APPENDIX G

FOURTH QUARTER 2010 ANALYTICAL LABORATORY REPORTS, CHAIN-OF-CUSTODY, AND VALIDATION REPORTS

THIS PAGE LEFT INTENTIONALLY BLANK

APPENDIX G

TABLE OF CONTENTS

Section No.

APPENDIX G

TABLE OF CONTENTS

Section No.

APPENDIX G

Section 1

Outfall 001 – December 19 & 20, 2010

MEC^X Data Validation Report

THIS PAGE LEFT INTENTIONALLY BLANK

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL1891

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:	ITL1891
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 001 (Grab)	ITL1891-01	N/A	Water	12/19/2010 2:10:00 PM	SM2510B
Outfall 001 (Composite)	ITL1891-03	G0I230561-001, S012308-01	Water	12/20/2010 4:38:00 AM	1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-Diss, 200.7, 200.7-Diss, SM 2540D, SM2130B, 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. The concentration

of OCDD in the method blank was insufficient to qualify the sample result. 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 200.7 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 Methods200.7 and 245.1*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

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

- Tuning: Not applicable to these analyses.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were $\geq$0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP-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 method-established control limits.

- 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 200.7 analytes. Recoveries and RPDs 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.

- 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 Methods SM2130B, SM2510B, and SM2540D*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: The analytical holding times, 48 hours from collection for turbidity and conductivity and seven days for TSS, were met.

- Calibration: The turbidity initial calibration r2 value was ≥0.990 and the initial and continuing calibration recoveries were within 90-100%. The balance logs were acceptable.

- Blanks: There were no detects in the method blanks or CCBs.

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

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

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

- 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 ITL1891

Analysis Method 8646

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.433	1	0.019	pCi/L	J	J	DNQ

Analysis Method 900

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	4.4	3	0.499	pCi/L		J	C
Gross Beta	12587472	7.29	4	0.895	pCi/L			

Analysis Method 901.1

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.68	pCi/L	U	U	
Potassium-40	13966002	ND	25	18.1	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.388	1	0.711	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.393	1	0.484	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.198	2	0.809	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-114	500	297	pCi/L	U	U	

Analysis Method EPA 200.7

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	6.4	0.040	0.015	mg/l			
Manganese	7439-96-5	96	20	7.0	ug/l			
Zinc	7440-66-6	26.6	20.0	6.00	ug/l			

Analysis Method EPA 200.7-Diss

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	0.095	0.040	0.015	mg/l			
Manganese	7439-96-5	ND	20	7.0	ug/l		U	
Zinc	7440-66-6	18.1	20.0	6.00	ug/l	Ja	J	DNQ

Analysis Method EPA 245.1

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

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

Analysis Method EPA 245.1-Diss

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

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

Analysis Method EPA-5 1613B

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000004	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000002	ug/L	J, Q, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000003	ug/L	J, B	U	B
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000002	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000002	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000006	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000001	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	1.3e-006	0.00005	0.0000001	ug/L	J	J	DNQ
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000001	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000003	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000001	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000003	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000003	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000000	ug/L		U	
OCDD	3268-87-9	0.00019	0.0001	0.0000011	ug/L	B		
OCDF	39001-02-0	ND	0.0001	0.0000005	ug/L	J, B	U	B
Total HpCDD	37871-00-4	4.2e-005	0.00005	0.0000004	ug/L	J, B	J	B, DNQ
Total HpCDF	38998-75-3	1.3e-005	0.00005	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	4.4e-006	0.00005	0.0000001	ug/L	J, Q	J	DNQ, *III
Total HxCDF	55684-94-1	2.6e-006	0.00005	0.0000001	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.00005	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000003	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000003	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000000	ug/L		U	

Analysis Method SM 2540D

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids	TSS	52	10	1.0	mg/l			

Analysis Method SM2130B

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1891-03 **Sample Date:** 12/20/2010 4:38:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	160	10	0.40	NTU			

Analysis Method SM2510B

Sample Name Outfall 001 (Grab) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1891-01 **Sample Date:** 12/19/2010 3:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	NA	65	1.0	1.0	umhos/c			

THIS PAGE LEFT INTENTIONALLY BLANK

APPENDIX G

Section 2

Outfall 001 - December 19 & 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: Quarterly Outfall 001 2010
Quarterly Outfall 001

Sampled: 12/19/10-12/20/10
Received: 12/20/10
Issued: 02/01/11 16:59

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

SAMPLE CROSS REFERENCE

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

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

Some analytes in 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
ITL1891-01	Outfall 001 (Grab)	Water
ITL1891-02	Trip Blanks	Water
ITL1891-03	Outfall 001 (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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-01 (Outfall 001 (Grab) - Water)						**Sampled: 12/19/10**			
Reporting Units: ug/l									
Benzene	EPA 624	10L2794	0.50	0.28	ND	1	12/23/2010	12/23/2010	
Carbon tetrachloride	EPA 624	10L2794	0.50	0.28	ND	1	12/23/2010	12/23/2010	
Chloroform	EPA 624	10L2794	0.50	0.33	ND	1	12/23/2010	12/23/2010	
1,1-Dichloroethane	EPA 624	10L2794	0.50	0.40	ND	1	12/23/2010	12/23/2010	
1,2-Dichloroethane	EPA 624	10L2794	0.50	0.28	ND	1	12/23/2010	12/23/2010	
1,1-Dichloroethene	EPA 624	10L2794	0.50	0.42	ND	1	12/23/2010	12/23/2010	
Ethylbenzene	EPA 624	10L2794	0.50	0.25	ND	1	12/23/2010	12/23/2010	
Tetrachloroethene	EPA 624	10L2794	0.50	0.32	ND	1	12/23/2010	12/23/2010	
Toluene	EPA 624	10L2794	0.50	0.36	ND	1	12/23/2010	12/23/2010	
1,1,1-Trichloroethane	EPA 624	10L2794	0.50	0.30	ND	1	12/23/2010	12/23/2010	
1,1,2-Trichloroethane	EPA 624	10L2794	0.50	0.30	ND	1	12/23/2010	12/23/2010	
Trichloroethene	EPA 624	10L2794	0.50	0.26	ND	1	12/23/2010	12/23/2010	
Trichlorofluoromethane	EPA 624	10L2794	0.50	0.34	ND	1	12/23/2010	12/23/2010	
Trichlorotrifluoroethane (Freon 113)	EPA 624	10L2794	5.0	0.50	ND	1	12/23/2010	12/23/2010	
Vinyl chloride	EPA 624	10L2794	0.50	0.40	ND	1	12/23/2010	12/23/2010	
Xylenes, Total	EPA 624	10L2794	1.5	0.90	ND	1	12/23/2010	12/23/2010	
Surrogate: 4-Bromofluorobenzene (80-120%)					*86 %*				
Surrogate: Dibromofluoromethane (80-120%)					*98 %*				
Surrogate: Toluene-d8 (80-120%)					*104 %*				
Sample ID: ITL1891-02 (Trip Blanks - Water)						**Sampled: 12/19/10**			
Reporting Units: ug/l									
Benzene	EPA 624	10L2418	0.50	0.28	ND	1	12/21/2010	12/21/2010	
Carbon tetrachloride	EPA 624	10L2418	0.50	0.28	ND	1	12/21/2010	12/21/2010	
Chloroform	EPA 624	10L2418	0.50	0.33	ND	1	12/21/2010	12/21/2010	
1,1-Dichloroethane	EPA 624	10L2418	0.50	0.40	ND	1	12/21/2010	12/21/2010	
1,2-Dichloroethane	EPA 624	10L2418	0.50	0.28	ND	1	12/21/2010	12/21/2010	
1,1-Dichloroethene	EPA 624	10L2418	0.50	0.42	ND	1	12/21/2010	12/21/2010	
Ethylbenzene	EPA 624	10L2418	0.50	0.25	ND	1	12/21/2010	12/21/2010	
Tetrachloroethene	EPA 624	10L2418	0.50	0.32	ND	1	12/21/2010	12/21/2010	
Toluene	EPA 624	10L2418	0.50	0.36	ND	1	12/21/2010	12/21/2010	
1,1,1-Trichloroethane	EPA 624	10L2418	0.50	0.30	ND	1	12/21/2010	12/21/2010	
1,1,2-Trichloroethane	EPA 624	10L2418	0.50	0.30	ND	1	12/21/2010	12/21/2010	
Trichloroethene	EPA 624	10L2418	0.50	0.26	ND	1	12/21/2010	12/21/2010	
Trichlorofluoromethane	EPA 624	10L2418	0.50	0.34	ND	1	12/21/2010	12/21/2010	
Trichlorotrifluoroethane (Freon 113)	EPA 624	10L2418	5.0	0.50	ND	1	12/21/2010	12/21/2010	
Vinyl chloride	EPA 624	10L2418	0.50	0.40	ND	1	12/21/2010	12/21/2010	
Xylenes, Total	EPA 624	10L2418	1.5	0.90	ND	1	12/21/2010	12/21/2010	
Surrogate: 4-Bromofluorobenzene (80-120%)					*90 %*				
Surrogate: Dibromofluoromethane (80-120%)					*100 %*				
Surrogate: Toluene-d8 (80-120%)					*107 %*				

