APPENDIX G

Section 11

Outfall 006 – December 20, 2010

MEC^X Data Validation Report

THIS PAGE LEFT INTENTIONALLY BLANK

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2015

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:	ITL2015
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 006 (Composite)	ITL2015-02	G0L230558-001, S012315-01	Water	12/20/2010 4:37:00 PM	1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-Diss, SM 2540D,

II. Sample Management

No anomalies were observed regarding sample management. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at TestAmerica-West Sacramento below the control limit; 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. As the samples were couriered to TestAmerica-Irvine, custody seals were not required. 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: January 20, 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 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, OCDD, OCDF, total HpCDD, and total HpCDF. The HpCDF isomers and total were reported as EMPCs in the method blank; however, due to the extent of the method blank contamination, the reviewer considered it appropriate to use the EMPCs to qualify sample results. All individual

isomers detected in both the method blank and site sample were qualified as nondetected, "U" at the EDL, or at the level of contamination in the sample. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: The 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 previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Any totals including 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 METHOD 245.1—Mercury

Reviewed By: P. Meeks
Date Reviewed: January 14, 2011

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

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

- Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 85-115%. 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 on the sample in this SDG.

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

- Serial Dilution: No serial dilution analyses were performed.

- 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 2011

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

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

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

  The gross alpha detector efficiency was less than 20%; therefore, gross alpha detected in the sample was qualified as an estimated detect, "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 or the KPA CCBs.

- 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.

  A notation in the sample preparation logbook indicated that the aliquot for Radium-228 was 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: January 14, 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), EPA Standard Method SM2540D*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

- Calibration: The balance logs were acceptable.

- Blanks: TSS was not detected in the method blank.

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

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

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

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

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

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

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

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

Validated Sample Result Forms ITL2015

Analysis Method 8648

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.384	1	0.017	pCi/L	Jb	J	DNQ

Analysis Method 900

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	2	3	0.822	pCi/L	Jb	J	DNQ,C
Gross Beta	12587472	4.28	4	1.37	pCi/L			

Analysis Method 901.1

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.54	pCi/L	U	U	
Potassium-40	13966002	ND	25	31.2	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.339	1	0.594	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	-0.019	1	0.439	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.042	2	0.708	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	124	500	352	pCi/L	U	U	

Analysis Method EPA 245.1

Sample Name Outfall 006 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 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 006 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 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 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 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	0.0000002	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000005	ug/L	J, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000006	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	0.0000004	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	0.0000007	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000004	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000005	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000002	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	0.0000004	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000007	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000001	ug/L		U	
OCDD	3268-87-9	ND	0.0001	0.0000001	ug/L	J, B	U	B
OCDF	39001-02-0	ND	0.0001	0.0000005	ug/L	J, B	U	B
Total HpCDD	37871-00-4	1.7e-005	0.00005	0.0000002	ug/L	J, B	J	B, DNQ
Total HpCDF	38998-75-3	7.5e-006	0.00005	0.0000005	ug/L	J, B	J	B, DNQ
Total HxCDD	34465-46-8	ND	0.00005	0.0000004	ug/L		U	
Total HxCDF	55684-94-1	1.1	0.00005	0.0000000	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000005	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000002	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000007	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000001	ug/L		U	

Analysis Method SM 2540D

Sample Name Outfall 006 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2015-02 **Sample Date:** 12/20/2010 4:37:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	29	10	1.0	mg/l			

APPENDIX G

Section 12

Outfall 006 – December 20, 2010

Test America Analytical Laboratory Report

THIS PAGE LEFT INTENTIONALLY BLANK

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 006 2010
Routine Outfall 006

Sampled: 12/20/10
Received: 12/20/10
Issued: 02/01/11 16:12

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

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 2°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	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.

LABORATORY ID	CLIENT ID	MATRIX
ITL2015-01	Outfall 006 (Grab)	Water
ITL2015-02	Outfall 006 (Composite)	Water

Reviewed By:

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-01 (Outfall 006 (Grab) - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	10L2996	4.7	1.3	ND	1	12/27/2010	12/28/2010	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1	10L3104	0.20	0.10	ND	1	12/28/2010	12/28/2010	
Antimony	EPA 200.8	10L2645	2.0	0.30	**0.44**	1	12/22/2010	12/23/2010	Ja
Cadmium	EPA 200.8	10L2645	1.0	0.10	ND	1	12/22/2010	12/22/2010	
Copper	EPA 200.8	10L2645	2.00	0.500	**2.55**	1	12/22/2010	12/23/2010	
Lead	EPA 200.8	10L2645	1.0	0.20	**1.6**	1	12/22/2010	12/23/2010	
Thallium	EPA 200.8	10L2645	1.0	0.20	ND	1	12/22/2010	12/23/2010	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	10L3103	0.20	0.10	ND	1	12/28/2010	12/28/2010	
Antimony	EPA 200.8-Diss	10L2800	2.0	0.30	**0.60**	1	12/23/2010	12/23/2010	Ja
Cadmium	EPA 200.8-Diss	10L2800	1.0	0.10	ND	1	12/23/2010	12/23/2010	
Copper	EPA 200.8-Diss	10L2800	2.00	0.500	**0.969**	1	12/23/2010	12/23/2010	Ja
Lead	EPA 200.8-Diss	10L2800	1.0	0.20	ND	1	12/23/2010	12/23/2010	
Thallium	EPA 200.8-Diss	10L2800	1.0	0.20	ND	1	12/23/2010	12/23/2010	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

INORGANICS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)									
Reporting Units: mg/l									
Chloride	EPA 300.0	10L2625	5.0	2.5	**79**	10	12/22/2010	12/22/2010	
Nitrate/Nitrite-N	EPA 300.0	10L2625	0.26	0.15	**0.42**	1	12/22/2010	12/22/2010	
Sulfate	EPA 300.0	10L2625	0.50	0.20	**18**	1	12/22/2010	12/22/2010	
Total Dissolved Solids	SM2540C	10L2589	10	1.0	**280**	1	12/22/2010	12/22/2010	
Total Suspended Solids	SM 2540D	10L2850	10		**29**	1	12/23/2010	12/23/2010	
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	10L3015	4.0	0.90	ND	1	12/28/2010	12/28/2010	
Total Cyanide	SM4500CN-E	10L3114	5.0		ND	1	12/28/2010	12/28/2010	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

8648

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Uranium, Total	8648	8648	1	**0.384**	1	12/30/2010	1/21/2011	Jb

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

900

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Gross Alpha	900	8648	3	**2**	1	1/4/2011	1/5/2011	Jb
Gross Beta	900	8648	4	**4.28**	1	1/4/2011	1/5/2011	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

901.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Cesium-137	901.1	8648	20	ND	1	1/4/2011	1/6/2011	U
Potassium-40	901.1	8648	25	ND	1	1/4/2011	1/6/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

903.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Radium-226	903.1	8648	1	**0.339**	1	1/21/2011	1/21/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

904

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Radium-228	904	8648	1	**-0.019**	1	1/21/2011	1/21/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

905

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Strontium-90	905	8648	2	**-0.042**	1	1/19/2011	1/13/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

906

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Tritium	906	8648	500	**124**	1	1/13/2011	1/14/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

EPA-5 1613Bx

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	357431	0.00005	0.00000029	**7.5e-006**	0.96	12/23/2010	12/28/2010	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	357431	0.00005	0.0000005	**3.8e-006**	0.96	12/23/2010	12/28/2010	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	357431	0.00005	0.00000064	ND	0.96	12/23/2010	12/28/2010	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	357431	0.00005	0.00000088	ND	0.96	12/23/2010	12/28/2010	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	357431	0.00005	0.00000058	ND	0.96	12/23/2010	12/28/2010	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	357431	0.00005	0.00000044	ND	0.96	12/23/2010	12/28/2010	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	357431	0.00005	0.00000039	ND	0.96	12/23/2010	12/28/2010	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	357431	0.00005	0.00000072	ND	0.96	12/23/2010	12/28/2010	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	357431	0.00005	0.00000042	ND	0.96	12/23/2010	12/28/2010	
1,2,3,7,8-PeCDD	EPA-5 1613B	357431	0.00005	0.00000052	ND	0.96	12/23/2010	12/28/2010	
1,2,3,7,8-PeCDF	EPA-5 1613B	357431	0.00005	0.00000025	ND	0.96	12/23/2010	12/28/2010	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	357431	0.00005	0.00000046	ND	0.96	12/23/2010	12/28/2010	
2,3,4,7,8-PeCDF	EPA-5 1613B	357431	0.00005	0.0000004	ND	0.96	12/23/2010	12/28/2010	
2,3,7,8-TCDD	EPA-5 1613B	357431	0.00001	0.00000072	ND	0.96	12/23/2010	12/28/2010	
2,3,7,8-TCDF	EPA-5 1613B	357431	0.00001	0.00000019	ND	0.96	12/23/2010	12/28/2010	
OCDD	EPA-5 1613B	357431	0.0001	0.00000015	**6.6e-005**	0.96	12/23/2010	12/28/2010	J, B
OCDF	EPA-5 1613B	357431	0.0001	0.00000051	**7.4e-006**	0.96	12/23/2010	12/28/2010	J, B
Total HpCDD	EPA-5 1613B	357431	0.00005	0.00000029	**1.7e-005**	0.96	12/23/2010	12/28/2010	J, B
Total HpCDF	EPA-5 1613B	357431	0.00005	0.00000057	**7.5e-006**	0.96	12/23/2010	12/28/2010	J, B
Total HxCDD	EPA-5 1613B	357431	0.00005	0.00000044	ND	0.96	12/23/2010	12/28/2010	
Total HxCDF	EPA-5 1613B	357431	0.00005	0.00000008	**1.1**	0.96	12/23/2010	12/28/2010	J, Q
Total PeCDD	EPA-5 1613B	357431	0.00005	0.00000052	ND	0.96	12/23/2010	12/28/2010	
Total PeCDF	EPA-5 1613B	357431	0.00005	0.00000025	ND	0.96	12/23/2010	12/28/2010	
Total TCDD	EPA-5 1613B	357431	0.00001	0.00000072	ND	0.96	12/23/2010	12/28/2010	
Total TCDF	EPA-5 1613B	357431	0.00001	0.00000019	ND	0.96	12/23/2010	12/28/2010	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*90 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*79 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*86 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*70 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*67 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*83 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*69 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*67 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*73 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*79 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*69 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*72 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*69 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*66 %*				
Surrogate: 13C-OCDD (17-157%)					*79 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*97 %*				

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 006 (Composite) (ITL2015-02) - Water					
EPA 300.0	2	12/20/2010 16:37	12/20/2010 20:24	12/22/2010 09:00	12/22/2010 09:37
Filtration	1	12/20/2010 16:37	12/20/2010 20:24	12/21/2010 23:45	12/21/2010 23:45

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

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: 10L2996 Extracted: 12/27/10										
Blank Analyzed: 12/28/2010 (10L2996-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 12/28/2010 (10L2996-BS1)										**MNR1**
Hexane Extractable Material (Oil & Grease)	18.2	5.0	mg/l	20.0		91	78-114			
LCS Dup Analyzed: 12/28/2010 (10L2996-BSD1)										
Hexane Extractable Material (Oil & Grease)	18.0	5.0	mg/l	20.0		90	78-114	1	11	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2645 Extracted: 12/22/10										
Blank Analyzed: 12/22/2010-12/23/2010 (10L2645-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: 12/22/2010-12/23/2010 (10L2645-BS1)										
Antimony	88.4	2.0	ug/l	80.0		111	85-115			
Cadmium	77.2	1.0	ug/l	80.0		97	85-115			
Copper	84.1	2.00	ug/l	80.0		105	85-115			
Lead	82.5	1.0	ug/l	80.0		103	85-115			
Thallium	81.8	1.0	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 12/22/2010-12/23/2010 (10L2645-MS1)					**Source: ITL2015-02**					
Antimony	88.8	2.0	ug/l	80.0	0.438	110	70-130			
Cadmium	72.7	1.0	ug/l	80.0	ND	91	70-130			
Copper	69.7	2.00	ug/l	80.0	2.55	84	70-130			
Lead	83.3	1.0	ug/l	80.0	1.61	102	70-130			
Thallium	80.8	1.0	ug/l	80.0	ND	101	70-130			
Matrix Spike Analyzed: 12/22/2010-12/23/2010 (10L2645-MS2)					**Source: ITL2014-03**					
Antimony	86.8	2.0	ug/l	80.0	ND	109	70-130			
Cadmium	71.7	1.0	ug/l	80.0	0.123	89	70-130			
Copper	76.5	2.00	ug/l	80.0	4.10	90	70-130			
Lead	85.5	1.0	ug/l	80.0	1.82	105	70-130			
Thallium	82.2	1.0	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 12/22/2010-12/23/2010 (10L2645-MSD1)					**Source: ITL2015-02**					
Antimony	87.7	2.0	ug/l	80.0	0.438	109	70-130	1	20	
Cadmium	74.0	1.0	ug/l	80.0	ND	93	70-130	2	20	
Copper	69.9	2.00	ug/l	80.0	2.55	84	70-130	0.4	20	
Lead	83.6	1.0	ug/l	80.0	1.61	102	70-130	0.4	20	
Thallium	81.0	1.0	ug/l	80.0	ND	101	70-130	0.3	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3104 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3104-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/28/2010 (10L3104-BS1)										
Mercury	8.00	0.20	ug/l	8.00		100	85-115			
Matrix Spike Analyzed: 12/28/2010 (10L3104-MS1)					**Source: ITL2014-03**					
Mercury	7.68	0.20	ug/l	8.00	ND	96	70-130			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3104-MSD1)					**Source: ITL2014-03**					
Mercury	7.81	0.20	ug/l	8.00	ND	98	70-130	2	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2800 Extracted: 12/23/10										
Blank Analyzed: 12/23/2010 (10L2800-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: 12/23/2010 (10L2800-BS1)										
Antimony	85.3	2.0	ug/l	80.0		107	85-115			
Cadmium	82.0	1.0	ug/l	80.0		103	85-115			
Copper	77.5	2.00	ug/l	80.0		97	85-115			
Lead	79.8	1.0	ug/l	80.0		100	85-115			
Thallium	82.4	1.0	ug/l	80.0		103	85-115			
Matrix Spike Analyzed: 12/23/2010 (10L2800-MS1)					**Source: ITL2015-02**					
Antimony	84.6	2.0	ug/l	80.0	0.598	105	70-130			
Cadmium	80.2	1.0	ug/l	80.0	ND	100	70-130			
Copper	69.8	2.00	ug/l	80.0	0.969	86	70-130			
Lead	73.8	1.0	ug/l	80.0	ND	92	70-130			
Thallium	78.6	1.0	ug/l	80.0	ND	98	70-130			
Matrix Spike Dup Analyzed: 12/23/2010 (10L2800-MSD1)					**Source: ITL2015-02**					
Antimony	88.5	2.0	ug/l	80.0	0.598	110	70-130	5	20	
Cadmium	83.4	1.0	ug/l	80.0	ND	104	70-130	4	20	
Copper	71.9	2.00	ug/l	80.0	0.969	89	70-130	3	20	
Lead	77.1	1.0	ug/l	80.0	ND	96	70-130	4	20	
Thallium	81.0	1.0	ug/l	80.0	ND	101	70-130	3	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3103 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3103-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/28/2010 (10L3103-BS1)										
Mercury	8.23	0.20	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 12/28/2010 (10L3103-MS1)					**Source: ITL2014-03**					
Mercury	8.27	0.20	ug/l	8.00	ND	103	70-130			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3103-MSD1)					**Source: ITL2014-03**					
Mercury	8.19	0.20	ug/l	8.00	ND	102	70-130	0.9	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2589 Extracted: 12/22/10										
Blank Analyzed: 12/22/2010 (10L2589-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 12/22/2010 (10L2589-BS1)										
Total Dissolved Solids	996	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 12/22/2010 (10L2589-DUP1)					**Source: ITL2097-01**					
Total Dissolved Solids	3380	20	mg/l		3410			1	10	
Batch: 10L2625 Extracted: 12/22/10										
Blank Analyzed: 12/22/2010 (10L2625-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/22/2010 (10L2625-BS1)										
Chloride	4.64	0.50	mg/l	5.00		93	90-110			
Sulfate	9.73	0.50	mg/l	10.0		97	90-110			
Matrix Spike Analyzed: 12/22/2010 (10L2625-MS1)					**Source: ITL2015-02**					
Chloride	125	5.0	mg/l	50.0	78.6	94	80-120			
Sulfate	114	5.0	mg/l	100	18.0	96	80-120			
Matrix Spike Dup Analyzed: 12/22/2010 (10L2625-MSD1)					**Source: ITL2015-02**					
Chloride	127	5.0	mg/l	50.0	78.6	98	80-120	2	20	
Sulfate	115	5.0	mg/l	100	18.0	97	80-120	0.6	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2850 Extracted: 12/23/10										
Blank Analyzed: 12/23/2010 (10L2850-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 12/23/2010 (10L2850-BS1)										
Total Suspended Solids	1000	10	mg/l	1000		100	85-115			
Duplicate Analyzed: 12/23/2010 (10L2850-DUP1)					**Source: ITL2347-01**					
Total Suspended Solids	161	10	mg/l		160			0.6	10	
Batch: 10L3015 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3015-BLK1)										
Perchlorate	ND	4.0	ug/l							
LCS Analyzed: 12/28/2010 (10L3015-BS1)										
Perchlorate	22.7	4.0	ug/l	25.0		91	85-115			
Matrix Spike Analyzed: 12/28/2010 (10L3015-MS1)					**Source: ITL2014-03**					
Perchlorate	23.1	4.0	ug/l	25.0	ND	92	80-120			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3015-MSD1)					**Source: ITL2014-03**					
Perchlorate	23.7	4.0	ug/l	25.0	ND	95	80-120	3	20	
Batch: 10L3114 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3114-BLK1)										
Total Cyanide	ND	5.0	ug/l							

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3114 Extracted: 12/28/10										
LCS Analyzed: 12/28/2010 (10L3114-BS1)										
Total Cyanide	190	5.0	ug/l	200		95	90-110			
Matrix Spike Analyzed: 12/28/2010 (10L3114-MS1)					**Source: ITL2487-02**					
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3114-MSD1)					**Source: ITL2487-02**					
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115	0.3	15	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

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: 357431 Extracted: 12/23/10										
Blank Analyzed: 12/28/2010 (G0L230000431B)					**Source:**					
1,2,3,4,6,7,8-HpCDD	1.5e-006	0.00005	ug/L				-			*J*
1,2,3,4,6,7,8-HpCDF	9.5e-007	0.00005	ug/L				-			*J, Q*
1,2,3,4,7,8,9-HpCDF	9.6e-007	0.00005	ug/L				-			*J, Q*
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	5.9e-006	0.0001	ug/L				-			*J*
OCDF	2e-006	0.0001	ug/L				-			*J*
Total HpCDD	2.5e-006	0.00005	ug/L				-			*J*
Total HpCDF	1.9e-006	0.00005	ug/L				-			*J, Q*
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	*0.0021*		*ug/L*	*0.002*		*107*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.0018*		*ug/L*	*0.002*		*92*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.002*		*ug/L*	*0.002*		*100*	*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	*0.0016*		*ug/L*	*0.002*		*81*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.002*		*ug/L*	*0.002*		*98*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.0016*		*ug/L*	*0.002*		*83*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.0016*		*ug/L*	*0.002*		*81*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.0018*		*ug/L*	*0.002*		*91*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.0018*		*ug/L*	*0.002*		*92*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.0017*		*ug/L*	*0.002*		*85*	*28-136*			

