	0.00005	ug/L	0.001		109	78-130			
1,2,3,7,8-PeCDD	0.00105	0.00005	ug/L	0.001		105	70-142			
1,2,3,7,8-PeCDF	0.00106	0.00005	ug/L	0.001		106	80-134			
2,3,4,6,7,8-HxCDF	0.00107	0.00005	ug/L	0.001		107	70-156			
2,3,4,7,8-PeCDF	0.00107	0.00005	ug/L	0.001		107	68-160			
2,3,7,8-TCDD	0.000207	0.00001	ug/L	0.0002		104	67-158			
2,3,7,8-TCDF	0.000211	0.00001	ug/L	0.0002		105	75-158			
OCDD	0.00221	0.0001	ug/L	0.002		110	78-144			*B*
OCDF	0.00224	0.0001	ug/L	0.002		112	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00196*		*ug/L*	*0.002*		*98*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00189*		*ug/L*	*0.002*		*94*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00191*		*ug/L*	*0.002*		*95*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.00185*		*ug/L*	*0.002*		*92*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00175*		*ug/L*	*0.002*		*88*	*19-202*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00159*		*ug/L*	*0.002*		*79*	*25-163*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00182*		*ug/L*	*0.002*		*91*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00194*		*ug/L*	*0.002*		*97*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00174*		*ug/L*	*0.002*		*87*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00165*		*ug/L*	*0.002*		*83*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00186*		*ug/L*	*0.002*		*93*	*22-176*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00167*		*ug/L*	*0.002*		*84*	*13-328*			

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

METHOD BLANK/QC DATA

EPA-5 1613Bx

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1054371 Extracted: 02/23/11										
LCS Analyzed: 02/24/2011 (G1B230000371C)					**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00158*		*ug/L*	*0.002*		*79*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.0015*		*ug/L*	*0.002*		*75*	*22-152*			
Surrogate: 13C-OCDD	*0.00362*		*ug/L*	*0.004*		*90*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000692*		*ug/L*	*0.0008*		*87*	*31-191*			

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Sampled: 02/16/11-02/17/11
Received: 02/16/11

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
IUB1765-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.096	4.8	15

Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit

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
IUB1765-03	Antimony-200.8	Antimony	ug/l	0.32	2.0	6
IUB1765-03	Boron-200.7	Boron	mg/l	0.047	0.050	1
IUB1765-03	Cadmium-200.8	Cadmium	ug/l	0.050	1.0	4
IUB1765-03	Chloride - 300.0	Chloride	mg/l	1.78	0.50	150
IUB1765-03	Copper-200.8	Copper	ug/l	3.06	2.00	14
IUB1765-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-4	5.0	9500
IUB1765-03	Fluoride SM4500F,C	Fluoride	mg/l	0.12	0.10	1.6
IUB1765-03	Lead-200.8	Lead	ug/l	1.23	1.0	5.2
IUB1765-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.13
IUB1765-03	Nickel-200.7	Nickel	ug/l	1.56	10	100
IUB1765-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.33	0.26	10
IUB1765-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
IUB1765-03	Sulfate-300.0	Sulfate	mg/l	3.89	0.50	250
IUB1765-03	TDS - SM2540C	Total Dissolved Solids	mg/l	66	10	850
IUB1765-03	Thallium-200.8	Thallium	ug/l	0	1.0	2

Compliance Check

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LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit

TestAmerica Irvine

Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

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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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.
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.
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.
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.
Z6	Surrogate recovery was below 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.

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Project ID: Annual Outfall 009

Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

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-Acute 96hr
Samples: IUB1765-01

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Annual Outfall 009
Report Number: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUB1765-03, IUB1765-04

Analysis Performed: Gross Alpha
Samples: IUB1765-03, IUB1765-04

Analysis Performed: Gross Beta
Samples: IUB1765-03, IUB1765-04

Analysis Performed: Radium, Combined
Samples: IUB1765-03, IUB1765-04

Analysis Performed: Strontium 90
Samples: IUB1765-03, IUB1765-04

Analysis Performed: Tritium
Samples: IUB1765-03

Analysis Performed: Uranium, Combined
Samples: IUB1765-03, IUB1765-04

EMS Laboratories *California Cert #1119, Nevada Cert #NJ003372008A*

117 W. Bellevue Drive - Pasadena, CA 91105

Method Performed: TEM
Samples: IUB1765-03

TestAmerica Irvine

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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: IUB1765

Sampled: 02/16/11-02/17/11
Received: 02/16/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8662
Samples: IUB1765-03, IUB1765-04

Method Performed: 900
Samples: IUB1765-03, IUB1765-04

Method Performed: 901.1
Samples: IUB1765-03, IUB1765-04

Method Performed: 903.1
Samples: IUB1765-03, IUB1765-04

Method Performed: 904
Samples: IUB1765-03, IUB1765-04

Method Performed: 905
Samples: IUB1765-03, IUB1765-04

Method Performed: 906
Samples: IUB1765-03

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUB1765-03

TestAmerica Irvine

Debby Wilson
Project Manager

CHAIN OF CUSTODY FORM

IVB1765

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)	VOCs 624, Xylenes + PP	VOCs 624 +A+A+2CVE	Cr (VI) (218.6)	Fecal coliform (SM9223)	E. coli (SM9223)	Acute Toxicity	Comments
Outfall 009	W	1L Amber	2	2-16-2011 11:30	HCl	1A, 1B	X							
Outfall 009	W	VOAs	3		HCl	2A, 2B, 2C		X						
Outfall 009	W	VOAs	3		None	3A, 3B, 3C			X					
Trip Blanks	W	VOAs	3		HCl	4A, 4B, 4C		X						
Trip Blanks	W	VOAs	3		None	5A, 5B, 5C			X					
Outfall 009	W	500 mL Poly	1		None	6				X				
Outfall 009	W	125 mL Poly	1		Na2S2O3	7					X			
Outfall 009	W	125 mL Poly	1		Na2S2O3	8						X		
Outfall 009	W	1 Gal Cube	1	2-16-2011 11:36	None	9							X	

ANALYSIS REQUIRED

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

Temp °F = 51.8

pH = 7.8

Time of readings = 1135

19:20 2/16/11 MM

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

Relinquished By	Date/Time:	Received By	Date/Time:
	2-16-2011 1325		2/16/11 1325
Relinquished By	Date/Time:	Received By	Date/Time:
	2/16/2011 1520		
Relinquished By	Date/Time:	Received By	Date/Time:
			2/16/11 1520

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

Sample Integrity: (Check)
Intact: X On Ice: X 4.6

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

16V14

CHAIN OF CUSTODY FORM

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	TCDD (and all congeners)	Cl^-, SO_4, NO_3+NO_2-N, F, Perchlorate	TDS, TSS	Pesticides/PCBs , Chlorpyrifos, Diazinon + PP	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	SVOCs (625) + PP	Chronic Toxicity	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as CaCO3	Asbestos (100.2)	Cyanide				Comments
Outfall 009	W	1L Poly	1	2-16-2011 15:43	HNO_3	10A	X							✓							
Outfall 009 Dup	W	1L Poly	1		HNO_3	10B	X														
Outfall 009	W	1L Amber	2		None	11A, 11B		X													
Outfall 009	W	500 mL Poly	2		None	12A, 12B			X												
Outfall 009	W	500 mL Poly	2		None	13A, 13B				X											
Outfall 009	W	1L Amber	2		None	14A, 14B					X										
Outfall 009	W	2.5 Gal Cube	1		None	15A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	15B															
Outfall 009	W	1L Amber	2	2-16-2011 15:43	None	16A, 16B							X								
~~Outfall 009~~	~~W~~	~~1 Gal Poly~~	~~1~~		None	17								✓							**Only test if first or second rain events of the year**
Outfall 009	W	1L Poly	1	2-16-2011 15:43	None	18									X						Filter w/in 24hrs of receipt at lab
Outfall 009	W	1L Poly	1		None	19										X					
Outfall 009	W	500 mL Poly	1	2-16-2011 15:43	NaOH	20											X				

22:55 2/17/11 MD

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

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Bañaga	2-17-2011 14:26	Matt Crum	2-17-11 14:26
Matt Crum	2-17-11 19:30		
		Erin Nguyen	2-17-11 19:30

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

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

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

RMay 2-4

LABORATORY REPORT

Aquatic Testing Laboratories
"dedicated to providing quality aquatic toxicity testing"
4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: February 21, 2011

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

Laboratory No.: A-11021703-001
Sample ID.: IUB1765-01

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

Date Sampled:	02/16/11
Date Received:	02/17/11
Temp. Received:	3.8°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	02/17/11 to 02/21/11

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

Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).

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

Result Summary:

Sample ID.	Results
IUB1765-01	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0

Aquatic Testing Laboratories

Lab No.: A-11021703-001
Client/ID: TestAmerica IUB1765-01 **Start Date: 02/17/2011**

TEST SUMMARY

Species: *Pimephales promelas*.
Age: 12 (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 A	# Dead B	Analyst & Time of Readings
INITIAL	Control	20.4	8.6	8.1	0	0	1130
	100%	20.1	8.9	7.1	0	0	
24 Hr	Control	19.9	8.3	7.8	0	0	1130
	100%	19.6	8.5	7.4	0	0	
48 Hr	Control	19.8	8.3	7.9	0	0	1130
	100%	19.6	8.2	7.3	0	0	
Renewal	Control	20.2	8.1	8.0	0	0	1130
	100%	20.1	9.4	7.4	0	0	
72 Hr	Control	19.8	8.8	7.8	0	0	1130
	100%	19.7	8.7	7.6	0	0	
96 Hr	Control	19.8	7.6	7.8	0	0	1115
	100%	19.6	8.1	7.5	0	0	

Comments:
Sample as received: Chlorine: 0.0 mg/l; pH: 7.1; Conductivity: 64 umho; Temp: 3.8°C;
DO: 9.2 mg/l; Alkalinity: 20 mg/l; Hardness: 22 mg/l; NH_3-N: 0.1 mg/l.
Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / (No.)
Control: Alkalinity: 68 mg/l; Hardness: 90 mg/l; Conductivity: 346 umho.
Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / (No.)
Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.
Dissolved Oxygen (DO) readings in mg/l O_2.

RESULTS

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

Subcontract Order - TestAmerica Irvine (IUB1765)

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: 2.8 °C Ice: Y / N

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

Analysis	Units	Expires	Comments
Sample ID: IUB1765-01 (Outfall 009 (Grab) - Water)		Sampled: 02/16/11 11:30	
Bioassay-Acute 96hr	% Survival	02/17/11 23:30	FH minnow, EPA/821-R02-012, Sub to Aquatic testing

Containers Supplied:
1 gal Poly (L)

Released By	2-17-11/7:30 Date/Time	Received By	2-17-11/7:30 Date/Time
Released By	2-17-11/11:25 Date/Time	Received By	2-17-11 11:25 Date/Time

Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

FATHEAD MINNOW ACUTE
Method 2000.0
Reference Toxicant - SDS

Aquatic Testing Laboratories

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

	INITIAL			24 Hr					48 Hr				
Date/Time:	2-1-11 1100			2-2-11 1030					2-3-11 1030				
Analyst:													
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead 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	—	—	—	—	—

	RENEWAL			72 Hr					96 Hr				
Date/Time:	2-3-11 1030			2-4-11 1100					2-5-11 1030				
Analyst:													
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead 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

Aquatic Testing Laboratories

FATHEAD MINNOW - LARVAL
(*Pimephales promelas*)

QA/QC BATCH NO.: RT-110201

SOURCE: In-Lab Culture

DATE HATCHED: 1-18-11

APPROXIMATE QUANTITY: 400

GENERAL APPEARANCE: good

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

DATE USED IN LAB: 2/1/11

AVERAGE FISH WEIGHT: 0.006 gm

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

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

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

200 ml test solution volume = 0.013 gm mean fish weight limit @ 20°C; 0.008 @ 25°C
250 ml test solution volume = 0.016 gm mean fish weight limit @ 20°C; 0.010 @ 25°C

ACCLIMATION WATER QUALITY:

Temp.: 19.2°C **pH:** 8.2 **Ammonia:** <0.1 mg/l NH_3-N

DO: 9.2 mg/l **Alkalinity:** 66 mg/l **Hardness:** 92 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:					

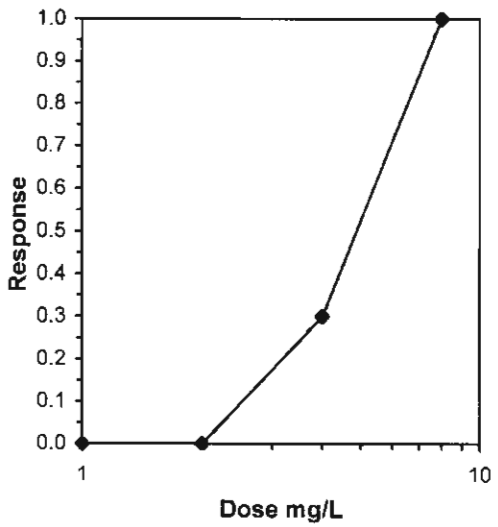
Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.8000	0.6000
8	0.0000	0.0000

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

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

Trimmed Spearman-Karber

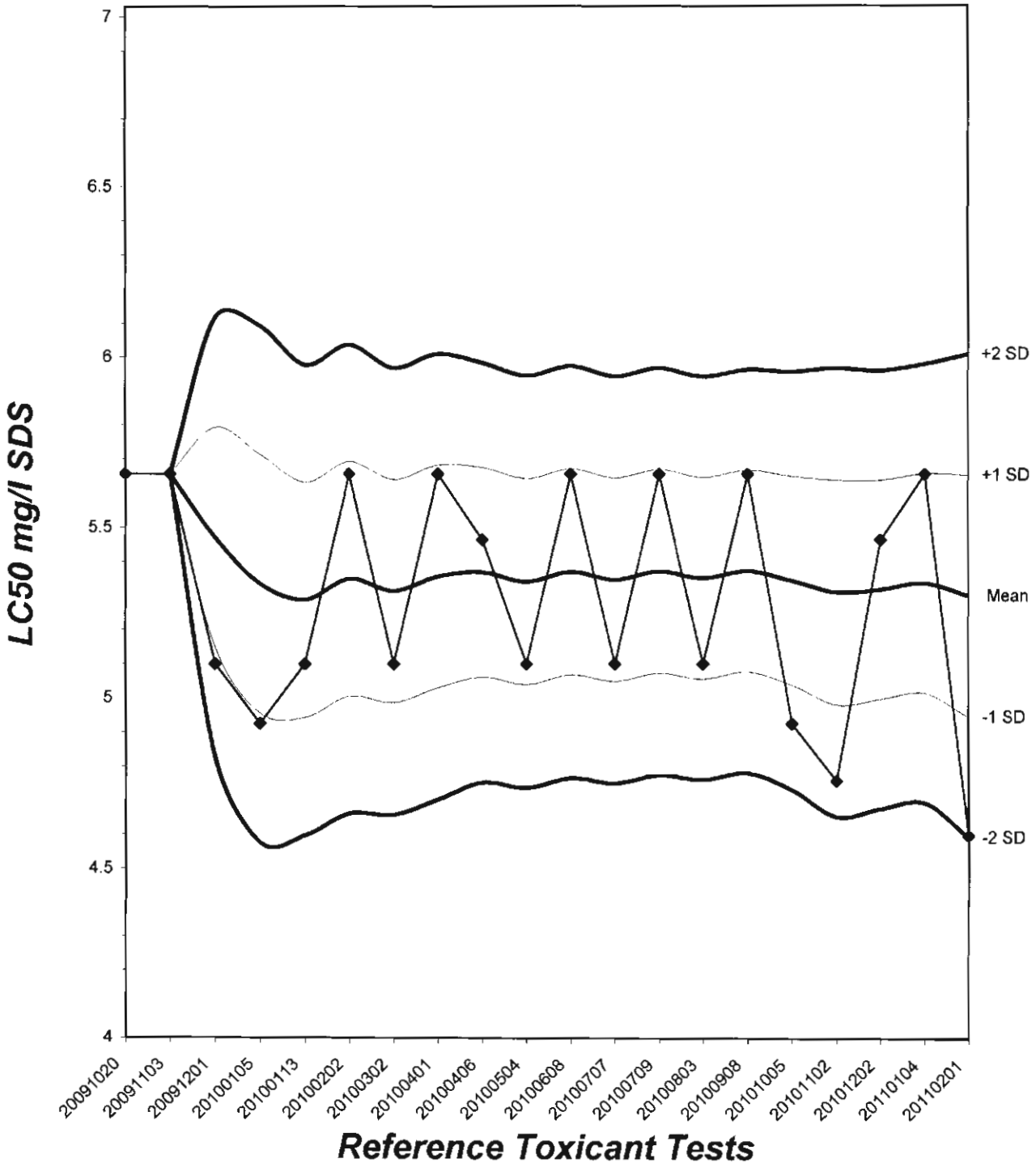
Trim Level	EC50	95% CL	
0.0%	4.5948	3.9863	5.2961
5.0%	4.6576	3.9704	5.4637
10.0%	4.7177	3.9185	5.6800
20.0%	4.8227	3.6460	6.3792
Auto-0.0%	4.5948	3.9863	5.2961



Reviewed by:

Fathead Minnow Acute Laboratory Control Chart

CV% = 6.7



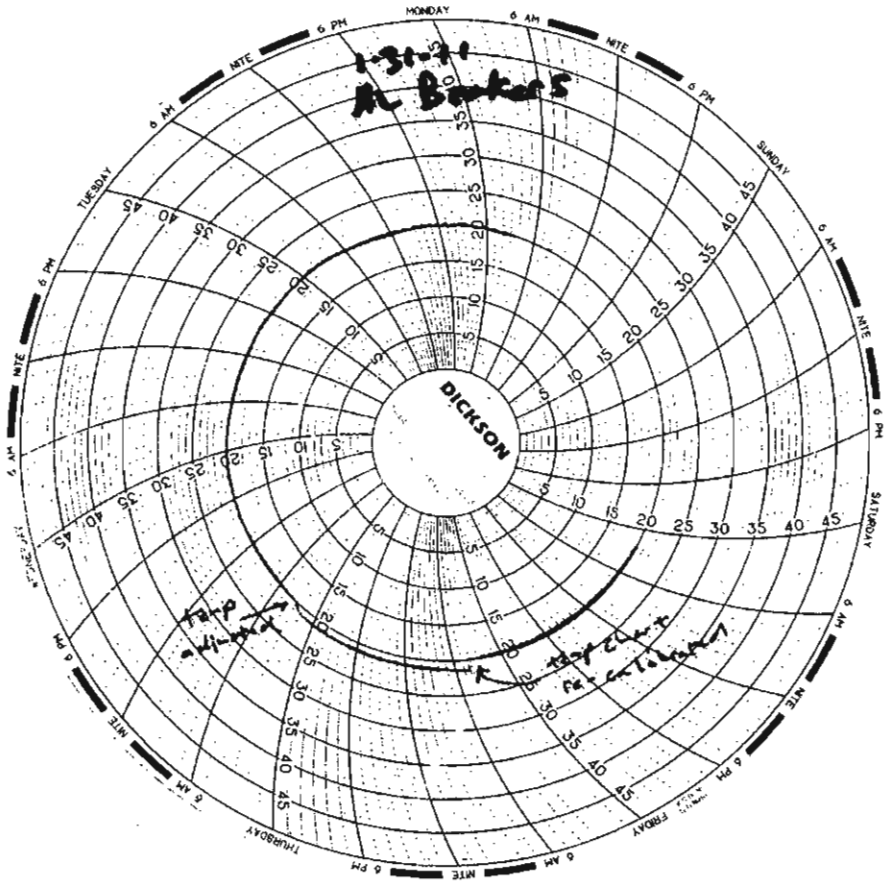
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-110201

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

Acceptable Range: 20+/- 1°C



EBERLINE SERVICES

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March 16, 2011

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

Reference: **Test America-Irvine IUB1765**
Eberline Analytical Report S102185-8662
Sample Delivery Group 8662

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUB1765. The samples were received on February 19, 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 8662 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 2σerror (Total):

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

4.0 Analysis Notes

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

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

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

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

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

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

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

5.0 Case Narrative Certification Statement

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

N. Joseph Verville
Client Services Manager

3/16/11
Date

E B E R L I N E A N A L Y T I C A L
SDG 8662

SDG 8662	Client Test America, Inc.
Contact N. Joseph Verville	Contract IUB1765

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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Prep Batch Summary	5
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Method Blanks	8
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End of Section	35

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	03/15/11

SDG 8662
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB1765

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

DUPLICATES

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/15/11

SDG 8662
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUB1765

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

LAB SAMPLE SUMMARY

SDG 8662
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB1765

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S102185-01	IUB1765-03	Boeing - SSFL	WATER			IUB1765	02/16/11 15:43
S102185-02	IUB1765-03 (TRIP-BLANK)	Boeing - SSFL	WATER			IUB1765	02/16/11 15:43
S102185-03	Lab Control Sample		WATER				
S102185-04	Method Blank		WATER				
S102185-05	Duplicate (S102185-01)	Boeing - SSFL	WATER				02/16/11 15:43

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

QC SUMMARY

SDG 8662
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB1765

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8662	IUB1765	IUB1765-03	WATER		9.0 L		02/19/11	3	S102185-01	8662-001
		IUB1765-03 (TRIP-BLANK)	WATER		9.0 L		02/19/11	3	S102185-02	8662-002
		Method Blank	WATER						S102185-04	8662-004
		Lab Control Sample	WATER						S102185-03	8662-003
		Duplicate (S102185-01)	WATER		9.0 L		02/19/11	3	S102185-05	8662-005

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

PREP BATCH SUMMARY

SDG 8662
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB1765

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting											
AC	WATER	Radium-228 in Water	7281-029	10.4	2		1	1	1/1		
SR	WATER	Strontium-90 in Water	7281-029	10.4	2		1	1	1/1		
Gas Proportional Counting											
80A	WATER	Gross Alpha in Water	7281-029	20.6	2		1	1	1/1		
80B	WATER	Gross Beta in Water	7281-029	11.0	2		1	1	1/1		
Gamma Spectroscopy											
GAM	WATER	Gamma Emitters in Water	7281-029	7.0	2		1	1	1/1		
Kinetic Phosphorimetry, ug											
U_T	WATER	Uranium, Total	7281-029		2		1	1	1/1		
Liquid Scintillation Counting											
H	WATER	Tritium in Water	7281-029	10.0	1		1	1	1/1		
Radon Counting											
RA	WATER	Radium-226 in Water	7281-029	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 03/15/11

EBERLINE ANALYTICAL

SDG 8662

LAB WORK SUMMARY

SDG 8662
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB1765

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S102185-01	IUB1765-03		8662-001	80A/80		03/08/11	03/09/11	BW	Gross Alpha in Water
02/16/11	Boeing - SSFL	WATER	8662-001	80B/80		03/08/11	03/09/11	BW	Gross Beta in Water
02/19/11	IUB1765		8662-001	AC		03/09/11	03/14/11	BW	Radium-228 in Water
			8662-001	GAM		02/23/11	02/25/11	MWT	Gamma Emitters in Water
			8662-001	H		03/10/11	03/14/11	BW	Tritium in Water
			8662-001	RA		03/04/11	03/14/11	BW	Radium-226 in Water
			8662-001	SR		03/01/11	03/11/11	BW	Strontium-90 in Water
			8662-001	U_T		03/01/11	03/07/11	BW	Uranium, Total
S102185-02	IUB1765-03 (TRIP-BLANK)		8662-002	80A/80		03/02/11	03/09/11	BW	Gross Alpha in Water
02/16/11	Boeing - SSFL	WATER	8662-002	80B/80		03/02/11	03/09/11	BW	Gross Beta in Water
02/19/11	IUB1765		8662-002	AC		03/09/11	03/14/11	BW	Radium-228 in Water
			8662-002	GAM		02/23/11	02/25/11	MWT	Gamma Emitters in Water
			8662-002	RA		03/04/11	03/14/11	BW	Radium-226 in Water
			8662-002	SR		03/01/11	03/11/11	BW	Strontium-90 in Water
			8662-002	U_T		03/01/11	03/07/11	BW	Uranium, Total
S102185-03	Lab Control Sample		8662-003	80A/80		03/03/11	03/09/11	BW	Gross Alpha in Water
		WATER	8662-003	80B/80		03/03/11	03/09/11	BW	Gross Beta in Water
			8662-003	AC		03/09/11	03/14/11	BW	Radium-228 in Water
			8662-003	GAM		02/23/11	02/25/11	MWT	Gamma Emitters in Water
			8662-003	H		03/10/11	03/14/11	BW	Tritium in Water
			8662-003	RA		03/04/11	03/14/11	BW	Radium-226 in Water
			8662-003	SR		03/01/11	03/11/11	BW	Strontium-90 in Water
			8662-003	U_T		03/01/11	03/07/11	BW	Uranium, Total
S102185-04	Method Blank		8662-004	80A/80		03/03/11	03/09/11	BW	Gross Alpha in Water
		WATER	8662-004	80B/80		03/03/11	03/09/11	BW	Gross Beta in Water
			8662-004	AC		03/09/11	03/14/11	BW	Radium-228 in Water
			8662-004	GAM		02/24/11	02/25/11	MWT	Gamma Emitters in Water
			8662-004	H		03/10/11	03/14/11	BW	Tritium in Water
			8662-004	RA		03/04/11	03/14/11	BW	Radium-226 in Water
			8662-004	SR		03/01/11	03/11/11	BW	Strontium-90 in Water
			8662-004	U_T		03/01/11	03/07/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/15/11

SDG 8662
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract IUB1765

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S102185-05	Duplicate (S102185-01)			8662-005	80A/80		03/03/11	03/09/11	BW	Gross Alpha in Water
02/16/11	Boeing - SSFL		WATER	8662-005	80B/80		03/03/11	03/09/11	BW	Gross Beta in Water
02/19/11				8662-005	AC		03/09/11	03/14/11	BW	Radium-228 in Water
				8662-005	GAM		02/24/11	02/25/11	MWT	Gamma Emitters in Water
				8662-005	H		03/10/11	03/14/11	BW	Tritium in Water
				8662-005	RA		03/04/11	03/14/11	BW	Radium-226 in Water
				8662-005	SR		03/01/11	03/11/11	BW	Strontium-90 in Water
				8662-005	U_T		03/01/11	03/07/11	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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

8662-004 Method Blank

METHOD BLANK

SDG	8662	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUB1765
Lab sample id	S102185-04	Client sample id	Method Blank
Dept sample id	8662-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.206	0.74	1.50	3.00	U	80A
Gross Beta	12587472	-0.045	1.5	2.51	4.00	U	80B
Tritium	10028178	-30.1	130	221	500	U	H
Radium-226	13982633	0.050	0.32	0.572	1.00	U	RA
Radium-228	15262201	-0.175	0.23	0.552	1.00	U	AC
Strontium-90	10098972	-0.090	0.36	0.887	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		22.9	25.0	U	GAM
Cesium-137	10045973	U		1.66	20.0	U	GAM

QC-BLANK #77451

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/15/11

EBERLINE ANALYTICAL

SDG 8662

8662-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8662 Client Test America, Inc.