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

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

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	10L2492	4.72	1.60	ND	0.943	12/21/2010	12/23/2010	
2,4-Dinitrotoluene	EPA 625	10L2492	4.72	0.189	ND	0.943	12/21/2010	12/23/2010	
N-Nitrosodimethylamine	EPA 625	10L2492	4.72	0.0943	ND	0.943	12/21/2010	12/23/2010	
Pentachlorophenol	EPA 625	10L2492	4.72	0.0943	ND	0.943	12/21/2010	12/23/2010	
2,4,6-Trichlorophenol	EPA 625	10L2492	5.66	0.0943	ND	0.943	12/21/2010	12/23/2010	
Surrogate: 2,4,6-Tribromophenol (40-120%)					*87 %*				
Surrogate: 2-Fluorobiphenyl (50-120%)					*81 %*				
Surrogate: 2-Fluorophenol (30-120%)					*59 %*				
Surrogate: Nitrobenzene-d5 (45-120%)					*65 %*				
Surrogate: Phenol-d6 (35-120%)					*63 %*				
Surrogate: Terphenyl-d14 (50-125%)					*78 %*				

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: ug/l									
alpha-BHC	EPA 608	10L2628	0.0094	0.0024	ND	0.943	12/22/2010	12/22/2010	
Surrogate: Decachlorobiphenyl (45-120%)					*89 %*				
Surrogate: Tetrachloro-m-xylene (35-115%)					*67 %*				

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: ITL1891-01 (Outfall 001 (Grab) - Water)						**Sampled: 12/19/10**			
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	10L2313	4.7	1.3	ND	1	12/20/2010	12/20/2010	

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: mg/l									
Iron	EPA 200.7	10L2484	0.040	0.015	**6.4**	1	12/21/2010	12/23/2010	
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: ug/l									
Mercury	EPA 245.1	10L2694	0.20	0.10	ND	1	12/22/2010	12/22/2010	
Manganese	EPA 200.7	10L2484	20	7.0	**96**	1	12/21/2010	12/23/2010	
Cadmium	EPA 200.8	10L2490	1.0	0.10	**0.25**	1	12/21/2010	12/21/2010	
Zinc	EPA 200.7	10L2484	20.0		**26.6**	1	12/21/2010	12/23/2010	
Copper	EPA 200.8	10L2490	2.0	0.50	**7.2**	1	12/21/2010	12/21/2010	
Lead	EPA 200.8	10L2490	1.0	0.20	**3.5**	1	12/21/2010	12/21/2010	
Selenium	EPA 200.8	10L2490	2.0	0.50	ND	1	12/21/2010	12/21/2010	

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: mg/l									
Iron	EPA 200.7-Diss	10L2487	0.040	0.015	**0.095**	1	12/21/2010	12/23/2010	
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	10L2695	0.20	0.10	ND	1	12/22/2010	12/22/2010	
Manganese	EPA 200.7-Diss	10L2487	20	7.0	ND	1	12/21/2010	12/23/2010	
Cadmium	EPA 200.8-Diss	10L2494	1.0	0.10	ND	1	12/21/2010	12/21/2010	
Zinc	EPA 200.7-Diss	10L2487	20	6.0	**18**	1	12/21/2010	12/23/2010	
Copper	EPA 200.8-Diss	10L2494	2.0	0.50	**3.4**	1	12/21/2010	12/21/2010	
Lead	EPA 200.8-Diss	10L2494	1.0	0.20	**0.39**	1	12/21/2010	12/21/2010	
Selenium	EPA 200.8-Diss	10L2494	2.0	0.50	ND	1	12/21/2010	12/21/2010	

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

INORGANICS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-01 (Outfall 001 (Grab) - Water)						**Sampled: 12/19/10**			
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	10L2308	0.10	0.10	**0.20**	1	12/20/2010	12/20/2010	
Sample ID: ITL1891-01 (Outfall 001 (Grab) - Water)						**Sampled: 12/19/10**			
Reporting Units: umhos/cm @ 25C									
Specific Conductance	SM2510B	10L2408	1.0	1.0	**65**	1	12/21/2010	12/21/2010	
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	10L2540	0.500	0.500	ND	1	12/21/2010	12/21/2010	
Biochemical Oxygen Demand	SM5210B	10L2463	2.0	0.50	**3.2**	1	12/21/2010	12/26/2010	
Chloride	EPA 300.0	10L2304	0.50	0.25	**3.8**	1	12/20/2010	12/21/2010	
Nitrate-N	EPA 300.0	10L2304	0.11	0.060	**0.93**	1	12/20/2010	12/21/2010	
Nitrite-N	EPA 300.0	10L2304	0.15	0.090	ND	1	12/20/2010	12/21/2010	
Nitrate/Nitrite-N	EPA 300.0	10L2304	0.26	0.15	**0.93**	1	12/20/2010	12/21/2010	
Sulfate	EPA 300.0	10L2304	0.50	0.20	**5.7**	1	12/20/2010	12/21/2010	
Surfactants (MBAS)	SM5540-C	10L2543	0.10	0.050	ND	1	12/21/2010	12/21/2010	
Total Dissolved Solids	SM2540C	10L2410	10	1.0	**150**	1	12/21/2010	12/21/2010	
Total Suspended Solids	SM 2540D	10L2850	10	1.0	**52**	1	12/23/2010	12/23/2010	
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: NTU									
Turbidity	SM2130B	10L2479	10	0.40	**160**	10	12/21/2010	12/21/2010	
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)						**Sampled: 12/20/10**			
Reporting Units: ug/l									
Perchlorate	EPA 314.0	10L2485	4.0	0.90	ND	1	12/21/2010	12/21/2010	
Total Cyanide	SM4500CN-E	10L2544	5.0		ND	1	12/21/2010	12/21/2010	