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

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: 357431 Extracted: 12/23/10										
Blank Analyzed: 12/28/2010 (G0L230000431B)					**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.0018*		*ug/L*	*0.002*		*89*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.0017*		*ug/L*	*0.002*		*83*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.0015*		*ug/L*	*0.002*		*77*	*24-169*			
Surrogate: 13C-OCDD	*0.0036*		*ug/L*	*0.004*		*90*	*17-157*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.0008*		*ug/L*	*0.0008*		*99*	*35-197*			
LCS Analyzed: 12/28/2010 (G0L230000431C)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00102	0.00005	ug/L	0.001		102	70-140			*B*
1,2,3,4,6,7,8-HpCDF	0.00109	0.00005	ug/L	0.001		109	82-122			*B*
1,2,3,4,7,8,9-HpCDF	0.00108	0.00005	ug/L	0.001		108	78-138			*B*
1,2,3,4,7,8-HxCDD	0.00118	0.00005	ug/L	0.001		118	70-164			
1,2,3,4,7,8-HxCDF	0.00102	0.00005	ug/L	0.001		102	72-134			
1,2,3,6,7,8-HxCDD	0.000981	0.00005	ug/L	0.001		98	76-134			
1,2,3,6,7,8-HxCDF	0.00105	0.00005	ug/L	0.001		105	84-130			
1,2,3,7,8,9-HxCDD	0.00108	0.00005	ug/L	0.001		108	64-162			
1,2,3,7,8,9-HxCDF	0.00108	0.00005	ug/L	0.001		108	78-130			
1,2,3,7,8-PeCDD	0.00109	0.00005	ug/L	0.001		109	70-142			
1,2,3,7,8-PeCDF	0.000975	0.00005	ug/L	0.001		98	80-134			
2,3,4,6,7,8-HxCDF	0.00103	0.00005	ug/L	0.001		103	70-156			
2,3,4,7,8-PeCDF	0.000976	0.00005	ug/L	0.001		98	68-160			
2,3,7,8-TCDD	0.000214	0.00001	ug/L	0.0002		107	67-158			
2,3,7,8-TCDF	0.000186	0.00001	ug/L	0.0002		93	75-158			
OCDD	0.00191	0.0001	ug/L	0.002		96	78-144			*B*
OCDF	0.00182	0.0001	ug/L	0.002		91	63-170			*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00221*		*ug/L*	*0.002*		*111*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00194*		*ug/L*	*0.002*		*97*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00207*		*ug/L*	*0.002*		*104*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.00166*		*ug/L*	*0.002*		*83*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00162*		*ug/L*	*0.002*		*81*	*19-202*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00201*		*ug/L*	*0.002*		*100*	*25-163*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00168*		*ug/L*	*0.002*		*84*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.0016*		*ug/L*	*0.002*		*80*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00181*		*ug/L*	*0.002*		*91*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00187*		*ug/L*	*0.002*		*93*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00169*		*ug/L*	*0.002*		*85*	*22-176*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00177*		*ug/L*	*0.002*		*89*	*13-328*			

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

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: 357431 Extracted: 12/23/10										
LCS Analyzed: 12/28/2010 (G0L230000431C)					**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00171*		*ug/L*	*0.002*		*85*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00157*		*ug/L*	*0.002*		*79*	*22-152*			
Surrogate: 13C-OCDD	*0.00374*		*ug/L*	*0.004*		*94*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000784*		*ug/L*	*0.0008*		*98*	*31-191*			

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

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
ITL2015-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.28	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
ITL2015-02	Antimony-200.8	Antimony	ug/l	0.44	2.0	6
ITL2015-02	Cadmium-200.8	Cadmium	ug/l	0.089	1.0	3.1
ITL2015-02	Chloride - 300.0	Chloride	mg/l	79	5.0	150
ITL2015-02	Copper-200.8	Copper	ug/l	2.55	2.00	14
ITL2015-02	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-1	5.0	9.5
ITL2015-02	Lead-200.8	Lead	ug/l	1.61	1.0	5.2
ITL2015-02	Mercury - 245.1	Mercury	ug/l	0	0.20	0.13
ITL2015-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.42	0.26	10
ITL2015-02	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
ITL2015-02	Sulfate-300.0	Sulfate	mg/l	18	0.50	250
ITL2015-02	TDS - SM2540C	Total Dissolved Solids	mg/l	279	10	850
ITL2015-02	Thallium-200.8	Thallium	ug/l	0.076	1.0	2

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

DATA QUALIFIERS AND DEFINITIONS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than the reporting limit.
Ja	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
Jb	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
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

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
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
EPA 314.0	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

Aquatic Testing Laboratories-SUB *California Cert #1775*
4350 Transport Street, Unit 107 - Ventura, CA 93003
Analysis Performed: Bioassay-7 dy Chrnic
Samples: ITL2015-02

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: ITL2015-02

Analysis Performed: Gross Alpha
Samples: ITL2015-02

Analysis Performed: Gross Beta
Samples: ITL2015-02

Analysis Performed: Radium, Combined
Samples: ITL2015-02

Analysis Performed: Strontium 90
Samples: ITL2015-02

Analysis Performed: Tritium
Samples: ITL2015-02

Analysis Performed: Uranium, Combined
Samples: ITL2015-02

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8648
Samples: ITL2015-02

Method Performed: 900
Samples: ITL2015-02

Method Performed: 901.1
Samples: ITL2015-02

Method Performed: 903.1
Samples: ITL2015-02

Method Performed: 904
Samples: ITL2015-02

Method Performed: 905
Samples: ITL2015-02

Method Performed: 906
Samples: ITL2015-02

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2015

Sampled: 12/20/10
Received: 12/20/10

TestAmerica West Sacramento *NELAC Cert #1119CA, Nevada Cert #CA44*
880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: ITL2015-02

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

Test America Version 7-19-2010 ~~6/29/09~~

CHAIN OF CUSTODY FORM

ITL2015

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak	Boeing-SSFL NPDES **Routine Outfall 006** **GRAB** Stormwater at FSDF-2
Project Manager: Bronwyn Kelly Sampler: Rick Bamford	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 #	Oil & Grease (1664-HEM)													
							1													
Outfall 006	W	1L Amber	2	12-20-10 08:00	HCl	1A, 1B	X													

Field readings:

Temp °F = 48°

pH = 7.6

Time of readings = 08:00

Comments

These Samples are the Grab Portion of Outfall 006 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 Bamford	12-20-2010	Vilma Padilla	12/20/10 1613
Relinquished By	Date/Time:	Received By	Date/Time:
Vilma Padilla	12/20/10 2024		
Relinquished By	Date/Time:	Received By	Date/Time:
		[signature]	12/20/10 2024

Turn-around time: (Check)

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

48 Hour: _____ 5 Day: X Normal: _____

Sample Integrity: (Check)

Intact: X On Ice: X

Data Requirements: (Check)

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

2-4r

CHAIN OF CUSTODY FORM

ITL2015

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Semi-Annual Outfall 006** **COMPOSITE LOW** Stormwater at FSDF-2
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: Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N, Perchlorate	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)	Cyanide	Chronic Toxicity							Comments
Outfall 006	W	1L Poly	1	12-20-2010	HNO_3	2A	X														
Outfall 006 Dup	W	1L Poly	1	16:37	HNO_3	2B	X														
Outfall 006	W	1L Amber	2		None	3A, 3B		X													
Outfall 006	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 006	W	500 mL Poly	1		None	5				X											
Outfall 006	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 006	W	2.5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 006	W	500 mL Poly	1	12-20-2010	NaOH	8							X								
Outfall 006	W	1 Gal Poly	1	16:37	None	9								X							Only test if first or second rain events of the year

21:20
12/21/10
NO

COC Page 2 of 2 list the Composite Samples for Outfall 006 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 006 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Banaga	12-21-2010 12:20		12-21-10 12:20
Relinquished By	Date/Time:	Received By	Date/Time:
	12-21-10 17:55		
Relinquished By	Date/Time:	Received By	Date/Time:
			12/21/10 17:55

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

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

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

21M04 2.5

LABORATORY REPORT

Aquatic Testing Laboratories

"dedicated to providing quality aquatic toxicity testing"

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

Date: December 29, 2010

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

Laboratory No.: A-10122102-001
Sample I.D.: ITL2015-02 (Outfall 006)

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

Date Sampled:	12/20/10 - composite
Date Received:	12/21/10
Temp. Received:	5.7°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	12/21/10 to 12/27/10

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

Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

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

Result Summary:

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

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0

Aquatic Testing Laboratories

Lab No.: A-10122102-001
Client/ID: Test America - ITL2015-02 (Outfall 006)

Date Tested: 12/21/10 to 12/27/10

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia.*
Age: < 24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
QA/QC Batch No.: RT-101207.

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

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	22.4
100% Sample	100%	23.4
* Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (22.4 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 20.6%)
Statistically significantly different concentrations relative difference >13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date:	12/21/2010 15:00	Test ID:	10122102c	Sample ID:	Outfall 006
End Date:	12/27/2010 15:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/20/2010 16:37	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

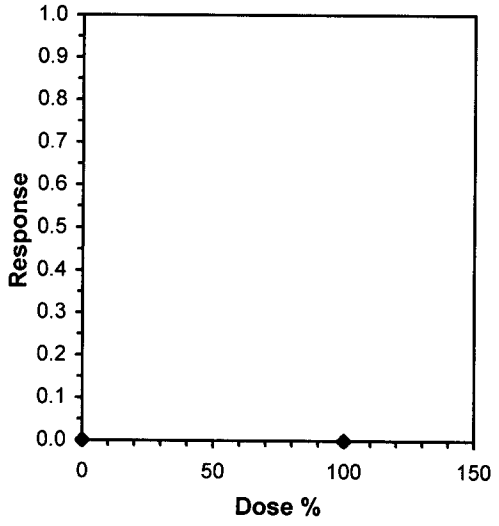
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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

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

Linear Interpolation (200 Resamples)

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



Reviewed by:

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	12/21/2010 15:00	Test ID:	10122102c	Sample ID:	Outfall 006
End Date:	12/27/2010 15:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/20/2010 16:37	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	11.000	27.000	20.000	29.000	24.000	15.000	23.000	26.000	25.000	24.000
100	26.000	28.000	29.000	25.000	26.000	22.000	11.000	27.000	13.000	27.000

			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	22.400	1.0000	22.400	11.000	29.000	24.918	10			22.900	1.0000
100	23.400	1.0446	23.400	11.000	29.000	26.968	10	116.50	82.00	22.900	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.82183	0.905	-1.2215	0.27626
F-Test indicates equal variances (p = 0.72)	1.27817	6.54109		

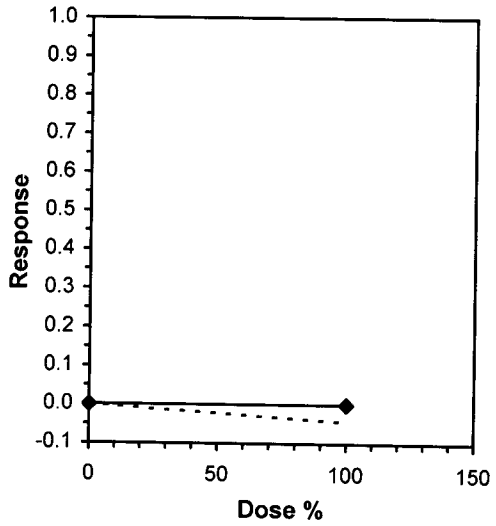
Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Treatments vs D-Control

Linear Interpolation (200 Resamples)

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



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-10122102-001
Client ID: TestAmerica - Outfall 006
Start Date: 12/21/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:														—	—
Time of Readings:		1500	1500	1500	1400	1400	1500	1500	1430	1430	1500	1500	1500	—	—
Control	DO	8.8	8.3	8.0	8.4	8.0	8.2	8.6	8.1	8.4	8.0	8.3	8.0	—	—
	pH	8.2	8.2	8.2	8.1	8.2	8.1	8.2	8.2	8.2	8.2	8.2	8.2	—	—
	Temp	24.3	24.7	25.1	24.8	24.2	24.6	24.2	24.3	24.2	24.1	24.2	24.4	—	—
100%	DO	9.8	8.0	7.9	8.1	10.0	8.2	9.9	7.9	8.1	8.0	9.9	8.1	—	—
	pH	7.6	8.2	8.2	8.3	7.6	8.3	7.6	8.2	7.6	8.2	7.7	8.2	—	—
	Temp	24.6	24.3	24.3	25.2	24.5	24.6	24.6	24.3	24.2	24.2	24.3	24.4	—	—

Additional Parameters	Control	100% Sample
Conductivity (umohms)	310	400
Alkalinity (mg/l $CaCO_3$)	77	78
Hardness (mg/l $CaCO_3$)	88	66
Ammonia (mg/l NH_3-N)	<0.1	0.3

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

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	4	3	0	0	3	0	4	0	14	10	
	4	4	3	0	0	4	5	5	4	0	5	30	10	
	5	7	9	6	10	7	10	15	10	7	6	87	10	
	6	0	15	10	16	13	0	0	12	14	13	93	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	11	27	20	29	24	15	23	26	25	24	224	10	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	3	4	5	0	3	4	0	0	0	19	10	
	4	4	0	0	0	5	0	0	5	4	4	22	10	
	5	7	9	11	7	7	8	7	10	9	8	83	10	
	6	15	16	14	13	14	11	0	12	0	15	110	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	26	28	29	25	26	22	11	27	13	27	234	10	

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

Aquatic
Testing
Laboratories

CHAIN OF CUSTODY

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Semi-Annual Outfall 006** **COMPOSITE LOW** Stormwater at FSDF-2
Project Manager: Bronwyn Kelly Sampler: Rick Banagh	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, Perchlorate	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)	Cyanide	Chronic Toxicity							Comments
Outfall 006	W	1L Poly	1	12-20-2010	HNO_3	2A	X														
Outfall 006 Dup	W	1L Poly	1	16:37	HNO_3	2B	X														
Outfall 006	W	1L Amber	2		None	3A, 3B		X													
Outfall 006	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 006	W	500 mL Poly	1		None	5				X											
Outfall 006	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 006	W	2 5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 006	W	500 mL Poly	1	12-20-2010	NaOH	8							X								
Outfall 006	W	1 Gal Poly	1	16:37	None	9								X							Only test if first or second rain events of the year

COC Page 2 of 2 list the Composite Samples for Outfall 006 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 006 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Banagh	12-21-2010 12:20		12-21-10 12:20
Relinquished By	Date/Time:	Received By	Date/Time:
	12-21-10 13:50		12-21-101350
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)

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

48 Hour: _____ 5 Day: X Normal: _____

Sample Integrity (Check)

Intact: _____ On Ice: X

Data Requirements: (Check)

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

SUBCONTRACT ORDER

TestAmerica Irvine

ITL2015

SENDING LABORATORY:

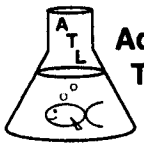
TestAmerica Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Debby Wilson

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB
4350 Transport Street, Unit 107
Ventura, CA 93003
Phone :(805) 650-0546
Fax: (805) 650-0756

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: ITL2015-02	**Water**	**Sampled: 12/20/10 16:37**		
Bioassay-7 dy Chrnic	12/28/10 15:00	12/22/10 04:37		Cerio, EPA/821-R02-013, Sub to Aquatic testing
Containers Supplied:				
1 gal Poly (M)				Outfall 006

Released By	Date	Received By	Date
			12-21-10 1350
Released By	Date	Received By	Date



Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-101207

Date Tested: 12/07/10 to 12/13/10

TEST SUMMARY

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

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

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		23.3	
0.25 g/l	100%		25.2	
0.5 g/l	100%		23.7	
1.0 g/l	100%		16.0	*
2.0 g/l	100%		2.9	*
4.0 g/l	0%	*	0	**

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

CHRONIC TOXICITY

Survival LC50	2.8 g/l
Reproduction IC25	0.86 mg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (23.3 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 18.9%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 31.3%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date:	12/7/2010 14:00	Test ID:	RT101207c	Sample ID:	REF-Ref Toxicant
End Date:	12/13/2010 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/6/2010	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

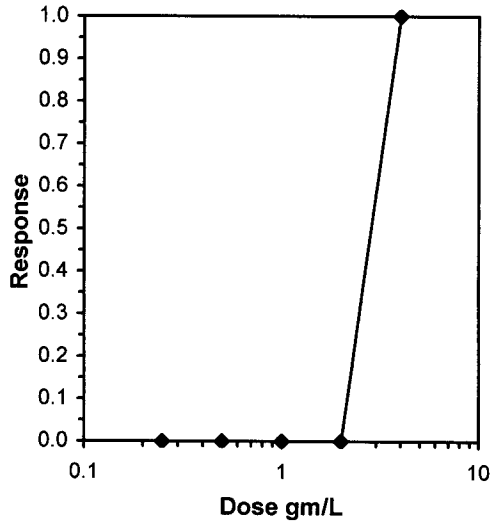
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000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

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

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

Graphical Method

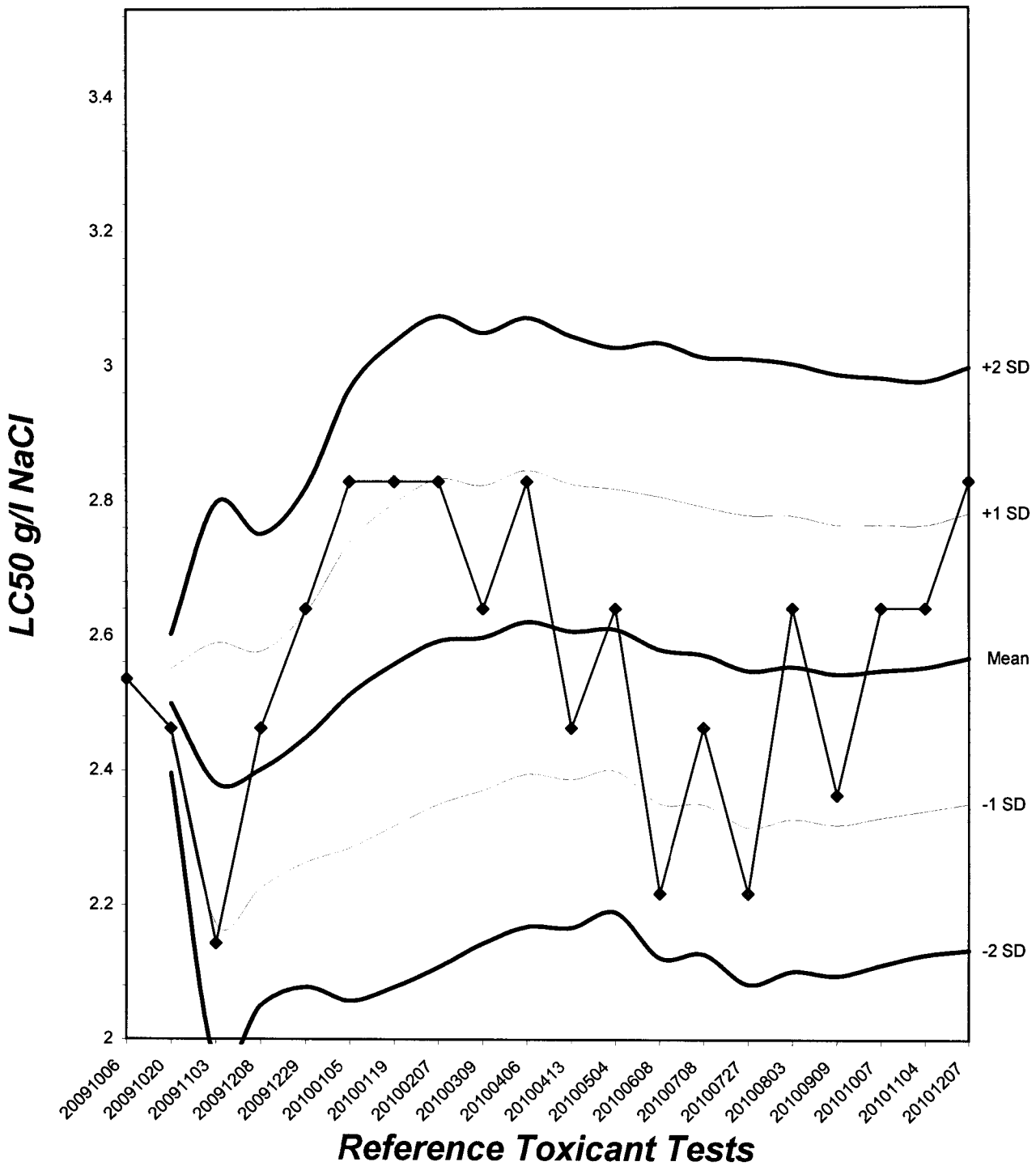
Trim Level	EC50
0.0%	2.8284
	2.8284



Reviewed by:

Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 8.41



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	12/7/2010 14:00	Test ID:	RT101207c	Sample ID:	REF-Ref Toxicant
End Date:	12/13/2010 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/6/2010	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	22.000	11.000	28.000	27.000	26.000	28.000	21.000	28.000	27.000	15.000
0.25	28.000	29.000	21.000	21.000	28.000	28.000	28.000	25.000	25.000	19.000
0.5	25.000	17.000	20.000	26.000	24.000	29.000	29.000	23.000	25.000	19.000
1	10.000	10.000	20.000	22.000	20.000	11.000	15.000	12.000	24.000	16.000
2	0.000	2.000	7.000	4.000	2.000	4.000	0.000	5.000	2.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

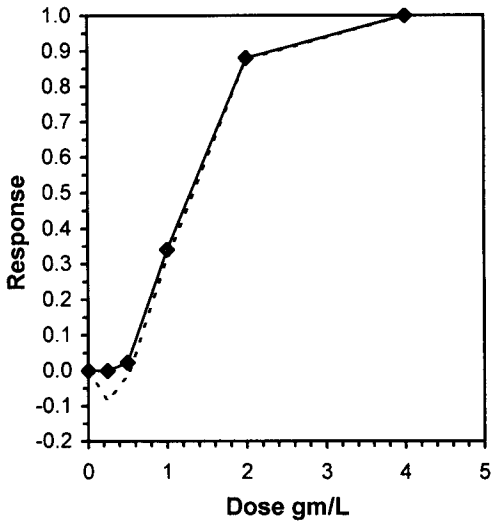
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	23.300	1.0000	23.300	11.000	28.000	25.913	10				24.250	1.0000
0.25	25.200	1.0815	25.200	19.000	29.000	14.466	10	-0.959	2.223	4.404	24.250	1.0000
0.5	23.700	1.0172	23.700	17.000	29.000	17.000	10	-0.202	2.223	4.404	23.700	0.9773
*1	16.000	0.6867	16.000	10.000	24.000	32.676	10	3.686	2.223	4.404	16.000	0.6598
*2	2.900	0.1245	2.900	0.000	7.000	75.285	10	10.299	2.223	4.404	2.900	0.1196
4	0.000	0.0000	0.000	0.000	0.000	0.000	10				0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96459	0.947	-0.5938	0.09413
Bartlett's Test indicates equal variances (p = 0.06)	8.97697	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.5	1	0.70711		4.40372	0.189	860.47	19.6156	5.6E-15	4, 45

Linear Interpolation (200 Resamples)

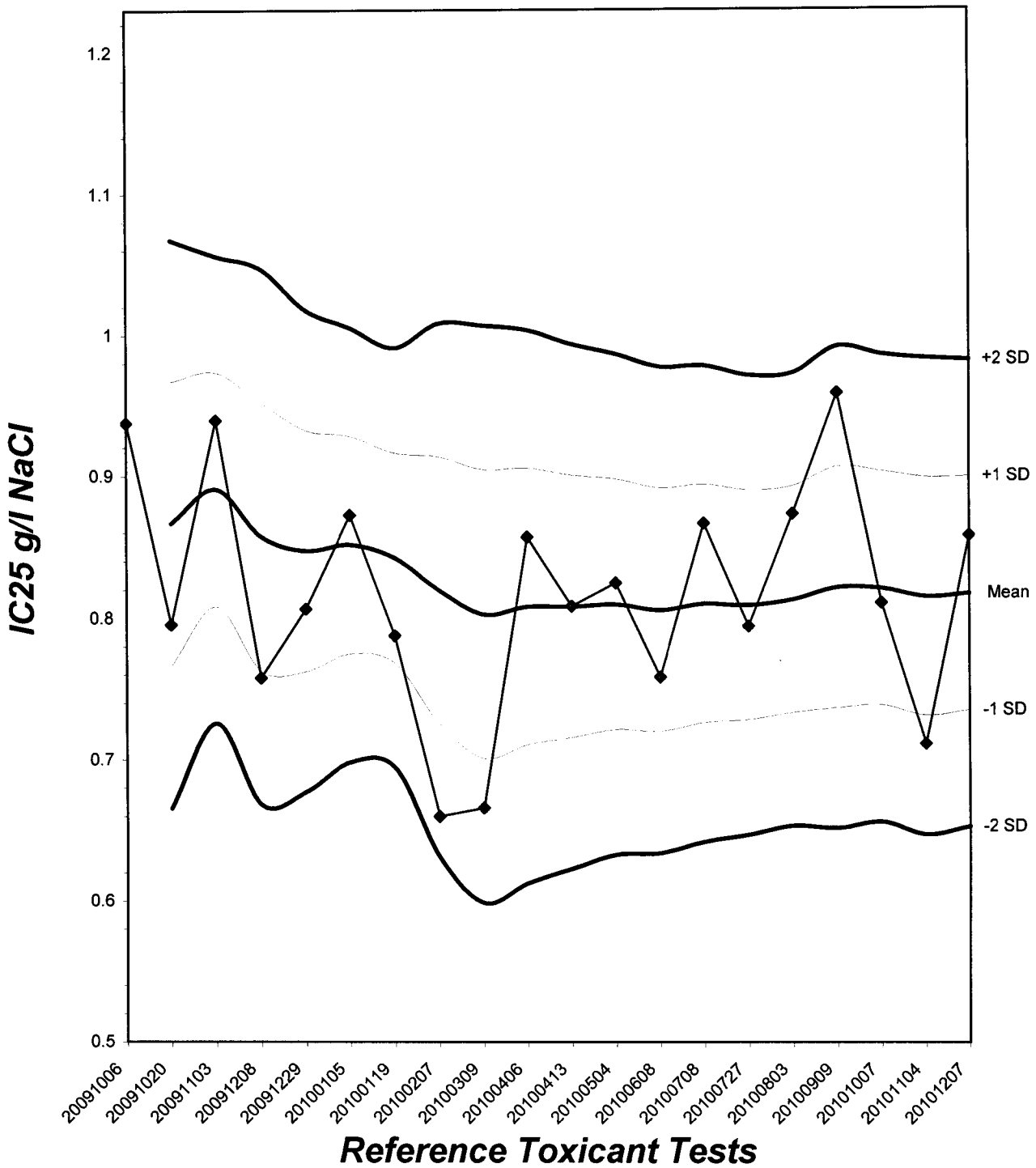
Point	gm/L	SD	95% CL		Skew
IC05	0.5430	0.1060	0.2194	0.6041	-1.2164
IC10	0.6218	0.0833	0.4101	0.7081	-1.1699
IC15	0.7005	0.0819	0.5141	0.8292	-0.4850
IC20	0.7792	0.0859	0.5998	0.9452	0.1951
IC25	0.8580	0.0903	0.6963	1.0439	0.3636
IC40	1.1107	0.1011	0.9055	1.2772	-0.0498
IC50	1.2958	0.0936	1.0659	1.4429	-0.4534



Reviewed by:_____

Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 10.1



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

Aquatic Testing Laboratories

QA/QC No.: RT-101207

Start Date:12/07/2010

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	4	0	0	0	0	0	0	0	4	10	
	4	3	3	0	5	4	2	3	4	4	3	31	10	
	5	9	8	6	7	8	9	6	9	7	0	69	10	
	6	10	0	18	15	14	17	12	15	16	12	129	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	22	11	28	27	26	28	21	28	27	15	233	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	4	0	0	0	0	0	0	0	4	10	
	4	4	3	0	4	5	4	4	3	4	4	35	10	
	5	6	9	7	0	8	10	9	7	7	0	63	10	
	6	18	17	10	17	15	14	15	15	14	15	150	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	28	29	21	21	28	28	28	25	25	19	252	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	4	0	0	0	0	0	0	4	10	
	4	4	3	4	0	5	4	4	3	3	4	34	10	
	5	6	0	6	8	7	9	7	6	7	0	56	10	
	6	15	14	10	14	12	16	18	14	15	15	143	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	25	17	20	26	24	29	29	23	25	19	237	10	

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

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

Aquatic Testing Laboratories

QA/QC No.: RT-101207

Start Date:12/07/2010

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	0	0	10	
	4	4	3	4	4	5	4	3	4	4	3	38	10	
	5	0	7	6	6	7	0	0	0	6	6	38	10	
	6	6	0	10	12	8	7	12	8	14	7	84	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	10	10	20	22	20	11	15	12	24	16	160	10	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	0	0	10	
	4	0	0	0	0	2	0	0	2	0	0	4	10	
	5	0	2	3	0	0	4	0	0	2	0	11	10	
	6	0	0	4	4	0	0	0	3	0	3	14	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	0	2	7	4	2	4	0	5	2	3	29	10	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

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

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Water Chemistries Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-101207

Start Date:12/07/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst Initials:															
Time of Readings:		1400	1500	1500	1400	1400	1400	1400	1300	1300	1330	1330	1400	—	—
Control	DO	8.4	8.7	8.4	8.6	8.7	8.3	8.2	8.4	8.1	7.9	8.2	7.6	—	—
	pH	8.2	8.3	8.4	7.9	8.2	8.0	8.2	8.0	8.1	7.9	8.2	8.2	—	—
	Temp	25.0	24.3	25.0	24.5	25.0	24.6	24.8	24.7	25.1	25.0	25.3	25.2	—	—
0.25 g/l	DO	8.4	8.8	8.4	8.6	8.6	8.3	8.2	8.4	8.2	7.9	8.2	7.7	—	—
	pH	8.2	8.3	8.3	7.9	8.2	8.0	8.2	8.0	8.1	8.1	8.2	8.2	—	—
	Temp	25.0	24.6	25.0	24.8	25.0	25.0	24.8	24.8	25.1	25.0	25.2	25.2	—	—
0.5 g/l	DO	8.5	8.8	8.4	8.7	8.6	8.4	8.2	8.3	8.2	7.9	8.3	7.6	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.1	7.9	8.2	8.1	—	—
	Temp	25.0	24.7	25.1	24.8	25.0	25.1	24.9	24.9	25.0	25.1	24.6	25.1	—	—
1.0 g/l	DO	8.5	8.7	8.4	8.7	8.5	8.4	8.2	8.3	8.2	8.3	8.3	7.7	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.2	7.9	8.2	8.1	—	—
	Temp	24.9	24.6	25.1	24.9	25.1	25.0	24.9	24.9	25.0	25.0	24.5	24.9	—	—
2.0 g/l	DO	8.6	8.6	8.5	8.8	8.3	8.4	8.2	8.5	8.2	8.2	8.2	7.9	—	—
	pH	8.2	8.2	8.3	7.9	8.1	8.0	8.2	8.0	8.2	7.9	8.2	8.1	—	—
	Temp	24.8	24.8	25.2	24.8	25.2	24.9	25.0	24.8	24.9	24.9	24.5	25.2	—	—
4.0 g/l	DO	8.7	8.8	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.1	8.2	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.6	24.8	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O_2; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	325	329	322	6470	3690	3430
Alkalinity (mg/l $CaCO_3$)	74	73	73	73	74	74
Hardness (mg/l $CaCO_3$)	87	88	89	90	89	89

Source of Neonates

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

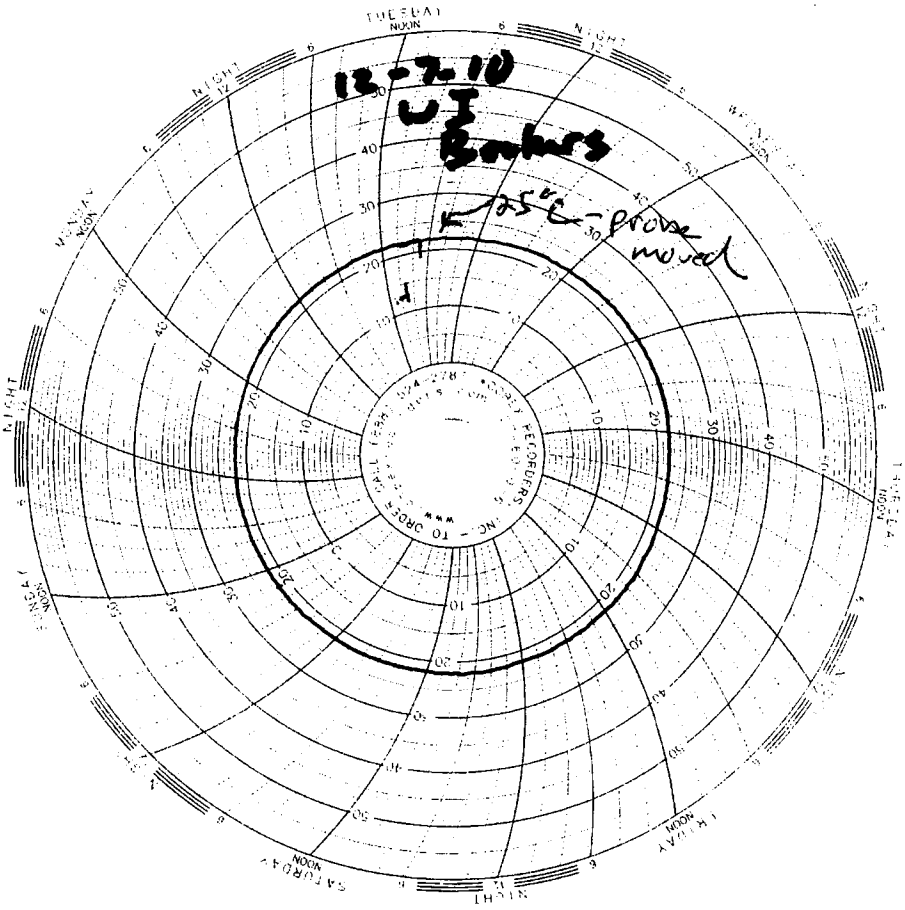
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-101207

Date Tested: 12/07/10 to 12/13/10

Acceptable Range: 25+/- 1°C



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

January 28, 2011

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

Reference: **Test America-Irvine ITL2015**
Eberline Analytical Report S012315-8648
Sample Delivery Group 8648

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. ITL2015. The sample was received on December 23, 2010.

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 8648 consists of the analytical results and supporting documentation for one water sample. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

For efficiency of analysis, sample ITL2015-02 was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8647 and are 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 – The K-40 MDA for the QC blank (54.4 pCi/L) and sample ITL2015-2 (31.2 pCi/L) were greater than the required detection limit of 25 pCi/L, due to an elevated K40 background in the ROI for K40 on the detector used for the QC blank and sample. No other problems were encountered during the processing of the samples. All other 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

1/28/11
Date

E B E R L I N E A N A L Y T I C A L
SDG 8648

SDG 8648	Client Test America, Inc.
Contact N. Joseph Verville	Contract ITL2015

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

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

About this section	1
Sample Summaries	3
Prep Batch Summary	5
Work Summary	6
Method Blanks	8
Lab Control Samples	9
Duplicates	10
Data Sheets	11
Method Summaries	12
Report Guides	20
End of Section	34

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

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 01/26/11

SDG 8648
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2015

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 01/26/11

EBERLINE ANALYTICAL

SDG 8648

LAB SAMPLE SUMMARY

SDG 8648
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2015

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S012314-02	Lab Control Sample		WATER				
S012314-03	Method Blank		WATER				
S012314-04	Duplicate (S012314-01)	Boeing-SSFL	WATER				12/21/10 10:17
S012315-01	ITL2015-02	Boeing-SSFL	WATER			ITL2015	12/20/10 16:37

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

SDG 8648
Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract ITL2015

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS RECEIVED	SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8647		Method Blank	WATER						S012314-03	8647-003
		Lab Control Sample	WATER						S012314-02	8647-002
		Duplicate (S012314-01)	WATER		9.5 L		12/23/10	2	S012314-04	8647-004
8648	ITL2015	ITL2015-02	WATER		9.5 L		12/23/10	3	S012315-01	8648-001

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

PREP BATCH SUMMARY

SDG 8648
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2015

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	7258-160	10.4	1			1	1	1/0/1		
SR	WATER	Strontium-90 in Water	7258-160	10.4	1			1	1	1/0/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7258-160	20.6	1			1	1	1/0/1		
80B	WATER	Gross Beta in Water	7258-160	11.0	1			1	1	1/0/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7258-160	7.0	1			1	1	1/0/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7258-160		1			1	1	1/0/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7258-160	10.0	1			1	1	1/0/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7258-160	16.4	1			1	1	1/0/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

SDG 8648
Contact N. Joseph Verville

LAB WORK SUMMARY

Client Test America, Inc.
Contract ITL2015

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S012314-02	Lab Control Sample		8647-002	80A/80		01/05/11	01/06/11	BW	Gross Alpha in Water
		WATER	8647-002	80B/80		01/05/11	01/06/11	BW	Gross Beta in Water
			8647-002	AC		01/21/11	01/24/11	BW	Radium-228 in Water
			8647-002	GAM		01/06/11	01/11/11	MWT	Gamma Emitters in Water
			8647-002	H		01/14/11	01/24/11	BW	Tritium in Water
			8647-002	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8647-002	SR		01/13/11	01/24/11	BW	Strontium-90 in Water
			8647-002	U_T		01/20/11	01/24/11	BW	Uranium, Total
S012314-03	Method Blank		8647-003	80A/80		01/05/11	01/06/11	BW	Gross Alpha in Water
		WATER	8647-003	80B/80		01/05/11	01/06/11	BW	Gross Beta in Water
			8647-003	AC		01/21/11	01/24/11	BW	Radium-228 in Water
			8647-003	GAM		01/06/11	01/11/11	MWT	Gamma Emitters in Water
			8647-003	H		01/14/11	01/24/11	BW	Tritium in Water
			8647-003	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8647-003	SR		01/13/11	01/24/11	BW	Strontium-90 in Water
			8647-003	U_T		01/20/11	01/24/11	BW	Uranium, Total
S012314-04	Duplicate (S012314-01)		8647-004	80A/80		01/05/11	01/06/11	BW	Gross Alpha in Water
12/21/10	Boeing-SSFL	WATER	8647-004	80B/80		01/05/11	01/06/11	BW	Gross Beta in Water
12/23/10			8647-004	AC		01/21/11	01/24/11	BW	Radium-228 in Water
			8647-004	GAM		01/06/11	01/11/11	MWT	Gamma Emitters in Water
			8647-004	H		01/14/11	01/24/11	BW	Tritium in Water
			8647-004	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8647-004	SR		01/13/11	01/24/11	BW	Strontium-90 in Water
			8647-004	U_T		01/20/11	01/24/11	BW	Uranium, Total
S012315-01	ITL2015-02		8648-001	80A/80		01/05/11	01/06/11	BW	Gross Alpha in Water
12/20/10	Boeing-SSFL	WATER	8648-001	80B/80		01/05/11	01/06/11	BW	Gross Beta in Water
12/23/10	ITL2015		8648-001	AC		01/21/11	01/24/11	BW	Radium-228 in Water
			8648-001	GAM		01/06/11	01/11/11	MWT	Gamma Emitters in Water
			8648-001	H		01/14/11	01/24/11	BW	Tritium in Water
			8648-001	RA		01/21/11	01/24/11	BW	Radium-226 in Water
			8648-001	SR		01/13/11	01/24/11	BW	Strontium-90 in Water
			8648-001	U_T		01/21/11	01/24/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract ITL2015