Contact N. Joseph Verville Contract IUB1765

Lab sample id S102185-03 Client sample id Lab Control Sample

Dept sample id 8662-003 Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	112	6.5	1.28	3.00		80A	101	4.0	111	76-124	70-130
Gross Beta	86.6	3.6	2.49	4.00		80B	87.3	3.5	99	88-112	70-130
Tritium	1940	200	216	500		H	2220	89	87	87-113	80-120
Radium-226	45.1	2.0	0.752	1.00		RA	55.7	2.2	81	86-114	80-120
Radium-228	15.0	0.49	0.559	1.00		AC	15.2	0.61	99	89-111	60-140
Strontium-90	19.2	1.4	0.614	2.00		SR	17.5	0.70	110	86-114	80-120
Uranium, Total	53.9	6.6	1.68	1.00		U_T	56.5	2.3	95	88-112	80-120
Cobalt-60	128	7.6	2.59	10.0		GAM	126	5.0	102	90-110	80-120
Cesium-137	118	6.6	5.16	20.0		GAM	110	4.4	107	90-110	80-120

QC-LCS #77450

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

8662-005 IUB1765-03

DUPLICATE

SDG 8662 Client Test America, Inc.
Contact N. Joseph Verville Contract IUB1765

DUPLICATE		ORIGINAL			
Lab sample id	S102185-05	Lab sample id	S102185-01	Client sample id	IUB1765-03
Dept sample id	8662-005	Dept sample id	8662-001	Location/Matrix	Boeing - SSFL WATER
		Received	02/19/11	Collected/Volume	02/16/11 15:43 9.0 L
				Chain of custody id	IUB1765

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.661	0.27	0.273	3.00	J	80A	0.515	0.26	0.360	J	25	105	0.7
Gross Beta	0.883	0.53	0.833	4.00	J	80B	1.13	0.56	0.902	J	25	117	0.6
Tritium	0	130	219	500	U	H	-103	120	222	U	-		1.2
Radium-226	0.136	0.27	0.465	1.00	U	RA	0.122	0.26	0.464	U	-		0.1
Radium-228	-0.116	0.21	0.501	1.00	U	AC	0.168	0.33	0.644	U	-		1.4
Strontium-90	-0.155	0.46	1.06	2.00	U	SR	-0.121	0.40	0.897	U	-		0.1
Uranium, Total	0.080	0.012	0.017	1.00	J	U_T	0.092	0.013	0.017	J	14	31	1.4
Potassium-40	U		19.2	25.0	U	GAM	U		16.8	U	-		0.2
Cesium-137	U		1.33	20.0	U	GAM	U		1.19	U	-		0.2

QC-DUP#1 77452

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

8662-001 IUB1765-03

DATA SHEET

SDG	8662	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUB1765
Lab sample id	S102185-01	Client sample id	IUB1765-03
Dept sample id	8662-001	Location/Matrix	Boeing - SSFL WATER
Received	02/19/11	Collected/Volume	02/16/11 15:43 9.0 L
		Chain of custody id	IUB1765

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.515	0.26	0.360	3.00	J	80A
Gross Beta	12587472	1.13	0.56	0.902	4.00	J	80B
Tritium	10028178	-103	120	222	500	U	H
Radium-226	13982633	0.122	0.26	0.464	1.00	U	RA
Radium-228	15262201	0.168	0.33	0.644	1.00	U	AC
Strontium-90	10098972	-0.121	0.40	0.897	2.00	U	SR
Uranium, Total		0.092	0.013	0.017	1.00	J	U_T
Potassium-40	13966002	U		16.8	25.0	U	GAM
Cesium-137	10045973	U		1.19	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/15/11

EBERLINE ANALYTICAL

SDG 8662

8662-002 IUB1765-03 (TRIP-BLANK)

DATA SHEET

SDG	8662	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUB1765
Lab sample id	S102185-02	Client sample id	IUB1765-03 (TRIP-BLANK)
Dept sample id	8662-002	Location/Matrix	Boeing - SSFL WATER
Received	02/19/11	Collected/Volume	02/16/11 15:43 9.0 L
		Chain of custody id	IUB1765

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.005	0.11	0.241	3.00	U	80A
Gross Beta	12587472	-0.352	0.50	0.892	4.00	U	80B
Radium-226	13982633	0.031	0.33	0.592	1.00	U	RA
Radium-228	15262201	-0.201	0.20	0.503	1.00	U	AC
Strontium-90	10098972	-0.083	0.24	0.605	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		15.5	25.0	U	GAM
Cesium-137	10045973	U		1.44	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/15/11

EBERLINE ANALYTICAL

SDG 8662

Test AC Matrix WATER
SDG 8662
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7281-029						
S102185-01			8662-001	IUB1765-03	U	
S102185-02			8662-002	IUB1765-03 (TRIP-BLANK)	U	
S102185-03			8662-003	Lab Control Sample	ok	
S102185-04			8662-004	Method Blank	U	
S102185-05			8662-005	Duplicate (S102185-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029			2σ prep error 10.4 %	Reference Lab Notebook No. 7281 pg 029												
S102185-01			IUB1765-03	0.644	1.80			77		150			21	03/09/11	03/09	GRB-206
S102185-02			IUB1765-03 (TRIP-BLANK)	0.503	1.80			71		150			21	03/09/11	03/09	GRB-223
S102185-03			Lab Control Sample	0.559	1.80			69		150				03/09/11	03/09	GRB-217
S102185-04			Method Blank	0.552	1.80			74		150				03/09/11	03/09	GRB-220
S102185-05			Duplicate (S102185-01)	0.501	1.80			76		150			21	03/09/11	03/09	GRB-221
Nominal values and limits from method				1.00	1.80			30-105		50			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.552 ± 0.116
YIELD 73 ± 7

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8662
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7281-029						
S102185-01			8662-001	IUB1765-03	U	
S102185-02			8662-002	IUB1765-03 (TRIP-BLANK)	U	
S102185-03			8662-003	Lab Control Sample	ok	
S102185-04			8662-004	Method Blank	U	
S102185-05			8662-005	Duplicate (S102185-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029			2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg 029													
S102185-01			IUB1765-03	0.897	0.500			99		50			13	02/25/11	03/01	GRB-206
S102185-02			IUB1765-03 (TRIP-BLANK)	0.605	0.500			79		51			13	02/25/11	03/01	GRB-203
S102185-03			Lab Control Sample	0.614	0.500			71		60				02/25/11	03/01	GRB-223
S102185-04			Method Blank	0.887	0.500			65		50				02/25/11	03/01	GRB-223
S102185-05			Duplicate (S102185-01)	1.06	0.500			64		50			13	02/25/11	03/01	GRB-224
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 FOR 5 SAMPLES
MDA 0.813 ± 0.395
YIELD 76 ± 29

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

Test 80A Matrix WATER
SDG 8662
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER
GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7281-029						
S102185-01	80		8662-001	IUB1765-03	0.515	J
S102185-02	80		8662-002	IUB1765-03 (TRIP-BLANK)	U	
S102185-03	80		8662-003	Lab Control Sample	ok	
S102185-04	80		8662-004	Method Blank	U	
S102185-05	80		8662-005	Duplicate (S102185-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029 2σ prep error 20.6 % Reference Lab Notebook No. 7281 pg 029																
S102185-01	80		IUB1765-03	0.360	0.300			14		400			20	03/02/11	03/08	GRB-216
S102185-02	80		IUB1765-03 (TRIP-BLANK)	0.241	0.300			0		400			14	03/02/11	03/02	GRB-216
S102185-03	80		Lab Control Sample	1.28	0.100			60		400				03/02/11	03/03	GRB-109
S102185-04	80		Method Blank	1.50	0.100			56		400				03/02/11	03/03	GRB-111
S102185-05	80		Duplicate (S102185-01)	0.273	0.300			14		400			15	03/02/11	03/03	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 FOR 5 SAMPLES
MDA 0.731 ± 1.22
RESIDUE 29 ± 55

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

Test 80B Matrix WATER
SDG 8662
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS BETA IN WATER
GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7281-029						
S102185-01	80		8662-001	IUB1765-03	1.13	J
S102185-02	80		8662-002	IUB1765-03 (TRIP-BLANK)	U	
S102185-03	80		8662-003	Lab Control Sample	ok	
S102185-04	80		8662-004	Method Blank	U	
S102185-05	80		8662-005	Duplicate (S102185-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029 2σ prep error 11.0 % Reference Lab Notebook No. 7281 pg 029																
S102185-01	80		IUB1765-03	0.902	0.300			14		400			20	03/02/11	03/08	GRB-216
S102185-02	80		IUB1765-03 (TRIP-BLANK)	0.892	0.300			0		400			14	03/02/11	03/02	GRB-216
S102185-03	80		Lab Control Sample	2.49	0.100			60		400				03/02/11	03/03	GRB-109
S102185-04	80		Method Blank	2.51	0.100			56		400				03/02/11	03/03	GRB-111
S102185-05	80		Duplicate (S102185-01)	0.833	0.300			14		400			15	03/02/11	03/03	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 FOR 5 SAMPLES
MDA 1.53 ± 1.78
RESIDUE 29 ± 55

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

Test GAM Matrix WATER
SDG 8662
Contact N. Joseph Verville

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7281-029							
S102185-01			8662-001	IUB1765-03		U	
S102185-02			8662-002	IUB1765-03 (TRIP-BLANK)		U	
S102185-03			8662-003	Lab Control Sample	ok	ok	
S102185-04			8662-004	Method Blank		U	
S102185-05			8662-005	Duplicate (S102185-01)		-	U
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029			2σ prep error 7.0 %		Reference Lab Notebook No. 7281 pg 029											
S102185-01			IUB1765-03		2.00					840			7	02/22/11	02/23	01,03,00
S102185-02			IUB1765-03 (TRIP-BLANK)		2.00					811			7	02/22/11	02/23	01,01,00
S102185-03			Lab Control Sample		2.00					456				02/22/11	02/23	MB,05,00
S102185-04			Method Blank		2.00					453				02/22/11	02/24	01,04,00
S102185-05			Duplicate (S102185-01)		2.00					402			8	02/22/11	02/24	MB,08,00
Nominal values and limits from method				6.00	2.00					400			180			

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

Test U T Matrix WATER
SDG 8662
Contact N. Joseph Verville

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total
Preparation batch 7281-029					
S102185-01			8662-001	IUB1765-03	0.092 J
S102185-02			8662-002	IUB1765-03 (TRIP-BLANK)	U
S102185-03			8662-003	Lab Control Sample	ok
S102185-04			8662-004	Method Blank	U
S102185-05			8662-005	Duplicate (S102185-01)	ok J
Nominal values and limits from method				RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029			2σ prep error	Reference Lab Notebook No. 7281 pg 029												
S102185-01			IUB1765-03	0.017	0.0200								13	03/01/11	03/01	KPA-001
S102185-02			IUB1765-03 (TRIP-BLANK)	0.017	0.0200								13	03/01/11	03/01	KPA-001
S102185-03			Lab Control Sample	1.68	0.0200									03/01/11	03/01	KPA-001
S102185-04			Method Blank	0.017	0.0200									03/01/11	03/01	KPA-001
S102185-05			Duplicate (S102185-01)	0.017	0.0200								13	03/01/11	03/01	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.350 ± 1.49
YIELD _____ ± _____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8662
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7281-029						
S102185-01			8662-001	IUB1765-03	U	
S102185-03			8662-003	Lab Control Sample	ok	
S102185-04			8662-004	Method Blank	U	
S102185-05			8662-005	Duplicate (S102185-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029			2σ prep error 10.0 %	Reference Lab Notebook No. 7281 pg 029												
S102185-01			IUB1765-03	222	0.0100		100		75				22	03/09/11	03/10	LSC-007
S102185-03			Lab Control Sample	216	0.100		10		75					03/09/11	03/10	LSC-007
S102185-04			Method Blank	221	0.100		10		75					03/09/11	03/10	LSC-007
S102185-05			Duplicate (S102185-01)	219	0.0100		100		75				22	03/09/11	03/10	LSC-007
Nominal values and limits from method				500	0.0100				100				180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 220 ± 5.29
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

EBERLINE ANALYTICAL

SDG 8662

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8662
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB1765

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7281-029						
S102185-01			8662-001	IUB1765-03	U	
S102185-02			8662-002	IUB1765-03 (TRIP-BLANK)	U	
S102185-03			8662-003	Lab Control Sample	ok	
S102185-04			8662-004	Method Blank	U	
S102185-05			8662-005	Duplicate (S102185-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-029			2σ prep error 16.4 %	Reference Lab Notebook No. 7281 pg 029												
S102185-01			IUB1765-03	0.464	0.100			100		125			16	03/04/11	03/04	RN-012
S102185-02			IUB1765-03 (TRIP-BLANK)	0.592	0.100			100		125			16	03/04/11	03/04	RN-010
S102185-03			Lab Control Sample	0.752	0.100			100		125				03/04/11	03/04	RN-009
S102185-04			Method Blank	0.572	0.100			100		125				03/04/11	03/04	RN-015
S102185-05			Duplicate (S102185-01)	0.465	0.100			100		125			16	03/04/11	03/04	RN-014
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.569 ± 0.236
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/15/11

SDG 8662
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB1765

SAMPLE SUMMARY

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

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

The following notes apply to these reports:

* LAB SAMPLE ID is the lab's primary identification for a sample.

* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.

* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.

* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/15/11

SDG 8662
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB1765

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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Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/15/11

SDG 8662
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB1765

WORK SUMMARY

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

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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REPORT GUIDE

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DATA SHEET

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

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

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

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

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

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GUIDE, cont.

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DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

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

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DATA SHEET

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

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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REPORT GUIDE

Client Test America, Inc.
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LAB CONTROL SAMPLE

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

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

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

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

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

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

  2. The error of ADDED.

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

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

* The recovery is underlined if it is outside either of these ranges.

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Version 3.06
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Contract IUB1765

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.
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DUPLICATE

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

* The RPD is underlined if it is greater than either limit.

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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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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REPORT GUIDE

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Contract IUB1765

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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METHOD SUMMARY

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

* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

  MDAs are underlined if greater than the printed RDL.

* Aliquots are underlined if less than the nominal value specified for the method.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

* Count times are underlined if less than the nominal value

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Version 3.06
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METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

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GUIDE, cont.

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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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/15/11

Subcontract Order - TestAmerica Irvine (IUB1765)

8662

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: 20 °C Ice: Y / (N) MELTED ICE

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

Analysis	Units	Expires	Comments
Sample ID: IUB1765-03 (Outfall 009 (Composite) - Water)		Sampled: 02/16/11 15:43	
Gamma Spec-O	mg/kg	02/16/12 15:43	Out St Louis, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	08/15/11 15:43	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	08/15/11 15:43	Out St Louis, Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	02/16/12 15:43	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	02/16/12 15:43	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	02/16/12 15:43	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	02/16/12 15:43	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:
2.5 gal Poly (K) 500 mL Amber (L)

Blank included

Released By	Date/Time	Received By	Date/Time
	2/16/11 17:00	FedEx	2/16/11 17:00
			02/17/11 0930

SUBCONTRACT ORDER

TestAmerica Irvine

IUB1765

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: IUB1765-03	**Water**	**Sampled: 02/16/11 15:43**		
Uranium, Combined-O	03/03/11 12:00	02/16/12 15:43		Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	03/03/11 12:00	02/16/12 15:43		Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	03/03/11 12:00	02/16/12 15:43		Out St Louis, Boeing permit, DO NOT FILTER!
Radium, Combined-O	03/03/11 12:00	02/16/12 15:43		Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	03/03/11 12:00	08/15/11 15:43		Out St Louis, Boeing permit, DO NOT FILTER!
Gross Alpha-O	03/03/11 12:00	08/15/11 15:43		Out St Louis, Boeing permit, DO NOT FILTER!
Gamma Spec-O	03/03/11 12:00	02/16/12 15:43		Out St Louis, k-40 and cs-137 only, DO NOT FILTER!
Containers Supplied:				
2.5 gal Poly (K)	500 mL Amber (L)			
Sample ID: IUB1765-04	**Water**	**Sampled: 02/17/11 00:00**		
Uranium, Combined-O	03/16/11 12:00	02/17/12 00:00		Out eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	03/16/11 12:00	02/17/12 00:00		Out eberline Boeing permit, DO NOT FILTER!
Radium, Combined-O	03/16/11 12:00	02/17/12 00:00		Out eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	03/16/11 12:00	08/16/11 00:00		Out eberline, Boeing permit, DO NOT FILTER!
Gross Alpha-O	03/16/11 12:00	08/16/11 00:00		Out eberline Boeing permit, DO NOT FILTER!
Gamma Spec-O	03/16/11 12:00	02/17/12 00:00		Out eberline, k-40 and cs-137 only, DO NOT FILTER!
Containers Supplied:				

Released By	Date	Received By	Date
Released By	Date	Received By	Date

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 02/19/11 0932 CoC No. IUB1765

Container I.D. No. 6 CHEST 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: 1 Sample Matrix W
7. Number of containers per sample: 3 (Or see CoC _____)
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: NOTE: 3RD FRACTION IS BLANK, 2.5GAL CUBITAINER
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by MEW Date: 02/21/11 Time: 0800

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
IUB1765-3							

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 150482 Calibration date 24 SEP 10

DATE:	March 3, 2011
CUSTOMER:	Test America-Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614
ATTENTION:	Debbie Wilson
REPORT NO:	143309
REFERENCE:	IUB1765
SUBJECT:	ANALYSIS OF WATER SAMPLES FOR ASBESTOS BY TEM
ACCREDITATION:	California Dept. of Health Services ELAP 1119

The date and times of collection and filtration are as follows:

SAMPLE NO:	IUB1765-03
DATE COLLECTED:	February 16, 2011 at 1543
RECEIVED:	02/18/11 at 0915
FILTERED:	02/18/11 at 0950
DATE ANALYZED:	February 25, 2011

In the drinking water document, EPA 600 R 94 134, 100.2, samples are analyzed for fibers >10 um in length. The regulation calls for an MCL (maximum contaminant level) of 7 MFL (million of fibers per liter) and an analytical sensitivity of 0.2 MFL.

The analytical sensitivity of 0.2 MFL was reached not reach due to turbidity.

The results of the analysis and the detection limit(s) are summarized on the following page(s), accompanied by the chain of custody.

Respectfully submitted,
EMS Laboratories, Inc.

B.M. Kolk
Laboratory Director
BMK/am

ANALYSIS OF WATER BY TEM (EPA-600 R 94 134) EPA 100.2

LAB NO: 143309
CUSTOMER: TEST AMERICA
2/25/11

Laboratory I.D.	Client I.D.	FILTER MEDIA DATA			No. of G.O.	Analyzed Area, mm^2	Sample Volume (ml)
		Type	Diameter mm	Effective Area mm^2			
143309-3	IUB1765-03	PC	47	1017	10	0.094	5

* FOR FIBERS > 10um ONLY

ANALYTICAL RESULTS

Laboratory I.D.	Client I.D.	No. of Asbestos Str.			Detection Limit (MFL)	CONCENTRATION (MFL)		
		All Sizes	5-9.9um	>10um		All Sizes	5-9.9um	>10um
143309-3	IUB1765-03	-	-	N.D.	2.2	-	-	<2.2

* FOR FIBERS > 10um ONLY

The analysis was carried out to the approved TEM method. This laboratory is in compliance with the quality specified by the method.

B McKell
Authorized Signature

PC - Polycarbonate
MCE - Mixed cellulose ester
G.O. - Grid Openings
Str - Structures
MFL - Millions of fibers per liter

TEM-7A (2009Rev.)

Analysis of Water by Transmission Electron Microscopy
(EPA-600 R 94 134) EPA 100.2

EMS No.	143309	**Customer**	TEST AMERICA
Sample No.	IUB1765-03	**Date Analyzed**	2/25/11

Fibers > 10 μm in length (chrysotile)	BDL*	MFL
Mass (chrysotile)	0	ug/L
More/Less than 5 Fibers in Sample (chrysotile)	LESS	
Poisson 95% Confidence Interval	0 to 8	MFL
Detection Limit	2.2	MFL

* BDL : Below Detection Limit; MFL: Million Fibers per Liter

Particle Size Distribution (Chrysotile)

Particle Length - Microns

0 -0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 - 4.99	5.00 - 9.99	10 & UP
0	0	0	0	0	0	0	0

Particle Width - Microns

0 - .04	.05 - .09	.1 - .14	.15 - .19	.2 - .24	.25 - .49	.50 - .99	1 & UP
0	0	0	0	0	0	0	0

Aspect Ratio L/W

0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 - 99	100 - 199	200 & UP
0	0	0	0	0	0	0	0

TEM 7B (1994)

Analysis of Water by Transmission Electron Microscopy
(EPA-600/4-83-043)

EMS No.	143309	**Date Analyzed**	2/25/11
Customer	TEST AMERICA		
Sample No.	EMS BLANK		

Fibers (chrysotile)	ND	MFL
> 5 Micron length (chrysotile)	ND	MFL
Mass (chrysotile)	0	ug/L
More/Less than 5 Fibers in Sample (chrysotile)	LESS	
Sensitivity Level	0.01	MFL

Particle Size Distribution (Chrysotile)

Particle Length - Microns

0 -0.49	0.50 - 0.99	1.00 - 1.49	1.50 - 1.99	2.00 - 2.49	2.5 & UP
0	0	0	0	0	0

Particle Width - Microns

0 - .04	.05 - .09	.1 - .14	.15 - .19	.2 - .24	.25 & UP
0	0	0	0	0	0

Aspect Ratio L/W

0 - 9.9	10 - 19.9	20 - 29.9	30 - 39.9	40 - 49.9	50 & UP
0	0	0	0	0	0

APPENDIX G

Section 31

Outfall 009 – February 25, 2011

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUB2818

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:	IUB2818
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 (Composite)	IUB2818-03	G1C010518-001, S103016-001	Water	2/25/10 22:53	245.1, 245.1 (Diss), 1613B, 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 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: March 25, 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 ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.

- Blanks: The method blank had a detect between the EDL and the RL for OCDD; however, the method blank concentration was insufficient to qualify the associated sample result.

- 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. Any individual isomer results reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC if reported above the EDL, or at the EDL if reported below the EDL. 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: March 25, 2011

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

- Blanks: Method blanks and CCBs had no applicable detects.

- Interference Check Samples: Not applicable to this analysis.

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

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

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

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

- Internal Standards Performance: Not applicable to 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.

  Zinc was detected marginally above the MDL in the dissolved sample but was not detected in the reported total sample. The reviewer noted that total zinc was detected at a concentration marginally less than the dissolved result in an unreported analysis.

- 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 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." 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.

Validated Sample Result Forms IUB2818

Analysis Method 8668

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.116	1	0.022	pCi/L	Jb	J	DNQ

Analysis Method 900

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.905	3	0.343	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	1.44	4	0.903	pCi/L	Jb	J	DNQ

Analysis Method 901.1

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.29	pCi/L	U	U	
Potassium-40	13966002	ND	25	21.5	pCi/L	U	U	

Analysis Method 903.1

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.78	1	0.606	pCi/L	Jb	J	DNQ

Analysis Method 904

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.052	1	0.46	pCi/L	U	U	

Analysis Method 905

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.054	2	0.997	pCi/L	U	U	

Analysis Method 906

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-50.6	500	174	pCi/L	U	U	

Analysis Method EPA 245.1

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

Lab Sample Name: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 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: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 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: IUB2818-02 **Sample Date:** 2/25/2011 10:53:00 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	1.7e-005	0.00005	0.0000013	ug/L	J	J	DNQ
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000007	ug/L	J, Q	UJ	*III
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000012	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000008	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000005	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000007	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000004	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000007	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	0.0000019	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000011	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	0.0000007	ug/L		U	
OCDD	3268-87-9	0.00019	0.0001	0.0000025	ug/L	Ba		
OCDF	39001-02-0	1.6e-005	0.0001	0.000002	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	4.6e-005	0.00005	0.0000013	ug/L	J	J	DNQ
Total HpCDF	38998-75-3	1.6e-005	0.00005	0.0000009	ug/L	J, Q	J	DNQ, *III
Total HxCDD	34465-46-8	6.2e-006	0.00005	0.0000007	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	4.4e-006	0.00005	0.0000005	ug/L	J	J	DNQ
Total PeCDD	36088-22-9	ND	0.00005	0.0000019	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000011	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000009	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000007	ug/L		U	

APPENDIX G

Section 32

Outfall 009 – February 25, 2011

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

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

Project: Routine Outfall 009

Sampled: 02/25/11
Received: 02/26/11
Issued: 04/04/11 12:59

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

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 1°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 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.