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

8646

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)					**Sampled: 12/20/10**			
Reporting Units: pCi/L								
Uranium, Total	8646	8646	1	**0.433**	1	1/18/2011	1/18/2011	J

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

900

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)					**Sampled: 12/20/10**			
Reporting Units: pCi/L								
Gross Alpha	900	8646	3	**4.4**	1	12/31/2010	1/4/2011	
Gross Beta	900	8646	4	**7.29**	1	12/31/2010	1/4/2011	

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

901.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)				**Sampled: 12/20/10**				
Reporting Units: pCi/L								
Cesium-137	901.1	8646	20	ND	1	12/22/2010	12/31/2010	U
Potassium-40	901.1	8646	25	ND	1	12/22/2010	12/31/2010	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

903.1

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)					**Sampled: 12/20/10**			
Reporting Units: pCi/L								
Radium-226	903.1	8646	1	**0.388**	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

904

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)					**Sampled: 12/20/10**			
Reporting Units: pCi/L								
Radium-228	904	8646	1	**0.393**	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

905

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)					**Sampled: 12/20/10**			
Reporting Units: pCi/L								
Strontium-90	905	8646	2	**-0.198**	1	1/6/2011	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

906

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)					**Sampled: 12/20/10**			
Reporting Units: pCi/L								
Tritium	906	8646	500	**-114**	1	1/10/2011	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: ITL1891-03 (Outfall 001 (Composite) - Water)					**Sampled: 12/20/10**				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	357431	0.00005	0.00000042	**2.2e-005**	0.98	12/23/2010	12/28/2010	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	357431	0.00005	0.00000028	**4.6e-006**	0.98	12/23/2010	12/28/2010	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	357431	0.00005	0.00000032	**4.9e-007**	0.98	12/23/2010	12/28/2010	J, B
1,2,3,4,7,8-HxCDD	EPA-5 1613B	357431	0.00005	0.00000025	ND	0.98	12/23/2010	12/28/2010	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	357431	0.00005	0.00000026	ND	0.98	12/23/2010	12/28/2010	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	357431	0.00005	0.00000064	ND	0.98	12/23/2010	12/28/2010	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	357431	0.00005	0.0000001	ND	0.98	12/23/2010	12/28/2010	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	357431	0.00005	0.00000013	**1.3e-006**	0.98	12/23/2010	12/28/2010	J
1,2,3,7,8,9-HxCDF	EPA-5 1613B	357431	0.00005	0.00000012	ND	0.98	12/23/2010	12/28/2010	
1,2,3,7,8-PeCDD	EPA-5 1613B	357431	0.00005	0.00000061	ND	0.98	12/23/2010	12/28/2010	
1,2,3,7,8-PeCDF	EPA-5 1613B	357431	0.00005	0.0000003	ND	0.98	12/23/2010	12/28/2010	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	357431	0.00005	0.00000013	ND	0.98	12/23/2010	12/28/2010	
2,3,4,7,8-PeCDF	EPA-5 1613B	357431	0.00005	0.00000035	ND	0.98	12/23/2010	12/28/2010	
2,3,7,8-TCDD	EPA-5 1613B	357431	0.00001	0.00000035	ND	0.98	12/23/2010	12/28/2010	
2,3,7,8-TCDF	EPA-5 1613B	357431	0.00001	0.00000009	ND	0.98	12/23/2010	12/28/2010	
OCDD	EPA-5 1613B	357431	0.0001	0.0000011	**0.00019**	0.98	12/23/2010	12/28/2010	B
OCDF	EPA-5 1613B	357431	0.0001	0.00000052	**1.3e-005**	0.98	12/23/2010	12/28/2010	J, B
Total HpCDD	EPA-5 1613B	357431	0.00005	0.00000042	**4.2e-005**	0.98	12/23/2010	12/28/2010	J, B
Total HpCDF	EPA-5 1613B	357431	0.00005	0.0000003	**1.3e-005**	0.98	12/23/2010	12/28/2010	J, Q, B
Total HxCDD	EPA-5 1613B	357431	0.00005	0.00000014	**4.4e-006**	0.98	12/23/2010	12/28/2010	J, Q
Total HxCDF	EPA-5 1613B	357431	0.00005	0.0000001	**2.6e-006**	0.98	12/23/2010	12/28/2010	J, Q
Total PeCDD	EPA-5 1613B	357431	0.00005	0.00000061	ND	0.98	12/23/2010	12/28/2010	
Total PeCDF	EPA-5 1613B	357431	0.00005	0.0000003	ND	0.98	12/23/2010	12/28/2010	
Total TCDD	EPA-5 1613B	357431	0.00001	0.00000035	ND	0.98	12/23/2010	12/28/2010	
Total TCDF	EPA-5 1613B	357431	0.00001	0.00000009	ND	0.98	12/23/2010	12/28/2010	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*106 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*87 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*102 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*75 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*74 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*93 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*77 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*74 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*82 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*87 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*79 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*79 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*75 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*70 %*				
Surrogate: 13C-OCDD (17-157%)					*91 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*96 %*				

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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 001 (Grab) (ITL1891-01) - Water					
SM2540F	2	12/19/2010 15:30	12/20/2010 05:00	12/20/2010 09:25	12/20/2010 09:25
Sample ID: Outfall 001 (Composite) (ITL1891-03) - Water					
EPA 300.0	2	12/20/2010 04:38	12/20/2010 05:00	12/20/2010 19:00	12/21/2010 00:33
Filtration	1	12/20/2010 04:38	12/20/2010 05:00	12/21/2010 00:30	12/21/2010 00:30
SM2130B	2	12/20/2010 04:38	12/20/2010 05:00	12/21/2010 08:35	12/21/2010 08:35
SM5210B	2	12/20/2010 04:38	12/20/2010 05:00	12/21/2010 07:15	12/26/2010 10:30
SM5540-C	2	12/20/2010 04:38	12/20/2010 05:00	12/21/2010 15:30	12/21/2010 21:37

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2418 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2418-BLK1)										
Benzene	ND	0.50	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chloroform	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
Toluene	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Trichlorofluoromethane	ND	0.50	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Xylenes, Total	ND	1.5	ug/l							
Surrogate: 4-Bromofluorobenzene	*23.0*		*ug/l*	*25.0*		*92*	*80-120*			
Surrogate: Dibromofluoromethane	*25.4*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Toluene-d8	*26.9*		*ug/l*	*25.0*		*108*	*80-120*			
LCS Analyzed: 12/21/2010 (10L2418-BS1)										
Benzene	26.6	0.50	ug/l	25.0		106	70-120			
Carbon tetrachloride	30.4	0.50	ug/l	25.0		122	65-140			
Chloroform	27.4	0.50	ug/l	25.0		109	70-130			
1,1-Dichloroethane	28.1	0.50	ug/l	25.0		112	70-125			
1,2-Dichloroethane	28.1	0.50	ug/l	25.0		112	60-140			
1,1-Dichloroethene	27.7	0.50	ug/l	25.0		111	70-125			
Ethylbenzene	28.5	0.50	ug/l	25.0		114	75-125			
Tetrachloroethene	28.1	0.50	ug/l	25.0		113	70-125			
Toluene	27.8	0.50	ug/l	25.0		111	70-120			
1,1,1-Trichloroethane	29.6	0.50	ug/l	25.0		118	65-135			
1,1,2-Trichloroethane	28.5	0.50	ug/l	25.0		114	70-125			
Trichloroethene	27.2	0.50	ug/l	25.0		109	70-125			
Trichlorofluoromethane	28.7	0.50	ug/l	25.0		115	65-145			
Vinyl chloride	25.8	0.50	ug/l	25.0		103	55-135			
Xylenes, Total	89.8	1.5	ug/l	75.0		120	70-125			