COUNTS OF TESTS BY SAMPLE TYPE

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

8647-003 Method Blank

METHOD BLANK

SDG	8648	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	ITL2015
Lab sample id	S012314-03	Client sample id	Method Blank
Dept sample id	8647-003	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.064	0.27	0.642	3.00	U	80A
Gross Beta	12587472	-0.434	0.55	0.952	4.00	U	80B
Tritium	10028178	107	210	345	500	U	H
Radium-226	13982633	0.035	0.34	0.641	1.00	U	RA
Radium-228	15262201	-0.175	0.20	0.544	1.00	U	AC
Strontium-90	10098972	-0.069	0.30	0.735	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		54.4	25.0	U	GAM
Cesium-137	10045973	U		3.09	20.0	U	GAM

QC-BLANK #76684

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/26/11

EBERLINE ANALYTICAL

SDG 8648

8647-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8648
Client Test America, Inc.
Contact N. Joseph Verville
Contract ITL2015

Lab sample id S012314-02
Client sample id Lab Control Sample
Dept sample id 8647-002
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	40.4	2.4	0.611	3.00		80A	40.4	1.6	100	78-122	70-130
Gross Beta	33.8	1.5	1.24	4.00		80B	35.0	1.4	97	88-112	70-130
Tritium	2850	310	343	500		H	2550	100	112	83-117	80-120
Radium-226	61.0	2.5	0.793	1.00		RA	55.7	2.2	110	81-119	80-120
Radium-228	5.39	0.63	0.530	1.00		AC	4.63	0.19	116	81-119	60-140
Strontium-90	17.4	1.2	0.548	2.00		SR	17.5	0.70	99	87-113	80-120
Uranium, Total	56.3	6.8	0.174	1.00		U_T	56.5	2.3	100	87-113	80-120
Cobalt-60	103	5.6	2.28	10.0		GAM	102	4.1	101	90-110	80-120
Cesium-137	118	4.8	3.29	20.0		GAM	110	4.4	107	90-110	80-120

QC-LCS #76683

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

8647-004 ITL2014-03

DUPLICATE

SDG 8648 Client Test America, Inc.
Contact N. Joseph Verville Contract ITL2015

DUPLICATE	ORIGINAL	
Lab sample id S012314-04	Lab sample id S012314-01	Client sample id ITL2014-03
Dept sample id 8647-004	Dept sample id 8647-001	Location/Matrix Boeing-SSFL WATER
	Received 12/23/10	Collected/Volume 12/21/10 10:17 9.5 L
		Chain of custody id ITL2014

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	1.12	0.41	0.446	3.00	J	80A	0.948	0.36	0.399	J	17	90	0.6
Gross Beta	4.03	0.65	0.887	4.00		80B	4.30	0.65	0.868		6	41	0.5
Tritium	155	210	345	500	U	H	144	200	340	U	-		0.1
Radium-226	0.179	0.37	0.641	1.00	U	RA	0.312	0.42	0.710	U	-		0.5
Radium-228	0.010	0.33	0.728	1.00	U	AC	0.125	0.26	0.604	U	-		0.5
Strontium-90	0.168	0.31	0.654	2.00	U	SR	0.018	0.28	0.637	U	-		0.7
Uranium, Total	0.245	0.029	0.017	1.00	J	U_T	0.237	0.028	0.017	J	3	25	0.4
Potassium-40	U		14.3	25.0	U	GAM	U		24.0	U	-		0.7
Cesium-137	U		1.09	20.0	U	GAM	U		1.80	U	-		0.7

QC-DUP#1 76685

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

8648-001 ITL2015-02

DATA SHEET

SDG	8648	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	ITL2015
Lab sample id	S012315-01	Client sample id	ITL2015-02
Dept sample id	8648-001	Location/Matrix	Boeing-SSFL WATER
Received	12/23/10	Collected/Volume	12/20/10 16:37 9.5 L
		Chain of custody id	ITL2015

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	2.00	0.78	0.822	3.00	J	80A
Gross Beta	12587472	4.28	0.93	1.37	4.00		80B
Tritium	10028178	124	210	352	500	U	H
Radium-226	13982633	0.339	0.37	0.594	1.00	U	RA
Radium-228	15262201	-0.019	0.19	0.439	1.00	U	AC
Strontium-90	10098972	-0.042	0.29	0.708	2.00	U	SR
Uranium, Total		0.384	0.045	0.017	1.00	J	U_T
Potassium-40	13966002	U		31.2	25.0	U	GAM
Cesium-137	10045973	U		1.54	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/26/11

EBERLINE ANALYTICAL

SDG 8648

Test AC Matrix WATER
SDG 8648
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7258-160						
S012314-02			8647-002	Lab Control Sample	ok	
S012314-03			8647-003	Method Blank	U	
S012314-04			8647-004	Duplicate (S012314-01)	-	U
S012315-01			8648-001	ITL2015-02	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 7258-160 2σ prep error 10.4 % Reference Lab Notebook No. 7258 pg. 160																
S012314-02			Lab Control Sample	0.530	1.80			93		120				01/21/11	01/21	GRB-222
S012314-03			Method Blank	0.544	1.80			91		120				01/21/11	01/21	GRB-223
S012314-04			Duplicate (S012314-01)	0.728	1.80			76		120			31	01/21/11	01/21	GRB-224
S012315-01			ITL2015-02	0.439	1.80			82		150			32	01/21/11	01/21	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 4 SAMPLES
MDA 0.560 ± 0.242
YIELD 86 ± 16

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

Test SR Matrix WATER
SDG 8648
Contact N. Joseph Verville

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7258-160						
S012314-02			8647-002	Lab Control Sample	ok	
S012314-03			8647-003	Method Blank	U	
S012314-04			8647-004	Duplicate (S012314-01)	-	U
S012315-01			8648-001	ITL2015-02	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 7258-160			2σ prep error 10.4 %	Reference Lab Notebook No. 7258 pg. 160												
S012314-02			Lab Control Sample	0.548	0.500			85		60				01/08/11	01/13	GRB-204
S012314-03			Method Blank	0.735	0.500			73		50				01/08/11	01/13	GRB-204
S012314-04			Duplicate (S012314-01)	0.654	0.500			77		50			23	01/08/11	01/13	GRB-202
S012315-01			ITL2015-02	0.708	0.500			70		50			30	01/19/11	01/13	GRB-203
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 4 SAMPLES
MDA 0.661 ± 0.165
YIELD 76 ± 13

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

Test 80A Matrix WATER
SDG 8648
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7258-160						
S012314-02	80		8647-002	Lab Control Sample	ok	
S012314-03	80		8647-003	Method Blank	U	
S012314-04	80		8647-004	Duplicate (S012314-01)	ok	J
S012315-01	80		8648-001	ITL2015-02	2.00	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 7258-160 2σ prep error 20.6 % Reference Lab Notebook No. 7258 pg. 160																
S012314-02	80		Lab Control Sample	0.611	0.250			60		400				01/04/11	01/05	GRB-103
S012314-03	80		Method Blank	0.642	0.250			60		400				01/04/11	01/05	GRB-104
S012314-04	80		Duplicate (S012314-01)	0.446	0.300			36		400			15	01/04/11	01/05	GRB-105
S012315-01	80		ITL2015-02	0.822	0.300			109		400			16	01/04/11	01/05	GRB-107
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 4 SAMPLES
MDA 0.630 ± 0.308
RESIDUE 66 ± 61

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8648
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 7258-160					
S012314-02	80		8647-002	Lab Control Sample	ok
S012314-03	80		8647-003	Method Blank	U
S012314-04	80		8647-004	Duplicate (S012314-01)	ok
S012315-01	80		8648-001	ITL2015-02	4.28
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 7258-160 2σ prep error 11.0 % Reference Lab Notebook No. 7258 pg. 160																
S012314-02	80		Lab Control Sample	1.24	0.250			60		400				01/04/11	01/05	GRB-103
S012314-03	80		Method Blank	0.952	0.250			60		400				01/04/11	01/05	GRB-104
S012314-04	80		Duplicate (S012314-01)	0.887	0.300			36		400			15	01/04/11	01/05	GRB-105
S012315-01	80		ITL2015-02	1.37	0.300			109		400			16	01/04/11	01/05	GRB-107
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 4 SAMPLES
MDA 1.11 ± 0.461
RESIDUE 66 ± 61

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8648
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7258-160							
S012314-02			8647-002	Lab Control Sample	ok	ok	
S012314-03			8647-003	Method Blank		U	
S012314-04			8647-004	Duplicate (S012314-01)		-	U
S012315-01			8648-001	ITL2015-02		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 7258-160			2σ prep error 7.0 %	Reference Lab Notebook No. 7258 pg. 160												
S012314-02			Lab Control Sample		2.00					402				12/30/10	01/06	MB,02,00
S012314-03			Method Blank		2.00					400				12/30/10	01/06	MB,05,00
S012314-04			Duplicate (S012314-01)		2.00					708			16	12/30/10	01/06	MB,08,00
S012315-01			ITL2015-02		2.00					708			17	01/04/11	01/06	01,01,00
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 01/26/11

EBERLINE ANALYTICAL

SDG 8648

Test U T Matrix WATER
SDG 8648
Contact N. Joseph Verville

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total	
Preparation batch 7258-160						
S012314-02			8647-002	Lab Control Sample	ok	
S012314-03			8647-003	Method Blank	U	
S012314-04			8647-004	Duplicate (S012314-01)	ok	J
S012315-01			8648-001	ITL2015-02	0.384	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 7258-160			2σ prep error		Reference Lab Notebook No. 7258 pg. 160											
S012314-02			Lab Control Sample	0.174	0.0200									12/30/10	01/20	KPA-001
S012314-03			Method Blank	0.017	0.0200									12/30/10	01/20	KPA-001
S012314-04			Duplicate (S012314-01)	0.017	0.0200								30	12/30/10	01/20	KPA-001
S012315-01			ITL2015-02	0.017	0.0200								32	12/30/10	01/21	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.056 ± 0.157
YIELD ____ ± ____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

Test H Matrix WATER
SDG 8648
Contact N. Joseph Verville

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7258-160						
S012314-02			8647-002	Lab Control Sample	ok	
S012314-03			8647-003	Method Blank	U	
S012314-04			8647-004	Duplicate (S012314-01)	-	U
S012315-01			8648-001	ITL2015-02	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 7258-160			2σ prep error 10.0 %	Reference Lab Notebook No. 7258 pg. 160												
S012314-02			Lab Control Sample	343	0.100		10		50				01/13/11	01/14	LSC-005	
S012314-03			Method Blank	345	0.100		10		50				01/13/11	01/14	LSC-005	
S012314-04			Duplicate (S012314-01)	345	0.0100		100		50			24	01/13/11	01/14	LSC-005	
S012315-01			ITL2015-02	352	0.0100		100		50			25	01/13/11	01/14	LSC-005	
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 346 ± 7.90
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/26/11

EBERLINE ANALYTICAL

SDG 8648

Test RA Matrix WATER
SDG 8648
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Client Test America, Inc.
Contract ITL2015

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7258-160						
S012314-02			8647-002	Lab Control Sample	ok	
S012314-03			8647-003	Method Blank	U	
S012314-04			8647-004	Duplicate (S012314-01)	-	U
S012315-01			8648-001	ITL2015-02	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 7258-160			2σ prep error 16.4 %	Reference Lab Notebook No. 7258 pg. 160												
S012314-02			Lab Control Sample	0.793	0.100			100		102				01/21/11	01/21	RN-009
S012314-03			Method Blank	0.641	0.100			100		86				01/21/11	01/21	RN-013
S012314-04			Duplicate (S012314-01)	0.641	0.100			100		86			31	01/21/11	01/21	RN-011
S012315-01			ITL2015-02	0.594	0.100			100		86			32	01/21/11	01/21	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 4 SAMPLES
MDA 0.667 ± 0.173
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

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 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

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 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

WORK SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

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 01/26/11

SDG 8648
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2015

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 01/26/11

SDG 8648
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2015

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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

* The second limit for the RPD is the larger of:

  1. A fixed percentage specified in the protocol.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2015

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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2015

MATRIX SPIKE

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

SDG 8648
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2015

METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/26/11

METHOD SUMMARY

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

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

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

  MDAs are underlined if greater than the printed RDL.

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

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

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

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

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

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

* Count times are underlined if less than the nominal value

METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

SDG 8648
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2015

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 01/26/11

SUBCONTRACT ORDER
TestAmerica Irvine

ITL2015 8648

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

Sample ID: ITL2015-02 (Outfall 006 (Composite) - Water) Sampled: **12/20/10 16:37**

Analysis	Units	Due	Expires	Comments
Gamma Spec-O	mg/kg	12/30/10	12/20/11 16:37	Out St Louis, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	12/30/10	06/18/11 16:37	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	12/30/10	06/18/11 16:37	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	12/30/10	01/17/11 16:37	
Radium, Combined-O	pCi/L	12/30/10	12/20/11 16:37	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	12/30/10	12/20/11 16:37	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	12/30/10	12/20/11 16:37	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	12/30/10	12/20/11 16:37	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:
2.5 gal Poly (J) 500 mL Amber (K)

Released By	Date/Time	Received By	Date/Time
[signature]	12/22/10 17:00	FedEx	12/22/10 17:00
FED EX	12/23/10	[signature]	12/23/10 12:00

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 12/23/10 12:00 CoC No. ITL 2014 & 2015

Container I.D. No. N/A 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: 2 (Or see CoC _____)
8. Samples are in correct container Yes [✓] No [ ]
9. Paperwork agrees with samples? Yes [✓] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [✓]
11. Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [✓] Not preserved [ ] pH 2 Preservative _____
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by JK Date: 12/27/10 Time: 09:50

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 13

Outfall 006 – December 26, 2010

MEC^X Data Validation Report

THIS PAGE LEFT INTENTIONALLY BLANK

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2487

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:	ITL2487
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 006 (Composite)	ITL2487-02	G0l290487-001, S012367-01	Water	12/26/2010 9:58:00 PM	1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-Diss, SM 2540D , D5174

II. Sample Management

No anomalies were observed regarding sample management. The temperature upon receipt was not noted by Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. The remaining samples in this SDG were received at the laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples in this SDG were delivered by courier, custody seals were not required.

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: January 19, 2011

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

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

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

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

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

- Calibration: Calibration criteria were met.

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

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

- Blanks: The method blank had detects between the EDL and the RL for several isomers and totals. Most 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. Method blank concentrations of OCDD and OCDF were insufficient to qualify sample results. All remaining individual isomers detected in

both the method blank and site sample were qualified as nondetected, "U" at the EDL, or at the level of contamination in the sample. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: OCDD and 1,2,3,4,6,7,8-HpCDF were recovered above the control limits in the LCS. The sample result for OCDD was qualified as estimated, "J." Isomer 1,2,3,4,6,7,8-HpCDF was not reportable in the associated sample. The remaining 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. A confirmation analysis was performed for 2,3,7,8-TCDF; however, the original result was not confirmed, and was therefore reported as nondetected, "U."

- 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 previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Remaining isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Any totals including 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 METHOD 245.1—Mercury

Reviewed By: P. Meeks
Date Reviewed: January 14, 2011

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

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 85-115%. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: 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 8, 2011

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

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

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

  The gross alpha detector efficiency was less than 20%; therefore, gross alpha detected in the sample was qualified as estimated, "J." The remaining detector efficiencies were 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: There were 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 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: January 17, 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), EPA Standard Method SM2540D*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

- Calibration: The balance logs were acceptable.

- Blanks: TSS was not detected in the method blank.

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

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

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

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

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

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

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

Validated Sample Result Forms ITL2487

Analysis Method 8652

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.195	1	0.017	pCi/L	Jb	J	DNQ

Analysis Method 900

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	1.12	3	0.384	pCi/L	Jb	J	C, DNQ
Gross Beta	12587472	2.56	4	1.02	pCi/L	Jb	J	DNQ

Analysis Method 901.1

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.58	pCi/L	U	U	
Potassium-40	13966002	ND	25	19.4	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.039	1	0.567	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.11	1	0.434	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.051	2	0.587	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-36.2	500	272	pCi/L	U	U	

Analysis Method EPA 245.1

Sample Name Outfall 006 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 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 006 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 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 006 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 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	0.00005	0.00012	ug/L	B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000006	ug/L	J, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	3.6e-006	0.00005	0.0000008	ug/L	J	J	DNQ
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000001	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000003	ug/L	J, Q, B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000000	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000003	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000000	ug/L	J, Q, B	U	B
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	0.0000008	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000008	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	1.9e-006	0.00005	0.0000003	ug/L	J	J	DNQ
2,3,4,7,8-PeCDF	57117-31-4	7.4e-006	0.00005	0.0000007	ug/L	J	J	DNQ
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	0.0000018	ug/L		U	
OCDD	3268-87-9	0.0028	0.0001	0.0000057	ug/L	B	J	L
OCDF	39001-02-0	0.00014	0.0001	0.0000011	ug/L	B		
Total HpCDD	37871-00-4	0.00025	0.00005	0.0000019	ug/L	B	J	B
Total HpCDF	38998-75-3	0.0001	0.00005	0.0000007	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	1.2e-005	0.00005	0.0000000	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDF	55684-94-1	2.3e-005	0.00005	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000008	ug/L		U	
Total PeCDF	30402-15-4	2.4e-005	0.00005	0.0000006	ug/L	J, Q	J	DNQ, *III
Total TCDD	41903-57-5	ND	0.00001	0.0000004	ug/L		U	
Total TCDF	55722-27-5	8e-006	0.00001	0.0000004	ug/L	J, Q	J	DNQ, *III

Analysis Method SM 2540D

Sample Name Outfall 006 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2487-02 **Sample Date:** 12/26/2010 9:58:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	4.0	10	1.0	mg/l	Ja	J	DNQ

APPENDIX G

Section 14

Outfall 006 – December 26, 2010

Test America Analytical Laboratory Report

THIS PAGE LEFT INTENTIONALLY BLANK

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 006 2010
Routine Outfall 006

Sampled: 12/26/10
Received: 12/27/10
Issued: 02/02/11 17:03

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

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 2°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	Results that fall between the MDL and RL are 'J' flagged.
SUBCONTRACTED:	Refer to the last page for specific subcontract laboratory information included in this report.

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

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.