LABORATORY ID	CLIENT ID	MATRIX
IUB2818-01	Outfall 009 (Grab)	Water
IUB2818-02	Outfall 009 (composite)	Water
IUB2818-03	Trip Blank	Water

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

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
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: IUB2818-01 (Outfall 009 (Grab) - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C1560	1.3	4.8	ND	1	DA	03/11/11	

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
Report Number: IUB2818

Sampled: 02/25/11
Received: 02/26/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1	11C0579	0.10	0.20	ND	1	DB	03/04/11	
Antimony	EPA 200.8	11C0773	0.30	2.0	**0.74**	1	RDC	03/07/11	B, Ja
Cadmium	EPA 200.8	11C0773	0.10	1.0	**0.16**	1	RDC	03/07/11	B, Ja
Copper	EPA 200.8	11C0773	0.500	2.00	**3.17**	1	RDC	03/07/11	
Lead	EPA 200.8	11C0773	0.20	1.0	**0.94**	1	RDC	03/07/11	Ja
Thallium	EPA 200.8	11C0773	0.20	1.0	ND	1	RDC	03/07/11	

TestAmerica Irvine

Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
Received: 02/26/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water) - cont.									
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11C0168	0.10	0.20	ND	1	DB	03/02/11	
Antimony	EPA 200.8-Diss	11C0285	0.30	2.0	**0.80**	1	RDC	03/03/11	Ja
Cadmium	EPA 200.8-Diss	11C0285	0.10	1.0	ND	1	RDC	03/03/11	
Copper	EPA 200.8-Diss	11C0285	0.500	2.00	**1.90**	1	RDC	03/03/11	Ja
Lead	EPA 200.8-Diss	11C0285	0.20	1.0	**0.22**	1	RDC	03/03/11	Ja
Thallium	EPA 200.8-Diss	11C0285	0.20	1.0	ND	1	RDC	03/03/11	

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
Received: 02/26/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	11B3360	0.30	0.50	**4.3**	1	KS	02/26/11	
Nitrate/Nitrite-N	EPA 300.0	11B3360	0.15	0.26	**0.62**	1	KS	02/26/11	
Sulfate	EPA 300.0	11B3360	0.30	0.50	**5.0**	1	KS	02/26/11	
Total Dissolved Solids	SM2540C	11C0204	1.0	10	**95**	1	MC	03/02/11	
Total Suspended Solids	SM 2540D	11C0184	1.0	10	**6.0**	1	DC	03/01/11	Ja
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	11C0158	2.2	5.0	ND	1	HH	03/01/11	

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8668

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water) - cont.									
Reporting Units: pCi/L									
Uranium, Total	8668	8668		1	**0.116**	1	TSC	03/15/11	Jb
Sample ID: IUB2818-03 (Trip Blank - Water)									
Reporting Units: pCi/L									
Uranium, Total	8668	8668		1	-0.004	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: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: pCi/L									
Gross Alpha	900	8668		3	**0.905**	1	LS	03/14/11	Jb
Gross Beta	900	8668		4	**1.44**	1	LS	03/14/11	Jb
Sample ID: IUB2818-03 (Trip Blank - Water)									
Reporting Units: pCi/L									
Gross Alpha	900	8668		3	**0.197**	1	LS	03/15/11	U
Gross Beta	900	8668		4	**1.59**	1	LS	03/15/11	Jb

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901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: pCi/L									
Cesium-137	901.1	8668		20	ND	1	LS	03/10/11	U
Potassium-40	901.1	8668		25	ND	1	LS	03/10/11	U
Sample ID: IUB2818-03 (Trip Blank - Water)									
Reporting Units: pCi/L									
Cesium-137	901.1	8668		20	ND	1	LS	03/11/11	U
Potassium-40	901.1	8668		25	ND	1	LS	03/11/11	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: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: pCi/L									
Radium-226	903.1	8668		1	**0.78**	1	ASM	03/19/11	Jb
Sample ID: IUB2818-03 (Trip Blank - Water)									
Reporting Units: pCi/L									
Radium-226	903.1	8668		1	-0.041	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: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: pCi/L									
Radium-228	904	8668		1	**0.052**	1	ASM	03/18/11	U
Sample ID: IUB2818-03 (Trip Blank - Water)									
Reporting Units: pCi/L									
Radium-228	904	8668		1	ND	1	ASM	03/18/11	U

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905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: pCi/L									
Strontium-90	905	8668		2	**0.054**	1	ASM	03/16/11	U
Sample ID: IUB2818-03 (Trip Blank - Water)									
Reporting Units: pCi/L									
Strontium-90	905	8668		2	-0.117	1	ASM	03/16/11	U

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Received: 02/26/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water)									
Reporting Units: pCi/L									
Tritium	906	8668		500	-50.6	1	WL	03/22/11	U

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EPA-5 1613Bx

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water) - cont.									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1063134	0.0000013	0.00005	**1.7e-005**	0.98	SO	03/08/11	J
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1063134	0.00000073	0.00005	**7.2e-006**	0.98	SO	03/08/11	J, Q
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1063134	0.0000012	0.00005	ND	0.98	SO	03/08/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1063134	0.00000086	0.00005	ND	0.98	SO	03/08/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1063134	0.00000053	0.00005	ND	0.98	SO	03/08/11	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1063134	0.0000007	0.00005	**9.8e-007**	0.98	SO	03/08/11	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1063134	0.00000046	0.00005	ND	0.98	SO	03/08/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1063134	0.00000075	0.00005	**1.4e-006**	0.98	SO	03/08/11	J, Q
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1063134	0.00000063	0.00005	ND	0.98	SO	03/08/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1063134	0.0000019	0.00005	ND	0.98	SO	03/08/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1063134	0.0000011	0.00005	ND	0.98	SO	03/08/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1063134	0.00000043	0.00005	ND	0.98	SO	03/08/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1063134	0.0000012	0.00005	ND	0.98	SO	03/08/11	
2,3,7,8-TCDD	EPA-5 1613B	1063134	0.00000094	0.00001	ND	0.98	SO	03/08/11	
2,3,7,8-TCDF	EPA-5 1613B	1063134	0.00000073	0.00001	ND	0.98	SO	03/08/11	
OCDD	EPA-5 1613B	1063134	0.0000025	0.0001	**0.00019**	0.98	SO	03/08/11	Ba
OCDF	EPA-5 1613B	1063134	0.000002	0.0001	**1.6e-005**	0.98	SO	03/08/11	J
Total HpCDD	EPA-5 1613B	1063134	0.0000013	0.00005	**4.6e-005**	0.98	SO	03/08/11	J
Total HpCDF	EPA-5 1613B	1063134	0.00000095	0.00005	**1.6e-005**	0.98	SO	03/08/11	J, Q
Total HxCDD	EPA-5 1613B	1063134	0.00000076	0.00005	**6.2e-006**	0.98	SO	03/08/11	J, Q
Total HxCDF	EPA-5 1613B	1063134	0.0000005	0.00005	**4.4e-006**	0.98	SO	03/08/11	J
Total PeCDD	EPA-5 1613B	1063134	0.0000019	0.00005	ND	0.98	SO	03/08/11	
Total PeCDF	EPA-5 1613B	1063134	0.0000011	0.00005	ND	0.98	SO	03/08/11	
Total TCDD	EPA-5 1613B	1063134	0.00000094	0.00001	ND	0.98	SO	03/08/11	
Total TCDF	EPA-5 1613B	1063134	0.00000073	0.00001	ND	0.98	SO	03/08/11	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*45 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*45 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*43 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*41 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*45 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*52 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*49 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*51 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*40 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*40 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*51 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*42 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*42 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*41 %*				
Surrogate: 13C-OCDD (17-157%)					*39 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*98 %*				

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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) (IUB2818-02) - Water					
EPA 300.0	2	02/25/2011 22:53	02/26/2011 14:40	02/26/2011 19:00	02/26/2011 19:33
Filtration	1	02/25/2011 22:53	02/26/2011 14:40	02/27/2011 20:30	02/27/2011 20:30

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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
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)											**MNR1**
Hexane Extractable Material (Oil & Grease)	18.7	5.0	1.4	mg/l	20.0		94	78-114			
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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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0579 Extracted: 03/03/11											
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	
Batch: 11C0773 Extracted: 03/06/11											
Blank Analyzed: 03/07/2011 (11C0773-BLK1)											
Antimony	0.386	2.0	0.30	ug/l							*Ja*
Cadmium	0.102	1.0	0.10	ug/l							*Ja*
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: 03/07/2011 (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			
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			
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			
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	
Thallium	74.9	1.0	0.20	ug/l	80.0	ND	94	70-130	0.5	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0168 Extracted: 03/01/11											
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	
Batch: 11C0285 Extracted: 03/02/11											
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							
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			
Thallium	79.3	1.0	0.20	ug/l	80.0		99	85-115			

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
Received: 02/26/11

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: 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			
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			
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	
Thallium	75.0	1.0	0.20	ug/l	80.0	ND	94	70-130	0.6	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: 11B3360 Extracted: 02/26/11											
Blank Analyzed: 02/26/2011 (11B3360-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: 02/26/2011 (11B3360-BS1)											
Chloride	4.79	0.50	0.30	mg/l	5.00		96	90-110			
Sulfate	9.47	0.50	0.30	mg/l	10.0		95	90-110			
Matrix Spike Analyzed: 02/26/2011 (11B3360-MS1)						**Source: IUB2783-13**					
Chloride	113	10	6.0	mg/l	50.0	69.6	87	80-120			
Sulfate	253	10	6.0	mg/l	100	165	88	80-120			
Matrix Spike Dup Analyzed: 02/26/2011 (11B3360-MSD1)						**Source: IUB2783-13**					
Chloride	111	10	6.0	mg/l	50.0	69.6	83	80-120	2	20	
Sulfate	256	10	6.0	mg/l	100	165	91	80-120	1	20	
Batch: 11C0158 Extracted: 03/01/11											
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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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0158 Extracted: 03/01/11											
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	
Batch: 11C0184 Extracted: 03/01/11											
Blank Analyzed: 03/01/2011 (11C0184-BLK1)											
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/01/2011 (11C0184-BS1)											
Total Suspended Solids	998	10	1.0	mg/l	1000		100	85-115			
Duplicate Analyzed: 03/01/2011 (11C0184-DUP1)						**Source: IUB2785-01**					
Total Suspended Solids	41.0	10	1.0	mg/l		41.0			0	10	
Batch: 11C0204 Extracted: 03/02/11											
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	

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METHOD BLANK/QC DATA

8668

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8668 Extracted: 03/15/11											
LCS Analyzed: 03/15/2011 (S103013-03)						**Source:**					
Uranium, Total	53.9	1	N/A	pCi/L	56.5		95	80-120			
Blank Analyzed: 03/15/2011 (S103013-04)						**Source:**					
Uranium, Total	ND	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/15/2011 (S103013-05)						**Source:**					
Uranium, Total	0.574	1	N/A	pCi/L				-	7		*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: 8668 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:**					
Gross Alpha	1.44	3	N/A	pCi/L				-	32		*Jb*
Gross Beta	3.86	4	N/A	pCi/L				-	12		*Jb*

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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: 8668 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:**					
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: 8668 Extracted: 03/25/11											
LCS Analyzed: 03/25/2011 (S103013-03)						**Source:**					
Radium-226	59.5	1	N/A	pCi/L	55.7		107	80-120			
Blank Analyzed: 03/19/2011 (S103013-04)						**Source:**					
Radium-226	0.156	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/19/2011 (S103013-05)						**Source:**					
Radium-226	0.467	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: 8668 Extracted: 03/18/11											
LCS Analyzed: 03/18/2011 (S103013-03)						**Source:**					
Radium-228	16.1	1	N/A	pCi/L	15.1		107	60-140			
Blank Analyzed: 03/18/2011 (S103013-04)						**Source:**					
Radium-228	-0.11	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/18/2011 (S103013-05)						**Source:**					
Radium-228	0.062	1	N/A	pCi/L				-	0		*U*

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METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8668 Extracted: 03/15/11											
LCS Analyzed: 03/16/2011 (S103013-03)						**Source:**					
Strontium-90	20.3	2	N/A	pCi/L	17.4		117	80-120			
Blank Analyzed: 03/16/2011 (S103013-04)						**Source:**					
Strontium-90	-0.258	2	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/16/2011 (S103013-05)						**Source:**					
Strontium-90	-0.199	2	N/A	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: 8668 Extracted: 03/19/11											
LCS Analyzed: 03/22/2011 (S103013-03)						**Source:**					
Tritium	2780	500	N/A	pCi/L	2940		95	80-120			
Blank Analyzed: 03/22/2011 (S103013-04)						**Source:**					
Tritium	-28	500	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/22/2011 (S103013-05)						**Source:**					
Tritium	-42.1	500	N/A	pCi/L				-	0		*U*

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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: 1063134 Extracted: 03/04/11											
Blank Analyzed: 03/08/2011 (G1C040000134B)						**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	0.00000086	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000013	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	0.00000093	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	0.00000066	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	0.00000074	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	0.0000006	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	0.00000081	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.00000076	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.0000022	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000012	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.00000051	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000012	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000013	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.000001	ug/L				-			
OCDD	1.1e-005	0.0001	0.000002	ug/L				-			*J, Q*
OCDF	ND	0.0001	0.0000019	ug/L				-			
Total HpCDD	ND	0.00005	0.0000013	ug/L				-			
Total HpCDF	ND	0.00005	0.00000086	ug/L				-			
Total HxCDD	ND	0.00005	0.00000074	ug/L				-			
Total HxCDF	ND	0.00005	0.00000051	ug/L				-			
Total PeCDD	ND	0.00005	0.0000022	ug/L				-			
Total PeCDF	ND	0.00005	0.0000012	ug/L				-			
Total TCDD	ND	0.00001	0.0000013	ug/L				-			
Total TCDF	ND	0.00001	0.000001	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00067*			*ug/L*	*0.002*		*34*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00066*			*ug/L*	*0.002*		*33*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00064*			*ug/L*	*0.002*		*32*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.00066*			*ug/L*	*0.002*		*33*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00057*			*ug/L*	*0.002*		*29*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00069*			*ug/L*	*0.002*		*34*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00062*			*ug/L*	*0.002*		*31*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00068*			*ug/L*	*0.002*		*34*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00065*			*ug/L*	*0.002*		*32*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00056*			*ug/L*	*0.002*		*28*	*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 Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1063134 Extracted: 03/04/11											
Blank Analyzed: 03/08/2011 (G1C040000134B)						**Source:**					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00071*			*ug/L*	*0.002*		*36*	*28-136*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00061*			*ug/L*	*0.002*		*31*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.00058*			*ug/L*	*0.002*		*29*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00057*			*ug/L*	*0.002*		*29*	*24-169*			
Surrogate: 13C-OCDD	*0.0014*			*ug/L*	*0.00401*		*36*	*17-157*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00082*			*ug/L*	*0.0008*		*103*	*35-197*			
LCS Analyzed: 03/08/2011 (G1C040000134C)						**Source:**					
1,2,3,4,6,7,8-HpCDD	0.000999	0.00005	0.0000039	ug/L	0.001		100	70-140			
1,2,3,4,6,7,8-HpCDF	0.00104	0.00005	0.0000028	ug/L	0.001		104	82-122			
1,2,3,4,7,8,9-HpCDF	0.000985	0.00005	0.000004	ug/L	0.001		99	78-138			
1,2,3,4,7,8-HxCDD	0.00109	0.00005	0.0000019	ug/L	0.001		109	70-164			
1,2,3,4,7,8-HxCDF	0.00103	0.00005	0.0000031	ug/L	0.001		103	72-134			
1,2,3,6,7,8-HxCDD	0.00104	0.00005	0.0000016	ug/L	0.001		104	76-134			
1,2,3,6,7,8-HxCDF	0.00112	0.00005	0.0000028	ug/L	0.001		112	84-130			
1,2,3,7,8,9-HxCDD	0.00112	0.00005	0.0000017	ug/L	0.001		112	64-162			
1,2,3,7,8,9-HxCDF	0.00102	0.00005	0.0000036	ug/L	0.001		102	78-130			
1,2,3,7,8-PeCDD	0.00101	0.00005	0.000003	ug/L	0.001		101	70-142			
1,2,3,7,8-PeCDF	0.00102	0.00005	0.0000036	ug/L	0.001		102	80-134			
2,3,4,6,7,8-HxCDF	0.000991	0.00005	0.0000024	ug/L	0.001		99	70-156			
2,3,4,7,8-PeCDF	0.00103	0.00005	0.0000034	ug/L	0.001		103	68-160			
2,3,7,8-TCDD	0.000182	0.00001	0.0000012	ug/L	0.0002		91	67-158			
2,3,7,8-TCDF	0.000198	0.00001	0.00000085	ug/L	0.0002		99	75-158			
OCDD	0.00194	0.0001	0.0000051	ug/L	0.002		97	78-144			*Ba*
OCDF	0.00182	0.0001	0.0000046	ug/L	0.002		91	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.000767*			*ug/L*	*0.002*		*38*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.000715*			*ug/L*	*0.002*		*36*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.000751*			*ug/L*	*0.002*		*38*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.000639*			*ug/L*	*0.002*		*32*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.000619*			*ug/L*	*0.002*		*31*	*19-202*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.000766*			*ug/L*	*0.002*		*38*	*25-163*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.000628*			*ug/L*	*0.002*		*31*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.000705*			*ug/L*	*0.002*		*35*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.000645*			*ug/L*	*0.002*		*32*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.000556*			*ug/L*	*0.002*		*28*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.000724*			*ug/L*	*0.002*		*36*	*22-176*			

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
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: 1063134 Extracted: 03/04/11											
LCS Analyzed: 03/08/2011 (G1C040000134C)						**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.000653*			*ug/L*	*0.002*		*33*	*13-328*			
Surrogate: 13C-2,3,7,8-TCDD	*0.000653*			*ug/L*	*0.002*		*33*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.000684*			*ug/L*	*0.002*		*34*	*22-152*			
Surrogate: 13C-OCDD	*0.0015*			*ug/L*	*0.004*		*38*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000834*			*ug/L*	*0.0008*		*104*	*31-191*			

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Sampled: 02/25/11
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
IUB2818-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.8	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
IUB2818-02	Cadmium-200.8	Cadmium	ug/l	0.16	1.0	3.1
IUB2818-02	Chloride - 300.0	Chloride	mg/l	4.30	0.50	150
IUB2818-02	Copper-200.8	Copper	ug/l	3.17	2.00	14
IUB2818-02	Lead-200.8	Lead	ug/l	0.94	1.0	5.2
IUB2818-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.62	0.26	8
IUB2818-02	Sulfate-300.0	Sulfate	mg/l	4.96	0.50	300
IUB2818-02	TDS - SM2540C	Total Dissolved Solids	mg/l	95	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

TestAmerica Irvine

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618 Michillinda Avenue, Suite 200
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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
Received: 02/26/11

DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
Ba	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than the reporting limit.
Ja	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
Jb	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
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

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

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
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 200.8-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

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUB2818-02, IUB2818-03

Analysis Performed: Gross Alpha
Samples: IUB2818-02, IUB2818-03

Analysis Performed: Gross Beta
Samples: IUB2818-02, IUB2818-03

Analysis Performed: Radium, Combined
Samples: IUB2818-02, IUB2818-03

Analysis Performed: Strontium 90
Samples: IUB2818-02, IUB2818-03

Analysis Performed: Tritium
Samples: IUB2818-02

Analysis Performed: Uranium, Combined
Samples: IUB2818-02, IUB2818-03

TestAmerica Irvine

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Project Manager

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

Project ID: Routine Outfall 009
Report Number: IUB2818

Sampled: 02/25/11
Received: 02/26/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8668
Samples: IUB2818-02, IUB2818-03

Method Performed: 900
Samples: IUB2818-02, IUB2818-03

Method Performed: 901.1
Samples: IUB2818-02, IUB2818-03

Method Performed: 903.1
Samples: IUB2818-02, IUB2818-03

Method Performed: 904
Samples: IUB2818-02, IUB2818-03

Method Performed: 905
Samples: IUB2818-02, IUB2818-03

Method Performed: 906
Samples: IUB2818-02

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUB2818-02

TestAmerica Irvine

Debby Wilson
Project Manager

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

IUB2818

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Oil & Grease (1664-HEM)													Field readings: (Log in and include in report Temp and pH) Temp °F = 49.0 pH = 7.7 Time of readings = **Comments**
Outfall 009	W	1L Amber	2	2-25-2011 14:15	HCl	1A, 1B	X													

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Bañaga	2-25-2011	Brain Figueroa	2.25.11 18:45
Brain Figueroa	2.26.11 14:40		
		Brain Figueroa	2.26.11 14:40
		N D	2/26/11 14:40

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

Sample Integrity: (Check) 0.3
Intact: ✓ On Ice: ✓

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

1575 02/26/11

194

IUB2818

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** – HIGH Stormwater at ~~SW-10~~ WS-13
Project Manager: Bronwyn Kelly Sampler: R Banaga	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl^-, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	~~Chronic Toxicity~~	Cyanide							**Comments**
Outfall 009	W	1L Poly	1	2-25-11	HNO_3	2A	X														
Outfall 009 Dup	W	1L Poly	1	22:53	HNO_3	2B	X														
Outfall 009	W	1L Amber	2		None	3A, 3B		X													
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 009	W	500 mL Poly	1		None	5				X											
Outfall 009	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
~~Outfall 009~~	~~W~~	~~1 Gal Poly~~			~~None~~	~~8~~							~~X~~								~~Only test if first or second rain events of the year~~
Outfall 009	W	500 mL Poly	1		NaOH	9								X							

COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.
These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:	
[signature]	2-26-2011 14:45	[signature]	2-26-11 14:45	Turn-around time: (Check) 24 Hour: ___ 72 Hour: ___ 10 Day: ___ 48 Hour: ___ 5 Day: ___ Normal: X
[signature]	2-26-11 17:50			Sample Integrity: (Check) Intact: X On Ice: X 3.2
		[signature]	2/26/11 17:50	Data Requirements: (Check) No Level IV: ___ All Level IV: ___ NPDES Level IV: X

EBERLINE SERVICES

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

March 30, 2011

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

Reference: **Test America-Irvine IUB2818**
Eberline Analytical Report S103016-8668
Sample Delivery Group 8668

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUB2818. 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 8668 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

Samples IUB2818-02 and IUB2818-03 (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 8665 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 2σerror (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.

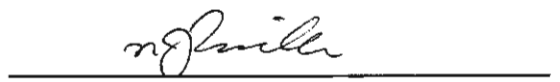
4.5 Radium-228 Analysis - No problems were encountered during the processing of the samples. All quality control sample results were within required control limits

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."



3/30/11

N. Joseph Verville **Date**
Client Services Manager

E B E R L I N E A N A L Y T I C A L
SDG 8668

SDG 8668	Client Test America, Inc.
Contact N. Joseph Verville	Contract IUB2818

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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Prep Batch Summary	5
Work Summary	6
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Duplicates	10
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End of Section	35

VB

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	03/30/11

SDG 8668
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB2818

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

DUPLICATES

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/30/11

SDG 8668
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUB2818

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

LAB SAMPLE SUMMARY

SDG 8668
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2818

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S103013-03	Lab Control Sample		WATER				
S103013-04	Method Blank		WATER				
S103013-05	Duplicate (S103013-01)	Boeing - SSFL	WATER				02/26/11 20:26
S103016-01	IUB2818-02	Boeing - SSFL	WATER			IUB2818	02/25/11 22:53
S103016-02	IUB2818-03 (TRIP-BLANK)	Boeing - SSFL	WATER			IUB2818	02/25/11 00:00

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 03/30/11

SDG 8668
Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract IUB2818

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8665		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
8668	IUB2818	IUB2818-02	WATER		10.0 L		03/01/11	4	S103016-01	8668-001
		IUB2818-03 (TRIP-BLANK)	WATER		10.0 L		03/01/11	4	S103016-02	8668-002

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

PREP BATCH SUMMARY

SDG 8668
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2818

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7281-046	10.4	2			1	1	1/0/1		
SR	WATER	Strontium-90 in Water	7281-046	10.4	2			1	1	1/0/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7281-046	20.6	2			1	1	1/0/1		
80B	WATER	Gross Beta in Water	7281-046	11.0	2			1	1	1/0/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7281-046	7.0	2			1	1	1/0/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7281-046		2			1	1	1/0/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7281-046	10.0	1			1	1	1/0/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7281-046	16.4	2			1	1	1/0/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

SDG 8668
Contact N. Joseph Verville

LAB WORK SUMMARY

Client Test America, Inc.
Contract IUB2818

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
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
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
S103016-01	IUB2818-02		8668-001	80A/80		03/14/11	03/15/11	BW	Gross Alpha in Water
02/25/11	Boeing - SSFL	WATER	8668-001	80B/80		03/14/11	03/15/11	BW	Gross Beta in Water
03/01/11	IUB2818		8668-001	AC		03/18/11	03/21/11	BW	Radium-228 in Water
			8668-001	GAM		03/10/11	03/15/11	MWT	Gamma Emitters in Water
			8668-001	H		03/22/11	03/25/11	BW	Tritium in Water
			8668-001	RA		03/19/11	03/28/11	BW	Radium-226 in Water
			8668-001	SR		03/16/11	03/22/11	BW	Strontium-90 in Water
			8668-001	U_T		03/15/11	03/16/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/30/11

SDG 8668
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract IUB2818

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	SAS no	MATRIX	PLANCHET	TEST	SUFFIX	ANALYZED	REVIEWED	BY	METHOD
S103016-02	IUB2818-03 (TRIP-BLANK)			8668-002	80A/80		03/15/11	03/15/11	BW	Gross Alpha in Water
02/25/11	Boeing - SSFL		WATER	8668-002	80B/80		03/15/11	03/15/11	BW	Gross Beta in Water
03/01/11	IUB2818			8668-002	AC		03/18/11	03/21/11	BW	Radium-228 in Water
				8668-002	GAM		03/11/11	03/15/11	MWT	Gamma Emitters in Water
				8668-002	RA		03/19/11	03/28/11	BW	Radium-226 in Water
				8668-002	SR		03/16/11	03/22/11	BW	Strontium-90 in Water
				8668-002	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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

8665-004 Method Blank

METHOD BLANK

SDG	8668	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUB2818
Lab sample id	S103013-04	Client sample id	Method Blank
Dept sample id	8665-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.089	0.90	1.62	3.00	U	80A
Gross Beta	12587472	0.136	1.7	2.78	4.00	U	80B
Tritium	10028178	-28.0	98	167	500	U	H
Radium-226	13982633	0.156	0.38	0.661	1.00	U	RA
Radium-228	15262201	-0.110	0.17	0.430	1.00	U	AC
Strontium-90	10098972	-0.258	0.38	1.04	2.00	U	SR
Uranium, Total		0	0.010	0.022	1.00	U	U_T
Potassium-40	13966002	U		23.0	25.0	U	GAM
Cesium-137	10045973	U		1.53	20.0	U	GAM

QC-BLANK #77580

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/30/11

EBERLINE ANALYTICAL

SDG 8668

8665-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8668 | Client Test America, Inc.