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2418 Extracted: 12/21/10										
LCS Analyzed: 12/21/2010 (10L2418-BS1)										
Surrogate: 4-Bromofluorobenzene	*25.1*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Dibromofluoromethane	*25.9*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*26.6*		*ug/l*	*25.0*		*106*	*80-120*			
Matrix Spike Analyzed: 12/21/2010 (10L2418-MS1)					**Source: ITL1890-01**					
Benzene	24.6	0.50	ug/l	25.0	ND	98	65-125			
Carbon tetrachloride	27.9	0.50	ug/l	25.0	ND	112	65-140			
Chloroform	23.6	0.50	ug/l	25.0	ND	94	65-135			
1,1-Dichloroethane	24.3	0.50	ug/l	25.0	ND	97	65-130			
1,2-Dichloroethane	25.6	0.50	ug/l	25.0	ND	102	60-140			
1,1-Dichloroethene	25.4	0.50	ug/l	25.0	ND	102	60-130			
Ethylbenzene	27.0	0.50	ug/l	25.0	ND	108	65-130			
Tetrachloroethene	26.0	0.50	ug/l	25.0	ND	104	65-130			
Toluene	25.6	0.50	ug/l	25.0	ND	102	70-125			
1,1,1-Trichloroethane	26.3	0.50	ug/l	25.0	ND	105	65-140			
1,1,2-Trichloroethane	26.3	0.50	ug/l	25.0	ND	105	65-130			
Trichloroethene	24.0	0.50	ug/l	25.0	ND	96	65-125			
Trichlorofluoromethane	26.2	0.50	ug/l	25.0	ND	105	60-145			
Vinyl chloride	23.4	0.50	ug/l	25.0	ND	94	45-140			
Xylenes, Total	83.6	1.5	ug/l	75.0	ND	111	60-130			
Surrogate: 4-Bromofluorobenzene	*25.2*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Dibromofluoromethane	*24.8*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Toluene-d8	*27.1*		*ug/l*	*25.0*		*108*	*80-120*			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2418-MSD1)					**Source: ITL1890-01**					
Benzene	24.3	0.50	ug/l	25.0	ND	97	65-125	1	20	
Carbon tetrachloride	27.6	0.50	ug/l	25.0	ND	110	65-140	1	25	
Chloroform	23.9	0.50	ug/l	25.0	ND	95	65-135	1	20	
1,1-Dichloroethane	24.6	0.50	ug/l	25.0	ND	98	65-130	1	20	
1,2-Dichloroethane	26.0	0.50	ug/l	25.0	ND	104	60-140	2	20	
1,1-Dichloroethene	24.8	0.50	ug/l	25.0	ND	99	60-130	2	20	
Ethylbenzene	27.0	0.50	ug/l	25.0	ND	108	65-130	0.1	20	
Tetrachloroethene	26.8	0.50	ug/l	25.0	ND	107	65-130	3	20	
Toluene	25.0	0.50	ug/l	25.0	ND	100	70-125	2	20	
1,1,1-Trichloroethane	26.1	0.50	ug/l	25.0	ND	104	65-140	0.7	20	
1,1,2-Trichloroethane	26.4	0.50	ug/l	25.0	ND	106	65-130	0.6	25	
Trichloroethene	24.5	0.50	ug/l	25.0	ND	98	65-125	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2418 Extracted: 12/21/10										
Matrix Spike Dup Analyzed: 12/21/2010 (10L2418-MSD1)					**Source: ITL1890-01**					
Trichlorofluoromethane	26.0	0.50	ug/l	25.0	ND	104	60-145	0.7	25	
Vinyl chloride	23.3	0.50	ug/l	25.0	ND	93	45-140	0.4	30	
Xylenes, Total	83.5	1.5	ug/l	75.0	ND	111	60-130	0.2	20	
Surrogate: 4-Bromofluorobenzene	*25.1*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Dibromofluoromethane	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Toluene-d8	*26.6*		*ug/l*	*25.0*		*107*	*80-120*			
Batch: 10L2794 Extracted: 12/23/10										
Blank Analyzed: 12/23/2010 (10L2794-BLK1)										
Benzene	ND	0.50	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chloroform	ND	0.50	ug/l							
1,1-Dichloroethane	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	0.50	ug/l							
Ethylbenzene	ND	0.50	ug/l							
Tetrachloroethene	ND	0.50	ug/l							
Toluene	ND	0.50	ug/l							
1,1,1-Trichloroethane	ND	0.50	ug/l							
1,1,2-Trichloroethane	ND	0.50	ug/l							
Trichloroethene	ND	0.50	ug/l							
Trichlorofluoromethane	ND	0.50	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
Xylenes, Total	ND	1.5	ug/l							
Surrogate: 4-Bromofluorobenzene	*21.9*		*ug/l*	*25.0*		*88*	*80-120*			
Surrogate: Dibromofluoromethane	*22.9*		*ug/l*	*25.0*		*92*	*80-120*			
Surrogate: Toluene-d8	*26.0*		*ug/l*	*25.0*		*104*	*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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2794 Extracted: 12/23/10										
LCS Analyzed: 12/23/2010 (10L2794-BS1)										
Benzene	25.2	0.50	ug/l	25.0		101	70-120			
Carbon tetrachloride	25.6	0.50	ug/l	25.0		102	65-140			
Chloroform	23.0	0.50	ug/l	25.0		92	70-130			
1,1-Dichloroethane	24.8	0.50	ug/l	25.0		99	70-125			
1,2-Dichloroethane	24.8	0.50	ug/l	25.0		99	60-140			
1,1-Dichloroethene	24.8	0.50	ug/l	25.0		99	70-125			
Ethylbenzene	26.2	0.50	ug/l	25.0		105	75-125			
Tetrachloroethene	25.6	0.50	ug/l	25.0		102	70-125			
Toluene	26.5	0.50	ug/l	25.0		106	70-120			
1,1,1-Trichloroethane	26.0	0.50	ug/l	25.0		104	65-135			
1,1,2-Trichloroethane	25.7	0.50	ug/l	25.0		103	70-125			
Trichloroethene	24.3	0.50	ug/l	25.0		97	70-125			
Trichlorofluoromethane	25.6	0.50	ug/l	25.0		102	65-145			
Vinyl chloride	20.5	0.50	ug/l	25.0		82	55-135			
Xylenes, Total	84.9	1.5	ug/l	75.0		113	70-125			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*23.6*		*ug/l*	*25.0*		*95*	*80-120*			
Surrogate: Toluene-d8	*26.3*		*ug/l*	*25.0*		*105*	*80-120*			
Matrix Spike Analyzed: 12/23/2010 (10L2794-MS1)					**Source: ITL1714-01**					
Benzene	23.3	0.50	ug/l	25.0	ND	93	65-125			
Carbon tetrachloride	23.9	0.50	ug/l	25.0	ND	96	65-140			
Chloroform	22.4	0.50	ug/l	25.0	ND	90	65-135			
1,1-Dichloroethane	24.0	0.50	ug/l	25.0	ND	96	65-130			
1,2-Dichloroethane	23.3	0.50	ug/l	25.0	ND	93	60-140			
1,1-Dichloroethene	25.4	0.50	ug/l	25.0	ND	102	60-130			
Ethylbenzene	25.4	0.50	ug/l	25.0	ND	102	65-130			
Tetrachloroethene	23.6	0.50	ug/l	25.0	ND	95	65-130			
Toluene	25.1	0.50	ug/l	25.0	ND	100	70-125			
1,1,1-Trichloroethane	25.0	0.50	ug/l	25.0	ND	100	65-140			
1,1,2-Trichloroethane	23.5	0.50	ug/l	25.0	ND	94	65-130			
Trichloroethene	41.3	0.50	ug/l	25.0	ND	165	65-125			*M1*
Trichlorofluoromethane	25.9	0.50	ug/l	25.0	ND	104	60-145			
Vinyl chloride	21.0	0.50	ug/l	25.0	ND	84	45-140			
Xylenes, Total	81.4	1.5	ug/l	75.0	ND	109	60-130			
Surrogate: 4-Bromofluorobenzene	*25.1*		*ug/l*	*25.0*		*100*	*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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2794 Extracted: 12/23/10										
Matrix Spike Analyzed: 12/23/2010 (10L2794-MS1)					**Source: ITL1714-01**					
Surrogate: Dibromofluoromethane	*9.88*		*ug/l*	*25.0*		*40*	*80-120*			*Z*
Surrogate: Toluene-d8	*26.3*		*ug/l*	*25.0*		*105*	*80-120*			
Matrix Spike Dup Analyzed: 12/23/2010 (10L2794-MSD1)					**Source: ITL1714-01**					
Benzene	22.7	0.50	ug/l	25.0	ND	91	65-125	3	20	
Carbon tetrachloride	23.0	0.50	ug/l	25.0	ND	92	65-140	4	25	
Chloroform	21.4	0.50	ug/l	25.0	ND	86	65-135	5	20	
1,1-Dichloroethane	23.1	0.50	ug/l	25.0	ND	92	65-130	4	20	
1,2-Dichloroethane	23.0	0.50	ug/l	25.0	ND	92	60-140	0.9	20	
1,1-Dichloroethene	25.1	0.50	ug/l	25.0	ND	101	60-130	1	20	
Ethylbenzene	24.1	0.50	ug/l	25.0	ND	96	65-130	5	20	
Tetrachloroethene	23.1	0.50	ug/l	25.0	ND	92	65-130	2	20	
Toluene	24.4	0.50	ug/l	25.0	ND	98	70-125	3	20	
1,1,1-Trichloroethane	23.4	0.50	ug/l	25.0	ND	94	65-140	7	20	
1,1,2-Trichloroethane	22.5	0.50	ug/l	25.0	ND	90	65-130	4	25	
Trichloroethene	40.4	0.50	ug/l	25.0	ND	162	65-125	2	20	*M1*
Trichlorofluoromethane	24.9	0.50	ug/l	25.0	ND	100	60-145	4	25	
Vinyl chloride	19.9	0.50	ug/l	25.0	ND	80	45-140	5	30	
Xylenes, Total	77.5	1.5	ug/l	75.0	ND	103	60-130	5	20	
Surrogate: 4-Bromofluorobenzene	*24.7*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*6.98*		*ug/l*	*25.0*		*28*	*80-120*			*Z*
Surrogate: Toluene-d8	*26.2*		*ug/l*	*25.0*		*105*	*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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2492 Extracted: 12/21/10										
Blank Analyzed: 12/23/2010 (10L2492-BLK1)										
Bis(2-ethylhexyl)phthalate	ND	5.00	ug/l							
2,4-Dinitrotoluene	ND	5.00	ug/l							
N-Nitrosodimethylamine	ND	5.00	ug/l							
Pentachlorophenol	ND	5.00	ug/l							
2,4,6-Trichlorophenol	ND	6.00	ug/l							
Surrogate: 2,4,6-Tribromophenol	*17.8*		*ug/l*	*20.0*		*89*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*9.22*		*ug/l*	*10.0*		*92*	*50-120*			
Surrogate: 2-Fluorophenol	*13.4*		*ug/l*	*20.0*		*67*	*30-120*			
Surrogate: Nitrobenzene-d5	*7.36*		*ug/l*	*10.0*		*74*	*45-120*			
Surrogate: Phenol-d6	*14.7*		*ug/l*	*20.0*		*74*	*35-120*			
Surrogate: Terphenyl-d14	*8.88*		*ug/l*	*10.0*		*89*	*50-125*			
LCS Analyzed: 12/23/2010 (10L2492-BS1)										**MNR1**
Bis(2-ethylhexyl)phthalate	8.72	5.00	ug/l	10.0		87	65-130			
2,4-Dinitrotoluene	8.20	5.00	ug/l	10.0		82	65-120			
N-Nitrosodimethylamine	6.74	5.00	ug/l	10.0		67	45-120			
Pentachlorophenol	5.34	5.00	ug/l	10.0		53	24-121			
2,4,6-Trichlorophenol	8.30	6.00	ug/l	10.0		83	55-120			
Surrogate: 2,4,6-Tribromophenol	*17.5*		*ug/l*	*20.0*		*87*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*7.76*		*ug/l*	*10.0*		*78*	*50-120*			
Surrogate: 2-Fluorophenol	*12.6*		*ug/l*	*20.0*		*63*	*30-120*			
Surrogate: Nitrobenzene-d5	*7.04*		*ug/l*	*10.0*		*70*	*45-120*			
Surrogate: Phenol-d6	*14.2*		*ug/l*	*20.0*		*71*	*35-120*			
Surrogate: Terphenyl-d14	*8.36*		*ug/l*	*10.0*		*84*	*50-125*			
LCS Dup Analyzed: 12/23/2010 (10L2492-BSD1)										
Bis(2-ethylhexyl)phthalate	8.88	5.00	ug/l	10.0		89	65-130	2	20	
2,4-Dinitrotoluene	7.82	5.00	ug/l	10.0		78	65-120	5	20	
N-Nitrosodimethylamine	6.80	5.00	ug/l	10.0		68	45-120	0.9	20	
Pentachlorophenol	5.10	5.00	ug/l	10.0		51	24-121	5	25	
2,4,6-Trichlorophenol	8.46	6.00	ug/l	10.0		85	55-120	2	30	
Surrogate: 2,4,6-Tribromophenol	*17.6*		*ug/l*	*20.0*		*88*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*8.06*		*ug/l*	*10.0*		*81*	*50-120*			
Surrogate: 2-Fluorophenol	*12.6*		*ug/l*	*20.0*		*63*	*30-120*			
Surrogate: Nitrobenzene-d5	*7.24*		*ug/l*	*10.0*		*72*	*45-120*			
Surrogate: Phenol-d6	*14.5*		*ug/l*	*20.0*		*72*	*35-120*			
Surrogate: Terphenyl-d14	*8.46*		*ug/l*	*10.0*		*85*	*50-125*			