The method blank associated with this extraction batch has a detected concentration of OCDD above the reporting limit (RL) indicating a potential high bias in the data. After discussion with the client, the data is reported with a “B” flag and no further action is required for this sample.

The laboratory control sample (LCS) associated with this extraction batch has percent recoveries for 1,2,3,4,6,7,8-HpCDF and OCDD above the established control limits indicating a potential high bias in the data. It was determined that the cause of the elevated recoveries is due the spiking solution used for the LCS had concentrated. The QC Check data is included in the sample extraction section of the raw data. After discussion with the client, the data is reported and no further action is required for this sample.

LABORATORY ID	CLIENT ID	MATRIX
ITL2487-01	Outfall 006 (Grab)	Water
ITL2487-02	Outfall 006 (Composite)	Water

Reviewed By:

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-01 (Outfall 006 (Grab) - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	11A0059	4.7	1.3	ND	1	1/3/2011	1/3/2011	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1	10L3468	0.20	0.10	ND	1	12/30/2010	12/30/2010	
Antimony	EPA 200.8	10L3064	2.0	0.30	**0.34**	1	12/28/2010	12/29/2010	Ja
Cadmium	EPA 200.8	10L3064	1.0	0.10	ND	1	12/28/2010	12/29/2010	
Copper	EPA 200.8	10L3064	2.00	0.500	**2.98**	1	12/28/2010	12/29/2010	
Lead	EPA 200.8	10L3064	1.0	0.20	**0.88**	1	12/28/2010	12/29/2010	Ja
Thallium	EPA 200.8	10L3064	1.0	0.20	ND	1	12/28/2010	12/29/2010	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	10L3474	0.20	0.10	ND	1	12/30/2010	12/30/2010	
Antimony	EPA 200.8-Diss	10L3120	2.0	0.30	**0.32**	1	12/28/2010	12/29/2010	Ja
Cadmium	EPA 200.8-Diss	10L3120	1.0	0.10	ND	1	12/28/2010	12/29/2010	
Copper	EPA 200.8-Diss	10L3120	2.00	0.500	**1.14**	1	12/28/2010	12/28/2010	Ja
Lead	EPA 200.8-Diss	10L3120	1.0	0.20	ND	1	12/28/2010	12/29/2010	
Thallium	EPA 200.8-Diss	10L3120	1.0	0.20	ND	1	12/28/2010	12/29/2010	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

INORGANICS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)									
Reporting Units: mg/l									
Chloride	EPA 300.0	10L3000	0.50	0.25	**5.4**	1	12/27/2010	12/27/2010	
Nitrate/Nitrite-N	EPA 300.0	10L3000	0.26	0.15	**1.2**	1	12/27/2010	12/27/2010	
Sulfate	EPA 300.0	10L3000	0.50	0.20	**4.7**	1	12/27/2010	12/27/2010	
Total Dissolved Solids	SM2540C	10L3089	10	1.0	**120**	1	12/28/2010	12/28/2010	
Total Suspended Solids	SM 2540D	10L3361	10		ND	1	12/29/2010	12/29/2010	
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	10L3015	4.0	0.90	ND	1	12/28/2010	12/28/2010	
Total Cyanide	SM4500CN-E	10L3114	5.0		ND	1	12/28/2010	12/28/2010	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

8652

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Uranium, Total	8652	8652	1	**0.195**	1	1/20/2011	1/20/2011	Jb

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

900

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Gross Alpha	900	8652	3	**1.12**	1	1/6/2011	1/6/2011	Jb
Gross Beta	900	8652	4	**2.56**	1	1/6/2011	1/6/2011	Jb

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

901.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Cesium-137	901.1	8652	20	ND	1	1/5/2011	1/7/2011	U
Potassium-40	901.1	8652	25	ND	1	1/5/2011	1/7/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

903.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Radium-226	903.1	8652	1	**0.039**	1	1/22/2011	1/22/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

904

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Radium-228	904	8652	1	**0.11**	1	1/24/2011	1/24/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

905

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Strontium-90	905	8652	2	**0.051**	1	1/19/2011	1/13/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

906

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)								
Reporting Units: pCi/L								
Tritium	906	8652	500	**-36.2**	1	1/12/2011	1/12/2011	U

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

EPA-5 1613Bx

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	363256	0.00005	0.0000019	**0.00012**	1	12/29/2010	12/30/2010	B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	363256	0.00005	0.00000064	**2.1e-005**	1	12/29/2010	12/30/2010	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	363256	0.00005	0.0000008	**3.6e-006**	1	12/29/2010	12/30/2010	J
1,2,3,4,7,8-HxCDD	EPA-5 1613B	363256	0.00005	0.0000001	ND	1	12/29/2010	12/30/2010	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	363256	0.00005	0.00000034	**5.4e-006**	1	12/29/2010	12/30/2010	J, Q, B
1,2,3,6,7,8-HxCDD	EPA-5 1613B	363256	0.00005	0.00000009	**1.6e-006**	1	12/29/2010	12/30/2010	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	363256	0.00005	0.00000034	**2e-006**	1	12/29/2010	12/30/2010	J, Q
1,2,3,7,8,9-HxCDD	EPA-5 1613B	363256	0.00005	0.00000008	**1.1e-006**	1	12/29/2010	12/30/2010	J, Q, B
1,2,3,7,8,9-HxCDF	EPA-5 1613B	363256	0.00005	0.00000036	ND	1	12/29/2010	12/30/2010	
1,2,3,7,8-PeCDD	EPA-5 1613B	363256	0.00005	0.00000084	ND	1	12/29/2010	12/30/2010	
1,2,3,7,8-PeCDF	EPA-5 1613B	363256	0.00005	0.00000084	ND	1	12/29/2010	12/30/2010	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	363256	0.00005	0.00000032	**1.9e-006**	1	12/29/2010	12/30/2010	J
2,3,4,7,8-PeCDF	EPA-5 1613B	363256	0.00005	0.00000073	**7.4e-006**	1	12/29/2010	12/30/2010	J
2,3,7,8-TCDD	EPA-5 1613B	363256	0.00001	0.0000004	ND	1	12/29/2010	12/30/2010	
OCDD	EPA-5 1613B	363256	0.0001	0.0000057	**0.0028**	1	12/29/2010	12/30/2010	B
OCDF	EPA-5 1613B	363256	0.0001	0.0000011	**0.00014**	1	12/29/2010	12/30/2010	B
Total HpCDD	EPA-5 1613B	363256	0.00005	0.0000019	**0.00025**	1	12/29/2010	12/30/2010	B
Total HpCDF	EPA-5 1613B	363256	0.00005	0.00000071	**0.0001**	1	12/29/2010	12/30/2010	J, Q, B
Total HxCDD	EPA-5 1613B	363256	0.00005	0.00000009	**1.2e-005**	1	12/29/2010	12/30/2010	J, Q, B
Total HxCDF	EPA-5 1613B	363256	0.00005	0.00000034	**2.3e-005**	1	12/29/2010	12/30/2010	J, Q, B
Total PeCDD	EPA-5 1613B	363256	0.00005	0.00000084	ND	1	12/29/2010	12/30/2010	
Total PeCDF	EPA-5 1613B	363256	0.00005	0.00000067	**2.4e-005**	1	12/29/2010	12/30/2010	J, Q
Total TCDD	EPA-5 1613B	363256	0.00001	0.0000004	ND	1	12/29/2010	12/30/2010	
Total TCDF	EPA-5 1613B	363256	0.00001	0.00000044	**8e-006**	1	12/29/2010	12/30/2010	J, Q
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*92 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*79 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*82 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*74 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*67 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*78 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*64 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*67 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*79 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*80 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*66 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*75 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*76 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*70 %*				
Surrogate: 13C-OCDD (17-157%)					*83 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*90 %*				

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

EPA-5 1613Bx

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2487-02RE (Outfall 006 (Composite) - Water) - cont.									
Reporting Units: ug/L									
2,3,7,8-TCDF	EPA-5 1613B	363256	0.00001	0.0000018	ND	1	12/29/2010	1/10/2011	
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*81 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*73 %*				

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 006 (Composite) (ITL2487-02) - Water					
EPA 300.0	2	12/26/2010 21:58	12/27/2010 08:15	12/27/2010 18:00	12/27/2010 20:02
Filtration	1	12/26/2010 21:58	12/27/2010 08:15	12/27/2010 20:50	12/27/2010 20:50

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

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: 11A0059 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0059-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 01/03/2011 (11A0059-BS1)										**MNR1**
Hexane Extractable Material (Oil & Grease)	20.8	5.0	mg/l	20.0		104	78-114			
LCS Dup Analyzed: 01/03/2011 (11A0059-BSD1)										
Hexane Extractable Material (Oil & Grease)	21.2	5.0	mg/l	20.0		106	78-114	2	11	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3064 Extracted: 12/28/10										
Blank Analyzed: 12/29/2010 (10L3064-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: 12/29/2010 (10L3064-BS1)										
Antimony	84.8	2.0	ug/l	80.0		106	85-115			
Cadmium	83.4	1.0	ug/l	80.0		104	85-115			
Copper	83.9	2.00	ug/l	80.0		105	85-115			
Lead	83.4	1.0	ug/l	80.0		104	85-115			
Thallium	85.9	1.0	ug/l	80.0		107	85-115			
Matrix Spike Analyzed: 12/29/2010 (10L3064-MS1)					**Source: ITL2444-01**					
Antimony	84.1	2.0	ug/l	80.0	ND	105	70-130			
Cadmium	78.9	1.0	ug/l	80.0	ND	99	70-130			
Copper	69.9	2.00	ug/l	80.0	0.843	86	70-130			
Lead	73.2	1.0	ug/l	80.0	ND	91	70-130			
Thallium	68.9	1.0	ug/l	80.0	ND	86	70-130			
Matrix Spike Analyzed: 12/29/2010 (10L3064-MS2)					**Source: ITL2444-02**					
Antimony	85.3	2.0	ug/l	80.0	ND	107	70-130			
Cadmium	81.7	1.0	ug/l	80.0	ND	102	70-130			
Copper	73.4	2.00	ug/l	80.0	0.584	91	70-130			
Lead	77.7	1.0	ug/l	80.0	ND	97	70-130			
Thallium	71.0	1.0	ug/l	80.0	ND	89	70-130			
Matrix Spike Dup Analyzed: 12/29/2010 (10L3064-MSD1)					**Source: ITL2444-01**					
Antimony	84.4	2.0	ug/l	80.0	ND	105	70-130	0.3	20	
Cadmium	80.6	1.0	ug/l	80.0	ND	101	70-130	2	20	
Copper	69.9	2.00	ug/l	80.0	0.843	86	70-130	0.05	20	
Lead	75.3	1.0	ug/l	80.0	ND	94	70-130	3	20	
Thallium	70.6	1.0	ug/l	80.0	ND	88	70-130	3	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3468 Extracted: 12/30/10										
Blank Analyzed: 12/30/2010 (10L3468-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/30/2010 (10L3468-BS1)										
Mercury	8.62	0.20	ug/l	8.00		108	85-115			
Matrix Spike Analyzed: 12/30/2010 (10L3468-MS1)					**Source: ITL2438-01**					
Mercury	7.80	0.20	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 12/30/2010 (10L3468-MSD1)					**Source: ITL2438-01**					
Mercury	7.94	0.20	ug/l	8.00	ND	99	70-130	2	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3120 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3120-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: 12/28/2010 (10L3120-BS1)										
Antimony	84.9	2.0	ug/l	80.0		106	85-115			
Cadmium	82.5	1.0	ug/l	80.0		103	85-115			
Copper	81.0	2.00	ug/l	80.0		101	85-115			
Lead	84.2	1.0	ug/l	80.0		105	85-115			
Thallium	83.0	1.0	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 12/28/2010 (10L3120-MS1)					**Source: ITL2486-02**					
Antimony	83.9	2.0	ug/l	80.0	1.55	103	70-130			
Cadmium	80.1	1.0	ug/l	80.0	ND	100	70-130			
Copper	79.5	2.00	ug/l	80.0	3.50	95	70-130			
Lead	81.7	1.0	ug/l	80.0	0.379	102	70-130			
Thallium	82.3	1.0	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3120-MSD1)					**Source: ITL2486-02**					
Antimony	84.5	2.0	ug/l	80.0	1.55	104	70-130	0.7	20	
Cadmium	81.2	1.0	ug/l	80.0	ND	102	70-130	1	20	
Copper	79.6	2.00	ug/l	80.0	3.50	95	70-130	0.2	20	
Lead	82.9	1.0	ug/l	80.0	0.379	103	70-130	1	20	
Thallium	83.9	1.0	ug/l	80.0	ND	105	70-130	2	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3474 Extracted: 12/30/10										
Blank Analyzed: 12/30/2010 (10L3474-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/30/2010 (10L3474-BS1)										
Mercury	8.08	0.20	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 12/30/2010 (10L3474-MS1)					**Source: ITL2299-07**					
Mercury	8.16	0.20	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 12/30/2010 (10L3474-MSD1)					**Source: ITL2299-07**					
Mercury	8.23	0.20	ug/l	8.00	ND	103	70-130	0.9	20	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3000 Extracted: 12/27/10										
Blank Analyzed: 12/27/2010 (10L3000-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/27/2010 (10L3000-BS1)										
Chloride	4.51	0.50	mg/l	5.00		90	90-110			
Sulfate	9.05	0.50	mg/l	10.0		90	90-110			
Matrix Spike Analyzed: 12/27/2010 (10L3000-MS1)					**Source: ITL2459-01**					
Chloride	6.01	0.50	mg/l	5.00	1.62	88	80-120			
Sulfate	13.5	0.50	mg/l	10.0	4.49	90	80-120			
Matrix Spike Dup Analyzed: 12/27/2010 (10L3000-MSD1)					**Source: ITL2459-01**					
Chloride	6.15	0.50	mg/l	5.00	1.62	90	80-120	2	20	
Sulfate	14.1	0.50	mg/l	10.0	4.49	97	80-120	5	20	
Batch: 10L3015 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3015-BLK1)										
Perchlorate	ND	4.0	ug/l							
LCS Analyzed: 12/28/2010 (10L3015-BS1)										
Perchlorate	22.7	4.0	ug/l	25.0		91	85-115			
Matrix Spike Analyzed: 12/28/2010 (10L3015-MS1)					**Source: ITL2014-03**					
Perchlorate	23.1	4.0	ug/l	25.0	ND	92	80-120			

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3015 Extracted: 12/28/10										
Matrix Spike Dup Analyzed: 12/28/2010 (10L3015-MSD1)					**Source: ITL2014-03**					
Perchlorate	23.7	4.0	ug/l	25.0	ND	95	80-120	3	20	
Batch: 10L3089 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3089-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 12/28/2010 (10L3089-BS1)										
Total Dissolved Solids	992	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 12/28/2010 (10L3089-DUP1)					**Source: ITL2438-01**					
Total Dissolved Solids	1650	10	mg/l		1630			2	10	
Batch: 10L3114 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3114-BLK1)										
Total Cyanide	ND	5.0	ug/l							
LCS Analyzed: 12/28/2010 (10L3114-BS1)										
Total Cyanide	190	5.0	ug/l	200		95	90-110			
Matrix Spike Analyzed: 12/28/2010 (10L3114-MS1)					**Source: ITL2487-02**					
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3114-MSD1)					**Source: ITL2487-02**					
Total Cyanide	188	5.0	ug/l	200	ND	94	70-115	0.3	15	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3361 Extracted: 12/29/10										
Blank Analyzed: 12/29/2010 (10L3361-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 12/29/2010 (10L3361-BS1)										
Total Suspended Solids	1000	10	mg/l	1000		100	85-115			
Duplicate Analyzed: 12/29/2010 (10L3361-DUP1)					**Source: ITL2502-01**					
Total Suspended Solids	26.0	10	mg/l		27.0			4	10	

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

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: 363256 Extracted: 12/29/10										
Blank Analyzed: 12/30/2010 (G0L290000256B)					**Source:**					
1,2,3,4,6,7,8-HpCDD	1.7e-005	0.00005	ug/L				-			*J*
1,2,3,4,6,7,8-HpCDF	4.2e-006	0.00005	ug/L				-			*J, Q*
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	9.5e-007	0.00005	ug/L				-			*J, Q*
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	1.3e-006	0.00005	ug/L				-			*J, Q*
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	0.00044	0.0001	ug/L				-			
OCDF	2.1e-005	0.0001	ug/L				-			*J, Q*
Total HpCDD	3.6e-005	0.00005	ug/L				-			*J*
Total HpCDF	1.4e-005	0.00005	ug/L				-			*J, Q*
Total HxCDD	1.3e-006	0.00005	ug/L				-			*J, Q*
Total HxCDF	2e-006	0.00005	ug/L				-			*J, Q*
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	*0.0016*		*ug/L*	*0.002*		*80*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.0017*		*ug/L*	*0.002*		*87*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0015*		*ug/L*	*0.002*		*74*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.0014*		*ug/L*	*0.002*		*70*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.0018*		*ug/L*	*0.002*		*89*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.0014*		*ug/L*	*0.002*		*71*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.0014*		*ug/L*	*0.002*		*68*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.0016*		*ug/L*	*0.002*		*79*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.0016*		*ug/L*	*0.002*		*80*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.0015*		*ug/L*	*0.002*		*73*	*28-136*			

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

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: 363256 Extracted: 12/29/10										
Blank Analyzed: 12/30/2010 (G0L290000256B)					**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.0015*		*ug/L*	*0.002*		*75*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*0.0015*		*ug/L*	*0.002*		*73*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.0013*		*ug/L*	*0.002*		*64*	*24-169*			
Surrogate: 13C-OCDD	*0.0031*		*ug/L*	*0.004*		*78*	*17-157*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00077*		*ug/L*	*0.0008*		*96*	*35-197*			
LCS Analyzed: 12/30/2010 (G0L290000256C)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00116	0.00005	ug/L	0.001		116	70-140			
1,2,3,4,6,7,8-HpCDF	0.00125	0.00005	ug/L	0.001		125	82-122			*a*
1,2,3,4,7,8,9-HpCDF	0.0012	0.00005	ug/L	0.001		120	78-138			
1,2,3,4,7,8-HxCDD	0.00126	0.00005	ug/L	0.001		126	70-164			
1,2,3,4,7,8-HxCDF	0.00113	0.00005	ug/L	0.001		113	72-134			
1,2,3,6,7,8-HxCDD	0.00108	0.00005	ug/L	0.001		108	76-134			
1,2,3,6,7,8-HxCDF	0.00118	0.00005	ug/L	0.001		118	84-130			
1,2,3,7,8,9-HxCDD	0.0012	0.00005	ug/L	0.001		120	64-162			
1,2,3,7,8,9-HxCDF	0.00121	0.00005	ug/L	0.001		121	78-130			
1,2,3,7,8-PeCDD	0.00118	0.00005	ug/L	0.001		118	70-142			
1,2,3,7,8-PeCDF	0.00113	0.00005	ug/L	0.001		113	80-134			
2,3,4,6,7,8-HxCDF	0.00117	0.00005	ug/L	0.001		117	70-156			
2,3,4,7,8-PeCDF	0.00112	0.00005	ug/L	0.001		112	68-160			
2,3,7,8-TCDD	0.000227	0.00001	ug/L	0.0002		114	67-158			
2,3,7,8-TCDF	0.000218	0.00001	ug/L	0.0002		109	75-158			
OCDD	0.00297	0.0001	ug/L	0.002		149	78-144			*a*
OCDF	0.00208	0.0001	ug/L	0.002		104	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.002*		*ug/L*	*0.002*		*100*	*26-166*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.00166*		*ug/L*	*0.002*		*83*	*21-158*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.00183*		*ug/L*	*0.002*		*92*	*20-186*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.00144*		*ug/L*	*0.002*		*72*	*21-193*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00134*		*ug/L*	*0.002*		*67*	*19-202*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00168*		*ug/L*	*0.002*		*84*	*25-163*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00135*		*ug/L*	*0.002*		*67*	*21-159*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00139*		*ug/L*	*0.002*		*70*	*17-205*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00165*		*ug/L*	*0.002*		*82*	*21-227*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00162*		*ug/L*	*0.002*		*81*	*21-192*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00139*		*ug/L*	*0.002*		*70*	*22-176*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00154*		*ug/L*	*0.002*		*77*	*13-328*			