Contact N. Joseph Verville | Contract IUB2818

Lab sample id S103013-03 | Client sample id Lab Control Sample

Dept sample id 8665-003 | Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
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 EAS

Protocol TA

Version Ver 1.0

Form DVD-LCS

Version 3.06

Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

8665-005 IUB2814-03

DUPLICATE

SDG 8668 Client Test America, Inc.
Contact N. Joseph Verville Contract IUB2818

DUPLICATE		ORIGINAL			
Lab sample id	S103013-05	Lab sample id	S103013-01	Client sample id	IUB2814-03
Dept sample id	8665-005	Dept sample id	8665-001	Location/Matrix	Boeing - SSFL WATER
		Received	03/01/11	Collected/Volume	02/26/11 20:26 10.0 L
				Chain of custody id	IUB2814

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	1.44	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 EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

8668-001 IUB2818-02

DATA SHEET

SDG	8668	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUB2818
Lab sample id	S103016-01	Client sample id	IUB2818-02
Dept sample id	8668-001	Location/Matrix	Boeing - SSFL WATER
Received	03/01/11	Collected/Volume	02/25/11 22:53 10.0 L
		Chain of custody id	IUB2818

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.905	0.30	0.343	3.00	J	80A
Gross Beta	12587472	1.44	0.57	0.903	4.00	J	80B
Tritium	10028178	-50.6	100	174	500	U	H
Radium-226	13982633	0.780	0.43	0.606	1.00	J	RA
Radium-228	15262201	0.052	0.19	0.460	1.00	U	AC
Strontium-90	10098972	0.054	0.43	0.997	2.00	U	SR
Uranium, Total		0.116	0.016	0.022	1.00	J	U_T
Potassium-40	13966002	U		21.5	25.0	U	GAM
Cesium-137	10045973	U		1.29	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/30/11

EBERLINE ANALYTICAL

SDG 8668

8668-002 IUB2818-03 (TRIP-BLANK)

DATA SHEET

SDG	8668	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUB2818
Lab sample id	S103016-02	Client sample id	IUB2818-03 (TRIP-BLANK)
Dept sample id	8668-002	Location/Matrix	Boeing - SSFL WATER
Received	03/01/11	Collected/Volume	02/25/11 00:00 10.0 L
		Chain of custody id	IUB2818

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.197	0.18	0.273	3.00	U	80A
Gross Beta	12587472	1.59	0.57	0.868	4.00	J	80B
Radium-226	13982633	-0.041	0.32	0.609	1.00	U	RA
Radium-228	15262201	0	0.17	0.426	1.00	U	AC
Strontium-90	10098972	-0.117	0.48	1.17	2.00	U	SR
Uranium, Total		-0.004	0.010	0.022	1.00	U	U_T
Potassium-40	13966002	U		20.7	25.0	U	GAM
Cesium-137	10045973	U		1.70	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/30/11

EBERLINE ANALYTICAL

SDG 8668

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8668
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7281-046						
S103013-03			8665-003	Lab Control Sample	ok	
S103013-04			8665-004	Method Blank	U	
S103013-05			8665-005	Duplicate (S103013-01)	-	U
S103016-01			8668-001	IUB2818-02	U	
S103016-02			8668-002	IUB2818-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046			2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg 046													
S103013-03			Lab Control Sample	0.429	1.80			81		150				03/18/11	03/18	GRB-220
S103013-04			Method Blank	0.430	1.80			78		150				03/18/11	03/18	GRB-221
S103013-05			Duplicate (S103013-01)	0.406	1.80			78		150			20	03/18/11	03/18	GRB-222
S103016-01			IUB2818-02	0.460	1.80			78		150			21	03/18/11	03/18	GRB-231
S103016-02			IUB2818-03 (TRIP-BLANK)	0.426	1.80			79		150			21	03/18/11	03/18	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 FOR 5 SAMPLES
MDA 0.430 ± 0.039
YIELD 79 ± 3

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8668
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7281-046						
S103013-03			8665-003	Lab Control Sample	ok	
S103013-04			8665-004	Method Blank	U	
S103013-05			8665-005	Duplicate (S103013-01)	-	U
S103016-01			8668-001	IUB2818-02	U	
S103016-02			8668-002	IUB2818-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046			2σ prep error 10.4 %	Reference Lab Notebook No. 7281 pg 046												
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
S103016-01			IUB2818-02	0.997	0.500			85		50			19	03/16/11	03/16	GRB-230
S103016-02			IUB2818-03 (TRIP-BLANK)	1.17	0.500			78		50			19	03/16/11	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 FOR 5 SAMPLES
MDA 1.05 ± 0.166
YIELD 81 ± 8

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

Test 80A Matrix WATER
SDG 8668
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7281-046						
S103013-03	80		8665-003	Lab Control Sample	ok	
S103013-04	80		8665-004	Method Blank	U	
S103013-05	80		8665-005	Duplicate (S103013-01)	ok	J
S103016-01	80		8668-001	IUB2818-02	0.905	J
S103016-02	80		8668-002	IUB2818-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046			2σ prep error 20.6 %	Reference Lab Notebook No. 7281 pg 046												
S103013-03	80		Lab Control Sample	1.56	0.100			59		400				03/11/11	03/14	GRB-104
S103013-04	80		Method Blank	1.62	0.100			58		400				03/11/11	03/14	GRB-105
S103013-05	80		Duplicate (S103013-01)	0.572	0.300			91		400			16	03/11/11	03/14	GRB-107
S103016-01	80		IUB2818-02	0.343	0.300			17		400			17	03/11/11	03/14	GRB-216
S103016-02	80		IUB2818-03 (TRIP-BLANK)	0.273	0.300			0		400			18	03/11/11	03/15	GRB-101
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 FOR 5 SAMPLES
MDA 0.874 ± 1.33
RESIDUE 45 ± 73

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

Test 80B Matrix WATER
SDG 8668
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7281-046						
S103013-03	80		8665-003	Lab Control Sample	ok	
S103013-04	80		8665-004	Method Blank	U	
S103013-05	80		8665-005	Duplicate (S103013-01)	ok	J
S103016-01	80		8668-001	IUB2818-02	1.44	J
S103016-02	80		8668-002	IUB2818-03 (TRIP-BLANK)	1.59	J
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046 2σ prep error 11.0 % Reference Lab Notebook No. 7281 pg 046																
S103013-03	80		Lab Control Sample	2.39	0.100			59		400				03/11/11	03/14	GRB-104
S103013-04	80		Method Blank	2.78	0.100			58		400				03/11/11	03/14	GRB-105
S103013-05	80		Duplicate (S103013-01)	1.35	0.300			91		400			16	03/11/11	03/14	GRB-107
S103016-01	80		IUB2818-02	0.903	0.300			17		400			17	03/11/11	03/14	GRB-216
S103016-02	80		IUB2818-03 (TRIP-BLANK)	0.868	0.300			0		400			18	03/11/11	03/15	GRB-101
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 FOR 5 SAMPLES
MDA 1.66 ± 1.76
RESIDUE 45 ± 73

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8668
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7281-046							
S103013-03			8665-003	Lab Control Sample	ok	ok	
S103013-04			8665-004	Method Blank		U	
S103013-05			8665-005	Duplicate (S103013-01)		-	U
S103016-01			8668-001	IUB2818-02		U	
S103016-02			8668-002	IUB2818-03 (TRIP-BLANK)		U	
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046			2σ prep error 7.0 %		Reference Lab Notebook No. 7281 pg 046											
S103013-03			Lab Control Sample		2.00					508				03/03/11	03/08	01,02,00
S103013-04			Method Blank		2.00					508				03/03/11	03/08	01,04,00
S103013-05			Duplicate (S103013-01)		2.00					402			12	03/03/11	03/10	01,03,00
S103016-01			IUB2818-02		2.00					547			13	03/03/11	03/10	01,03,00
S103016-02			IUB2818-03 (TRIP-BLANK)		2.00					427			14	03/03/11	03/11	01,04,00
Nominal values and limits from method				6.00	2.00					400			180			

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

Test U T Matrix WATER
SDG 8668
Contact N. Joseph Verville

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total	
Preparation batch 7281-046						
S103013-03			8665-003	Lab Control Sample	ok	
S103013-04			8665-004	Method Blank	U	
S103013-05			8665-005	Duplicate (S103013-01)	ok	J
S103016-01			8668-001	IUB2818-02	0.116	J
S103016-02			8668-002	IUB2818-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046			2σ prep error	Reference Lab Notebook No. 7281 pg 046												
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
S103016-01			IUB2818-02	0.022	0.0200								18	03/15/11	03/15	KPA-001
S103016-02			IUB2818-03 (TRIP-BLANK)	0.022	0.0200								18	03/15/11	03/15	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.062 ± 0.180
YIELD _____ ± _____

Lab id EAS
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Version 3.06
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EBERLINE ANALYTICAL

SDG 8668

Test H Matrix WATER
SDG 8668
Contact N. Joseph Verville

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7281-046						
S103013-03			8665-003	Lab Control Sample	ok	
S103013-04			8665-004	Method Blank	U	
S103013-05			8665-005	Duplicate (S103013-01)	-	U
S103016-01			8668-001	IUB2818-02	U	
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046			2σ prep error 10.0 %	Reference Lab Notebook No. 7281 pg 046												
S103013-03			Lab Control Sample	168	0.100			10		150				03/19/11	03/22	LSC-004
S103013-04			Method Blank	167	0.100			10		150				03/19/11	03/22	LSC-004
S103013-05			Duplicate (S103013-01)	170	0.0100			100		150			24	03/19/11	03/22	LSC-004
S103016-01			IUB2818-02	174	0.0100			100		150			25	03/19/11	03/22	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 FOR 4 SAMPLES
MDA 170 ± 6.19
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/30/11

EBERLINE ANALYTICAL

SDG 8668

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8668
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUB2818

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7281-046						
S103013-03	R1		8665-003	Lab Control Sample	ok	
S103013-04			8665-004	Method Blank	U	
S103013-05			8665-005	Duplicate (S103013-01)	-	U
S103016-01			8668-001	IUB2818-02	0.780	J
S103016-02			8668-002	IUB2818-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-046			2σ prep error 16.4 %	Reference Lab Notebook No. 7281 pg 046												
S103013-03	R1		Lab Control Sample	0.867	0.100			100		140				03/25/11	03/25	RN-009
S103013-04			Method Blank	0.661	0.100			100		103				03/19/11	03/19	RN-010
S103013-05			Duplicate (S103013-01)	0.618	0.100			100		103			21	03/19/11	03/19	RN-016
S103016-01			IUB2818-02	0.606	0.100			100		100			22	03/19/11	03/19	RN-011
S103016-02			IUB2818-03 (TRIP-BLANK)	0.609	0.100			100		100			22	03/19/11	03/19	RN-012
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.672 ± 0.222
YIELD 100 ± 0

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Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/30/11

SDG 8668
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB2818

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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Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/30/11

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Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUB2818

PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

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

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REPORT GUIDE

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Contract IUB2818

WORK SUMMARY

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

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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DATA SHEET

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

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

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

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

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

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DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

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

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DATA SHEET

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

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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LAB CONTROL SAMPLE

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

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

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

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

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

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

  2. The error of ADDED.

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

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

* The recovery is underlined if it is outside either of these ranges.

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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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DUPLICATE

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

* The RPD is underlined if it is greater than either limit.

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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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.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

* Count times are underlined if less than the nominal value

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GUIDE, cont.

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METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

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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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Subcontract Order - TestAmerica Irvine (IUB2818)

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

8668

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

Analysis	Units	Expires	Comments
Sample ID: IUB2818-02 (Outfall 009 (composite) - Water)		Sampled: 02/25/11 22:53	
Gamma Spec-O	mg/kg	02/25/12 22:53	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	08/24/11 22:53	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	08/24/11 22:53	Out Eberline Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	02/25/12 22:53	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	02/25/12 22:53	Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	02/25/12 22:53	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	02/25/12 22:53	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
Sample ID: IUB2818-03 (Trip Blank - Water)		Sampled: 02/25/11 00:00	
Gamma Spec-O	mg/kg	02/25/12 00:00	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	08/24/11 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	08/24/11 00:00	Out Eberline Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	02/25/12 00:00	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	02/25/12 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	02/25/12 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
2.5 gal Poly (A)	500 mL Amber (B)		

Released By	Date/Time	Received By	Date/Time
		03/01/11 0940	
Released By	Date/Time	Received By	Date/Time

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 03/01/11 0940 CoC No. 102818

Container I.D. No. FEDEX TEST #2 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: 2 (Or see CoC _____)
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 _____ Date: 03/02/11 Time: 1125

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
PCL SAMPLES	460						

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 10048V Calibration date 24 SEP 10

APPENDIX G

Section 33

Outfall 009 – March 3, 2011

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC0564

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:	IUC0564
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 (Composite)	IUC0564-03	G1C080524-001, S103059-01	Water	3/3/10 16:58	245.1, 245.1 (Diss), 1613B, 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 were received above the temperature limit at Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at Eberline and TestAmerica-West Sacramento. As the sample was couriered to TestAmerica-Irvine, 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 ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.

- Blanks: The method blank had detects between the EDL and the RL for numerous target compounds. With the exception of 2,3,7,8-TCDF and total TCDF, all target compounds detected in the associated sample were also detected in the method blank. The sample results between the EDL and the RL for the individual isomers were qualified as nondetected, “U,” at the level of contamination. The results for total HpCDF and total

HpCDD were also qualified as nondetected, "U," as the totals consisted of the same peaks present in the method blank totals.

- 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 performed a confirmation analysis for the 2,3,7,8-TCDF detect in the original analysis. The result was not confirmed; therefore, the original result was rejected, "R," in favor of the nondetected confirmation result. 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. 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: March 31, 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 these analyses.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 90 85-115%. The CRI recoveries were within the control limits of 70-130%.

- Blanks: Method blanks and CCBs had no applicable detects.

- Interference Check Samples: Not applicable to this analysis.

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

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

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

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

- Internal Standards Performance: Not applicable to these analyses.

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

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

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

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

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: April 7, 2011

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

- Holding Times: The tritium sample was analyzed within 180 days of collection. The remaining aliquots were prepared within the five-day analytical holding time for unpreserved samples.

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

  The gross alpha detector efficiency was less than 20%; therefore, nondetected gross alpha in the sample was qualified as estimated, "UJ." 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.

- 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 IUC0564

Analysis Method 8672

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.087	1	0.025	pCi/L	Jb	J	DNQ

Analysis Method 900

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.226	3	0.341	pCi/L	U	UJ	C
Gross Beta	12587472	1.42	4	0.999	pCi/L	Jb	J	DNQ

Analysis Method 901.1

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.55	pCi/L	U	U	
Potassium-40	13966002	ND	25	21	pCi/L	U	U	

Analysis Method 903.1

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.148	1	0.749	pCi/L	U	U	

Analysis Method 904

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.273	1	0.57	pCi/L	U	U	

Analysis Method 905

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.007	2	1.11	pCi/L	U	U	

Analysis Method 906

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	80.4	500	146	pCi/L	U	U	

Analysis Method EPA 245.1

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

Lab Sample Name: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 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: IUC0564-02 **Sample Date:** 3/3/2011 4:58:00 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: IUC0564-02RE1 **Sample Date:** 3/3/2011 4:58:00 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	5e-005	0.0000018	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	5e-005	0.0000024	ug/L	J, Q, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	5e-005	0.0000037	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	5e-005	0.0000022	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	5e-005	0.000001	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	5e-005	0.000002	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	5e-005	0.0000009	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	5e-005	0.0000018	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	5e-005	0.0000012	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	5e-005	0.0000025	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	5e-005	0.0000022	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	5e-005	0.0000009	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	5e-005	0.0000024	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	1e-005	0.0000017	ug/L		U	
2,3,7,8-TCDF	51207-31-9	5e-006	1e-005	0.0000018	ug/L	J	R	D
2,3,7,8-TCDF	51207-31-9	ND	1e-005	0.0000054	ug/L		U	
OCDD	3268-87-9	ND	0.0001	0.0000027	ug/L	J, B	U	B
OCDF	39001-02-0	ND	0.0001	0.0000037	ug/L		U	
Total HpCDD	37871-00-4	ND	5e-005	0.0000018	ug/L	J, B	U	B
Total HpCDF	38998-75-3	ND	5e-005	0.000003	ug/L	J, Q, B	U	B
Total HxCDD	34465-46-8	ND	5e-005	0.0000018	ug/L		U	
Total HxCDF	55684-94-1	ND	5e-005	0.0000009	ug/L		U	
Total PeCDD	36088-22-9	ND	5e-005	0.0000025	ug/L		U	
Total PeCDF	30402-15-4	ND	5e-005	0.0000022	ug/L		U	
Total TCDD	41903-57-5	ND	1e-005	0.0000017	ug/L		U	
Total TCDF	55722-27-5	5e-006	1e-005	0.0000018	ug/L	J	J	DNQ

APPENDIX G

Section 34

Outfall 009 – March 3, 2011

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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: 03/03/11-03/04/11
Received: 03/03/11
Issued: 04/04/11 10:20

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

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

LABORATORY ID	CLIENT ID	MATRIX
IUC0564-01	Outfall 009 (Grab)	Water
IUC0564-02	Outfall 009 (Composite)	Water
IUC0564-03	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:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-01 (Outfall 009 (Grab) - Water)					**Sampled: 03/03/11**				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C2189	1.3	4.7	ND	1	DA	03/16/11	

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: ug/l									
Mercury	EPA 245.1	11C0919	0.10	0.20	ND	1	DB	03/08/11	
Antimony	EPA 200.8	11C2114	0.30	2.0	**0.73**	1	RDC	03/15/11	J
Cadmium	EPA 200.8	11C2114	0.10	1.0	ND	1	RDC	03/15/11	
Copper	EPA 200.8	11C2114	0.500	2.00	**2.77**	1	RDC	03/15/11	
Lead	EPA 200.8	11C2114	0.20	1.0	ND	1	RDC	03/15/11	
Thallium	EPA 200.8	11C2114	0.20	1.0	ND	1	RDC	03/15/11	

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 03/03/11**				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11C1254	0.10	0.20	ND	1	DB	03/10/11	
Antimony	EPA 200.8-Diss	11C2067	0.30	2.0	**0.79**	1	RDC	03/15/11	J
Cadmium	EPA 200.8-Diss	11C2067	0.10	1.0	**0.13**	1	RDC	03/15/11	J
Copper	EPA 200.8-Diss	11C2067	0.500	2.00	**2.72**	1	RDC	03/15/11	
Lead	EPA 200.8-Diss	11C2067	0.20	1.0	**0.23**	1	RDC	03/15/11	J
Thallium	EPA 200.8-Diss	11C2067	0.20	1.0	ND	1	RDC	03/15/11	

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 03/03/11**				
Reporting Units: mg/l									
Chloride	EPA 300.0	11C0635	0.30	0.50	**7.2**	1	NN	03/04/11	
Nitrate/Nitrite-N	EPA 300.0	11C0635	0.15	0.26	**0.35**	1	NN	03/04/11	
Sulfate	EPA 300.0	11C0635	0.30	0.50	**11**	1	NN	03/04/11	
Total Dissolved Solids	SM2540C	11C0973	1.0	10	**130**	1	MC	03/08/11	
Total Suspended Solids	SM 2540D	11C1136	1.0	10	ND	1	DK1	03/08/11	
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	11C1486	2.2	5.0	ND	1	HH	03/10/11	

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

8672

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 03/03/11**				
Reporting Units: pCi/L									
Uranium, Total	8672	8672		1	**0.087**	1	TSC	03/21/11	Jb
Sample ID: IUC0564-03 (Trip Blanks - Water)					**Sampled: 03/04/11**				
Reporting Units: pCi/L									
Uranium, Total	8672	8672		1	ND	1	TSC	03/21/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: pCi/L									
Gross Alpha	900	8672		3	**0.226**	1	LS	03/22/11	U
Gross Beta	900	8672		4	**1.42**	1	LS	03/22/11	Jb
Sample ID: IUC0564-03 (Trip Blanks - Water)					**Sampled: 03/04/11**				
Reporting Units: pCi/L									
Gross Alpha	900	8672		3	**0.003**	1	LS	03/22/11	U
Gross Beta	900	8672		4	-0.066	1	LS	03/22/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8672		20	ND	1	LS	03/15/11	U
Potassium-40	901.1	8672		25	ND	1	LS	03/15/11	U
Sample ID: IUC0564-03 (Trip Blanks - Water)					**Sampled: 03/04/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8672		20	ND	1	LS	03/15/11	U
Potassium-40	901.1	8672		25	ND	1	LS	03/15/11	U

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Project ID: Routine Outfall 009 2010
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Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8672		1	**0.148**	1	TM	03/25/11	U
Sample ID: IUC0564-03 (Trip Blanks - Water)					**Sampled: 03/04/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8672		1	**0.304**	1	TM	03/25/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: pCi/L									
Radium-228	904	8672		1	**0.273**	1	ASM	03/23/11	U
Sample ID: IUC0564-03 (Trip Blanks - Water)					**Sampled: 03/04/11**				
Reporting Units: pCi/L									
Radium-228	904	8672		1	-0.238	1	ASM	03/23/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: pCi/L									
Strontium-90	905	8672		2	-0.007	1	ASM	03/24/11	U
Sample ID: IUC0564-03 (Trip Blanks - Water)					**Sampled: 03/04/11**				
Reporting Units: pCi/L									
Strontium-90	905	8672		2	-0.321	1	ASM	03/24/11	U

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Project ID: Routine Outfall 009 2010
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Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: pCi/L									
Tritium	906	8672		500	**80.4**	1	JO	03/26/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 03/03/11**				
Reporting Units: ug/L									
2,3,7,8-TCDF	EPA-5 1613B	1070198	0.0000054	1e-005	ND	1.01	LH	03/14/11	
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*55 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*94 %*				
Sample ID: IUC0564-02RE1 (Outfall 009 (Composite) - Water)					**Sampled: 03/03/11**				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1070198	0.0000018	5e-005	**2.4e-006**	1.01	LH	03/14/11	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1070198	0.0000024	5e-005	**1.4e-006**	1.01	LH	03/14/11	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1070198	0.0000037	5e-005	ND	1.01	LH	03/14/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1070198	0.0000022	5e-005	ND	1.01	LH	03/14/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1070198	0.000001	5e-005	ND	1.01	LH	03/14/11	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1070198	0.000002	5e-005	ND	1.01	LH	03/14/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1070198	0.00000097	5e-005	ND	1.01	LH	03/14/11	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1070198	0.0000018	5e-005	ND	1.01	LH	03/14/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1070198	0.0000012	5e-005	ND	1.01	LH	03/14/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1070198	0.0000025	5e-005	ND	1.01	LH	03/14/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1070198	0.0000022	5e-005	ND	1.01	LH	03/14/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1070198	0.00000094	5e-005	ND	1.01	LH	03/14/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1070198	0.0000024	5e-005	ND	1.01	LH	03/14/11	
2,3,7,8-TCDD	EPA-5 1613B	1070198	0.0000017	1e-005	ND	1.01	LH	03/14/11	
2,3,7,8-TCDF	EPA-5 1613B	1070198	0.0000018	1e-005	**5e-006**	1.01	LH	03/14/11	J
OCDD	EPA-5 1613B	1070198	0.0000027	0.0001	**2.1e-005**	1.01	LH	03/14/11	J, B
OCDF	EPA-5 1613B	1070198	0.0000037	0.0001	ND	1.01	LH	03/14/11	
Total HpCDD	EPA-5 1613B	1070198	0.0000018	5e-005	**5.1e-006**	1.01	LH	03/14/11	J, B
Total HpCDF	EPA-5 1613B	1070198	0.000003	5e-005	**1.4e-006**	1.01	LH	03/14/11	J, Q, B
Total HxCDD	EPA-5 1613B	1070198	0.0000018	5e-005	ND	1.01	LH	03/14/11	
Total HxCDF	EPA-5 1613B	1070198	0.00000094	5e-005	ND	1.01	LH	03/14/11	
Total PeCDD	EPA-5 1613B	1070198	0.0000025	5e-005	ND	1.01	LH	03/14/11	
Total PeCDF	EPA-5 1613B	1070198	0.0000022	5e-005	ND	1.01	LH	03/14/11	
Total TCDD	EPA-5 1613B	1070198	0.0000017	1e-005	ND	1.01	LH	03/14/11	
Total TCDF	EPA-5 1613B	1070198	0.0000018	1e-005	**5e-006**	1.01	LH	03/14/11	J
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*42 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*43 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*39 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*49 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*48 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*48 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*49 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*49 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*48 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*41 %*				

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0564-02RE1 (Outfall 009 (Composite) - Water) - cont.					**Sampled: 03/03/11**				
Reporting Units: ug/L									
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*50 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*40 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*46 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*50 %*				
Surrogate: 13C-OCDD (17-157%)					*41 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*85 %*				

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Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (Composite) (IUC0564-02) - Water					
EPA 300.0	2	03/03/2011 16:58	03/03/2011 16:25	03/04/2011 10:00	03/04/2011 21:03
Filtration	1	03/03/2011 16:58	03/03/2011 16:25	03/04/2011 23:30	03/04/2011 23:30

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Sampled: 03/03/11-03/04/11
Received: 03/03/11

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: 11C2189 Extracted: 03/16/11											
Blank Analyzed: 03/16/2011 (11C2189-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 03/16/2011 (11C2189-BS1)											**MNR1**
Hexane Extractable Material (Oil & Grease)	18.8	5.0	1.4	mg/l	20.0		94	78-114			
LCS Dup Analyzed: 03/16/2011 (11C2189-BSD1)											
Hexane Extractable Material (Oil & Grease)	19.2	5.0	1.4	mg/l	20.0		96	78-114	2	11	