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L2628 Extracted: 12/22/10										
Blank Analyzed: 12/22/2010 (10L2628-BLK1)										
alpha-BHC	ND	0.010	ug/l							
Surrogate: Decachlorobiphenyl	*0.440*		*ug/l*	*0.500*		*88*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.401*		*ug/l*	*0.500*		*80*	*35-115*			
LCS Analyzed: 12/22/2010 (10L2628-BS1)										
alpha-BHC	0.460	0.010	ug/l	0.500		92	45-115			
Surrogate: Decachlorobiphenyl	*0.448*		*ug/l*	*0.500*		*90*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.416*		*ug/l*	*0.500*		*83*	*35-115*			
Matrix Spike Analyzed: 12/22/2010 (10L2628-MS1)					**Source: ITL1847-01**					
alpha-BHC	0.310	0.0094	ug/l	0.472	ND	66	40-120			
Surrogate: Decachlorobiphenyl	*0.387*		*ug/l*	*0.472*		*82*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.212*		*ug/l*	*0.472*		*45*	*35-115*			
Matrix Spike Dup Analyzed: 12/22/2010 (10L2628-MSD1)					**Source: ITL1847-01**					
alpha-BHC	0.342	0.0094	ug/l	0.472	ND	73	40-120	10	30	
Surrogate: Decachlorobiphenyl	*0.436*		*ug/l*	*0.472*		*92*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.233*		*ug/l*	*0.472*		*49*	*35-115*			