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

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: 363256 Extracted: 12/29/10										
LCS Analyzed: 12/30/2010 (G0L290000256C)					**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00144*		*ug/L*	*0.002*		*72*	*20-175*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00125*		*ug/L*	*0.002*		*63*	*22-152*			
Surrogate: 13C-OCDD	*0.00348*		*ug/L*	*0.004*		*87*	*13-199*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000761*		*ug/L*	*0.0008*		*95*	*31-191*			

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

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
ITL2487-01	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
ITL2487-02	Antimony-200.8	Antimony	ug/l	0.34	2.0	6
ITL2487-02	Cadmium-200.8	Cadmium	ug/l	0.064	1.0	3.1
ITL2487-02	Chloride - 300.0	Chloride	mg/l	5.37	0.50	150
ITL2487-02	Copper-200.8	Copper	ug/l	2.98	2.00	14
ITL2487-02	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-2	5.0	9.5
ITL2487-02	Lead-200.8	Lead	ug/l	0.88	1.0	5.2
ITL2487-02	Mercury - 245.1	Mercury	ug/l	0.021	0.20	0.13
ITL2487-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	1.18	0.26	10
ITL2487-02	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
ITL2487-02	Sulfate-300.0	Sulfate	mg/l	4.70	0.50	250
ITL2487-02	TDS - SM2540C	Total Dissolved Solids	mg/l	118	10	850
ITL2487-02	Thallium-200.8	Thallium	ug/l	0	1.0	2

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

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

DATA QUALIFIERS AND DEFINITIONS

a	Spiked analyte recovery is outside stated control limits.
B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated result. Result is less than the reporting limit.
Ja	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
Jb	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
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

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

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
EPA 314.0	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

Aquatic Testing Laboratories-SUB *California Cert #1775*
4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnic
Samples: ITL2487-02

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: ITL2487-02

Analysis Performed: Gross Alpha
Samples: ITL2487-02

Analysis Performed: Gross Beta
Samples: ITL2487-02

Analysis Performed: Level 4 Data Package
Samples: ITL2487-02

Analysis Performed: Radium, Combined
Samples: ITL2487-02

Analysis Performed: Strontium 90
Samples: ITL2487-02

Analysis Performed: Tritium
Samples: ITL2487-02

Analysis Performed: Uranium, Combined
Samples: ITL2487-02

TestAmerica Irvine

Heather Clark For 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 006 2010
Routine Outfall 006
Report Number: ITL2487

Sampled: 12/26/10
Received: 12/27/10

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8652
Samples: ITL2487-02

Method Performed: 900
Samples: ITL2487-02

Method Performed: 901.1
Samples: ITL2487-02

Method Performed: 903.1
Samples: ITL2487-02

Method Performed: 904
Samples: ITL2487-02

Method Performed: 905
Samples: ITL2487-02

Method Performed: 906
Samples: ITL2487-02

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: ITL2487-02, ITL2487-02RE

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

Test America Version 7-19-2010 (~~6/23/08~~)

CHAIN OF CUSTODY FORM

ZTL2487

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 006** **GRAB** Stormwater at FSDF-2
Project Manager: Bronwyn Kelly Sampler: Rick Bankar	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)	Comments
Outfall 006	W	1L Amber	2	12-26-2010 10:30	HCl	1A, 1B	X	

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

Temp °F = 50°

pH = 7.4

Time of readings = 10:30

Dup

These Samples are the Grab Portion of Outfall 006 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 Bankar	12-26-2010 1305	Rick Bankar	12-26-10 1305
Rick Bankar	12-26-10 1525 TO SAMPLE CONTROL FRIDGE		12/27/10 815
		~~Received By~~	

Turn-around time: (Check)

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

48 Hour: _____ 5 Day: X Normal: _____

Sample Integrity: (Check)

Intact: _____ On Ice: X

2.3°

Data Requirements: (Check)

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

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 006** **COMPOSITE HIGH** Stormwater at FSDF-2
Project Manager: Bronwyn Kelly Sampler: RICK BANAGA ROB ELLIS	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 006	W	1L Poly	1	12-26-2010 21:58	HNO_3	2A	X														
Outfall 006 Dup	W	1L Poly	1	21:58	HNO_3	2B	X														
Outfall 006	W	1L Amber	2		None	3A, 3B		X													
Outfall 006	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 006	W	500 mL Poly	1		None	5				X											
Outfall 006	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 006	W	2.5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 006	W	1 Gal Poly	1	12-26-2010	None	8							X								Only test if first or second rain events of the year
Outfall 006	W	500 mL Poly	1	21:58	NaOH	9								X							

12/27/10 10:10

COC Page 2 of 2 list the Composite Samples for Outfall 006 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 006 for the same event.

Relinquished By	Date/Time	Received By	Date/Time
	12-27-2010 1300		12/27/10 1300
	12/27/10 17:35		
			12/27/10 17:35

Turn-around time: (Check)

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

48 Hour: _____ 5 Day: X Normal: _____

Sample Integrity: (Check)

Intact: _____ On Ice: X 3.9

Data Requirements: (Check)

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

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: January 3, 2011

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

Laboratory No.: A-10122703-001
Sample I.D.: ITL2487-02 (Outfall 006)

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

Date Sampled:	12/26/10 - composite
Date Received:	12/27/10
Temp. Received:	5.9°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	12/27/10 to 01/03/11

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

Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

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

Result Summary:

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

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0

Aquatic Testing Laboratories

Lab No.: A-10122703-001
Client/ID: Test America – ITL2487-02 (Outfall 006)

Date Tested: 12/27/10 to 01/03/11

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: < 24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
QA/QC Batch No.: RT-101207.

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 15 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	24.1
100% Sample	100%	28.8
* Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (24.1 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 9.2%)
Statistically significantly different concentrations relative difference >13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date:	12/27/2010 15:00	Test ID:	10122703c	Sample ID:	Outfall 006
End Date:	1/3/2011 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	12/26/2010 21:58	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

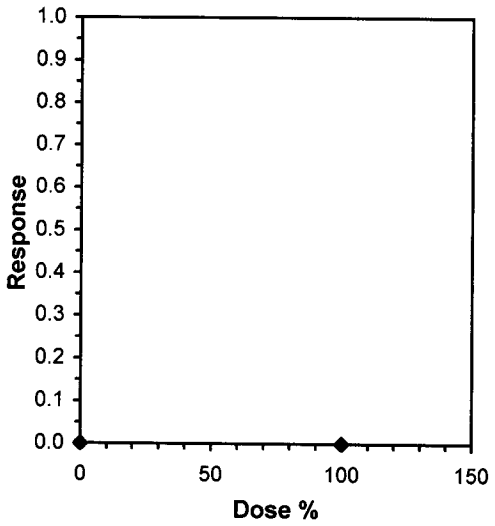
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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

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

Linear Interpolation (200 Resamples)

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



Reviewed by:

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	12/27/2010 15:00	Test ID:	10122703c	Sample ID:	Outfall 006
End Date:	1/3/2011 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	12/26/2010 21:58	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

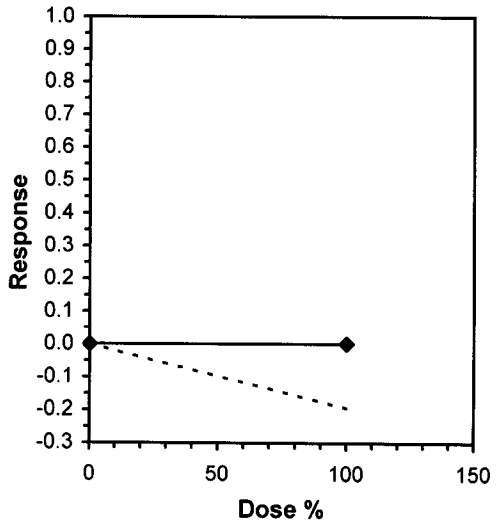
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	25.000	20.000	26.000	21.000	23.000	25.000	23.000	30.000	25.000	23.000
100	25.000	31.000	31.000	26.000	29.000	32.000	33.000	26.000	29.000	26.000

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	24.100	1.0000	24.100	20.000	30.000	11.646	10				26.450	1.0000
100	28.800	1.1950	28.800	25.000	33.000	10.063	10	-3.684	1.734	2.212	26.450	1.0000

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.9602		0.905		0.32547	-0.5479
F-Test indicates equal variances (p = 0.93)	1.06629		6.54109			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	2.21239	0.0918	110.45	8.13889	0.0017	1, 18
Treatments vs D-Control						

Linear Interpolation (200 Resamples)

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



Reviewed by: _____

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-10122703-001
Client ID: TestAmerica - Outfall 006
Start Date: 12/27/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:															
Time of Readings:		1500	1400	1400	1400	1400	1400	1400	1500	1500	1400	1400	1500	1500	1400
Control	DO	8.3	8.5	9.0	8.3	8.8	8.1	8.3	8.4	9.3	8.1	8.4	8.0	8.1	8.2
	pH	8.2	8.3	8.2	8.2	8.2	8.2	8.3	8.0	8.2	8.2	8.2	8.2	8.2	8.2
	Temp	24.3	24.0	25.4	24.2	24.3	24.4	25.0	24.1	24.5	24.2	24.2	24.7	24.4	24.2
100%	DO	9.6	8.9	11.2	8.7	11.4	8.4	9.1	9.0	9.7	8.2	9.3	7.9	9.9	8.1
	pH	7.8	8.3	7.8	8.2	7.8	8.3	8.0	8.3	8.0	8.4	8.2	8.4	8.1	8.4
	Temp	24.5	24.2	25.2	24.0	25.2	24.2	24.4	24.2	25.5	24.3	24.2	24.2	24.1	24.3

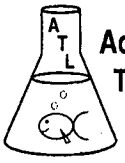
Additional Parameters	Control	100% Sample
Conductivity (umohms)	310	156
Alkalinity (mg/l $CaCO_3$)	77	68
Hardness (mg/l $CaCO_3$)	88	62
Ammonia (mg/l NH_3-N)	Lo.1	0.1

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1A	2D	2F	2G	1J	4A	5B	6E	5F	6J

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	4	0	4	2	0	0	3	0	0	0	13	10	
	4	0	3	0	0	3	4	0	5	3	3	21	10	
	5	0	0	9	7	0	0	7	9	0	8	40	10	
	6	9	7	0	12	8	7	13	16	6	0	78	10	
	7	12	10	13	0	12	14	0	0	16	12	89	10	
	Total	25	20	26	21	23	25	23	30	25	23	241	10	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	2	0	3	0	0	0	3	2	3	0	13	10	
	4	0	5	0	4	5	4	0	0	0	5	23	10	
	5	5	7	9	7	6	9	0	7	7	6	63	10	
	6	18	0	19	0	0	0	13	17	19	0	86	10	
	7	0	19	0	15	18	19	(17)	(17)	0	15	103	10	
	Total	25	31	31	26	29	32	33	26	29	26	288	10	

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



Aquatic
Testing
Laboratories

CHAIN OF CUSTODY

Test America Version ~~6/28/00~~ 7-19-2010

CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 006** **COMPOSITE HIGH** Stormwater at FSDF-2
Project Manager: Bronwyn Kelly Sampler: R. KABANAGA ROB ELLIS	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 006	W	1L Poly	1	12-26-200	HNO_3	2A	X														
Outfall 006 Dup	W	1L Poly	1	21:58	HNO_3	2B	X														
Outfall 006	W	1L Amber	2		None	3A, 3B		X													
Outfall 006	W	500 mL Poly	2		None	4A, 4B			X												
Outfall 006	W	500 mL Poly	1		None	5				X											
Outfall 006	W	1L Poly	1		None	6					X										Filter w/in 24hrs of receipt at lab
Outfall 006	W	2 5 Gal Cube	1		None	7A						X									Unfiltered and unpreserved analysis
		500 mL Amber	1		None	7B															
Outfall 006	W	1 Gal Poly	1	12-26-2010	None	8							X								**Only test if first or second rain events of the year**
Outfall 006	W	500 mL Poly	1	21:58	NaOH	9								X							

COC Page 2 of 2 list the Composite Samples for Outfall 006 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 006 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
	12-27-2010 1300		12/27/10 1300
Relinquished By	Date/Time:	Received By	Date/Time:
	12/27/10 1445		12-27-10 1445
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)

24 Hour _____ 72 Hour: _____ 10 Day: _____

48 Hour: _____ 5 Day: X Normal: _____

Sample Integrity: (Check)

Intact _____ On Ice X

Data Requirements: (Check)

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

SUBCONTRACT ORDER
TestAmerica Irvine

ITL2487

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 °C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water)			Sampled: 12/26/10 21:58	
Bioassay-7 dy Chrnic	N/A	01/03/11	12/28/10 09:58	Cerio, EPA/821-R02-013, Sub to Aquatic testing
Containers Supplied: 1 gal Poly (M)				

Released By — Date/Time 12/27/10

Released By — Date/Time

Received By — Date/Time 12-27-10 1445

Received By — Date/Time

Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-101207

Date Tested: 12/07/10 to 12/13/10

TEST SUMMARY

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

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

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		23.3	
0.25 g/l	100%		25.2	
0.5 g/l	100%		23.7	
1.0 g/l	100%		16.0	*
2.0 g/l	100%		2.9	*
4.0 g/l	0%	*	0	**

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

CHRONIC TOXICITY

Survival LC50	2.8 g/l
Reproduction IC25	0.86 mg/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (23.3 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 18.9%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 31.3%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date:	12/7/2010 14:00	Test ID:	RT101207c	Sample ID:	REF-Ref Toxicant
End Date:	12/13/2010 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/6/2010	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

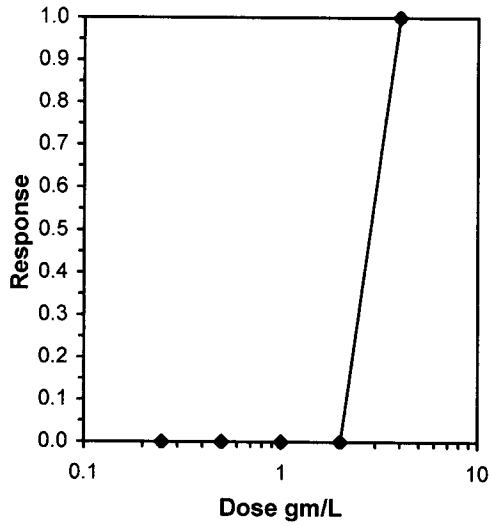
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000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

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

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

Graphical Method

Trim Level	EC50
0.0%	2.8284
	2.8284

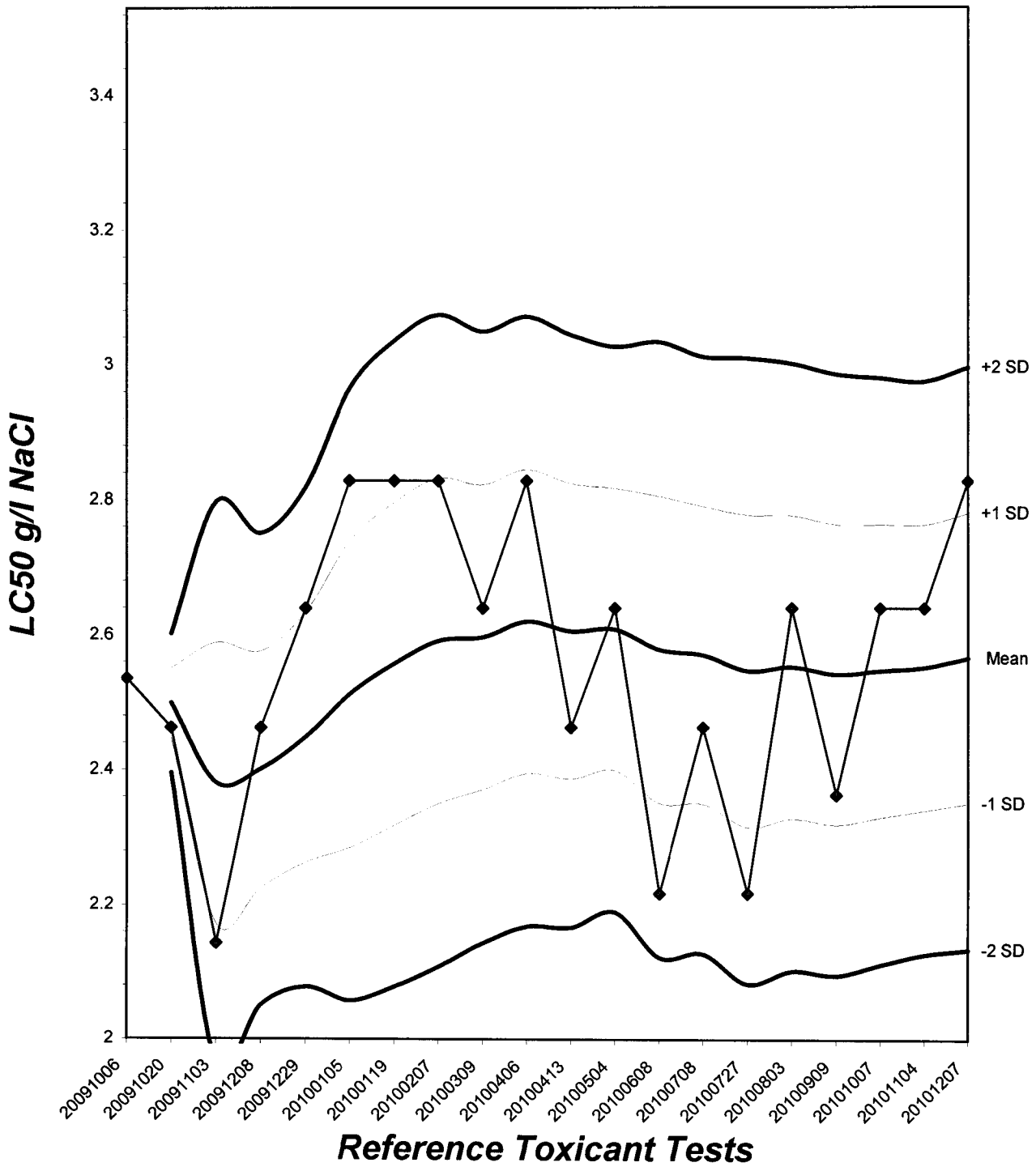


ToxCalc v5.0.23

Reviewed by:

Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 8.41



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	12/7/2010 14:00	Test ID:	RT101207c	Sample ID:	REF-Ref Toxicant
End Date:	12/13/2010 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/6/2010	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	22.000	11.000	28.000	27.000	26.000	28.000	21.000	28.000	27.000	15.000
0.25	28.000	29.000	21.000	21.000	28.000	28.000	28.000	25.000	25.000	19.000
0.5	25.000	17.000	20.000	26.000	24.000	29.000	29.000	23.000	25.000	19.000
1	10.000	10.000	20.000	22.000	20.000	11.000	15.000	12.000	24.000	16.000
2	0.000	2.000	7.000	4.000	2.000	4.000	0.000	5.000	2.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