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Received: 03/03/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0919 Extracted: 03/07/11											
Blank Analyzed: 03/08/2011 (11C0919-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/08/2011 (11C0919-BS1)											
Mercury	8.02	0.20	0.10	ug/l	8.00		100	85-115			
Matrix Spike Analyzed: 03/08/2011 (11C0919-MS1)						**Source: IUC0585-01**					
Mercury	8.26	0.20	0.10	ug/l	8.00	ND	103	70-130			
Matrix Spike Dup Analyzed: 03/08/2011 (11C0919-MSD1)						**Source: IUC0585-01**					
Mercury	8.15	0.20	0.10	ug/l	8.00	ND	102	70-130	1	20	
Batch: 11C2114 Extracted: 03/15/11											
Blank Analyzed: 03/15/2011 (11C2114-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: 03/15/2011 (11C2114-BS1)											
Antimony	80.6	2.0	0.30	ug/l	80.0		101	85-115			
Cadmium	79.4	1.0	0.10	ug/l	80.0		99	85-115			
Copper	80.9	2.00	0.500	ug/l	80.0		101	85-115			
Lead	79.1	1.0	0.20	ug/l	80.0		99	85-115			
Thallium	80.3	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: 11C2114 Extracted: 03/15/11											
Matrix Spike Analyzed: 03/15/2011 (11C2114-MS1)						**Source: IUC0564-02**					
Antimony	79.1	2.0	0.30	ug/l	80.0	0.725	98	70-130			
Cadmium	77.3	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	82.2	2.00	0.500	ug/l	80.0	2.77	99	70-130			
Lead	77.9	1.0	0.20	ug/l	80.0	ND	97	70-130			
Thallium	79.0	1.0	0.20	ug/l	80.0	ND	99	70-130			
Matrix Spike Analyzed: 03/15/2011 (11C2114-MS2)						**Source: IUC0894-01**					
Antimony	80.8	2.0	0.30	ug/l	80.0	ND	101	70-130			
Cadmium	78.4	1.0	0.10	ug/l	80.0	ND	98	70-130			
Copper	84.2	2.00	0.500	ug/l	80.0	3.36	101	70-130			
Lead	80.3	1.0	0.20	ug/l	80.0	1.17	99	70-130			
Thallium	79.1	1.0	0.20	ug/l	80.0	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/15/2011 (11C2114-MSD1)						**Source: IUC0564-02**					
Antimony	78.7	2.0	0.30	ug/l	80.0	0.725	97	70-130	0.5	20	
Cadmium	77.0	1.0	0.10	ug/l	80.0	ND	96	70-130	0.3	20	
Copper	83.3	2.00	0.500	ug/l	80.0	2.77	101	70-130	1	20	
Lead	79.4	1.0	0.20	ug/l	80.0	ND	99	70-130	2	20	
Thallium	79.4	1.0	0.20	ug/l	80.0	ND	99	70-130	0.4	20	

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

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: 11C1254 Extracted: 03/09/11											
Blank Analyzed: 03/10/2011 (11C1254-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/10/2011 (11C1254-BS1)											
Mercury	8.22	0.20	0.10	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 03/10/2011 (11C1254-MS1)						**Source: IUC0798-01**					
Mercury	8.40	0.20	0.10	ug/l	8.00	ND	105	70-130			
Matrix Spike Dup Analyzed: 03/10/2011 (11C1254-MSD1)						**Source: IUC0798-01**					
Mercury	8.17	0.20	0.10	ug/l	8.00	ND	102	70-130	3	20	
Batch: 11C2067 Extracted: 03/15/11											
Blank Analyzed: 03/15/2011 (11C2067-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: 03/15/2011 (11C2067-BS1)											
Antimony	84.1	2.0	0.30	ug/l	80.0		105	85-115			
Cadmium	83.1	1.0	0.10	ug/l	80.0		104	85-115			
Copper	81.0	2.00	0.500	ug/l	80.0		101	85-115			
Lead	86.2	1.0	0.20	ug/l	80.0		108	85-115			
Thallium	84.3	1.0	0.20	ug/l	80.0		105	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: 11C2067 Extracted: 03/15/11											
Matrix Spike Analyzed: 03/15/2011 (11C2067-MS1)						**Source: IUC0829-02**					
Antimony	84.1	2.0	0.30	ug/l	80.0	0.881	104	70-130			
Cadmium	81.2	1.0	0.10	ug/l	80.0	0.143	101	70-130			
Copper	79.6	2.00	0.500	ug/l	80.0	2.86	96	70-130			
Lead	87.8	1.0	0.20	ug/l	80.0	0.340	109	70-130			
Thallium	85.6	1.0	0.20	ug/l	80.0	0.200	107	70-130			
Matrix Spike Dup Analyzed: 03/15/2011 (11C2067-MSD1)						**Source: IUC0829-02**					
Antimony	82.9	2.0	0.30	ug/l	80.0	0.881	103	70-130	1	20	
Cadmium	81.6	1.0	0.10	ug/l	80.0	0.143	102	70-130	0.4	20	
Copper	78.4	2.00	0.500	ug/l	80.0	2.86	94	70-130	2	20	
Lead	86.9	1.0	0.20	ug/l	80.0	0.340	108	70-130	1	20	
Thallium	85.7	1.0	0.20	ug/l	80.0	0.200	107	70-130	0.09	20	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0635 Extracted: 03/04/11											
Blank Analyzed: 03/04/2011 (11C0635-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: 03/04/2011 (11C0635-BS1)											
Chloride	4.96	0.50	0.30	mg/l	5.00		99	90-110			
Sulfate	9.78	0.50	0.30	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 03/04/2011 (11C0635-MS1)						**Source: IUC0603-16**					
Chloride	15.0	0.50	0.30	mg/l	5.00	9.71	106	80-120			
Sulfate	38.4	0.50	0.30	mg/l	10.0	27.4	110	80-120			
Matrix Spike Analyzed: 03/04/2011 (11C0635-MS2)						**Source: IUC0563-03**					
Chloride	25.7	2.5	1.5	mg/l	5.00	21.5	85	80-120			*MHA*
Sulfate	116	2.5	1.5	mg/l	10.0	107	94	80-120			*MHA*
Matrix Spike Dup Analyzed: 03/04/2011 (11C0635-MSD1)						**Source: IUC0603-16**					
Chloride	14.3	0.50	0.30	mg/l	5.00	9.71	91	80-120	5	20	
Sulfate	36.8	0.50	0.30	mg/l	10.0	27.4	94	80-120	4	20	
Batch: 11C0973 Extracted: 03/08/11											
Blank Analyzed: 03/08/2011 (11C0973-BLK1)											
Total Dissolved Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/08/2011 (11C0973-BS1)											
Total Dissolved Solids	1000	10	1.0	mg/l	1000		100	90-110			

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C0973 Extracted: 03/08/11											
Duplicate Analyzed: 03/08/2011 (11C0973-DUP1)						**Source: IUC0545-01**					
Total Dissolved Solids	1570	10	1.0	mg/l		1560			0.8	10	
Batch: 11C1136 Extracted: 03/08/11											
Blank Analyzed: 03/08/2011 (11C1136-BLK1)											
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/08/2011 (11C1136-BS1)											
Total Suspended Solids	995	10	1.0	mg/l	1000		100	85-115			
Duplicate Analyzed: 03/08/2011 (11C1136-DUP1)						**Source: IUC0738-10**					
Total Suspended Solids	8.00	10	1.0	mg/l		8.00			0	10	*J*
Batch: 11C1486 Extracted: 03/10/11											
Blank Analyzed: 03/10/2011 (11C1486-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/10/2011 (11C1486-BS1)											
Total Cyanide	195	5.0	2.2	ug/l	196		99	90-110			
Matrix Spike Analyzed: 03/10/2011 (11C1486-MS1)						**Source: IUC0838-03**					
Total Cyanide	195	5.0	2.2	ug/l	196	ND	99	70-115			
Matrix Spike Dup Analyzed: 03/10/2011 (11C1486-MSD1)						**Source: IUC0838-03**					
Total Cyanide	198	5.0	2.2	ug/l	196	ND	101	70-115	1	15	

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METHOD BLANK/QC DATA

8672

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8672 Extracted: 03/15/11											
LCS Analyzed: 03/21/2011 (S103059-03)						**Source:**					
Uranium, Total	53.2	1	N/A	pCi/L	56.5		94	80-120			
Blank Analyzed: 03/21/2011 (S103059-04)						**Source:**					
Uranium, Total	ND	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/21/2011 (S103059-05)						**Source:**					
Uranium, Total	0.852	1	N/A	pCi/L				-	1		*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: 8672 Extracted: 03/22/11											
LCS Analyzed: 03/23/2011 (S103059-03)						**Source:**					
Gross Alpha	117	3	N/A	pCi/L	101		116	70-130			
Gross Beta	84.7	4	N/A	pCi/L	87.2		97	70-130			
Blank Analyzed: 03/22/2011 (S103059-04)						**Source:**					
Gross Alpha	0.111	3	N/A	pCi/L				-			*U*
Gross Beta	-0.057	4	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/22/2011 (S103059-05)						**Source:**					
Gross Alpha	0.322	3	N/A	pCi/L				-	114		*U*
Gross Beta	2.37	4	N/A	pCi/L				-	20		*Jb*

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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: 8672 Extracted: 03/14/11											
LCS Analyzed: 03/15/2011 (S103059-03)						**Source:**					
Cobalt-60	128	10	N/A	pCi/L	125		102	80-120			
Cesium-137	117	20	N/A	pCi/L	110		106	80-120			
Blank Analyzed: 03/15/2011 (S103059-04)						**Source:**					
Cesium-137	ND	20	N/A	pCi/L				-			*U*
Potassium-40	ND	25	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/18/2011 (S103059-05)						**Source:**					
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: 8672 Extracted: 03/25/11											
LCS Analyzed: 03/25/2011 (S103059-03)						**Source:**					
Radium-226	61.9	1	N/A	pCi/L	55.7		111	80-120			
Blank Analyzed: 03/25/2011 (S103059-04)						**Source:**					
Radium-226	0.064	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/25/2011 (S103059-05)						**Source:**					
Radium-226	0.027	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: 8672 Extracted: 03/23/11											
LCS Analyzed: 03/23/2011 (S103059-03)						**Source:**					
Radium-228	4.37	1	N/A	pCi/L	5.04		87	60-140			
Blank Analyzed: 03/23/2011 (S103059-04)						**Source:**					
Radium-228	-0.027	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/23/2011 (S103059-05)						**Source:**					
Radium-228	0.183	1	N/A	pCi/L				-	0		*U*

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METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8672 Extracted: 03/24/11											
LCS Analyzed: 03/24/2011 (S103059-03)						**Source:**					
Strontium-90	18.8	2	N/A	pCi/L	17.4		108	80-120			
Blank Analyzed: 03/24/2011 (S103059-04)						**Source:**					
Strontium-90	0.023	2	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/24/2011 (S103059-05)						**Source:**					
Strontium-90	0.32	2	N/A	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: 8672 Extracted: 03/25/11											
LCS Analyzed: 03/26/2011 (S103059-03)						**Source:**					
Tritium	2750	500	N/A	pCi/L	2940		94	80-120			
Blank Analyzed: 03/26/2011 (S103059-04)						**Source:**					
Tritium	-34.3	500	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/26/2011 (S103059-05)						**Source:**					
Tritium	49.7	500	N/A	pCi/L				-	0		*U*

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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: 1070198 Extracted: 03/11/11											
Blank Analyzed: 03/14/2011 (G1C110000198B)						**Source:**					
1,2,3,4,6,7,8-HpCDD	2.8e-006	0.00005	0.0000017	ug/L				-			*J*
1,2,3,4,6,7,8-HpCDF	1.9e-006	0.00005	0.0000014	ug/L				-			*J, Q*
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000021	ug/L				-			
1,2,3,4,7,8-HxCDD	1.9e-006	0.00005	0.0000012	ug/L				-			*J*
1,2,3,4,7,8-HxCDF	1.7e-006	0.00005	0.0000011	ug/L				-			*J*
1,2,3,6,7,8-HxCDD	2.2e-006	0.00005	0.000001	ug/L				-			*J, Q*
1,2,3,6,7,8-HxCDF	1.9e-006	0.00005	0.000001	ug/L				-			*J, Q*
1,2,3,7,8,9-HxCDD	ND	0.00005	0.0000013	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.0000013	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.0000022	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000021	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.00000096	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000022	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000018	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.0000019	ug/L				-			
OCDD	1.2e-005	0.0001	0.000002	ug/L				-			*J*
OCDF	3.6e-006	0.0001	0.0000017	ug/L				-			*J, Q*
Total HpCDD	6e-006	0.00005	0.0000017	ug/L				-			*J*
Total HpCDF	1.9e-006	0.00005	0.0000017	ug/L				-			*J, Q*
Total HxCDD	4e-006	0.00005	0.000001	ug/L				-			*J, Q*
Total HxCDF	3.6e-006	0.00005	0.0000011	ug/L				-			*J, Q*
Total PeCDD	ND	0.00005	0.0000022	ug/L				-			
Total PeCDF	ND	0.00005	0.0000021	ug/L				-			
Total TCDD	ND	0.00001	0.0000018	ug/L				-			
Total TCDF	ND	0.00001	0.0000019	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00094*			*ug/L*	*0.002*		*47*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00094*			*ug/L*	*0.002*		*47*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00089*			*ug/L*	*0.002*		*44*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.001*			*ug/L*	*0.002*		*52*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00097*			*ug/L*	*0.002*		*49*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.001*			*ug/L*	*0.002*		*52*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.0011*			*ug/L*	*0.002*		*53*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.001*			*ug/L*	*0.002*		*52*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.0011*			*ug/L*	*0.002*		*55*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00088*			*ug/L*	*0.002*		*44*	*24-185*			

TestAmerica Irvine

Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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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: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

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: 1070198 Extracted: 03/11/11											
Blank Analyzed: 03/14/2011 (G1C110000198B)						**Source:**					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.0011*			*ug/L*	*0.002*		*55*	*28-136*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00091*			*ug/L*	*0.002*		*45*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.00092*			*ug/L*	*0.002*		*46*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00099*			*ug/L*	*0.002*		*50*	*24-169*			
Surrogate: 13C-OCDD	*0.0019*			*ug/L*	*0.004*		*48*	*17-157*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00069*			*ug/L*	*0.0008*		*86*	*35-197*			
LCS Analyzed: 03/14/2011 (G1C110000198C)						**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00107	0.00005	0.000007	ug/L	0.001		107	70-140			*B*
1,2,3,4,6,7,8-HpCDF	0.00115	0.00005	0.0000074	ug/L	0.001		115	82-122			*B*
1,2,3,4,7,8,9-HpCDF	0.00115	0.00005	0.000011	ug/L	0.001		115	78-138			
1,2,3,4,7,8-HxCDD	0.000984	0.00005	0.0000011	ug/L	0.001		98	70-164			*B*
1,2,3,4,7,8-HxCDF	0.00105	0.00005	0.00000083	ug/L	0.001		105	72-134			*B*
1,2,3,6,7,8-HxCDD	0.00114	0.00005	0.000001	ug/L	0.001		114	76-134			*B*
1,2,3,6,7,8-HxCDF	0.00106	0.00005	0.00000078	ug/L	0.001		106	84-130			*B*
1,2,3,7,8,9-HxCDD	0.00109	0.00005	0.00000093	ug/L	0.001		109	64-162			
1,2,3,7,8,9-HxCDF	0.00104	0.00005	0.00000098	ug/L	0.001		104	78-130			
1,2,3,7,8-PeCDD	0.000977	0.00005	0.0000028	ug/L	0.001		98	70-142			
1,2,3,7,8-PeCDF	0.00113	0.00005	0.0000035	ug/L	0.001		113	80-134			
2,3,4,6,7,8-HxCDF	0.00107	0.00005	0.00000081	ug/L	0.001		107	70-156			
2,3,4,7,8-PeCDF	0.00113	0.00005	0.0000039	ug/L	0.001		113	68-160			
2,3,7,8-TCDD	0.00023	0.00001	0.0000017	ug/L	0.0002		115	67-158			
2,3,7,8-TCDF	0.000253	0.00001	0.0000017	ug/L	0.0002		126	75-158			
OCDD	0.00202	0.0001	0.0000091	ug/L	0.002		101	78-144			*B*
OCDF	0.00206	0.0001	0.000011	ug/L	0.002		103	63-170			*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.000988*			*ug/L*	*0.002*		*49*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.001*			*ug/L*	*0.002*		*50*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00091*			*ug/L*	*0.002*		*46*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.00121*			*ug/L*	*0.002*		*61*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00114*			*ug/L*	*0.002*		*57*	*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	*0.00117*			*ug/L*	*0.002*		*59*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00116*			*ug/L*	*0.002*		*58*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00111*			*ug/L*	*0.002*		*55*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00101*			*ug/L*	*0.002*		*51*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00119*			*ug/L*	*0.002*		*59*	*22-176*			

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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: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

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: 1070198 Extracted: 03/11/11											
LCS Analyzed: 03/14/2011 (G1C110000198C)						**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.000976*			*ug/L*	*0.002*		*49*	*13-328*			
Surrogate: 13C-2,3,7,8-TCDD	*0.00107*			*ug/L*	*0.002*		*53*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00115*			*ug/L*	*0.002*		*58*	*22-152*			
Surrogate: 13C-OCDD	*0.00204*			*ug/L*	*0.004*		*51*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000661*			*ug/L*	*0.0008*		*83*	*31-191*			
LCS Dup Analyzed: 03/14/2011 (G1C110000198L)						**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00107	0.00005	0.0000077	ug/L	0.001		107	70-140	0.34	50	*B*
1,2,3,4,6,7,8-HpCDF	0.00109	0.00005	0.000013	ug/L	0.001		109	82-122	5.2	50	*B*
1,2,3,4,7,8,9-HpCDF	0.00113	0.00005	0.000019	ug/L	0.001		113	78-138	2	50	
1,2,3,4,7,8-HxCDD	0.00096	0.00005	0.0000014	ug/L	0.001		96	70-164	2.5	50	*B*
1,2,3,4,7,8-HxCDF	0.00106	0.00005	0.0000013	ug/L	0.001		106	72-134	0.8	50	*B*
1,2,3,6,7,8-HxCDD	0.00112	0.00005	0.0000014	ug/L	0.001		112	76-134	1.7	50	*B*
1,2,3,6,7,8-HxCDF	0.00108	0.00005	0.0000012	ug/L	0.001		108	84-130	1.8	50	*B*
1,2,3,7,8,9-HxCDD	0.00106	0.00005	0.0000012	ug/L	0.001		106	64-162	3.4	50	
1,2,3,7,8,9-HxCDF	0.0011	0.00005	0.0000015	ug/L	0.001		110	78-130	5.1	50	
1,2,3,7,8-PeCDD	0.000974	0.00005	0.0000032	ug/L	0.001		97	70-142	0.29	50	
1,2,3,7,8-PeCDF	0.00113	0.00005	0.0000041	ug/L	0.001		113	80-134	0.53	50	
2,3,4,6,7,8-HxCDF	0.00109	0.00005	0.0000012	ug/L	0.001		109	70-156	1.2	50	
2,3,4,7,8-PeCDF	0.00111	0.00005	0.0000046	ug/L	0.001		111	68-160	1.3	50	
2,3,7,8-TCDD	0.000222	0.00001	0.0000019	ug/L	0.0002		111	67-158	3.3	50	
2,3,7,8-TCDF	0.000244	0.00001	0.0000017	ug/L	0.0002		122	75-158	3.3	50	
OCDD	0.00198	0.0001	0.000011	ug/L	0.002		99	78-144	2.4	50	*B*
OCDF	0.00202	0.0001	0.00001	ug/L	0.002		101	63-170	1.7	50	*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00109*			*ug/L*	*0.002*		*55*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00116*			*ug/L*	*0.002*		*58*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00102*			*ug/L*	*0.002*		*51*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0014*			*ug/L*	*0.002*		*70*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00126*			*ug/L*	*0.002*		*63*	*19-202*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00123*			*ug/L*	*0.002*		*62*	*25-163*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00129*			*ug/L*	*0.002*		*64*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00122*			*ug/L*	*0.002*		*61*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00122*			*ug/L*	*0.002*		*61*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00107*			*ug/L*	*0.002*		*54*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00131*			*ug/L*	*0.002*		*66*	*22-176*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00106*			*ug/L*	*0.002*		*53*	*13-328*			

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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: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

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: 1070198 Extracted: 03/11/11											
LCS Dup Analyzed: 03/14/2011 (G1C110000198L)						**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00114*			*ug/L*	*0.002*		*57*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00123*			*ug/L*	*0.002*		*61*	*22-152*			
Surrogate: 13C-OCDD	*0.00225*			*ug/L*	*0.004*		*56*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000676*			*ug/L*	*0.0008*		*85*	*31-191*			

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IUC0564-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.38	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
IUC0564-02	Cadmium-200.8	Cadmium	ug/l	0.023	1.0	3.1
IUC0564-02	Chloride - 300.0	Chloride	mg/l	7.24	0.50	150
IUC0564-02	Copper-200.8	Copper	ug/l	2.77	2.00	14
IUC0564-02	Lead-200.8	Lead	ug/l	0.089	1.0	5.2
IUC0564-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.35	0.26	8
IUC0564-02	Sulfate-300.0	Sulfate	mg/l	11	0.50	300
IUC0564-02	TDS - SM2540C	Total Dissolved Solids	mg/l	133	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

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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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

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.
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
Q	Estimated maximum possible concentration (EMPC).
U	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

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

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUC0564-02, IUC0564-03

Analysis Performed: Gross Alpha
Samples: IUC0564-02, IUC0564-03

Analysis Performed: Gross Beta
Samples: IUC0564-02, IUC0564-03

Analysis Performed: Radium, Combined
Samples: IUC0564-02, IUC0564-03

Analysis Performed: Strontium 90
Samples: IUC0564-02, IUC0564-03

Analysis Performed: Tritium
Samples: IUC0564-02

Analysis Performed: Uranium, Combined
Samples: IUC0564-02, IUC0564-03

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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: IUC0564

Sampled: 03/03/11-03/04/11
Received: 03/03/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8672
Samples: IUC0564-02, IUC0564-03

Method Performed: 900
Samples: IUC0564-02, IUC0564-03

Method Performed: 901.1
Samples: IUC0564-02, IUC0564-03

Method Performed: 903.1
Samples: IUC0564-02, IUC0564-03

Method Performed: 904
Samples: IUC0564-02, IUC0564-03

Method Performed: 905
Samples: IUC0564-02, IUC0564-03

Method Performed: 906
Samples: IUC0564-02

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUC0564-02, IUC0564-02RE1

TestAmerica Irvine

Debby Wilson
Project Manager

Test America Version 6/29/09 7/19/2010

CHAIN OF CUSTODY FORM

IJC0564

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Oil & Grease (1664-HEM)													Field readings: (Log in and include in report Temp and pH)	Comments
Outfall 009	W	1L Amber	2	3-3-2011 09:30	HCl	1A, 1B	X													Temp °F = 50 @ pH = 7.6 Time of readings = 09:30	3/3/11 10:54

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Davis	3-3-2011 13:45	Matt Crump	3-3-11 13:45
Matt Crump	3-3-11 16:25		
		Fabian Figueroa	3-3-11 16:25

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

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

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

03/03 3-9 ✓

CHAIN OF CUSTODY FORM

IUC0564

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide	Comments
Outfall 009	W	1L Poly	1	3-3-2011 16:58	HNO_3	2A	X								
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X								
Outfall 009	W	1L Amber	2		None	3A, 3B		X							
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X						
Outfall 009	W	500 mL Poly	1		None	5				X					
Outfall 009	W	1L Poly	1		None	6					X				Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1	3-3-2011 16:58	None	7A						X			Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B									
~~Outfall 009~~	~~W~~	~~1 Gal Poly~~	~~1~~		~~None~~	~~8~~									Only test if first or second rain events of the year
Outfall 009	W	500 mL Poly	1	3-3-2011 16:58	NaOH	9								X	

10:35 3/4/11 MP

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

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

Relinquished By	Date/Time:	Received By	Date/Time:
	3-3-2011		3-4-11
Relinquished By	Date/Time:	Received By	Date/Time:
	3-4-11 1417		
Relinquished By	Date/Time:	Received By	Date/Time:
			3/4/11 1417

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

Sample Integrity: (Check)
Intact: X On Ice: X 10.8°C

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

46503

EBERLINE SERVICES

EBERLINE ANALYTICAL CORPORATION
2030 Wright Avenue
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www.eberlineservices.com

March 31, 2011

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

Reference: **Test America-Irvine IUC0564**
Eberline Analytical Report S103060-8672
Sample Delivery Group 8672

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUC0564. The samples were received on March 8, 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 8672 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

Samples IUC0564-02 and IUC0564-03 (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 8671 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 2σerror (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 all samples.

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."