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2313 Extracted: 12/20/10										
Blank Analyzed: 12/20/2010 (10L2313-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 12/20/2010 (10L2313-BS1)										**MNR1**
Hexane Extractable Material (Oil & Grease)	19.5	5.0	mg/l	20.0		98	78-114			
LCS Dup Analyzed: 12/20/2010 (10L2313-BSD1)										
Hexane Extractable Material (Oil & Grease)	19.1	5.0	mg/l	20.0		96	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2484 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2484-BLK1)										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
LCS Analyzed: 12/21/2010 (10L2484-BS1)										
Iron	0.536	0.040	mg/l	0.500		107	85-115			
Manganese	527	20	ug/l	500		105	85-115			
Zinc	509	20.0	ug/l	500		102	85-115			
Matrix Spike Analyzed: 12/21/2010 (10L2484-MS1)					**Source: ITL1829-01**					
Iron	1.04	0.040	mg/l	0.500	0.468	114	70-130			
Manganese	3180	20	ug/l	500	2430	151	70-130			*MHA*
Zinc	527	20.0	ug/l	500	21.9	101	70-130			
Matrix Spike Analyzed: 12/21/2010 (10L2484-MS2)					**Source: ITL1829-02**					
Iron	1.42	0.040	mg/l	0.500	0.874	108	70-130			
Manganese	539	20	ug/l	500	32.5	101	70-130			
Zinc	545	20.0	ug/l	500	62.3	96	70-130			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2484-MSD1)					**Source: ITL1829-01**					
Iron	1.00	0.040	mg/l	0.500	0.468	107	70-130	4	20	
Manganese	3050	20	ug/l	500	2430	124	70-130	4	20	*MHA*
Zinc	499	20.0	ug/l	500	21.9	95	70-130	6	20	
Batch: 10L2490 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2490-BLK1)										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2490 Extracted: 12/21/10										
LCS Analyzed: 12/21/2010 (10L2490-BS1)										
Cadmium	81.5	1.0	ug/l	80.0		102	85-115			
Copper	82.8	2.0	ug/l	80.0		103	85-115			
Lead	83.1	1.0	ug/l	80.0		104	85-115			
Selenium	82.9	2.0	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 12/21/2010 (10L2490-MS1)					**Source: ITL1829-03**					
Cadmium	77.1	1.0	ug/l	80.0	0.125	96	70-130			
Copper	78.7	2.0	ug/l	80.0	5.15	92	70-130			
Lead	80.1	1.0	ug/l	80.0	4.26	95	70-130			
Selenium	82.5	2.0	ug/l	80.0	4.20	98	70-130			
Matrix Spike Analyzed: 12/21/2010 (10L2490-MS2)					**Source: ITL1829-04**					
Cadmium	78.3	1.0	ug/l	80.0	ND	98	70-130			
Copper	76.3	2.0	ug/l	80.0	ND	95	70-130			
Lead	77.4	1.0	ug/l	80.0	0.729	96	70-130			
Selenium	84.1	2.0	ug/l	80.0	3.40	101	70-130			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2490-MSD1)					**Source: ITL1829-03**					
Cadmium	77.6	1.0	ug/l	80.0	0.125	97	70-130	0.7	20	
Copper	79.4	2.0	ug/l	80.0	5.15	93	70-130	0.8	20	
Lead	81.4	1.0	ug/l	80.0	4.26	96	70-130	2	20	
Selenium	81.6	2.0	ug/l	80.0	4.20	97	70-130	1	20	
Batch: 10L2694 Extracted: 12/22/10										
Blank Analyzed: 12/22/2010 (10L2694-BLK1)										
Mercury	ND	0.20	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2694 Extracted: 12/22/10										
LCS Analyzed: 12/22/2010 (10L2694-BS1)										
Mercury	7.73	0.20	ug/l	8.00		97	85-115			
Matrix Spike Analyzed: 12/22/2010 (10L2694-MS1)					**Source: ITL1894-01**					
Mercury	7.48	0.20	ug/l	8.00	ND	93	70-130			
Matrix Spike Dup Analyzed: 12/22/2010 (10L2694-MSD1)					**Source: ITL1894-01**					
Mercury	7.47	0.20	ug/l	8.00	ND	93	70-130	0.04	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2487 Extracted: 12/21/10										
Blank Analyzed: 12/23/2010 (10L2487-BLK1)										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20	ug/l							
LCS Analyzed: 12/23/2010 (10L2487-BS1)										
Iron	0.473	0.040	mg/l	0.500		95	85-115			
Manganese	512	20	ug/l	500		102	85-115			
Zinc	510	20	ug/l	500		102	85-115			
Matrix Spike Analyzed: 12/23/2010 (10L2487-MS1)					**Source: ITL1891-03**					
Iron	0.594	0.040	mg/l	0.500	0.0946	100	70-130			
Manganese	509	20	ug/l	500	ND	102	70-130			
Zinc	521	20	ug/l	500	18.1	101	70-130			
Matrix Spike Analyzed: 12/23/2010 (10L2487-MS2)					**Source: ITL1877-01**					
Iron	0.642	0.040	mg/l	0.500	0.0954	109	70-130			
Manganese	514	20	ug/l	500	13.7	100	70-130			
Zinc	502	20	ug/l	500	ND	100	70-130			
Matrix Spike Dup Analyzed: 12/23/2010 (10L2487-MSD1)					**Source: ITL1891-03**					
Iron	0.556	0.040	mg/l	0.500	0.0946	92	70-130	7	20	
Manganese	496	20	ug/l	500	ND	99	70-130	3	20	
Zinc	505	20	ug/l	500	18.1	97	70-130	3	20	
Batch: 10L2494 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2494-BLK1)										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2494 Extracted: 12/21/10										
LCS Analyzed: 12/21/2010 (10L2494-BS1)										
Cadmium	81.6	1.0	ug/l	80.0		102	85-115			
Copper	85.6	2.0	ug/l	80.0		107	85-115			
Lead	79.1	1.0	ug/l	80.0		99	85-115			
Selenium	80.4	2.0	ug/l	80.0		101	85-115			
Matrix Spike Analyzed: 12/21/2010 (10L2494-MS1)					**Source: ITL1890-03**					
Cadmium	76.0	1.0	ug/l	80.0	ND	95	70-130			
Copper	79.5	2.0	ug/l	80.0	2.91	96	70-130			
Lead	80.8	1.0	ug/l	80.0	0.391	100	70-130			
Selenium	72.5	2.0	ug/l	80.0	ND	91	70-130			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2494-MSD1)					**Source: ITL1890-03**					
Cadmium	77.5	1.0	ug/l	80.0	ND	97	70-130	2	20	
Copper	80.8	2.0	ug/l	80.0	2.91	97	70-130	2	20	
Lead	74.6	1.0	ug/l	80.0	0.391	93	70-130	8	20	
Selenium	71.9	2.0	ug/l	80.0	ND	90	70-130	0.9	20	
Batch: 10L2695 Extracted: 12/22/10										
Blank Analyzed: 12/22/2010 (10L2695-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/22/2010 (10L2695-BS1)										
Mercury	8.15	0.20	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 12/22/2010 (10L2695-MS1)					**Source: ITL1889-02**					
Mercury	7.89	0.20	ug/l	8.00	ND	99	70-130			