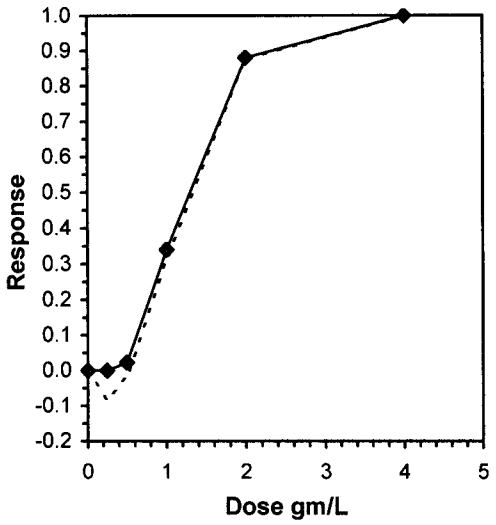
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	23.300	1.0000	23.300	11.000	28.000	25.913	10				24.250	1.0000
0.25	25.200	1.0815	25.200	19.000	29.000	14.466	10	-0.959	2.223	4.404	24.250	1.0000
0.5	23.700	1.0172	23.700	17.000	29.000	17.000	10	-0.202	2.223	4.404	23.700	0.9773
*1	16.000	0.6867	16.000	10.000	24.000	32.676	10	3.686	2.223	4.404	16.000	0.6598
*2	2.900	0.1245	2.900	0.000	7.000	75.285	10	10.299	2.223	4.404	2.900	0.1196
4	0.000	0.0000	0.000	0.000	0.000	0.000	10				0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96459	0.947	-0.5938	0.09413
Bartlett's Test indicates equal variances (p = 0.06)	8.97697	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.5	1	0.70711		4.40372	0.189	860.47	19.6156	5.6E-15	4, 45

Linear Interpolation (200 Resamples)

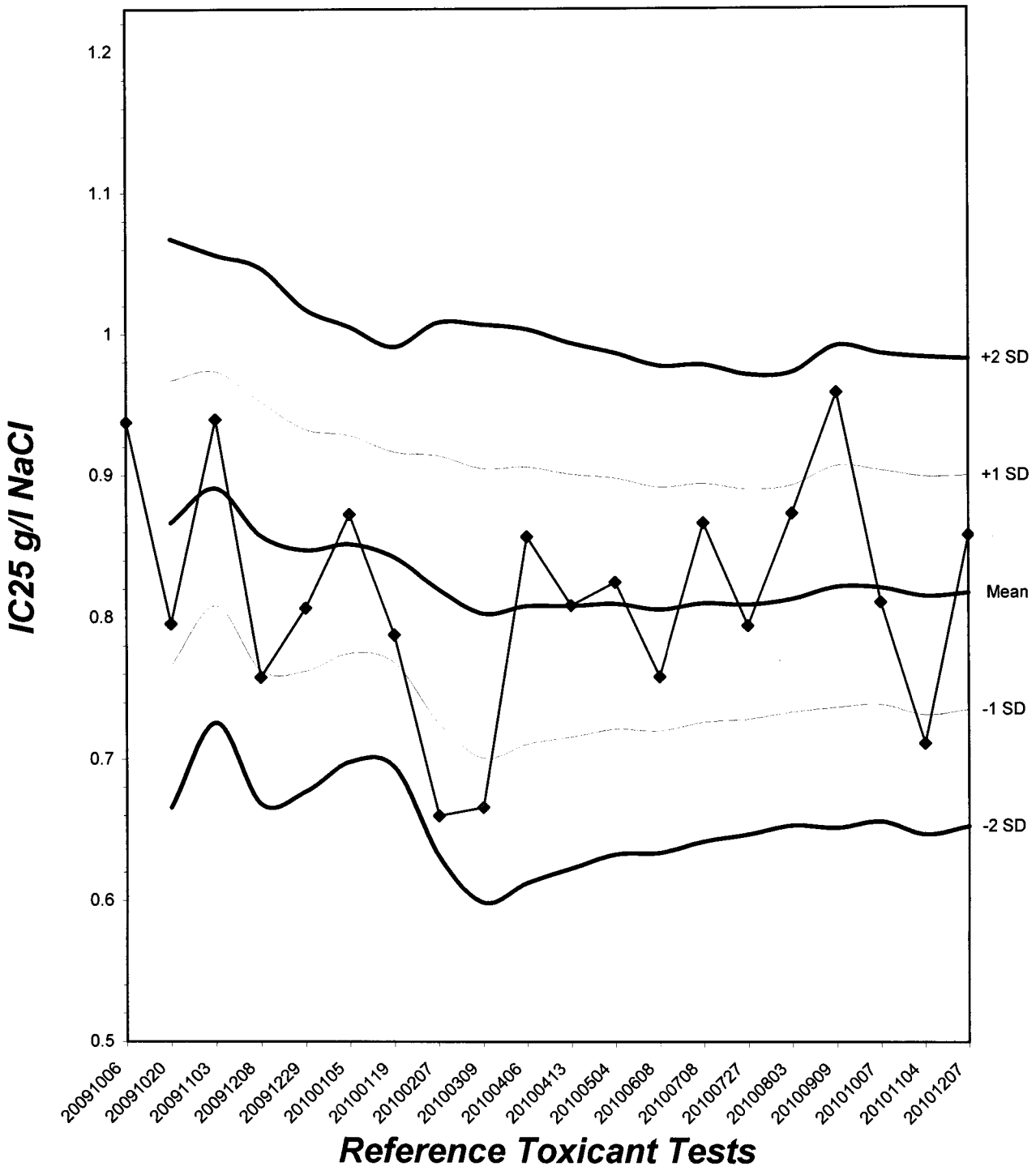
Point	gm/L	SD	95% CL		Skew
IC05	0.5430	0.1060	0.2194	0.6041	-1.2164
IC10	0.6218	0.0833	0.4101	0.7081	-1.1699
IC15	0.7005	0.0819	0.5141	0.8292	-0.4850
IC20	0.7792	0.0859	0.5998	0.9452	0.1951
IC25	0.8580	0.0903	0.6963	1.0439	0.3636
IC40	1.1107	0.1011	0.9055	1.2772	-0.0498
IC50	1.2958	0.0936	1.0659	1.4429	-0.4534



Reviewed by:

Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 10.1



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

Aquatic Testing Laboratories

QA/QC No.: RT-101207

Start Date:12/07/2010

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	4	0	0	0	0	0	0	0	4	10	
	4	3	3	0	5	4	2	3	4	4	3	31	10	
	5	9	8	6	7	8	9	6	9	7	0	69	10	
	6	10	0	18	15	14	17	12	15	16	12	129	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	22	11	28	27	26	28	21	28	27	15	233	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	4	0	0	0	0	0	0	0	4	10	
	4	4	3	0	4	5	4	4	3	4	4	35	10	
	5	6	9	7	0	8	10	9	7	7	0	63	10	
	6	18	17	10	17	15	14	15	15	14	15	150	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	28	29	21	21	28	28	28	25	25	19	252	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	4	0	0	0	0	0	0	4	10	
	4	4	3	4	0	5	4	4	3	3	4	34	10	
	5	6	0	6	8	7	9	7	6	7	0	56	10	
	6	15	14	10	14	12	16	18	14	15	15	143	10	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	25	17	20	26	24	29	29	23	25	19	237	10	

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

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

Aquatic Testing Laboratories

QA/QC No.: RT-101207

Start Date:12/07/2010

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	0	0	10	
	4	4	3	4	4	5	4	3	4	4	3	38	10	
	5	0	7	6	6	7	0	0	0	6	6	38	10	
	6	6	0	10	12	8	7	12	8	14	7	84	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	10	10	20	22	20	11	15	12	24	16	160	10	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	0	0	10	
	4	0	0	0	0	2	0	0	2	0	0	4	10	
	5	0	2	3	0	0	4	0	0	2	0	11	10	
	6	0	0	4	4	0	0	0	3	0	3	14	10	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	0	2	7	4	2	4	0	5	2	3	29	10	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	—	—	—	—	—	—	—	—	—	—	—	—	—
	3	—	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

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

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Water Chemistries Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-101207

Start Date:12/07/2010

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst Initials:															
Time of Readings:		1400	1500	1500	1400	1400	1400	1400	1300	1300	1330	1330	1400	—	—
Control	DO	8.4	8.7	8.4	8.6	8.7	8.3	8.2	8.4	8.1	7.9	8.2	7.6	—	—
	pH	8.2	8.3	8.4	7.9	8.2	8.0	8.2	8.0	8.1	7.9	8.2	8.2	—	—
	Temp	25.0	24.3	25.0	24.5	25.0	24.6	24.8	24.7	25.1	25.0	25.3	25.2	—	—
0.25 g/l	DO	8.4	8.8	8.4	8.6	8.6	8.3	8.2	8.4	8.2	7.9	8.2	7.7	—	—
	pH	8.2	8.3	8.3	7.9	8.2	8.0	8.2	8.0	8.1	8.1	8.2	8.2	—	—
	Temp	25.0	24.6	25.0	24.8	25.0	25.0	24.8	24.8	25.1	25.0	25.2	25.2	—	—
0.5 g/l	DO	8.5	8.8	8.4	8.7	8.6	8.4	8.2	8.3	8.2	7.9	8.3	7.6	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.1	7.9	8.2	8.1	—	—
	Temp	25.0	24.7	25.1	24.8	25.0	25.1	24.9	24.9	25.0	25.1	24.6	25.1	—	—
1.0 g/l	DO	8.5	8.7	8.4	8.7	8.5	8.4	8.2	8.3	8.2	8.3	8.3	7.7	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.2	7.9	8.2	8.1	—	—
	Temp	24.9	24.6	25.1	24.9	25.1	25.0	24.9	24.9	25.0	24.0	24.5	24.9	—	—
2.0 g/l	DO	8.6	8.6	8.5	8.8	8.3	8.4	8.2	8.5	8.2	8.2	8.2	7.4	—	—
	pH	8.2	8.2	8.3	7.9	8.1	8.0	8.2	8.0	8.2	7.9	8.2	8.1	—	—
	Temp	24.8	24.8	25.2	24.8	25.2	24.9	25.0	24.8	24.9	24.4	24.5	25.2	—	—
4.0 g/l	DO	8.7	8.8	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.1	8.2	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.6	24.8	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O_2; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	325	329	322	6470	3690	3430
Alkalinity (mg/l $CaCO_3$)	74	73	73	73	74	74
Hardness (mg/l $CaCO_3$)	87	88	89	90	89	89

Source of Neonates

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

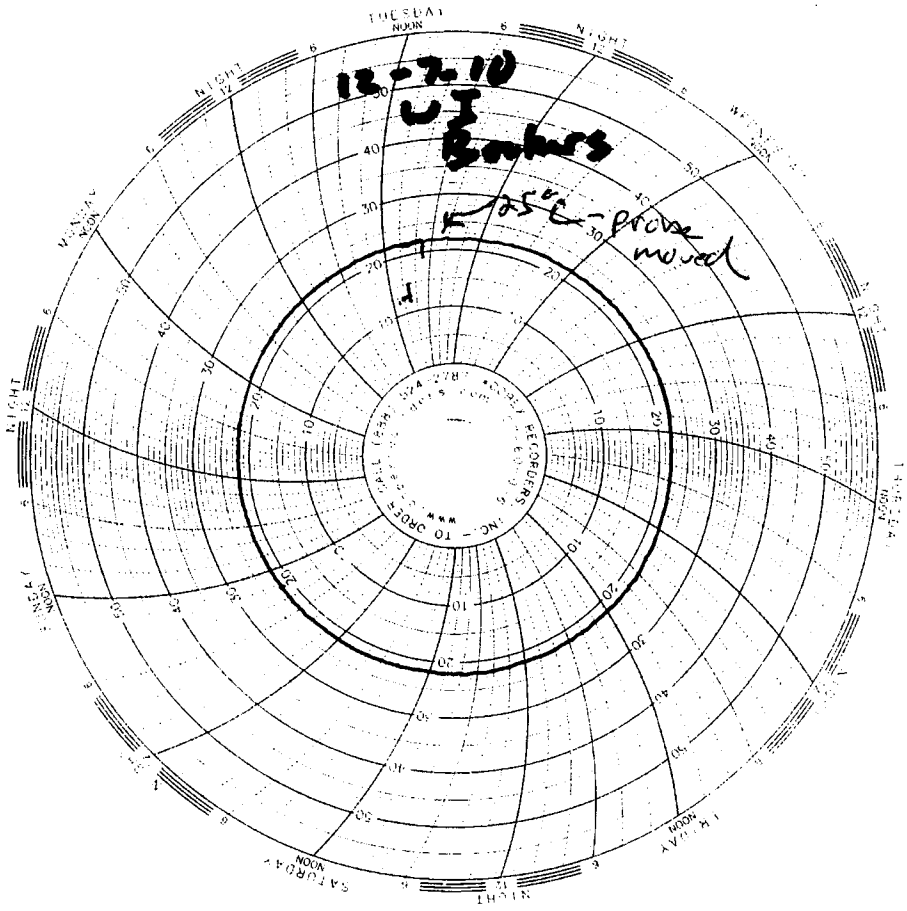
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-101207

Date Tested: 12/07/10 to 12/13/10

Acceptable Range: 25+/- 1°C



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 1, 2011

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

Reference: **Test America-Irvine ITL2487**
Eberline Analytical Report S012367-8652
Sample Delivery Group 8652

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. ITL2487. The sample was received on December 29, 2010.

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 8652 consists of the analytical results and supporting documentation for one water sample. Sample ID's and reference dates/times are given in the Sample Summary section of the Summary Data report. The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist. No holding times were exceeded.

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

2.0 Quality Control

For efficiency of analysis, sample ITL2485-02 was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8654 and are 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 – The K-40 MDA for sample ITL2489-03 (53.7 pCi/L) and the duplicate of sample ITL2489-03 (53.7 pCi/L) were greater than the required detection limit of 25 pCi/L, due to an elevated K40 background in the ROI for K40 on the detector used for analysis. No other problems were encountered during the processing of the samples. All other 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 — 2/1/11

N. Joseph Verville
Client Services Manager

Date

E B E R L I N E A N A L Y T I C A L
SDG 8652

SDG 8652	Client Test America, Inc.
Contact N. Joseph Verville	Contract ITL2487

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

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

About this section	1
Sample Summaries	3
Prep Batch Summary	5
Work Summary	6
Method Blanks	8
Lab Control Samples	9
Duplicates	10
Data Sheets	11
Method Summaries	12
Report Guides	20
End of Section	34

VB

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

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 02/01/11

SDG 8652
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2487

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 02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB SAMPLE SUMMARY

SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S012367-01	ITL2487-02	Boeing - SSFL	WATER			ITL2487	12/26/10 21:58
S012369-03	Lab Control Sample		WATER				
S012369-04	Method Blank		WATER				
S012369-05	Duplicate (S012369-01)	Boeing - SSFL	WATER				12/26/10 08:58

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

SDG 8652
Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract ITL2487

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS RECEIVED	DAYS COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8652	ITL2487	ITL2487-02	WATER		10.0 L		12/29/10	3	S012367-01	8652-001
8654		Method Blank	WATER						S012369-04	8654-004
		Lab Control Sample	WATER						S012369-03	8654-003
		Duplicate (S012369-01)	WATER		10.0 L		12/29/10	3	S012369-05	8654-005

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

PREP BATCH SUMMARY

SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
AC	WATER	Radium-228 in Water	7271-037	10.4	1			1	1	1/0/1		
SR	WATER	Strontium-90 in Water	7271-037	10.4	1			1	1	1/0/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7271-037	20.6	1			1	1	1/0/1		
80B	WATER	Gross Beta in Water	7271-037	11.0	1			1	1	1/0/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7271-037	7.0	1			1	1	1/0/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7271-037		1			1	1	1/0/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7271-037	10.0	1			1	1	1/0/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7271-037	16.4	1			1	1	1/0/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB WORK SUMMARY

SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S012367-01	ITL2487-02		8652-001	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
12/26/10	Boeing - SSFL	WATER	8652-001	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
12/29/10	ITL2487		8652-001	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8652-001	GAM		01/07/11	01/11/11	MWT	Gamma Emitters in Water
			8652-001	H		01/12/11	01/18/11	BW	Tritium in Water
			8652-001	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8652-001	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8652-001	U_T		01/20/11	01/24/11	BW	Uranium, Total
S012369-03	Lab Control Sample		8654-003	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
		WATER	8654-003	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
			8654-003	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8654-003	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water
			8654-003	H		01/12/11	01/18/11	BW	Tritium in Water
			8654-003	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8654-003	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8654-003	U_T		01/20/11	01/24/11	BW	Uranium, Total
S012369-04	Method Blank		8654-004	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
		WATER	8654-004	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
			8654-004	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8654-004	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water
			8654-004	H		01/12/11	01/18/11	BW	Tritium in Water
			8654-004	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8654-004	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8654-004	U_T		01/20/11	01/24/11	BW	Uranium, Total
S012369-05	Duplicate (S012369-01)		8654-005	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
12/26/10	Boeing - SSFL	WATER	8654-005	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
12/29/10			8654-005	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8654-005	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water
			8654-005	H		01/12/11	01/18/11	BW	Tritium in Water
			8654-005	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8654-005	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8654-005	U_T		01/20/11	01/24/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

SDG 8652
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract ITL2487

COUNTS OF TESTS BY SAMPLE TYPE

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

8654-004 **Method Blank**

METHOD BLANK

SDG	8652	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	ITL2487
Lab sample id	S012369-04	Client sample id	Method Blank
Dept sample id	8654-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	0.205	0.31	0.492	3.00	U	80A
Gross Beta	12587472	-0.321	0.59	0.999	4.00	U	80B
Tritium	10028178	22.6	160	272	500	U	H
Radium-226	13982633	0.034	0.34	0.640	1.00	U	RA
Radium-228	15262201	-0.118	0.17	0.473	1.00	U	AC
Strontium-90	10098972	0.064	0.30	0.666	2.00	U	SR
Uranium, Total		0	0.007	0.017	1.00	U	U_T
Potassium-40	13966002	U		20.1	25.0	U	GAM
Cesium-137	10045973	U		1.73	20.0	U	GAM

QC-BLANK #76729

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/01/11

EBERLINE ANALYTICAL

SDG 8652

8654-003 Lab Control Sample

LAB CONTROL SAMPLE

SDG 8652 Client Test America, Inc.