3/31/11

N. Joseph Verville **Date**
Client Services Manager

E B E R L I N E A N A L Y T I C A L
SDG 8672

SDG 8672	Client Test America, Inc.
Contact N. Joseph Verville	Contract IUC0564

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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End of Section	35

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	03/31/11

SDG 8672
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC0564

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

DUPLICATES

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

SDG 8672
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC0564

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

LAB SAMPLE SUMMARY

SDG 8672
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0564

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S103059-03	Lab Control Sample		WATER				
S103059-04	Method Blank		WATER				
S103059-05	Duplicate (S103059-01)	Boeing - SSFL	WATER				03/03/11 17:18
S103060-01	IUC0564-02	Boeing - SSFL	WATER			IUC0564	03/03/11 16:58
S103060-02	IUC0564-03 (TRIP-BLANK)	Boeing - SSFL	WATER			IUC0564	03/04/11 00:00

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

QC SUMMARY

SDG 8672
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0564

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8671		Method Blank	WATER						S103059-04	8671-004
		Lab Control Sample	WATER						S103059-03	8671-003
		Duplicate (S103059-01)	WATER		10.0 L		03/08/11	5	S103059-05	8671-005
8672	IUC0564	IUC0564-02	WATER		10.0 L		03/08/11	5	S103060-01	8672-001
		IUC0564-03 (TRIP-BLANK)	WATER		20.0 L		03/08/11	4	S103060-02	8672-002

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

PREP BATCH SUMMARY

SDG 8672
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0564

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7281-053	10.4	2			1	1	1/0/1		
SR	WATER	Strontium-90 in Water	7281-053	10.4	2			1	1	1/0/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7281-053	20.6	2			1	1	1/0/1		
80B	WATER	Gross Beta in Water	7281-053	11.0	2			1	1	1/0/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7281-053	7.0	2			1	1	1/0/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7281-053		2			1	1	1/0/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7281-053	10.0	1			1	1	1/0/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7281-053	16.4	2			1	1	1/0/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

SDG 8672
Contact N. Joseph Verville

LAB WORK SUMMARY

Client Test America, Inc.
Contract IUC0564

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S103059-03	Lab Control Sample		8671-003	80A/80		03/23/11	03/28/11	BW	Gross Alpha in Water
		WATER	8671-003	80B/80		03/23/11	03/28/11	BW	Gross Beta in Water
			8671-003	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8671-003	GAM		03/15/11	03/22/11	MWT	Gamma Emitters in Water
			8671-003	H		03/26/11	03/29/11	BW	Tritium in Water
			8671-003	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8671-003	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8671-003	U_T		03/21/11	03/23/11	BW	Uranium, Total
S103059-04	Method Blank		8671-004	80A/80		03/22/11	03/28/11	BW	Gross Alpha in Water
		WATER	8671-004	80B/80		03/22/11	03/28/11	BW	Gross Beta in Water
			8671-004	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8671-004	GAM		03/15/11	03/22/11	MWT	Gamma Emitters in Water
			8671-004	H		03/26/11	03/29/11	BW	Tritium in Water
			8671-004	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8671-004	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8671-004	U_T		03/21/11	03/23/11	BW	Uranium, Total
S103059-05	Duplicate (S103059-01)		8671-005	80A/80		03/22/11	03/28/11	BW	Gross Alpha in Water
03/03/11	Boeing - SSFL	WATER	8671-005	80B/80		03/22/11	03/28/11	BW	Gross Beta in Water
03/08/11			8671-005	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8671-005	GAM		03/18/11	03/22/11	MWT	Gamma Emitters in Water
			8671-005	H		03/26/11	03/29/11	BW	Tritium in Water
			8671-005	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8671-005	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8671-005	U_T		03/21/11	03/23/11	BW	Uranium, Total
S103060-01	IUC0564-02		8672-001	80A/80		03/22/11	03/28/11	BW	Gross Alpha in Water
03/03/11	Boeing - SSFL	WATER	8672-001	80B/80		03/22/11	03/28/11	BW	Gross Beta in Water
03/08/11	IUC0564		8672-001	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8672-001	GAM		03/15/11	03/22/11	MWT	Gamma Emitters in Water
			8672-001	H		03/26/11	03/29/11	BW	Tritium in Water
			8672-001	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8672-001	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8672-001	U_T		03/21/11	03/23/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/31/11

SDG 8672
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract IUC0564

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S103060-02	IUC0564-03 (TRIP-BLANK)			8672-002	80A/80		03/22/11	03/28/11	BW	Gross Alpha in Water
03/04/11	Boeing - SSFL		WATER	8672-002	80B/80		03/22/11	03/28/11	BW	Gross Beta in Water
03/08/11	IUC0564			8672-002	AC		03/23/11	03/29/11	BW	Radium-228 in Water
				8672-002	GAM		03/15/11	03/22/11	MWT	Gamma Emitters in Water
				8672-002	RA		03/25/11	03/28/11	BW	Radium-226 in Water
				8672-002	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
				8672-002	U_T		03/21/11	03/23/11	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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

8671-004 Method Blank

METHOD BLANK

SDG	8672	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUC0564
Lab sample id	S103059-04	Client sample id	Method Blank
Dept sample id	8671-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.111	0.34	0.739	3.00	U	80A
Gross Beta	12587472	-0.057	1.6	2.79	4.00	U	80B
Tritium	10028178	-34.3	85	146	500	U	H
Radium-226	13982633	0.064	0.38	0.699	1.00	U	RA
Radium-228	15262201	-0.027	0.20	0.495	1.00	U	AC
Strontium-90	10098972	0.023	0.48	1.12	2.00	U	SR
Uranium, Total		0	0.011	0.025	1.00	U	U_T
Potassium-40	13966002	U		21.9	25.0	U	GAM
Cesium-137	10045973	U		1.41	20.0	U	GAM

QC-BLANK #77719

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/31/11

EBERLINE ANALYTICAL

SDG 8672

8671-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8672 | Client Test America, Inc.

Contact N. Joseph Verville | Contract IUC0564

Lab sample id S103059-03 | Client sample id Lab Control Sample

Dept sample id 8671-003 | Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	117	6.5	1.39	3.00		80A	101	4.0	116	75-125	70-130
Gross Beta	84.7	3.6	2.70	4.00		80B	87.2	3.5	97	88-112	70-130
Tritium	2750	150	144	500		H	2940	120	94	89-111	80-120
Radium-226	61.9	2.8	0.885	1.00		RA	55.7	2.2	111	81-119	80-120
Radium-228	4.37	0.49	0.442	1.00		AC	5.04	0.20	87	86-114	60-140
Strontium-90	18.8	1.1	0.496	2.00		SR	17.4	0.70	108	86-114	80-120
Uranium, Total	53.2	6.1	0.250	1.00		U_T	56.5	2.3	94	88-112	80-120
Cobalt-60	128	4.4	1.79	10.0		GAM	125	5.0	102	91-109	80-120
Cesium-137	117	4.0	2.73	20.0		GAM	110	4.4	106	91-109	80-120

QC-LCS #77718

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

8671-005 IUC0563-03

DUPLICATE

SDG 8672 Client Test America, Inc.

Contact N. Joseph Verville Contract IUC0564

DUPLICATE		ORIGINAL			
Lab sample id	S103059-05	Lab sample id	S103059-01	Client sample id	IUC0563-03
Dept sample id	8671-005	Dept sample id	8671-001	Location/Matrix	Boeing - SSFL WATER
		Received	03/08/11	Collected/Volume	03/03/11 17:18 10.0 L
				Chain of custody id	IUC0563

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.322	0.54	0.901	3.00	U	80A	1.17	0.69	0.883	J	114	183	1.9
Gross Beta	2.37	0.89	1.35	4.00	J	80B	1.94	0.81	1.25	J	20	87	0.7
Tritium	49.7	89	148	500	U	H	16.1	85	144	U	-		0.5
Radium-226	0.027	0.38	0.710	1.00	U	RA	-0.017	0.43	0.811	U	-		0.2
Radium-228	0.183	0.27	0.493	1.00	U	AC	0.214	0.21	0.455	U	-		0.2
Strontium-90	0.320	0.54	1.14	2.00	U	SR	0.018	0.39	0.892	U	-		0.9
Uranium, Total	0.852	0.092	0.025	1.00	J	U_T	0.859	0.093	0.025	J	1	23	0.1
Potassium-40	U		23.1	25.0	U	GAM	U		17.4	U	-		0.4
Cesium-137	U		1.98	20.0	U	GAM	U		1.36	U	-		0.5

QC-DUP#1 77720

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

8672-001 IUC0564-02

DATA SHEET

SDG	8672	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUC0564
Lab sample id	S103060-01	Client sample id	IUC0564-02
Dept sample id	8672-001	Location/Matrix	Boeing - SSFL WATER
Received	03/08/11	Collected/Volume	03/03/11 16:58 10.0 L
		Chain of custody id	IUC0564

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.226	0.22	0.341	3.00	U	80A
Gross Beta	12587472	1.42	0.64	0.999	4.00	J	80B
Tritium	10028178	80.4	89	146	500	U	H
Radium-226	13982633	0.148	0.42	0.749	1.00	U	RA
Radium-228	15262201	0.273	0.25	0.570	1.00	U	AC
Strontium-90	10098972	-0.007	0.49	1.11	2.00	U	SR
Uranium, Total		0.087	0.032	0.025	1.00	J	U_T
Potassium-40	13966002	U		21.0	25.0	U	GAM
Cesium-137	10045973	U		1.55	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/31/11

DATA SHEET

SDG	8672	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUC0564
Lab sample id	S103060-02	Client sample id	IUC0564-03 (TRIP-BLANK)
Dept sample id	8672-002	Location/Matrix	Boeing - SSFL WATER
Received	03/08/11	Collected/Volume	03/04/11 00:00 20.0 L
		Chain of custody id	IUC0564

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.003	0.16	0.340	3.00	U	80A
Gross Beta	12587472	-0.066	0.46	0.773	4.00	U	80B
Radium-226	13982633	0.304	0.44	0.749	1.00	U	RA
Radium-228	15262201	-0.238	0.38	0.940	1.00	U	AC
Strontium-90	10098972	-0.321	0.47	1.23	2.00	U	SR
Uranium, Total		0	0.011	0.025	1.00	U	U_T
Potassium-40	13966002	U		82.7	25.0	U	GAM
Cesium-137	10045973	U		2.70	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/31/11

EBERLINE ANALYTICAL

SDG 8672

Test AC Matrix WATER
SDG 8672
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103060-01			8672-001	IUC0564-02	U	
S103060-02			8672-002	IUC0564-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053 2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg 053																
S103059-03			Lab Control Sample	0.442	1.80			83		150				03/23/11	03/23	GRB-223
S103059-04			Method Blank	0.495	1.80			89		150				03/23/11	03/23	GRB-224
S103059-05			Duplicate (S103059-01)	0.493	1.80			82		150			20	03/23/11	03/23	GRB-201
S103060-01			IUC0564-02	0.570	1.80			84		150			20	03/23/11	03/23	GRB-206
S103060-02			IUC0564-03 (TRIP-BLANK)	0.940	1.80			84		150			19	03/23/11	03/23	GRB-207
Nominal values and limits from method				1.00	1.80			30-105		50			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.588 ± 0.404
YIELD 84 ± 5

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8672
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103060-01			8672-001	IUC0564-02	U	
S103060-02			8672-002	IUC0564-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7281-053 2σ prep error 10.4 % Reference Lab Notebook No. 7281 pg 053																
S103059-03			Lab Control Sample	0.496	0.500			78		100				03/24/11	03/24	GRB-228
S103059-04			Method Blank	1.12	0.500			83		50				03/24/11	03/24	GRB-229
S103059-05			Duplicate (S103059-01)	1.14	0.500			76		50			21	03/24/11	03/24	GRB-230
S103060-01			IUC0564-02	1.11	0.500			69		50			21	03/24/11	03/24	GRB-225
S103060-02			IUC0564-03 (TRIP-BLANK)	1.23	0.500			77		50			20	03/24/11	03/24	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 FOR 5 SAMPLES
MDA 1.02 ± 0.593
YIELD 77 ± 10

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

Test 80A Matrix WATER
SDG 8672
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7281-053						
S103059-03	80		8671-003	Lab Control Sample	ok	
S103059-04	80		8671-004	Method Blank	U	
S103059-05	80		8671-005	Duplicate (S103059-01)	ok	U
S103060-01	80		8672-001	IUC0564-02	U	
S103060-02	80		8672-002	IUC0564-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 20.6 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03	80		Lab Control Sample	1.39	0.100			60		400				03/22/11	03/23	GRB-101
S103059-04	80		Method Blank	0.739	0.100			56		400				03/22/11	03/22	GRB-216
S103059-05	80		Duplicate (S103059-01)	0.901	0.205			89		400			19	03/22/11	03/22	GRB-101
S103060-01	80		IUC0564-02	0.341	0.300			35		400			19	03/22/11	03/22	GRB-103
S103060-02	80		IUC0564-03 (TRIP-BLANK)	0.340	0.300			0		400			18	03/22/11	03/22	GRB-104
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 FOR 5 SAMPLES
MDA 0.742 ± 0.876
RESIDUE 48 ± 66

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

Test 80B Matrix WATER
SDG 8672
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS BETA IN WATER
GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7281-053						
S103059-03	80		8671-003	Lab Control Sample	ok	
S103059-04	80		8671-004	Method Blank	U	
S103059-05	80		8671-005	Duplicate (S103059-01)	ok	J
S103060-01	80		8672-001	IUC0564-02	1.42	J
S103060-02	80		8672-002	IUC0564-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 11.0 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03	80		Lab Control Sample	2.70	0.100			60		400				03/22/11	03/23	GRB-101
S103059-04	80		Method Blank	2.79	0.100			56		400				03/22/11	03/22	GRB-216
S103059-05	80		Duplicate (S103059-01)	1.35	0.205			89		400			19	03/22/11	03/22	GRB-101
S103060-01	80		IUC0564-02	0.999	0.300			35		400			19	03/22/11	03/22	GRB-103
S103060-02	80		IUC0564-03 (TRIP-BLANK)	0.773	0.300			0		400			18	03/22/11	03/22	GRB-104
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 FOR 5 SAMPLES
MDA 1.72 ± 1.91
RESIDUE 48 ± 66

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

Test GAM Matrix WATER
SDG 8672
Contact N. Joseph Verville

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7281-053							
S103059-03			8671-003	Lab Control Sample	ok	ok	
S103059-04			8671-004	Method Blank		U	
S103059-05			8671-005	Duplicate (S103059-01)		-	U
S103060-01			8672-001	IUC0564-02		U	
S103060-02			8672-002	IUC0564-03 (TRIP-BLANK)		U	
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 7.0 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample		2.00					549				03/14/11	03/15	01,02,00
S103059-04			Method Blank		2.00					549				03/14/11	03/15	01,04,00
S103059-05			Duplicate (S103059-01)		2.00					403			15	03/14/11	03/18	01,01,00
S103060-01			IUC0564-02		2.00					549			12	03/14/11	03/15	01,03,00
S103060-02			IUC0564-03 (TRIP-BLANK)		2.00					515			11	03/14/11	03/15	MB,05,00
Nominal values and limits from method				6.00	2.00					400			180			

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

Test U T Matrix WATER
SDG 8672
Contact N. Joseph Verville

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	ok	J
S103060-01			8672-001	IUC0564-02	0.087	J
S103060-02			8672-002	IUC0564-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053			2σ prep error	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample	0.250	0.0200									03/15/11	03/21	KPA-001
S103059-04			Method Blank	0.025	0.0200									03/15/11	03/21	KPA-001
S103059-05			Duplicate (S103059-01)	0.025	0.0200								18	03/15/11	03/21	KPA-001
S103060-01			IUC0564-02	0.025	0.0200								18	03/15/11	03/21	KPA-001
S103060-02			IUC0564-03 (TRIP-BLANK)	0.025	0.0200								17	03/15/11	03/21	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.070 ± 0.201
YIELD ____ ± ____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

Test H Matrix WATER
SDG 8672
Contact N. Joseph Verville

LAB METHOD SUMMARY

TRITIUM IN WATER
LIQUID SCINTILLATION COUNTING

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103060-01			8672-001	IUC0564-02	U	
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 10.0 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample	144	0.100			10		150				03/25/11	03/26	LSC-007
S103059-04			Method Blank	146	0.100			10		150				03/25/11	03/26	LSC-007
S103059-05			Duplicate (S103059-01)	148	0.0100			100		150			23	03/25/11	03/26	LSC-007
S103060-01			IUC0564-02	146	0.0100			100		150			23	03/25/11	03/26	LSC-007
Nominal values and limits from method				500	0.0100					100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 146 ± 3.27
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8672

Test RA Matrix WATER
SDG 8672
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-226 IN WATER
RADON COUNTING

Client Test America, Inc.
Contract IUC0564

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103060-01			8672-001	IUC0564-02	U	
S103060-02			8672-002	IUC0564-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7281-053 2σ prep error 16.4 % Reference Lab Notebook No. 7281 pg 053																
S103059-03			Lab Control Sample	0.885	0.100			100	93					03/25/11	03/25	RN-009
S103059-04			Method Blank	0.699	0.100			100	93					03/25/11	03/25	RN-010
S103059-05			Duplicate (S103059-01)	0.710	0.100			100	93				22	03/25/11	03/25	RN-012
S103060-01			IUC0564-02	0.749	0.100			100	93				22	03/25/11	03/25	RN-014
S103060-02			IUC0564-03 (TRIP-BLANK)	0.749	0.100			100	93				21	03/25/11	03/25	RN-015
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.758 ± 0.149
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

SDG 8672
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC0564

SAMPLE SUMMARY

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

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

The following notes apply to these reports:

* LAB SAMPLE ID is the lab's primary identification for a sample.

* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.

* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.

* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

SDG 8672
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC0564

PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

SDG 8672
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC0564

WORK SUMMARY

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

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
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SDG 8672
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC0564

DATA SHEET

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

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

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

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

SDG 8672
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC0564

DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

SDG 8672
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC0564

DATA SHEET

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

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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REPORT GUIDE

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LAB CONTROL SAMPLE

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

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

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

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

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

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

  2. The error of ADDED.

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

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

* The recovery is underlined if it is outside either of these ranges.

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REPORT GUIDE

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DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

* The second limit for the RPD is the larger of:

  1. A fixed percentage specified in the protocol.

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GUIDE, cont.

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DUPLICATE

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

* The RPD is underlined if it is greater than either limit.

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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GUIDE, cont.

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MATRIX SPIKE

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

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

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REPORT GUIDE

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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.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

* Count times are underlined if less than the nominal value

METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

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Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC0564

METHOD SUMMARY

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

SUBCONTRACT ORDER

TestAmerica Irvine

IUC0564

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: IUC0564-02	**Water**	**Sampled: 03/03/11 16:58**		
Uranium, Combined-O	03/17/11 12:00	03/02/12 16:58		Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	03/17/11 12:00	03/02/12 16:58		Out Eberline, Boeing permit, DO NOT FILTER!
Strontium 90-O	03/17/11 12:00	03/02/12 16:58		Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	03/17/11 12:00	03/02/12 16:58		Out Eberline Boeing permit, DO NOT FILTER!
Gross Beta-O	03/17/11 12:00	08/30/11 16:58		Out Eberline Boeing permit, DO NOT FILTER!
Gross Alpha-O	03/17/11 12:00	08/30/11 16:58		Out Eberline, Boeing permit, DO NOT FILTER!
Gamma Spec-O	03/17/11 12:00	03/02/12 16:58		Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Containers Supplied:				
2.5 gal Poly (I)	500 mL Amber (J)			
Sample ID: IUC0564-03	**Water**	**Sampled: 03/04/11 00:00**		
Uranium, Combined-O	03/17/11 12:00	03/03/12 00:00		Out Eberline, Boeing permit, DO NOT FILTER!
Strontium 90-O	03/17/11 12:00	03/03/12 00:00		Out Eberline, Boeing permit, DO NOT FILTER!
Radium, Combined-O	03/17/11 12:00	03/03/12 00:00		Out Eberline Boeing permit, DO NOT FILTER!
Gross Beta-O	03/17/11 12:00	08/31/11 00:00		Out Eberline Boeing permit, DO NOT FILTER!
Gross Alpha-O	03/17/11 12:00	08/31/11 00:00		Out Eberline, Boeing permit, DO NOT FILTER!
Gamma Spec-O	03/17/11 12:00	03/03/12 00:00		Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Containers Supplied:				
2.5 gal Poly (A)	500 mL Amber (B)			

Released By	Date	Received By	Date
Released By	Date	Received By	Date

Subcontract Order - TestAmerica Irvine (IUC0564)

8672

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: 4 °C Ice: (Y) / N

MELTED ICE

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

Analysis	Units	Expires	Comments
Sample ID: IUC0564-02 (Outfall 009 (Composite) - Water)		Sampled: 03/03/11 16:58	
Gamma Spec-O	mg/kg	03/02/12 16:58	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	08/30/11 16:58	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	08/30/11 16:58	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/02/12 16:58	Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/02/12 16:58	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/02/12 16:58	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
2.5 gal Poly (I)	500 mL Amber (J)		
Sample ID: IUC0564-03 (Trip Blanks - Water)		Sampled: 03/04/11 00:00	
Gamma Spec-O	mg/kg	03/03/12 00:00	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	08/31/11 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	08/31/11 00:00	Out Eberline Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	03/03/12 00:00	Out Eberline Boeing permit, DO NOT FILTER!
* Tritium-O	pCi/L	03/03/12 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/03/12 00:00	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
2.5 gal Poly (A)	500 mL Amber (B)		

Released By	Date/Time	Received By	Date/Time
			03/08/11 0930
Released By	Date/Time	Received By	Date/Time

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 03/08/11 0530 CoC No. IUC0564

Container I.D. No. IC 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: 2	(Or see CoC _____)		
8.	Samples are in correct container	Yes [X]	No [ ]	
9.	Paperwork agrees with samples?	Yes [ ]	No [X]	

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 _____ Preservative _____

13. Describe any anomalies:
TRIP BLANK IN 5.0 GAL CUBITAINER, 2.5 GAL ON COC

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

15. Inspected by _____ Date: 03/08/11 Time: 1045

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

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 35

Outfall 009 – March 7, 2011

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IUC0829

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:	IUC0829
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	IUC0829-02	G1C100560-001, S103081-01	Water	3/7/2011 15:59	245.1, 245.1 (Diss), 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD, ASTM 5174, SM

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 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 Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (8/02).

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

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

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

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

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.

- Blanks: The method blank had detects between the EDL and the RL for numerous target compounds. All target compounds detected in the associated sample were also detected in the method blank. The sample results between the EDL and the RL for the individual isomers were qualified as nondetected, “U,” at the level of contamination. The results for total HpCDF and total HpCDD were also qualified as nondetected, “U,” as the totals

consisted of the same peaks present in the method blank totals. Total HxCDF was qualified as estimated, "J," as only a portion of the total was considered method blank contamination.

- 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. EMPCs previously qualified as method blank contamination were not further qualified as EMPCs. Any totals containing EMPC peaks 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 245.1—Mercury

Reviewed By: P. Meeks
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 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 8, 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 ≥20%.

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

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

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

- Laboratory Duplicates: 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.

- 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.

- 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 IUC0829

Analysis Method 900

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	0.649	3	0.359	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	1.49	4	1	pCi/L	Jb	J	DNQ

Analysis Method 901.1

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.64	pCi/L	U	U	
Potassium-40	13966002	ND	25	24.7	pCi/L	U	U	

Analysis Method 903.1

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.174	1	0.694	pCi/L	U	U	

Analysis Method 904

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.001	1	0.54	pCi/L	U	U	

Analysis Method 905

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.064	2	1.04	pCi/L	U	U	

Analysis Method 906

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	81.6	500	146	pCi/L	U	U	

Analysis Method ASTM 5174-91

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.141	1	0.025	pCi/L	Jb	J	DNQ

Analysis Method EPA 245.1

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

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

Analysis Method EPA 245.1-Diss

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

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

Analysis Method EPA-5 1613B

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.000002	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000029	ug/L	J, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.000004	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000019	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000011	ug/L	J, B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000017	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.000001	ug/L	J, Q, B	U	B
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000016	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000013	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	0.0000023	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000009	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000025	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000018	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000022	ug/L		U	
OCDD	3268-87-9	ND	0.0001	0.0000058	ug/L	J, B	U	B
OCDF	39001-02-0	ND	0.0001	0.0000041	ug/L	J, B	U	B
Total HpCDD	37871-00-4	ND	0.00005	0.000002	ug/L	J, B	U	B
Total HpCDF	38998-75-3	ND	0.00005	0.0000034	ug/L	J, B	U	B
Total HxCDD	34465-46-8	ND	0.00005	0.0000016	ug/L		U	
Total HxCDF	55684-94-1	3.8e-006	0.00005	0.0000011	ug/L	J, Q, B	J	B, DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000028	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000023	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000018	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000022	ug/L		U	

Analysis Method SM 2540D

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

Lab Sample Name: IUC0829-02 **Sample Date:** 3/7/2011 3:59:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	7.0	10	1.0	mg/l	J	J	DNQ

APPENDIX G

Section 36

Outfall 009 – March 7, 2011

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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: 03/07/11
Received: 03/07/11
Issued: 04/11/11 16:38

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

CASE NARRATIVE

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

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

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

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

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

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

ADDITIONAL INFORMATION: WATER, 1613B, Dioxins/Furans with Totals
Some analytes in these samples 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.