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2695 Extracted: 12/22/10										
Matrix Spike Dup Analyzed: 12/22/2010 (10L2695-MSD1)					**Source: ITL1889-02**					
Mercury	7.80	0.20	ug/l	8.00	ND	97	70-130	1	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2304 Extracted: 12/20/10										
Blank Analyzed: 12/20/2010 (10L2304-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate-N	ND	0.11	mg/l							
Nitrite-N	ND	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/20/2010 (10L2304-BS1)										
Chloride	4.74	0.50	mg/l	5.00		95	90-110			*M-3*
Nitrate-N	1.04	0.11	mg/l	1.13		92	90-110			
Nitrite-N	1.46	0.15	mg/l	1.52		96	90-110			
Sulfate	9.52	0.50	mg/l	10.0		95	90-110			
Matrix Spike Analyzed: 12/20/2010 (10L2304-MS1)					**Source: ITL1981-05**					
Nitrate-N	3.31	0.11	mg/l	1.13	2.12	105	80-120			
Nitrite-N	1.87	0.15	mg/l	1.52	ND	123	80-120			*M1*
Sulfate	37.9	0.50	mg/l	10.0	26.4	114	80-120			
Matrix Spike Analyzed: 12/20/2010 (10L2304-MS2)					**Source: ITL2011-04**					
Nitrate-N	13.4	0.55	mg/l	11.3	2.66	95	80-120			
Nitrite-N	16.7	0.75	mg/l	15.2	ND	110	80-120			
Sulfate	96.9	2.5	mg/l	100	ND	97	80-120			
Matrix Spike Dup Analyzed: 12/20/2010 (10L2304-MSD1)					**Source: ITL1981-05**					
Nitrate-N	3.29	0.11	mg/l	1.13	2.12	103	80-120	0.6	20	
Nitrite-N	1.83	0.15	mg/l	1.52	ND	120	80-120	2	20	
Sulfate	37.8	0.50	mg/l	10.0	26.4	114	80-120	0.09	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2408 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2408-BLK1)										
Specific Conductance	ND	1.0	umhos/cm @ 25C							
LCS Analyzed: 12/21/2010 (10L2408-BS1)										
Specific Conductance	1430	1.0	umhos/cm @ 25C	1410		101	90-110			
Duplicate Analyzed: 12/21/2010 (10L2408-DUP1)					**Source: ITL1890-01**					
Specific Conductance	116	1.0	umhos/cm @ 25C		115			0.8	5	
Batch: 10L2410 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2410-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 12/21/2010 (10L2410-BS1)										
Total Dissolved Solids	1010	10	mg/l	1000		101	90-110			
Duplicate Analyzed: 12/21/2010 (10L2410-DUP1)					**Source: ITL1889-02**					
Total Dissolved Solids	226	10	mg/l		224			0.9	10	
Batch: 10L2463 Extracted: 12/21/10										
Blank Analyzed: 12/26/2010 (10L2463-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/l							
LCS Analyzed: 12/26/2010 (10L2463-BS1)										
Biochemical Oxygen Demand	208	100	mg/l	198		105	85-115			

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2463 Extracted: 12/21/10										
LCS Dup Analyzed: 12/26/2010 (10L2463-BSD1)										
Biochemical Oxygen Demand	216	100	mg/l	198		109	85-115	4	20	
Batch: 10L2479 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2479-BLK1)										
Turbidity	ND	1.0	NTU							
Duplicate Analyzed: 12/21/2010 (10L2479-DUP1)					**Source: ITL1877-01**					
Turbidity	183	10	NTU		181			0.9	20	
Duplicate Analyzed: 12/21/2010 (10L2479-DUP2)					**Source: ITL1970-08**					
Turbidity	0.0400	1.0	NTU		ND				20	
Batch: 10L2485 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2485-BLK1)										
Perchlorate	ND	4.0	ug/l							
LCS Analyzed: 12/21/2010 (10L2485-BS1)										
Perchlorate	23.3	4.0	ug/l	25.0		93	85-115			
Matrix Spike Analyzed: 12/21/2010 (10L2485-MS1)					**Source: ITL1889-02**					
Perchlorate	24.4	4.0	ug/l	25.0	1.92	90	80-120			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2485-MSD1)					**Source: ITL1889-02**					
Perchlorate	23.9	4.0	ug/l	25.0	1.92	88	80-120	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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2540 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2540-BLK1)										
Ammonia-N (Distilled)	ND	0.500	mg/l							
LCS Analyzed: 12/21/2010 (10L2540-BS1)										
Ammonia-N (Distilled)	10.1	0.500	mg/l	10.0		101	80-115			
Matrix Spike Analyzed: 12/21/2010 (10L2540-MS1)					**Source: ITL1699-01**					
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2540-MSD1)					**Source: ITL1699-01**					
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120	0	15	
Batch: 10L2543 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2543-BLK1)										
Surfactants (MBAS)	ND	0.10	mg/l							
LCS Analyzed: 12/21/2010 (10L2543-BS1)										
Surfactants (MBAS)	0.245	0.10	mg/l	0.250		98	90-110			
Matrix Spike Analyzed: 12/21/2010 (10L2543-MS1)					**Source: ITL2028-01**					
Surfactants (MBAS)	0.266	0.10	mg/l	0.250	ND	106	50-125			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2543-MSD1)					**Source: ITL2028-01**					
Surfactants (MBAS)	0.249	0.10	mg/l	0.250	ND	99	50-125	7	20	
Batch: 10L2544 Extracted: 12/21/10										
Blank Analyzed: 12/21/2010 (10L2544-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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: 10L2544 Extracted: 12/21/10										
LCS Analyzed: 12/21/2010 (10L2544-BS1)										
Total Cyanide	192	5.0	ug/l	200		96	90-110			
Matrix Spike Analyzed: 12/21/2010 (10L2544-MS1)					**Source: ITL1802-02**					
Total Cyanide	192	5.0	ug/l	200	ND	96	70-115			
Matrix Spike Dup Analyzed: 12/21/2010 (10L2544-MSD1)					**Source: ITL1802-02**					
Total Cyanide	187	5.0	ug/l	200	ND	94	70-115	2	15	
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	

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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
ITL1891-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.38	4.7	15
ITL1891-01	624-Boeing 001/002Q (Fr113+X+Fr	1,1-Dichloroethene	ug/l	0	0.50	6
ITL1891-01	624-Boeing 001/002Q (Fr113+X+Fr	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL1891-01	624-Boeing 001/002Q (Fr113+X+Fr	Trichloroethene	ug/l	0	0.50	5
ITL1891-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0.20	0.10	0.3

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
ITL1891-02	624-Boeing 001/002Q (Fr113+X+Fr	1,1-Dichloroethene	ug/l	0	0.50	6
ITL1891-02	624-Boeing 001/002Q (Fr113+X+Fr	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL1891-02	624-Boeing 001/002Q (Fr113+X+Fr	Trichloroethene	ug/l	0	0.50	5