Contact N. Joseph Verville Contract ITL2487

Lab sample id S012369-03 Client sample id Lab Control Sample

Dept sample id 8654-003 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	36.6	2.4	0.654	3.00		80A	40.4	1.6	91	80-120	70-130
Gross Beta	33.6	1.6	1.58	4.00		80B	35.0	1.4	96	88-112	70-130
Tritium	2420	260	271	500		H	2550	100	95	86-114	80-120
Radium-226	58.4	1.9	0.577	1.00		RA	55.7	2.2	105	82-118	80-120
Radium-228	4.53	0.30	0.432	1.00		AC	4.62	0.18	98	87-113	60-140
Strontium-90	17.9	1.4	0.597	2.00		SR	17.5	0.70	102	86-114	80-120
Uranium, Total	59.8	7.2	0.174	1.00		U_T	62.5	2.5	96	88-112	80-120
Cobalt-60	94.8	4.6	2.23	10.0		GAM	102	4.1	93	91-109	80-120
Cesium-137	114	4.2	2.92	20.0		GAM	110	4.4	104	91-109	80-120

QC-LCS #76728

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

8654-005 ITL2489-03

DUPLICATE

SDG 8652 Client Test America, Inc.
Contact N. Joseph Verville Contract ITL2487

DUPLICATE	ORIGINAL	
Lab sample id S012369-05	Lab sample id S012369-01	Client sample id ITL2489-03
Dept sample id 8654-005	Dept sample id 8654-001	Location/Matrix Boeing - SSFL WATER
	Received 12/29/10	Collected/Volume 12/26/10 08:58 10.0 L
		Chain of custody id ITL2489

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	1.65	0.42	0.342	3.00	J	80A	1.89	0.47	0.400	J	14	69	0.6
Gross Beta	3.05	0.59	0.819	4.00	J	80B	3.06	0.63	0.885	J	0	48	0
Tritium	44.4	160	267	500	U	H	-40.3	150	270	U	-		0.8
Radium-226	-0.022	0.31	0.592	1.00	U	RA	0.097	0.36	0.653	U	-		0.5
Radium-228	0.035	0.16	0.446	1.00	U	AC	0.109	0.17	0.456	U	-		0.6
Strontium-90	-0.005	0.29	0.693	2.00	U	SR	0.222	0.33	0.684	U	-		1.0
Uranium, Total	0.164	0.023	0.017	1.00	J	U_T	0.177	0.022	0.017	J	8	28	0.8
Potassium-40	U		53.7	25.0	U	GAM	U		53.7	U	-		0
Cesium-137	U		2.68	20.0	U	GAM	U		2.68	U	-		0

QC-DUP#1 76730

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

8652-001 ITL2487-02

DATA SHEET

SDG	8652	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	ITL2487
Lab sample id	S012367-01	Client sample id	ITL2487-02
Dept sample id	8652-001	Location/Matrix	Boeing - SSFL WATER
Received	12/29/10	Collected/Volume	12/26/10 21:58 10.0 L
		Chain of custody id	ITL2487

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	1.12	0.39	0.384	3.00	J	80A
Gross Beta	12587472	2.56	0.68	1.02	4.00	J	80B
Tritium	10028178	-36.2	160	272	500	U	H
Radium-226	13982633	0.039	0.31	0.567	1.00	U	RA
Radium-228	15262201	0.110	0.16	0.434	1.00	U	AC
Strontium-90	10098972	0.051	0.28	0.587	2.00	U	SR
Uranium, Total		0.195	0.023	0.017	1.00	J	U_T
Potassium-40	13966002	U		19.4	25.0	U	GAM
Cesium-137	10045973	U		1.58	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228
Preparation batch 7271-037					
S012367-01			8652-001	ITL2487-02	U
S012369-03			8654-003	Lab Control Sample	ok
S012369-04			8654-004	Method Blank	U
S012369-05			8654-005	Duplicate (S012369-01)	- U
Nominal values and limits from method				RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-037			2σ prep error 10.4 %	Reference Lab Notebook No. 7271 pg.037												
S012367-01			ITL2487-02	0.434	1.80			73		150			29	01/24/11	01/24	GRB-223
S012369-03			Lab Control Sample	0.432	1.80			74		150				01/24/11	01/24	GRB-230
S012369-04			Method Blank	0.473	1.80			73		150				01/24/11	01/24	GRB-231
S012369-05			Duplicate (S012369-01)	0.446	1.80			73		150			29	01/24/11	01/24	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 4 SAMPLES
MDA 0.446 ± 0.038
YIELD 73 ± 1

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7271-037						
S012367-01			8652-001	ITL2487-02	U	
S012369-03			8654-003	Lab Control Sample	ok	
S012369-04			8654-004	Method Blank	U	
S012369-05			8654-005	Duplicate (S012369-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	2.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-037 2σ prep error 10.4 % Reference Lab Notebook No. 7271 pg.037																
S012367-01			ITL2487-02	0.587	0.500			70	78				24	01/19/11	01/13	GRB-222
S012369-03			Lab Control Sample	0.597	0.500			83	50					01/08/11	01/13	GRB-222
S012369-04			Method Blank	0.666	0.500			82	50					01/08/11	01/13	GRB-201
S012369-05			Duplicate (S012369-01)	0.693	0.500			72	50				18	01/08/11	01/13	GRB-202
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 4 SAMPLES
MDA 0.636 ± 0.104
YIELD 77 ± 13

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

Test 80A Matrix WATER
SDG 8652
Contact N. Joseph Verville

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7271-037						
S012367-01	80		8652-001	ITL2487-02	1.12	J
S012369-03	80		8654-003	Lab Control Sample	ok	
S012369-04	80		8654-004	Method Blank	U	
S012369-05	80		8654-005	Duplicate (S012369-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	3.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-037			2σ prep error 20.6 %	Reference Lab Notebook No. 7271 pg.037												
S012367-01	80		ITL2487-02	0.384	0.300			45		400			11	01/06/11	01/06	GRB-103
S012369-03	80		Lab Control Sample	0.654	0.250			60		400				01/06/11	01/06	GRB-107
S012369-04	80		Method Blank	0.492	0.250			62		400				01/06/11	01/06	GRB-109
S012369-05	80		Duplicate (S012369-01)	0.342	0.300			31		400			11	01/06/11	01/06	GRB-111
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 4 SAMPLES
MDA 0.468 ± 0.278
RESIDUE 50 ± 29

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7271-037						
S012367-01	80		8652-001	ITL2487-02	2.56	J
S012369-03	80		8654-003	Lab Control Sample	ok	
S012369-04	80		8654-004	Method Blank	U	
S012369-05	80		8654-005	Duplicate (S012369-01)	ok	J
Nominal values and limits from method				RDLs (pCi/L)	4.00	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-037			2σ prep error 11.0 %	Reference Lab Notebook No. 7271 pg.037												
S012367-01	80		ITL2487-02	1.02	0.300			45		400			11	01/06/11	01/06	GRB-103
S012369-03	80		Lab Control Sample	1.58	0.250			60		400				01/06/11	01/06	GRB-107
S012369-04	80		Method Blank	0.999	0.250			62		400				01/06/11	01/06	GRB-109
S012369-05	80		Duplicate (S012369-01)	0.819	0.300			31		400			11	01/06/11	01/06	GRB-111
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 4 SAMPLES
MDA 1.10 ± 0.659
RESIDUE 50 ± 29

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

Test GAM Matrix WATER
SDG 8652
Contact N. Joseph Verville

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-037							
S012367-01			8652-001	ITL2487-02		U	
S012369-03			8654-003	Lab Control Sample	ok	ok	
S012369-04			8654-004	Method Blank		U	
S012369-05			8654-005	Duplicate (S012369-01)		-	U
Nominal values and limits from method				RDLs (pCi/L)	10.0	20.0	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7271-037			2σ prep error 7.0 %		Reference Lab Notebook No. 7271 pg.037											
S012367-01			ITL2487-02		2.00					604			12	01/05/11	01/07	01,01,00
S012369-03			Lab Control Sample		2.00					540				01/05/11	01/05	MB,02,00
S012369-04			Method Blank		2.00					541				01/05/11	01/05	01,04,00
S012369-05			Duplicate (S012369-01)		2.00					540			10	01/05/11	01/05	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 02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total
Preparation batch 7271-037					
S012367-01			8652-001	ITL2487-02	0.195 J
S012369-03			8654-003	Lab Control Sample	ok
S012369-04			8654-004	Method Blank	U
S012369-05			8654-005	Duplicate (S012369-01)	ok J
Nominal values and limits from method				RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-037			2σ prep error		Reference Lab Notebook No. 7271 pg.037											
S012367-01			ITL2487-02	0.017	0.0200								25	01/20/11	01/20	KPA-001
S012369-03			Lab Control Sample	0.174	0.0200									01/20/11	01/20	KPA-001
S012369-04			Method Blank	0.017	0.0200									01/20/11	01/20	KPA-001
S012369-05			Duplicate (S012369-01)	0.017	0.0200								25	01/20/11	01/20	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.056 ± 0.157
YIELD ____ ± ____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7271-037						
S012367-01			8652-001	ITL2487-02	U	
S012369-03			8654-003	Lab Control Sample	ok	
S012369-04			8654-004	Method Blank	U	
S012369-05			8654-005	Duplicate (S012369-01)	-	U
Nominal values and limits from method				RDLs (pCi/L)	500	

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-037 2σ prep error 10.0 % Reference Lab Notebook No. 7271 pg.037																
S012367-01			ITL2487-02	272	0.0100			100		50			17	01/12/11	01/12	LSC-004
S012369-03			Lab Control Sample	271	0.100			10		50				01/12/11	01/12	LSC-004
S012369-04			Method Blank	272	0.100			10		50				01/12/11	01/12	LSC-004
S012369-05			Duplicate (S012369-01)	267	0.0100			100		50			17	01/12/11	01/12	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 270 ± 4.76
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/01/11

EBERLINE ANALYTICAL

SDG 8652

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8652
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2487

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226
Preparation batch 7271-037					
S012367-01			8652-001	ITL2487-02	U
S012369-03			8654-003	Lab Control Sample	ok
S012369-04			8654-004	Method Blank	U
S012369-05			8654-005	Duplicate (S012369-01)	- U
Nominal values and limits from method				RDLs (pCi/L)	1.00

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7271-037			2σ prep error 16.4 %	Reference Lab Notebook No. 7271 pg.037												
S012367-01			ITL2487-02	0.567	0.100			100		104			27	01/22/11	01/22	RN-012
S012369-03			Lab Control Sample	0.577	0.100			100		178				01/22/11	01/22	RN-009
S012369-04			Method Blank	0.640	0.100			100		87				01/22/11	01/22	RN-010
S012369-05			Duplicate (S012369-01)	0.592	0.100			100		87			27	01/22/11	01/22	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 4 SAMPLES
MDA 0.594 ± 0.065
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

SAMPLE SUMMARY

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

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

The following notes apply to these reports:

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

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

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

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

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

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

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

  These qualifiers should be reviewed as follows:

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

WORK SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

DATA SHEET

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

The following notes apply to this report:

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

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

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

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

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

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

The following qualifiers are defined by the DVD system:

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2487

DATA SHEET

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2487

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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

* The second limit for the RPD is the larger of:

  1. A fixed percentage specified in the protocol.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2487

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.

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2487

MATRIX SPIKE

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

SDG 8652
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2487

METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data' means no amount ADDED was specified. 'LOW' and 'HIGH'

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/01/11

METHOD SUMMARY

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

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

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

  MDAs are underlined if greater than the printed RDL.

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

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

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

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

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

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

* Count times are underlined if less than the nominal value

METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

SDG 8652
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2487

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 02/01/11

SUBCONTRACT ORDER
TestAmerica Irvine

ITL2487 8652

SENDING LABORATORY:

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

RECEIVING LABORATORY:

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

Analysis	Units	Due	Expires	Comments
Sample ID: ITL2487-02 (Outfall 006 (Composite) - Water) Sampled: 12/26/10 21:58				
Gamma Spec-O	mg/kg	01/03/11	12/26/11 21:58	Out St Louis, k-40 and cs-137 only, DO NOT FILTER!
Gross Alpha-O	pCi/L	01/03/11	06/24/11 21:58	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	01/03/11	06/24/11 21:58	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	01/03/11	01/23/11 21:58	
Radium, Combined-O	pCi/L	01/03/11	12/26/11 21:58	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	01/03/11	12/26/11 21:58	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	01/03/11	12/26/11 21:58	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	01/03/11	12/26/11 21:58	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:
2.5 gal Poly (J) 500 mL Amber (K)

Stephanie Avila	12/28/10 17:00	Fedex	12/28/10 17:00
Released By	Date/Time	Received By	Date/Time
FEDEX	12/29/10	Alex Kelemen	12/29/10 10:00
Released By	Date/Time	Received By	Date/Time

RICHMOND, CA LABORATORY

EBERLINE SERVICES

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 12/29/10 10:00 CoC No. ITL 2272, 2485-2486, 2487, 2488, 2489

Container I.D. No. N/A Requested TAT (Days) STND 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: 8	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 [✓]

6 samples 12/10

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 HNO_3
13. Describe any anomalies: two client TRIP BLANKS Not included on COC
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date
15. Inspected by AK Date: 12/29/10 Time: 14:20

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 15

Outfall 008 – December 19, 2010

MEC^X Data Validation Report

THIS PAGE LEFT INTENTIONALLY BLANK

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL1889

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:	ITL1889
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 008 (composite)	ITL1889-02	G0L230567-001, S012306-01	Water	12/19/2010 14:09	200.8, 200.8 (diss), 245.1, 245.1 (diss), 314.0, 900, 901.1, 903.1, 904, 905, 906, 1613B, SM2540D, D5174

II. Sample Management

A portion of the samples in this SDG were received at TestAmerica-Irvine and TestAmerica-West Sacramento marginally below the control limit; however, as the samples were not noted to be frozen or damaged, no qualifications were required. The samples were received marginally above the temperature limit at Eberline; however, due to the nonvolatile nature of the analytes, no qualifications were required. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the samples were couriered to TestAmerica-Irvine, custody seals were not required. 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: January 18, 2011

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

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

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

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

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

- Calibration: Calibration criteria were met.

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

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

- Blanks: The method blank had detects between the EDL and the RL for 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, OCDD, OCDF, total HpCDD, and total HpCDF. The HpCDF isomers and total were reported as EMPCs in the method blank; however, due to the extent of the method blank contamination, the reviewer considered it appropriate to use the EMPCs to qualify sample results. Isomer

1,2,3,4,7,8,9-HpCDF was not detected in the sample. All other individual isomers detected in both the method blank and site sample were qualified as nondetected, "U" at the EDL, or at the level of contamination in the sample. The sample totals containing one or more peaks detected in the method blank were qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: The 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 previously qualified as nondetected for method blank contamination were not further qualified as EMPCs. Any totals including 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 200.8 and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: January 14, 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 200.8 and 245.1*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

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

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

- Blanks: Method blanks and CCBs had no detects.

- Interference Check Samples: Recoveries were within the laboratory- (6020) established control limits. Cadmium and copper were detected above the reporting limits in the ICSA solution; however, the reviewer was not able to determine if the detects were due to contamination present in the ISCA solution..

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

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for dissolved mercury. Recoveries and the RPD were within laboratory-established QC limits.

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

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

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

  Selenium was detected margianlly above the MDL in the dissolved fraction but was not detected 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.

C. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: January 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 Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (10/04).

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

- Calibration: Calibration criteria were met. The initial calibration r^2 value was $\geq$0.995 and all initial and continuing calibration recoveries were within 90-110%. The IPC recovery was within the method-established control limit of 80-120%.

- Blanks: The method blank and CCBs had no detects.

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

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

- Matrix Spike/Matrix Spike Duplicate: Recoveries and RPDs were within method-established QC limits of 80-120% and ≤15%, respectively.

- Sample Result Verification: Calculations were verified and the sample result reported on the sample result summary was verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit. Perchlorate detected between the method detection limit and the reporting limit was qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit.

- 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: February 2011

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

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

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

  The gross alpha detector efficiency was less than 20%; therefore, gross alpha detected in the sample was qualified as an estimated detect, "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 or the KPA CCBs.

- 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.

A notation in the sample preparation logbook indicated that the aliquot for Radium-228 was 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.

E. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: January 14, 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), EPA Standard Method SM2540D*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

- Calibration: The balance logs were acceptable.

- Blanks: TSS was not detected in the method blank.

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

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

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

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-";

otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

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

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

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

Validated Sample Result Forms ITL1889

Analysis Method 8644

Sample Name Outfall 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		1.24	1	0.019	pCi/L			

Analysis Method 900

Sample Name Outfall 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	10.4	3	0.643	pCi/L		J	C
Gross Beta	12587472	12.8	4	0.852	pCi/L			

Analysis Method 901.1

Sample Name Outfall 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.33	pCi/L	U	U	
Potassium-40	13966002	21	25	14.7	pCi/L	Jb	J	DNQ

Analysis Method 903.1

Sample Name Outfall 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	1.41	1	0.448	pCi/L			

Analysis Method 904

Sample Name Outfall 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.615	1	0.436	pCi/L	Jb	J	DNQ

Analysis Method 905

Sample Name Outfall 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 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 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-216	500	293	pCi/L	U	U	

Analysis Method EPA 200.7

Sample Name Outfall 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Zinc	7440-66-6	43.5	20.0	6.00	ug/l			

Analysis Method EPA 200.7-Diss

Sample Name Outfall 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Zinc	7440-66-6	7.88	20.0	6.00	ug/l	Ja	J	DNQ

Analysis Method EPA 200.8

Sample Name Outfall 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	ND	2.0	0.30	ug/l		U	
Cadmium	7440-43-9	0.12	1.0	0.10	ug/l	Ja	J	DNQ
Copper	7440-50-8	9.07	2.00	0.500	ug/l			
Lead	7439-92-1	6.7	1.0	0.20	ug/l			
Selenium	7782-49-2	ND	2.0	0.50	ug/l		U	
Thallium	7440-28-0	ND	1.0	0.20	ug/l		U	

Analysis Method EPA 200.8-Diss

Sample Name Outfall 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	ND	2.0	0.30	ug/l		U	
Cadmium	7440-43-9	ND	1.0	0.10	ug/l		U	
Copper	7440-50-8	2.60	2.00	0.500	ug/l			
Lead	7439-92-1	0.32	1.0	0.20	ug/l	Ja	J	DNQ
Selenium	7782-49-2	0.50	2.0	0.50	ug/l	Ja	J	DNQ
Thallium	7440-28-0	ND	1.0	0.20	ug/l		U	

Analysis Method EPA 245.1

Sample Name Outfall 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 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 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 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 314.0

Sample Name Outfall 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	1.9	4.0	0.90	ug/l	Ja	J	DNQ

Analysis Method EPA-5 1613B

Sample Name Outfall 008 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 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	0.0000001	0.0000001	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.0000003	0.0000003	ug/L	J, Q, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.0000003	0.0000003	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.0000005	0.0000005	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.0000002	0.0000002	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.0000012	0.0000012	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.0000007	0.0000007	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.0000009	0.000001	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.0000004	0.0000004	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.0000006	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.0000007	0.0000008	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.0000005	0.0000005	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.0000005	0.0000005	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.0000003	0.0000003	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.0000005	0.0000005	ug/L		U	
OCDD	3268-87-9	ND	0.0000006	0.0000006	ug/L	J, B	U	B
OCDF	39001-02-0	ND	0.0000003	0.0000003	ug/L	B	U	B
Total HpCDD	37871-00-4	1.6e-005	0.0000001	0.0000001	ug/L	J, B	J	B, DNQ
Total HpCDF	38998-75-3	4.2e-006	0.0000003	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	ND	0.0000005	0.0000005	ug/L		U	
Total HxCDF	55684-94-1	ND	0.0000002	0.0000002	ug/L		U	
Total PeCDD	36088-22-9	ND	0.0000006	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.0000005	0.0000005	ug/L		U	
Total TCDD	41903-57-5	ND	0.0000003	0.0000003	ug/L		U	
Total TCDF	55722-27-5	ND	0.0000005	0.0000005	ug/L		U	

Analysis Method SM 2540D

Sample Name Outfall 008 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1889-02 **Sample Date:** 12/19/2010 2:09:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	150	10	1.0	mg/l			