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

LABORATORY ID	CLIENT ID	MATRIX
IUC0829-01	Outfall 009(Grab)	Water
IUC0829-02	Outfall 009 (composite)	Water
IUC0829-03	Trip Blank	Water

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

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-01 (Outfall 009(Grab) - Water)					**Sampled: 03/07/11**				
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11C2714	1.3	4.8	ND	1	DA	03/21/11	

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Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: ug/l									
Mercury	EPA 245.1	11C1260	0.10	0.20	ND	1	DB	03/10/11	
Antimony	EPA 200.8	11C2227	0.30	2.0	**0.63**	1	RDC	03/16/11	J
Cadmium	EPA 200.8	11C2227	0.10	1.0	ND	1	RDC	03/16/11	
Copper	EPA 200.8	11C2227	0.500	2.00	**3.24**	1	RDC	03/16/11	
Lead	EPA 200.8	11C2227	0.20	1.0	**0.42**	1	RDC	03/16/11	J
Thallium	EPA 200.8	11C2227	0.20	1.0	ND	1	RDC	03/16/11	

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water) - cont.					**Sampled: 03/07/11**				
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	11C1508	0.10	0.20	ND	1	DB	03/11/11	
Antimony	EPA 200.8-Diss	11C2067	0.30	2.0	**0.88**	1	RDC	03/15/11	J
Cadmium	EPA 200.8-Diss	11C2067	0.10	1.0	**0.14**	1	RDC	03/15/11	J
Copper	EPA 200.8-Diss	11C2067	0.500	2.00	**2.86**	1	RDC	03/15/11	
Lead	EPA 200.8-Diss	11C2067	0.20	1.0	**0.34**	1	RDC	03/15/11	J
Thallium	EPA 200.8-Diss	11C2067	0.20	1.0	**0.20**	1	RDC	03/15/11	J

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Sampled: 03/07/11
Received: 03/07/11

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water) - cont.					**Sampled: 03/07/11**				
Reporting Units: mg/l									
Chloride	EPA 300.0	11C1045	0.30	0.50	**7.7**	1	NN	03/08/11	
Nitrate/Nitrite-N	EPA 300.0	11C1045	0.15	0.26	ND	1	NN	03/08/11	
Sulfate	EPA 300.0	11C1045	0.30	0.50	**11**	1	NN	03/08/11	
Total Dissolved Solids	SM2540C	11C1356	1.0	10	**150**	1	MC	03/10/11	
Total Suspended Solids	SM 2540D	11C1537	1.0	10	**7.0**	1	DK1	03/10/11	J
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: ug/l									
Total Cyanide	SM4500CN-E	11C1486	2.2	5.0	ND	1	HH	03/10/11	

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

900

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water) - cont.						**Sampled: 03/07/11**			
Reporting Units: pCi/L									
Gross Alpha	900	8674		3	**0.649**	1	LS	03/23/11	Jb
Gross Beta	900	8674		4	**1.49**	1	LS	03/23/11	Jb
Sample ID: IUC0829-03 (Trip Blank - Water)						**Sampled: 03/07/11**			
Reporting Units: pCi/L									
Gross Alpha	900	8674		3	-0.069	1	LS	03/23/11	U
Gross Beta	900	8674		4	**0.158**	1	LS	03/23/11	U

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Project ID: Routine Outfall 009 2010
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Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

901.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8674		20	ND	1	LS	03/18/11	U
Potassium-40	901.1	8674		25	ND	1	LS	03/18/11	U
Sample ID: IUC0829-03 (Trip Blank - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Cesium-137	901.1	8674		20	ND	1	LS	03/18/11	U
Potassium-40	901.1	8674		25	ND	1	LS	03/18/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

903.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8674		1	**0.174**	1	TM	03/25/11	U
Sample ID: IUC0829-03 (Trip Blank - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Radium-226	903.1	8674		1	**0.009**	1	JO	03/25/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

904

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Radium-228	904	8674		1	-0.001	1	ASM	03/23/11	U
Sample ID: IUC0829-03 (Trip Blank - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Radium-228	904	8674		1	-0.09	1	ASM	03/23/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

905

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Strontium-90	905	8674		2	-0.064	1	ASM	03/24/11	U
Sample ID: IUC0829-03 (Trip Blank - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Strontium-90	905	8674		2	-0.284	1	TM	03/24/11	U

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

906

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Tritium	906	8674		500	**81.6**	1	JO	03/26/11	U

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Project ID: Routine Outfall 009 2010
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Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

ASTM-D5174

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water) - cont.					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Uranium, Total	D5174	8674		1	**0.141**	1	TSC	03/21/11	Jb
Sample ID: IUC0829-03 (Trip Blank - Water)					**Sampled: 03/07/11**				
Reporting Units: pCi/L									
Uranium, Total	D5174	8674		1	ND	1	ASM	03/21/11	U

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Sampled: 03/07/11
Received: 03/07/11

EPA-5 1613Bx

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)					**Sampled: 03/07/11**				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	1070198	0.000002	0.00005	**7.8e-006**	0.99	SY	03/14/11	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	1070198	0.0000029	0.00005	**2.7e-006**	0.99	SY	03/14/11	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	1070198	0.000004	0.00005	ND	0.99	SY	03/14/11	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	1070198	0.0000019	0.00005	ND	0.99	SY	03/14/11	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	1070198	0.0000011	0.00005	**1.2e-006**	0.99	SY	03/14/11	J, B
1,2,3,6,7,8-HxCDD	EPA-5 1613B	1070198	0.0000017	0.00005	ND	0.99	SY	03/14/11	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	1070198	0.000001	0.00005	**1e-006**	0.99	SY	03/14/11	J, Q, B
1,2,3,7,8,9-HxCDD	EPA-5 1613B	1070198	0.0000016	0.00005	ND	0.99	SY	03/14/11	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	1070198	0.0000013	0.00005	ND	0.99	SY	03/14/11	
1,2,3,7,8-PeCDD	EPA-5 1613B	1070198	0.0000028	0.00005	ND	0.99	SY	03/14/11	
1,2,3,7,8-PeCDF	EPA-5 1613B	1070198	0.0000023	0.00005	ND	0.99	SY	03/14/11	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	1070198	0.00000098	0.00005	ND	0.99	SY	03/14/11	
2,3,4,7,8-PeCDF	EPA-5 1613B	1070198	0.0000025	0.00005	ND	0.99	SY	03/14/11	
2,3,7,8-TCDD	EPA-5 1613B	1070198	0.0000018	0.00001	ND	0.99	SY	03/14/11	
2,3,7,8-TCDF	EPA-5 1613B	1070198	0.0000022	0.00001	ND	0.99	SY	03/14/11	
OCDD	EPA-5 1613B	1070198	0.0000058	0.0001	**7.2e-005**	0.99	SY	03/14/11	J, B
OCDF	EPA-5 1613B	1070198	0.0000041	0.0001	**8.4e-006**	0.99	SY	03/14/11	J, B
Total HpCDD	EPA-5 1613B	1070198	0.000002	0.00005	**1.7e-005**	0.99	SY	03/14/11	J, B
Total HpCDF	EPA-5 1613B	1070198	0.0000034	0.00005	**2.7e-006**	0.99	SY	03/14/11	J, B
Total HxCDD	EPA-5 1613B	1070198	0.0000016	0.00005	ND	0.99	SY	03/14/11	
Total HxCDF	EPA-5 1613B	1070198	0.0000011	0.00005	**3.8e-006**	0.99	SY	03/14/11	J, Q, B
Total PeCDD	EPA-5 1613B	1070198	0.0000028	0.00005	ND	0.99	SY	03/14/11	
Total PeCDF	EPA-5 1613B	1070198	0.0000023	0.00005	ND	0.99	SY	03/14/11	
Total TCDD	EPA-5 1613B	1070198	0.0000018	0.00001	ND	0.99	SY	03/14/11	
Total TCDF	EPA-5 1613B	1070198	0.0000022	0.00001	ND	0.99	SY	03/14/11	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*31 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*31 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*29 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*36 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*35 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*34 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*36 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*36 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*35 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*31 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*37 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*30 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*34 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*37 %*				
Surrogate: 13C-OCDD (17-157%)					*31 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*84 %*				

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

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) (IUC0829-02) - Water					
EPA 300.0	2	03/07/2011 15:59	03/07/2011 17:05	03/08/2011 21:00	03/08/2011 21:46
Filtration	1	03/07/2011 15:59	03/07/2011 17:05	03/08/2011 23:30	03/08/2011 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
Batch: 11C2714 Extracted: 03/21/11											
Blank Analyzed: 03/21/2011 (11C2714-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 03/21/2011 (11C2714-BS1)											
Hexane Extractable Material (Oil & Grease)	19.1	5.0	1.4	mg/l	20.0		96	78-114			
LCS Dup Analyzed: 03/21/2011 (11C2714-BSD1)											
Hexane Extractable Material (Oil & Grease)	19.2	5.0	1.4	mg/l	20.0		96	78-114	0.5	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
Batch: 11C1260 Extracted: 03/09/11											
Blank Analyzed: 03/10/2011 (11C1260-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/10/2011 (11C1260-BS1)											
Mercury	7.71	0.20	0.10	ug/l	8.00		96	85-115			
Matrix Spike Analyzed: 03/10/2011 (11C1260-MS1)						**Source: IUC1001-01**					
Mercury	7.69	0.20	0.10	ug/l	8.00	ND	96	70-130			
Matrix Spike Dup Analyzed: 03/10/2011 (11C1260-MSD1)						**Source: IUC1001-01**					
Mercury	7.92	0.20	0.10	ug/l	8.00	ND	99	70-130	3	20	
Batch: 11C2227 Extracted: 03/16/11											
Blank Analyzed: 03/16/2011 (11C2227-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: 03/16/2011 (11C2227-BS1)											
Antimony	80.6	2.0	0.30	ug/l	80.0		101	85-115			
Cadmium	81.2	1.0	0.10	ug/l	80.0		102	85-115			
Copper	87.3	2.00	0.500	ug/l	80.0		109	85-115			
Lead	84.9	1.0	0.20	ug/l	80.0		106	85-115			
Thallium	80.0	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: 11C2227 Extracted: 03/16/11											
Matrix Spike Analyzed: 03/16/2011 (11C2227-MS1)						**Source: IUC1508-11**					
Antimony	81.9	4.0	0.60	ug/l	80.0	1.01	101	70-130			
Cadmium	73.8	2.0	0.20	ug/l	80.0	ND	92	70-130			
Copper	87.2	4.00	1.00	ug/l	80.0	7.30	100	70-130			
Lead	79.2	2.0	0.40	ug/l	80.0	ND	99	70-130			
Thallium	75.6	2.0	0.40	ug/l	80.0	ND	94	70-130			
Matrix Spike Analyzed: 03/16/2011 (11C2227-MS2)						**Source: IUC1508-12**					
Antimony	81.0	4.0	0.60	ug/l	80.0	1.17	100	70-130			
Cadmium	74.6	2.0	0.20	ug/l	80.0	ND	93	70-130			
Copper	85.0	4.00	1.00	ug/l	80.0	4.88	100	70-130			
Lead	78.2	2.0	0.40	ug/l	80.0	ND	98	70-130			
Thallium	73.8	2.0	0.40	ug/l	80.0	ND	92	70-130			
Matrix Spike Dup Analyzed: 03/16/2011 (11C2227-MSD1)						**Source: IUC1508-11**					
Antimony	82.4	4.0	0.60	ug/l	80.0	1.01	102	70-130	0.6	20	
Cadmium	75.2	2.0	0.20	ug/l	80.0	ND	94	70-130	2	20	
Copper	90.2	4.00	1.00	ug/l	80.0	7.30	104	70-130	3	20	
Lead	81.2	2.0	0.40	ug/l	80.0	ND	101	70-130	2	20	
Thallium	76.1	2.0	0.40	ug/l	80.0	ND	95	70-130	0.6	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
Batch: 11C1508 Extracted: 03/10/11											
Blank Analyzed: 03/11/2011 (11C1508-BLK1)											
Mercury	ND	0.20	0.10	ug/l							
LCS Analyzed: 03/11/2011 (11C1508-BS1)											
Mercury	8.54	0.20	0.10	ug/l	8.00		107	85-115			
Matrix Spike Analyzed: 03/11/2011 (11C1508-MS1)						**Source: IUC0822-03**					
Mercury	8.53	0.20	0.10	ug/l	8.00	ND	107	70-130			
Matrix Spike Dup Analyzed: 03/11/2011 (11C1508-MSD1)						**Source: IUC0822-03**					
Mercury	8.67	0.20	0.10	ug/l	8.00	ND	108	70-130	2	20	
Batch: 11C2067 Extracted: 03/15/11											
Blank Analyzed: 03/15/2011 (11C2067-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: 03/15/2011 (11C2067-BS1)											
Antimony	84.1	2.0	0.30	ug/l	80.0		105	85-115			
Cadmium	83.1	1.0	0.10	ug/l	80.0		104	85-115			
Copper	81.0	2.00	0.500	ug/l	80.0		101	85-115			
Lead	86.2	1.0	0.20	ug/l	80.0		108	85-115			
Thallium	84.3	1.0	0.20	ug/l	80.0		105	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: 11C2067 Extracted: 03/15/11											
Matrix Spike Analyzed: 03/15/2011 (11C2067-MS1)						**Source: IUC0829-02**					
Antimony	84.1	2.0	0.30	ug/l	80.0	0.881	104	70-130			
Cadmium	81.2	1.0	0.10	ug/l	80.0	0.143	101	70-130			
Copper	79.6	2.00	0.500	ug/l	80.0	2.86	96	70-130			
Lead	87.8	1.0	0.20	ug/l	80.0	0.340	109	70-130			
Thallium	85.6	1.0	0.20	ug/l	80.0	0.200	107	70-130			
Matrix Spike Dup Analyzed: 03/15/2011 (11C2067-MSD1)						**Source: IUC0829-02**					
Antimony	82.9	2.0	0.30	ug/l	80.0	0.881	103	70-130	1	20	
Cadmium	81.6	1.0	0.10	ug/l	80.0	0.143	102	70-130	0.4	20	
Copper	78.4	2.00	0.500	ug/l	80.0	2.86	94	70-130	2	20	
Lead	86.9	1.0	0.20	ug/l	80.0	0.340	108	70-130	1	20	
Thallium	85.7	1.0	0.20	ug/l	80.0	0.200	107	70-130	0.09	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: 11C1045 Extracted: 03/08/11											
Blank Analyzed: 03/08/2011 (11C1045-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: 03/08/2011 (11C1045-BS1)											
Chloride	4.82	0.50	0.30	mg/l	5.00		96	90-110			
Sulfate	9.04	0.50	0.30	mg/l	10.0		90	90-110			
Matrix Spike Analyzed: 03/09/2011 (11C1045-MS1)						**Source: IUC1013-01**					
Chloride	182	10	6.0	mg/l	50.0	144	77	80-120			*M2*
Sulfate	326	10	6.0	mg/l	100	246	80	80-120			
Matrix Spike Analyzed: 03/09/2011 (11C1045-MS2)						**Source: IUC1017-02**					
Chloride	82.1	25	15	mg/l	50.0	40.4	83	80-120			
Sulfate	187	25	15	mg/l	100	103	83	80-120			
Matrix Spike Dup Analyzed: 03/09/2011 (11C1045-MSD1)						**Source: IUC1013-01**					
Chloride	183	10	6.0	mg/l	50.0	144	77	80-120	0.03	20	*M2*
Sulfate	328	10	6.0	mg/l	100	246	82	80-120	0.5	20	
Matrix Spike Dup Analyzed: 03/09/2011 (11C1045-MSD2)						**Source: IUC1017-02**					
Chloride	79.6	25	15	mg/l	50.0	40.4	78	80-120	3	20	*M2*
Sulfate	182	25	15	mg/l	100	103	78	80-120	3	20	*M2*
Batch: 11C1356 Extracted: 03/10/11											
Blank Analyzed: 03/10/2011 (11C1356-BLK1)											
Total Dissolved Solids	ND	10	1.0	mg/l							

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C1356 Extracted: 03/10/11											
LCS Analyzed: 03/10/2011 (11C1356-BS1)											
Total Dissolved Solids	1010	10	1.0	mg/l	1000		101	90-110			
Duplicate Analyzed: 03/10/2011 (11C1356-DUP1)						**Source: IUC1007-01**					
Total Dissolved Solids	786	10	1.0	mg/l		783			0.4	10	
Batch: 11C1486 Extracted: 03/10/11											
Blank Analyzed: 03/10/2011 (11C1486-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/10/2011 (11C1486-BS1)											
Total Cyanide	195	5.0	2.2	ug/l	196		99	90-110			
Matrix Spike Analyzed: 03/10/2011 (11C1486-MS1)						**Source: IUC0838-03**					
Total Cyanide	195	5.0	2.2	ug/l	196	ND	99	70-115			
Matrix Spike Dup Analyzed: 03/10/2011 (11C1486-MSD1)						**Source: IUC0838-03**					
Total Cyanide	198	5.0	2.2	ug/l	196	ND	101	70-115	1	15	
Batch: 11C1537 Extracted: 03/10/11											
Blank Analyzed: 03/10/2011 (11C1537-BLK1)											
Total Suspended Solids	ND	10	1.0	mg/l							
LCS Analyzed: 03/10/2011 (11C1537-BS1)											
Total Suspended Solids	989	10	1.0	mg/l	1000		99	85-115			

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Project ID: Routine Outfall 009 2010
Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11C1537 Extracted: 03/10/11											
Duplicate Analyzed: 03/10/2011 (11C1537-DUP1)						**Source: IUC0802-03**					
Total Suspended Solids	109	10	1.0	mg/l		109			0	10	

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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: 8674 Extracted: 03/22/11											
LCS Analyzed: 03/23/2011 (S103059-03)						**Source:**					
Gross Alpha	117	3	N/A	pCi/L	101		116	70-130			
Gross Beta	84.7	4	N/A	pCi/L	87.2		97	70-130			
Blank Analyzed: 03/22/2011 (S103059-04)						**Source:**					
Gross Alpha	0.111	3	N/A	pCi/L				-			*U*
Gross Beta	-0.057	4	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/22/2011 (S103059-05)						**Source:**					
Gross Alpha	0.322	3	N/A	pCi/L				-	114		*U*
Gross Beta	2.37	4	N/A	pCi/L				-	20		*Jb*

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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: 8674 Extracted: 03/14/11											
LCS Analyzed: 03/15/2011 (S103059-03)						**Source:**					
Cobalt-60	128	10	N/A	pCi/L	125		102	80-120			
Cesium-137	117	20	N/A	pCi/L	110		106	80-120			
Blank Analyzed: 03/15/2011 (S103059-04)						**Source:**					
Cesium-137	ND	20	N/A	pCi/L				-			*U*
Potassium-40	ND	25	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/18/2011 (S103059-05)						**Source:**					
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: 8674 Extracted: 03/25/11											
LCS Analyzed: 03/25/2011 (S103059-03)						**Source:**					
Radium-226	61.9	1	N/A	pCi/L	55.7		111	80-120			
Blank Analyzed: 03/25/2011 (S103059-04)						**Source:**					
Radium-226	0.064	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/25/2011 (S103059-05)						**Source:**					
Radium-226	0.027	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: 8674 Extracted: 03/23/11											
LCS Analyzed: 03/23/2011 (S103059-03)						**Source:**					
Radium-228	4.37	1	N/A	pCi/L	5.04		87	60-140			
Blank Analyzed: 03/23/2011 (S103059-04)						**Source:**					
Radium-228	-0.027	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/23/2011 (S103059-05)						**Source:**					
Radium-228	0.183	1	N/A	pCi/L				-	0		*U*

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METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8674 Extracted: 03/24/11											
LCS Analyzed: 03/24/2011 (S103059-03)						**Source:**					
Strontium-90	18.8	2	N/A	pCi/L	17.4		108	80-120			
Blank Analyzed: 03/24/2011 (S103059-04)						**Source:**					
Strontium-90	0.023	2	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/24/2011 (S103059-05)						**Source:**					
Strontium-90	0.32	2	N/A	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: 8674 Extracted: 03/25/11											
LCS Analyzed: 03/26/2011 (S103059-03)						**Source:**					
Tritium	2750	500	N/A	pCi/L	2940		94	80-120			
Blank Analyzed: 03/26/2011 (S103059-04)						**Source:**					
Tritium	-34.3	500	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/26/2011 (S103059-05)						**Source:**					
Tritium	49.7	500	N/A	pCi/L				-	0		*U*

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METHOD BLANK/QC DATA

ASTM-D5174

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8674 Extracted: 03/15/11											
LCS Analyzed: 03/21/2011 (S103059-03)						**Source:**					
Uranium, Total	53.2	1	N/A	pCi/L	56.5		94	80-120			
Blank Analyzed: 03/21/2011 (S103059-04)						**Source:**					
Uranium, Total	ND	1	N/A	pCi/L				-			*U*
Duplicate Analyzed: 03/21/2011 (S103059-05)						**Source:**					
Uranium, Total	0.852	1	N/A	pCi/L				-	1		*Jb*

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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: 1070198 Extracted: 03/11/11											
Blank Analyzed: 03/14/2011 (G1C110000198B)						**Source:**					
1,2,3,4,6,7,8-HpCDD	2.8e-006	0.00005	0.0000017	ug/L				-			*J*
1,2,3,4,6,7,8-HpCDF	1.9e-006	0.00005	0.0000014	ug/L				-			*J, Q*
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000021	ug/L				-			
1,2,3,4,7,8-HxCDD	1.9e-006	0.00005	0.0000012	ug/L				-			*J*
1,2,3,4,7,8-HxCDF	1.7e-006	0.00005	0.0000011	ug/L				-			*J*
1,2,3,6,7,8-HxCDD	2.2e-006	0.00005	0.000001	ug/L				-			*J, Q*
1,2,3,6,7,8-HxCDF	1.9e-006	0.00005	0.000001	ug/L				-			*J, Q*
1,2,3,7,8,9-HxCDD	ND	0.00005	0.0000013	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.0000013	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.0000022	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000021	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.00000096	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000022	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000018	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.0000019	ug/L				-			
OCDD	1.2e-005	0.0001	0.000002	ug/L				-			*J*
OCDF	3.6e-006	0.0001	0.0000017	ug/L				-			*J, Q*
Total HpCDD	6e-006	0.00005	0.0000017	ug/L				-			*J*
Total HpCDF	1.9e-006	0.00005	0.0000017	ug/L				-			*J, Q*
Total HxCDD	4e-006	0.00005	0.000001	ug/L				-			*J, Q*
Total HxCDF	3.6e-006	0.00005	0.0000011	ug/L				-			*J, Q*
Total PeCDD	ND	0.00005	0.0000022	ug/L				-			
Total PeCDF	ND	0.00005	0.0000021	ug/L				-			
Total TCDD	ND	0.00001	0.0000018	ug/L				-			
Total TCDF	ND	0.00001	0.0000019	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00094*			*ug/L*	*0.002*		*47*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00094*			*ug/L*	*0.002*		*47*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00089*			*ug/L*	*0.002*		*44*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.001*			*ug/L*	*0.002*		*52*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00097*			*ug/L*	*0.002*		*49*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.001*			*ug/L*	*0.002*		*52*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.0011*			*ug/L*	*0.002*		*53*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.001*			*ug/L*	*0.002*		*52*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.0011*			*ug/L*	*0.002*		*55*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00088*			*ug/L*	*0.002*		*44*	*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 Limits	RPD	RPD Limit	Data Qualifiers
Batch: 1070198 Extracted: 03/11/11											
Blank Analyzed: 03/14/2011 (G1C110000198B)						**Source:**					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.0011*			*ug/L*	*0.002*		*55*	*28-136*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00091*			*ug/L*	*0.002*		*45*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.00092*			*ug/L*	*0.002*		*46*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00099*			*ug/L*	*0.002*		*50*	*24-169*			
Surrogate: 13C-OCDD	*0.0019*			*ug/L*	*0.004*		*48*	*17-157*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00069*			*ug/L*	*0.0008*		*86*	*35-197*			
LCS Analyzed: 03/14/2011 (G1C110000198C)						**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00107	0.00005	0.000007	ug/L	0.001		107	70-140			*B*
1,2,3,4,6,7,8-HpCDF	0.00115	0.00005	0.0000074	ug/L	0.001		115	82-122			*B*
1,2,3,4,7,8,9-HpCDF	0.00115	0.00005	0.000011	ug/L	0.001		115	78-138			
1,2,3,4,7,8-HxCDD	0.000984	0.00005	0.0000011	ug/L	0.001		98	70-164			*B*
1,2,3,4,7,8-HxCDF	0.00105	0.00005	0.00000083	ug/L	0.001		105	72-134			*B*
1,2,3,6,7,8-HxCDD	0.00114	0.00005	0.000001	ug/L	0.001		114	76-134			*B*
1,2,3,6,7,8-HxCDF	0.00106	0.00005	0.00000078	ug/L	0.001		106	84-130			*B*
1,2,3,7,8,9-HxCDD	0.00109	0.00005	0.00000093	ug/L	0.001		109	64-162			
1,2,3,7,8,9-HxCDF	0.00104	0.00005	0.00000098	ug/L	0.001		104	78-130			
1,2,3,7,8-PeCDD	0.000977	0.00005	0.0000028	ug/L	0.001		98	70-142			
1,2,3,7,8-PeCDF	0.00113	0.00005	0.0000035	ug/L	0.001		113	80-134			
2,3,4,6,7,8-HxCDF	0.00107	0.00005	0.00000081	ug/L	0.001		107	70-156			
2,3,4,7,8-PeCDF	0.00113	0.00005	0.0000039	ug/L	0.001		113	68-160			
2,3,7,8-TCDD	0.00023	0.00001	0.0000017	ug/L	0.0002		115	67-158			
2,3,7,8-TCDF	0.000253	0.00001	0.0000017	ug/L	0.0002		126	75-158			
OCDD	0.00202	0.0001	0.0000091	ug/L	0.002		101	78-144			*B*
OCDF	0.00206	0.0001	0.000011	ug/L	0.002		103	63-170			*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.000988*			*ug/L*	*0.002*		*49*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.001*			*ug/L*	*0.002*		*50*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00091*			*ug/L*	*0.002*		*46*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.00121*			*ug/L*	*0.002*		*61*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00114*			*ug/L*	*0.002*		*57*	*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	*0.00117*			*ug/L*	*0.002*		*59*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00116*			*ug/L*	*0.002*		*58*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00111*			*ug/L*	*0.002*		*55*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00101*			*ug/L*	*0.002*		*51*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00119*			*ug/L*	*0.002*		*59*	*22-176*			

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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: 1070198 Extracted: 03/11/11											
LCS Analyzed: 03/14/2011 (G1C110000198C)						**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.000976*			*ug/L*	*0.002*		*49*	*13-328*			
Surrogate: 13C-2,3,7,8-TCDD	*0.00107*			*ug/L*	*0.002*		*53*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00115*			*ug/L*	*0.002*		*58*	*22-152*			
Surrogate: 13C-OCDD	*0.00204*			*ug/L*	*0.004*		*51*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000661*			*ug/L*	*0.0008*		*83*	*31-191*			
LCS Dup Analyzed: 03/14/2011 (G1C110000198L)						**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00107	0.00005	0.0000077	ug/L	0.001		107	70-140	0.34	50	*B*
1,2,3,4,6,7,8-HpCDF	0.00109	0.00005	0.000013	ug/L	0.001		109	82-122	5.2	50	*B*
1,2,3,4,7,8,9-HpCDF	0.00113	0.00005	0.000019	ug/L	0.001		113	78-138	2	50	
1,2,3,4,7,8-HxCDD	0.00096	0.00005	0.0000014	ug/L	0.001		96	70-164	2.5	50	*B*
1,2,3,4,7,8-HxCDF	0.00106	0.00005	0.0000013	ug/L	0.001		106	72-134	0.8	50	*B*
1,2,3,6,7,8-HxCDD	0.00112	0.00005	0.0000014	ug/L	0.001		112	76-134	1.7	50	*B*
1,2,3,6,7,8-HxCDF	0.00108	0.00005	0.0000012	ug/L	0.001		108	84-130	1.8	50	*B*
1,2,3,7,8,9-HxCDD	0.00106	0.00005	0.0000012	ug/L	0.001		106	64-162	3.4	50	
1,2,3,7,8,9-HxCDF	0.0011	0.00005	0.0000015	ug/L	0.001		110	78-130	5.1	50	
1,2,3,7,8-PeCDD	0.000974	0.00005	0.0000032	ug/L	0.001		97	70-142	0.29	50	
1,2,3,7,8-PeCDF	0.00113	0.00005	0.0000041	ug/L	0.001		113	80-134	0.53	50	
2,3,4,6,7,8-HxCDF	0.00109	0.00005	0.0000012	ug/L	0.001		109	70-156	1.2	50	
2,3,4,7,8-PeCDF	0.00111	0.00005	0.0000046	ug/L	0.001		111	68-160	1.3	50	
2,3,7,8-TCDD	0.000222	0.00001	0.0000019	ug/L	0.0002		111	67-158	3.3	50	
2,3,7,8-TCDF	0.000244	0.00001	0.0000017	ug/L	0.0002		122	75-158	3.3	50	
OCDD	0.00198	0.0001	0.000011	ug/L	0.002		99	78-144	2.4	50	*B*
OCDF	0.00202	0.0001	0.00001	ug/L	0.002		101	63-170	1.7	50	*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00109*			*ug/L*	*0.002*		*55*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00116*			*ug/L*	*0.002*		*58*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00102*			*ug/L*	*0.002*		*51*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0014*			*ug/L*	*0.002*		*70*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00126*			*ug/L*	*0.002*		*63*	*19-202*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00123*			*ug/L*	*0.002*		*62*	*25-163*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00129*			*ug/L*	*0.002*		*64*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00122*			*ug/L*	*0.002*		*61*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00122*			*ug/L*	*0.002*		*61*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00107*			*ug/L*	*0.002*		*54*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00131*			*ug/L*	*0.002*		*66*	*22-176*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00106*			*ug/L*	*0.002*		*53*	*13-328*			

TestAmerica Irvine

Debby Wilson
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

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: IUC0829

Sampled: 03/07/11
Received: 03/07/11

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: 1070198 Extracted: 03/11/11											
LCS Dup Analyzed: 03/14/2011 (G1C110000198L)						**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00114*			*ug/L*	*0.002*		*57*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00123*			*ug/L*	*0.002*		*61*	*22-152*			
Surrogate: 13C-OCDD	*0.00225*			*ug/L*	*0.004*		*56*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000676*			*ug/L*	*0.0008*		*85*	*31-191*			

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Sampled: 03/07/11
Received: 03/07/11

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
IUC0829-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.8	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
IUC0829-02	Cadmium-200.8	Cadmium	ug/l	0.022	1.0	3.1
IUC0829-02	Chloride - 300.0	Chloride	mg/l	7.70	0.50	150
IUC0829-02	Copper-200.8	Copper	ug/l	3.24	2.00	14
IUC0829-02	Lead-200.8	Lead	ug/l	0.42	1.0	5.2
IUC0829-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.080	0.26	8
IUC0829-02	Sulfate-300.0	Sulfate	mg/l	11	0.50	300
IUC0829-02	TDS - SM2540C	Total Dissolved Solids	mg/l	146	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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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.
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
Q	Estimated maximum possible concentration (EMPC).
U	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Routine Outfall 009
Report Number: IUC0829

Sampled: 03/07/11
Received: 03/07/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
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

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IUC0829-02, IUC0829-03

Analysis Performed: Gross Alpha
Samples: IUC0829-02, IUC0829-03

Analysis Performed: Gross Beta
Samples: IUC0829-02, IUC0829-03

Analysis Performed: Radium, Combined
Samples: IUC0829-02, IUC0829-03

Analysis Performed: Strontium 90
Samples: IUC0829-02, IUC0829-03

Analysis Performed: Tritium
Samples: IUC0829-02

Analysis Performed: Uranium, Combined
Samples: IUC0829-02, IUC0829-03

TestAmerica Irvine

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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: IUC0829

Sampled: 03/07/11
Received: 03/07/11

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 900
Samples: IUC0829-02, IUC0829-03

Method Performed: 901.1
Samples: IUC0829-02, IUC0829-03

Method Performed: 903.1
Samples: IUC0829-02, IUC0829-03

Method Performed: 904
Samples: IUC0829-02, IUC0829-03

Method Performed: 905
Samples: IUC0829-02, IUC0829-03

Method Performed: 906
Samples: IUC0829-02

Method Performed: D5174
Samples: IUC0829-02, IUC0829-03

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: IUC0829-02

TestAmerica Irvine

Debby Wilson
Project Manager

Test America Version 6/29/09 7-19-2010

CHAIN OF CUSTODY FORM

IUL0829

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide							Comments
Outfall 009	W	1L Poly	1	3-7-2011 15:54	HNO_3	2A	X														
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X														
Outfall 009	W	1L Amber	2		None	3A, 3B		X													
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 009	W	500 mL Poly	1		None	5				X											
Outfall 009	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 009	W	1 Gal Poly	1		None	8							X								Only test if first or second rain events of the year
Outfall 009	W	500 mL Poly	1	3-7-2011 15:54	NaOH	9								X							

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

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Barnes	3-8-2011 15:45	Matt Crum	3-8-11 15:45
Matt Crum	3-8-11 18:32		
		Vu Bandi	3/8/11 18:30

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

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

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

3/8/11 21:30

08M10 4.3

Test America Version 6/29/09 7-19-2010

CHAIN OF CUSTODY FORM

IUL0829

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide							Comments
Outfall 009	W	1L Poly	1	3-7-2011 15:54	HNO_3	2A	X														
Outfall 009 Dup	W	1L Poly	1		HNO_3	2B	X														
Outfall 009	W	1L Amber	2		None	3A, 3B		X													
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 009	W	500 mL Poly	1		None	5				X											
Outfall 009	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 009	W	2.5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 009	W	1 Gal Poly	1		None	8							X								Only test if first or second rain events of the year
Outfall 009	W	500 mL Poly	1	3-7-2011 15:54	NaOH	9								X							

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

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

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Barnes	3-8-2011 15:45	Matt Crum	3-8-11 15:45
Matt Crum	3-8-11 18:32		
		Vu Bandi	3/8/11 18:30

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

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

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

3/8/11 21:30

08M10 4.3

Test America Version 7-19-2010

CHAIN OF CUSTODY FORM

IUC 0829

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Oil & Grease (1664-HEM)	Field readings: (Log in and include in report Temp and pH) Temp °F = 51.0 pH = 7.6 Time of readings = 10:45 **Comments**
Outfall 009	W	1L Amber	2	3-7-2011 10:45	HCl	1A, 1B	X	

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

Relinquished By	Date/Time:	Received By	Date/Time:
	3-7-2011 13:55		3-7-11 13:55
Relinquished By	Date/Time:	Received By	Date/Time:
	3-7-11 17:05		
Relinquished By	Date/Time:	Received By	Date/Time:
			3/7/11 17:05

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

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

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

KM 3-7-11
2020

07M01 5.6

EBERLINE SERVICES

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

March 31, 2011

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

Reference: **Test America-Irvine IUC0829**
Eberline Analytical Report S103081-8674
Sample Delivery Group 8674

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for two water samples received under Test America Job No. IUC0829. The samples were received on March 10, 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 8674 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

Samples IUC0829-02 and IUC0822-03 (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 8671 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 2σerror (Total):

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

4.0 Analysis Notes

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

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

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

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

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

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

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

5.0 Case Narrative Certification Statement

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

3/31/11

N. Joseph Verville **Date**
Client Services Manager

E B E R L I N E A N A L Y T I C A L
SDG 8674

SDG 8674	Client Test America, Inc.
Contact N. Joseph Verville	Contract IUC0829

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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Prep Batch Summary	5
Work Summary	6
Method Blanks	8
Lab Control Samples	9
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End of Section	35

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	03/31/11

SDG 8674
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC0829

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

DUPLICATES

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

SDG 8674
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract IUC0829

ABOUT THE DATA SUMMARY SECTION

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

LAB SAMPLE SUMMARY

SDG 8674
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0829

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S103059-03	Lab Control Sample		WATER				
S103059-04	Method Blank		WATER				
S103059-05	Duplicate (S103059-01)	Boeing - SSFL	WATER				03/03/11 17:18
S103081-01	IUC0829-02	Boeing - SSFL	WATER			IUC0829	03/07/11 15:59
S103081-02	IUC0829-03 (TRIP-BLANK)	Boeing - SSFL	WATER			IUC0829	03/07/11 15:59

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 03/31/11

SDG 8674
Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract IUC0829

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8671		Method Blank	WATER						S103059-04	8671-004
		Lab Control Sample	WATER						S103059-03	8671-003
		Duplicate (S103059-01)	WATER		10.0 L		03/08/11	5	S103059-05	8671-005
8674	IUC0829	IUC0829-02	WATER		10.0 L		03/10/11	3	S103081-01	8674-001
		IUC0829-03 (TRIP-BLANK)	WATER		10.0 L		03/10/11	3	S103081-02	8674-002

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

PREP BATCH SUMMARY

SDG 8674
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0829

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7281-053	10.4	2			1	1	1/0/1		
SR	WATER	Strontium-90 in Water	7281-053	10.4	2			1	1	1/0/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7281-053	20.6	2			1	1	1/0/1		
80B	WATER	Gross Beta in Water	7281-053	11.0	2			1	1	1/0/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7281-053	7.0	2			1	1	1/0/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7281-053		2			1	1	1/0/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7281-053	10.0	1			1	1	1/0/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7281-053	16.4	2			1	1	1/0/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

SDG 8674
Contact N. Joseph Verville

LAB WORK SUMMARY

Client Test America, Inc.
Contract IUC0829

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S103059-03	Lab Control Sample		8671-003	80A/80		03/23/11	03/28/11	BW	Gross Alpha in Water
		WATER	8671-003	80B/80		03/23/11	03/28/11	BW	Gross Beta in Water
			8671-003	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8671-003	GAM		03/15/11	03/22/11	MWT	Gamma Emitters in Water
			8671-003	H		03/26/11	03/29/11	BW	Tritium in Water
			8671-003	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8671-003	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8671-003	U_T		03/21/11	03/23/11	BW	Uranium, Total
S103059-04	Method Blank		8671-004	80A/80		03/22/11	03/28/11	BW	Gross Alpha in Water
		WATER	8671-004	80B/80		03/22/11	03/28/11	BW	Gross Beta in Water
			8671-004	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8671-004	GAM		03/15/11	03/22/11	MWT	Gamma Emitters in Water
			8671-004	H		03/26/11	03/29/11	BW	Tritium in Water
			8671-004	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8671-004	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8671-004	U_T		03/21/11	03/23/11	BW	Uranium, Total
S103059-05	Duplicate (S103059-01)		8671-005	80A/80		03/22/11	03/28/11	BW	Gross Alpha in Water
03/03/11	Boeing - SSFL	WATER	8671-005	80B/80		03/22/11	03/28/11	BW	Gross Beta in Water
03/08/11			8671-005	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8671-005	GAM		03/18/11	03/22/11	MWT	Gamma Emitters in Water
			8671-005	H		03/26/11	03/29/11	BW	Tritium in Water
			8671-005	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8671-005	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8671-005	U_T		03/21/11	03/23/11	BW	Uranium, Total
S103081-01	IUC0829-02		8674-001	80A/80		03/23/11	03/28/11	BW	Gross Alpha in Water
03/07/11	Boeing - SSFL	WATER	8674-001	80B/80		03/23/11	03/28/11	BW	Gross Beta in Water
03/10/11	IUC0829		8674-001	AC		03/23/11	03/29/11	BW	Radium-228 in Water
			8674-001	GAM		03/18/11	03/22/11	MWT	Gamma Emitters in Water
			8674-001	H		03/26/11	03/29/11	BW	Tritium in Water
			8674-001	RA		03/25/11	03/28/11	BW	Radium-226 in Water
			8674-001	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
			8674-001	U_T		03/21/11	03/23/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/31/11

SDG 8674
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract IUC0829

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S103081-02	IUC0829-03 (TRIP-BLANK)			8674-002	80A/80		03/23/11	03/28/11	BW	Gross Alpha in Water
03/07/11	Boeing - SSFL		WATER	8674-002	80B/80		03/23/11	03/28/11	BW	Gross Beta in Water
03/10/11	IUC0829			8674-002	AC		03/23/11	03/29/11	BW	Radium-228 in Water
				8674-002	GAM		03/18/11	03/22/11	MWT	Gamma Emitters in Water
				8674-002	RA		03/25/11	03/28/11	BW	Radium-226 in Water
				8674-002	SR		03/24/11	03/29/11	BW	Strontium-90 in Water
				8674-002	U_T		03/21/11	03/23/11	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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 03/31/11

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

SDG 8674

8671-004 Method Blank

M E T H O D B L A N K

SDG	8674	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	IUC0829
Lab sample id	S103059-04	Client sample id	Method Blank
Dept sample id	8671-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.111	0.34	0.739	3.00	U	80A
Gross Beta	12587472	-0.057	1.6	2.79	4.00	U	80B
Tritium	10028178	-34.3	85	146	500	U	H
Radium-226	13982633	0.064	0.38	0.699	1.00	U	RA
Radium-228	15262201	-0.027	0.20	0.495	1.00	U	AC
Strontium-90	10098972	0.023	0.48	1.12	2.00	U	SR
Uranium, Total		0	0.011	0.025	1.00	U	U_T
Potassium-40	13966002	U		21.9	25.0	U	GAM
Cesium-137	10045973	U		1.41	20.0	U	GAM

QC-BLANK #77719

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/31/11

EBERLINE ANALYTICAL

SDG 8674

8671-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8674 | Client Test America, Inc.

Contact N. Joseph Verville | Contract IUC0829

Lab sample id S103059-03 | Client sample id Lab Control Sample

Dept sample id 8671-003 | Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	117	6.5	1.39	3.00		80A	101	4.0	116	75-125	70-130
Gross Beta	84.7	3.6	2.70	4.00		80B	87.2	3.5	97	88-112	70-130
Tritium	2750	150	144	500		H	2940	120	94	89-111	80-120
Radium-226	61.9	2.8	0.885	1.00		RA	55.7	2.2	111	81-119	80-120
Radium-228	4.37	0.49	0.442	1.00		AC	5.04	0.20	87	86-114	60-140
Strontium-90	18.8	1.1	0.496	2.00		SR	17.4	0.70	108	86-114	80-120
Uranium, Total	53.2	6.1	0.250	1.00		U_T	56.5	2.3	94	88-112	80-120
Cobalt-60	128	4.4	1.79	10.0		GAM	125	5.0	102	91-109	80-120
Cesium-137	117	4.0	2.73	20.0		GAM	110	4.4	106	91-109	80-120

QC-LCS #77718

Lab id EAS

Protocol TA

Version Ver 1.0

Form DVD-LCS

Version 3.06

Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

8671-005

IUC0563-03

DUPLICATE

SDG 8674
Contact N. Joseph Verville
Client Test America, Inc.
Contract IUC0829

DUPLICATE		ORIGINAL	
Lab sample id	S103059-05	Lab sample id	S103059-01
Dept sample id	8671-005	Dept sample id	8671-001
		Received	03/08/11

Client sample id IUC0563-03
Location/Matrix Boeing - SSFL WATER
Collected/Volume 03/03/11 17:18 10.0 L
Chain of custody id IUC0563

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	0.322	0.54	0.901	3.00	U	80A	1.17	0.69	0.883	J	114	183	1.9
Gross Beta	2.37	0.89	1.35	4.00	J	80B	1.94	0.81	1.25	J	20	87	0.7
Tritium	49.7	89	148	500	U	H	16.1	85	144	U	-		0.5
Radium-226	0.027	0.38	0.710	1.00	U	RA	-0.017	0.43	0.811	U	-		0.2
Radium-228	0.183	0.27	0.493	1.00	U	AC	0.214	0.21	0.455	U	-		0.2
Strontium-90	0.320	0.54	1.14	2.00	U	SR	0.018	0.39	0.892	U	-		0.9
Uranium, Total	0.852	0.092	0.025	1.00	J	U_T	0.859	0.093	0.025	J	1	23	0.1
Potassium-40	U		23.1	25.0	U	GAM	U		17.4	U	-		0.4
Cesium-137	U		1.98	20.0	U	GAM	U		1.36	U	-		0.5

QC-DUP#1 77720

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

8674-001 IUC0829-02

DATA SHEET

SDG 8674 Client Test America, Inc.
Contact N. Joseph Verville Contract IUC0829

Lab sample id S103081-01 Client sample id IUC0829-02
Dept sample id 8674-001 Location/Matrix Boeing - SSFL WATER
Received 03/10/11 Collected/Volume 03/07/11 15:59 10.0 L
Chain of custody id IUC0829

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.649	0.31	0.359	3.00	J	80A
Gross Beta	12587472	1.49	0.65	1.00	4.00	J	80B
Tritium	10028178	81.6	89	146	500	U	H
Radium-226	13982633	0.174	0.40	0.694	1.00	U	RA
Radium-228	15262201	-0.001	0.24	0.540	1.00	U	AC
Strontium-90	10098972	-0.064	0.44	1.04	2.00	U	SR
Uranium, Total		0.141	0.019	0.025	1.00	J	U_T
Potassium-40	13966002	U		24.7	25.0	U	GAM
Cesium-137	10045973	U		1.64	20.0	U	GAM

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 03/31/11

8674-002 IUC0829-03 (TRIP-BLANK)

DATA SHEET

SDG 8674 Client Test America, Inc.
Contact N. Joseph Verville Contract IUC0829

Lab sample id S103081-02 Client sample id IUC0829-03 (TRIP-BLANK)
Dept sample id 8674-002 Location/Matrix Boeing - SSFL WATER
Received 03/10/11 Collected/Volume 03/07/11 15:59 10.0 L
Chain of custody id IUC0829

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.069	0.14	0.340	3.00	U	80A
Gross Beta	12587472	0.158	0.46	0.773	4.00	U	80B
Radium-226	13982633	0.009	0.28	0.533	1.00	U	RA
Radium-228	15262201	-0.090	0.21	0.504	1.00	U	AC
Strontium-90	10098972	-0.284	0.40	1.10	2.00	U	SR
Uranium, Total		0	0.011	0.025	1.00	U	U_T
Potassium-40	13966002	U		21.3	25.0	U	GAM
Cesium-137	10045973	U		1.44	20.0	U	GAM

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

Test AC Matrix WATER
SDG 8674
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103081-01			8674-001	IUC0829-02	U	
S103081-02			8674-002	IUC0829-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 10.4 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample	0.442	1.80			83		150				03/23/11	03/23	GRB-223
S103059-04			Method Blank	0.495	1.80			89		150				03/23/11	03/23	GRB-224
S103059-05			Duplicate (S103059-01)	0.493	1.80			82		150			20	03/23/11	03/23	GRB-201
S103081-01			IUC0829-02	0.540	1.80			83		150			16	03/23/11	03/23	GRB-231
S103081-02			IUC0829-03 (TRIP-BLANK)	0.504	1.80			82		150			16	03/23/11	03/23	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 FOR 5 SAMPLES
MDA 0.495 ± 0.070
YIELD 84 ± 6

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

Test SR Matrix WATER
SDG 8674
Contact N. Joseph Verville

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103081-01			8674-001	IUC0829-02	U	
S103081-02			8674-002	IUC0829-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 10.4 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample	0.496	0.500			78		100				03/24/11	03/24	GRB-228
S103059-04			Method Blank	1.12	0.500			83		50				03/24/11	03/24	GRB-229
S103059-05			Duplicate (S103059-01)	1.14	0.500			76		50			21	03/24/11	03/24	GRB-230
S103081-01			IUC0829-02	1.04	0.500			87		50			17	03/24/11	03/24	GRB-227
S103081-02			IUC0829-03 (TRIP-BLANK)	1.10	0.500			76		50			17	03/24/11	03/24	GRB-228
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 FOR 5 SAMPLES
MDA 0.979 ± 0.545
YIELD 80 ± 10

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

Test 80A Matrix WATER
SDG 8674
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7281-053						
S103059-03	80		8671-003	Lab Control Sample	ok	
S103059-04	80		8671-004	Method Blank	U	
S103059-05	80		8671-005	Duplicate (S103059-01)	ok	U
S103081-01	80		8674-001	IUC0829-02	0.649 J	
S103081-02	80		8674-002	IUC0829-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 20.6 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03	80		Lab Control Sample	1.39	0.100			60		400				03/22/11	03/23	GRB-101
S103059-04	80		Method Blank	0.739	0.100			56		400				03/22/11	03/22	GRB-216
S103059-05	80		Duplicate (S103059-01)	0.901	0.205			89		400			19	03/22/11	03/22	GRB-101
S103081-01	80		IUC0829-02	0.359	0.300			41		400			16	03/22/11	03/23	GRB-103
S103081-02	80		IUC0829-03 (TRIP-BLANK)	0.340	0.300			0		400			16	03/22/11	03/23	GRB-104
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 FOR 5 SAMPLES
MDA 0.746 ± 0.868
RESIDUE 49 ± 65

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/31/11

EBERLINE ANALYTICAL

SDG 8674

Test 80B Matrix WATER
SDG 8674
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7281-053						
S103059-03	80		8671-003	Lab Control Sample	ok	
S103059-04	80		8671-004	Method Blank	U	
S103059-05	80		8671-005	Duplicate (S103059-01)	ok	J
S103081-01	80		8674-001	IUC0829-02	1.49	J
S103081-02	80		8674-002	IUC0829-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053 2σ prep error 11.0 % Reference Lab Notebook No. 7281 pg 053																
S103059-03	80		Lab Control Sample	2.70	0.100			60		400				03/22/11	03/23	GRB-101
S103059-04	80		Method Blank	2.79	0.100			56		400				03/22/11	03/22	GRB-216
S103059-05	80		Duplicate (S103059-01)	1.35	0.205			89		400			19	03/22/11	03/22	GRB-101
S103081-01	80		IUC0829-02	1.00	0.300			41		400			16	03/22/11	03/23	GRB-103
S103081-02	80		IUC0829-03 (TRIP-BLANK)	0.773	0.300			0		400			16	03/22/11	03/23	GRB-104
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 FOR 5 SAMPLES
MDA 1.72 ± 1.91
RESIDUE 49 ± 65

Lab id EAS
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EBERLINE ANALYTICAL

SDG 8674

Test GAM Matrix WATER
SDG 8674
Contact N. Joseph Verville

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7281-053							
S103059-03			8671-003	Lab Control Sample	ok	ok	
S103059-04			8671-004	Method Blank		U	
S103059-05			8671-005	Duplicate (S103059-01)		-	U
S103081-01			8674-001	IUC0829-02		U	
S103081-02			8674-002	IUC0829-03 (TRIP-BLANK)		U	
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 7.0 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample		2.00					549				03/14/11	03/15	01,02,00
S103059-04			Method Blank		2.00					549				03/14/11	03/15	01,04,00
S103059-05			Duplicate (S103059-01)		2.00					403			15	03/14/11	03/18	01,01,00
S103081-01			IUC0829-02		2.00					404			11	03/14/11	03/18	01,03,00
S103081-02			IUC0829-03 (TRIP-BLANK)		2.00					603			11	03/14/11	03/18	01,04,00
Nominal values and limits from method				6.00	2.00					400			180			

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

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EBERLINE ANALYTICAL

SDG 8674

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
SDG 8674
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	ok	J
S103081-01			8674-001	IUC0829-02	0.141	J
S103081-02			8674-002	IUC0829-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053			2σ prep error	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample	0.250	0.0200									03/15/11	03/21	KPA-001
S103059-04			Method Blank	0.025	0.0200									03/15/11	03/21	KPA-001
S103059-05			Duplicate (S103059-01)	0.025	0.0200								18	03/15/11	03/21	KPA-001
S103081-01			IUC0829-02	0.025	0.0200								14	03/15/11	03/21	KPA-001
S103081-02			IUC0829-03 (TRIP-BLANK)	0.025	0.0200								14	03/15/11	03/21	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.070 ± 0.201
YIELD _____ ± _____

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EBERLINE ANALYTICAL

SDG 8674

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8674
Contact N. Joseph Verville

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103081-01			8674-001	IUC0829-02	U	
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 10.0 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample	144	0.100			10		150				03/25/11	03/26	LSC-007
S103059-04			Method Blank	146	0.100			10		150				03/25/11	03/26	LSC-007
S103059-05			Duplicate (S103059-01)	148	0.0100			100		150			23	03/25/11	03/26	LSC-007
S103081-01			IUC0829-02	146	0.0100			100		150			19	03/25/11	03/26	LSC-007
Nominal values and limits from method				500	0.0100					100			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 146 ± 3.27
YIELD 55 ± 104

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EBERLINE ANALYTICAL

SDG 8674

Test RA Matrix WATER
SDG 8674
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Client Test America, Inc.
Contract IUC0829

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7281-053						
S103059-03			8671-003	Lab Control Sample	ok	
S103059-04			8671-004	Method Blank	U	
S103059-05			8671-005	Duplicate (S103059-01)	-	U
S103081-01			8674-001	IUC0829-02	U	
S103081-02			8674-002	IUC0829-03 (TRIP-BLANK)	U	
Nominal values and limits from method				RDLs (pCi/L)	1.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7281-053			2σ prep error 16.4 %	Reference Lab Notebook No. 7281 pg 053												
S103059-03			Lab Control Sample	0.885	0.100			100		93				03/25/11	03/25	RN-009
S103059-04			Method Blank	0.699	0.100			100		93				03/25/11	03/25	RN-010
S103059-05			Duplicate (S103059-01)	0.710	0.100			100		93			22	03/25/11	03/25	RN-012
S103081-01			IUC0829-02	0.694	0.100			100		101			18	03/25/11	03/25	RN-013
S103081-02			IUC0829-03 (TRIP-BLANK)	0.533	0.100			100		101			18	03/25/11	03/25	RN-014
Nominal values and limits from method				1.00	0.100					100			180			

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

AVERAGES ± 2 SD FOR 5 SAMPLES
MDA 0.704 ± 0.249
YIELD 100 ± 0

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REPORT GUIDE

Client Test America, Inc.
Contract IUC0829

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 8674
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract IUC0829

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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Contract IUC0829

WORK SUMMARY

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

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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DATA SHEET

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

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

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

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

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

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DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

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

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DATA SHEET

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

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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LAB CONTROL SAMPLE

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

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

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

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

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

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

  2. The error of ADDED.

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

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

* The recovery is underlined if it is outside either of these ranges.

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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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DUPLICATE

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

* The RPD is underlined if it is greater than either limit.

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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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.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

* Count times are underlined if less than the nominal value

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GUIDE, cont.

Client Test America, Inc.
Contract IUC0829

METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

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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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/31/11

Subcontract Order - TestAmerica Irvine (IUC0829)

8674

SENDING LABORATORY:

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

RECEIVING LABORATORY:

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

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

Analysis	Units	Expires	Comments
Sample ID: IUC0829-02 (Outfall 009 (composite) - Water)		Sampled: 03/07/11 15:59	
Gamma Spec-O	mg/kg	03/06/12 15:59	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	09/03/11 15:59	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	09/03/11 15:59	Out Eberline Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	03/06/12 15:59	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/06/12 15:59	Out Eberline, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/06/12 15:59	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/06/12 15:59	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
2.5 gal Poly (I)	500 mL Amber (J)		
Sample ID: IUC0829-03 (Trip Blank - Water)		Sampled: 03/07/11 15:59	
Gamma Spec-O	mg/kg	03/06/12 15:59	Out Eberline, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	09/03/11 15:59	Out Eberline, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	09/03/11 15:59	Out Eberline Boeing permit, DO NOT FILTER!
Radium, Combined-O	pCi/L	03/06/12 15:59	Out Eberline Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/06/12 15:59	Out Eberline, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/06/12 15:59	Out Eberline, Boeing permit, DO NOT FILTER!
Containers Supplied:			
2.5 gal Poly (A)	500 mL Amber (B)		

Released By	Date/Time	Received By	Date/Time
			03/10/11 0930
Released By	Date/Time	Received By	Date/Time

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 03/10/11 0932 CoC No. IUC0829

Container I.D. No. IE CHEST 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: 2 (Or see CoC _____)
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 HNO_3
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by _____ Date 03/10/11 Time: 1030

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
ALL SAMPLES	460						

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 10048 V Calibration date 24 SEP 10