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
ITL1891-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0094	0.03
ITL1891-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.66	13
ITL1891-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.72	18
ITL1891-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.30	4.72	4
ITL1891-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.72	16
ITL1891-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.72	16.5
ITL1891-03	Ammonia-N, Titr 4500NH3-C (w/di	Ammonia-N (Distilled)	mg/l	0	0.500	10.1
ITL1891-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	3.21	2.0	30
ITL1891-03	Cadmium-200.8	Cadmium	ug/l	0.25	1.0	3.1
ITL1891-03	Chloride - 300.0	Chloride	mg/l	3.75	0.50	150
ITL1891-03	Copper-200.8	Copper	ug/l	7.21	2.0	14
ITL1891-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-2	5.0	8.5
ITL1891-03	**Iron-200.7**	**Iron**	**mg/l**	**6.37**	**0.040**	**0.3**
ITL1891-03	Lead-200.8	Lead	ug/l	3.54	1.0	5.2
ITL1891-03	**Manganese-200.7**	**Manganese**	**ug/l**	**96**	**20**	**50**
ITL1891-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.0031	0.10	0.5
ITL1891-03	Mercury - 245.1	Mercury	ug/l	0	0.20	0.1

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

ITL1891-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.93	0.11	8
ITL1891-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
ITL1891-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.93	0.26	8
ITL1891-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
ITL1891-03	Selenium-200.8	Selenium	ug/l	0.37	2.0	5
ITL1891-03	Sulfate-300.0	Sulfate	mg/l	5.74	0.50	300
ITL1891-03	TDS - SM2540C	Total Dissolved Solids	mg/l	151	10	950
ITL1891-03	**TSS - SM2540D**	**Total Suspended Solids**	**mg/l**	**52**	**10**	**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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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	The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M-3	Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
Q	Estimated maximum possible concentration (EMPC).
U	The RESULT is less than the MDA (Minimum Detectable Activity). If the MDA is blank, the ERROR is used as the limit.
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water	X	X
EPA 200.7-Diss	Water	X	X
EPA 200.7	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
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2130B	Water	X	X
SM2510B	Water	X	X
SM2540C	Water	X	
SM2540F	Water	X	X
SM4500CN-E	Water	X	X
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5540-C	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: ITL1891-03

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
Received: 12/20/10

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: ITL1891-03

Analysis Performed: Gross Alpha
Samples: ITL1891-03

Analysis Performed: Gross Beta
Samples: ITL1891-03

Analysis Performed: Radium, Combined
Samples: ITL1891-03

Analysis Performed: Strontium 90
Samples: ITL1891-03

Analysis Performed: Tritium
Samples: ITL1891-03

Analysis Performed: Uranium, Combined
Samples: ITL1891-03

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8646
Samples: ITL1891-03

Method Performed: 900
Samples: ITL1891-03

Method Performed: 901.1
Samples: ITL1891-03

Method Performed: 903.1
Samples: ITL1891-03

Method Performed: 904
Samples: ITL1891-03

Method Performed: 905
Samples: ITL1891-03

Method Performed: 906
Samples: ITL1891-03

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: Quarterly Outfall 001 2010
Quarterly Outfall 001
Report Number: ITL1891

Sampled: 12/19/10-12/20/10
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: ITL1891-03

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

CHAIN OF CUSTODY FORM

Z7L189

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Quarterly Outfall 001** **GRAB**
Project Manager: Bronwyn Kelly Sampler: Rick BANACH	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	VOCs (624) + Freon 113	Oil & Grease (1664-HEM)	Settleable Solids	Conductivity	Field readings: (Log in and include in report Temp and pH)
Outfall 001	W	VOAs	5	12-19-2010 15:30	HCl	1A, 1B, 1C, 1D, 1E	X				Temp °F = 57.6 pH = 7.6 DO = 0.35 mG Time of readings =
Outfall 001	W	1L Amber	2		HCl	2A, 2B		X			
Outfall 001	W	1L Poly	1		None	3			X		
Outfall 001	W	500 mL Poly	2		None	4A, 4B				X	
Trip Blanks	W	VOAs	3	12-19-2010 15:30	HCl	5A, 5B, 5C	X				

These Samples are the Grab Portion of Outfall 001 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 Banach	12-19-2010 16:00		
Relinquished By	Date/Time:	Received By	Date/Time: 12-19-10 16:00
	12-19-10 17:45		
Relinquished By	Date/Time:	Received By	Date/Time:
		From SC Fridge	12/20/10 0500

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

19105 2.0

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 **Quarterly Outfall 001** **COMPOSITE**
Project Manager: Bronwyn Kelly Sampler: Rick Banaga	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Cu, Pb, Hg, Cd, Se, Zn, **Fe, Mn**	TCDD (and all congeners)	BOD_5 (20 degrees C)	Surfactants (MBAS)	Cl^-, SO_4, NO_3+NO_2-N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)	Comments
Outfall 001	W	1L Poly	1	12-20-2010	HNO_3	6A	X										
Outfall 001 Dup	W	1L Poly	1	04:38	HNO_3	6B	X										
Outfall 001	W	1L Amber	2		None	7A, 7B		X									
Outfall 001	W	1L Poly	1		None	8			X								
Outfall 001	W	500 mL Poly	2		None	9A, 9B				X							
Outfall 001	W	500 mL Poly	2		None	10A, 10B					X						
Outfall 001	W	500 mL Poly	1		None	11						X					
Outfall 001	W	500 mL Poly	2		None	12A, 12B							X				
Outfall 001	W	500 mL Poly	1		H_2SO_4	13								X			
Outfall 001	W	1L Amber	2	12-20-2010	None	14A, 14B									X		
Outfall 001	W	1L Amber	2	04:38	None	15A, 15B										X	

22:45
12/20/10

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 001 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 001 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Banaga	12.20.2010	Vina Padilla	12/20/10 1613
Relinquished By	Date/Time:	Received By	Date/Time:
Vina Padilla	12/20/10 2024		
Relinquished By	Date/Time:	Received By	Date/Time:
			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

1-9r

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 **Quarterly Outfall 001** **COMPOSITE** LOW
Project Manager: Bronwyn Kelly Sampler: Rick BARAGO	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, **Fe, Mn**	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**
							ANALYSIS REQUIRED														
Outfall 001	W	1L Poly	1	12-20-2010 04:38	None	16	X														Filter w/in 24hrs of receipt at lab
Outfall 001	W	2.5 Gal Cube	1	↓	None	17A		X													Unfiltered and unpreserved analysis
		500 mL Amber	1		None	17B															
Outfall 001	W	500 mL Poly	1	12-20-2010 04:38	NaOH	18			X												
Outfall 001	W	1 Gal Poly	1	12-20-2010 04:38	None	19				X											**Only test if first or second rain events of the year**

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 001 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 001 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Barago	12-20-2010	Ursin Padilla	12/20/10 16:13
Relinquished By: Ursin Padilla	Date/Time: 12/20/10 20:24	Received By	Date/Time:
Relinquished By	Date/Time:	Received By:	Date/Time: 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

1.9r

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 28, 2010

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

Laboratory No.: A-10122004-001
Sample I.D.: ITL1891-03 (Outfall 001)

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:	12/20/10
Temp. Received:	5.6°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	12/20/10 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-10122004-001
Client/ID: Test America - ITL1891-03 (Outfall 001)

Date Tested: 12/20/10 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: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	24.0
100% Sample	100%	26.1
* 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 (24.0 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 = 6.6%)
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-7 Day Survival

Start Date:	12/20/2010 18:30	Test ID:	10122004c	Sample ID:	Outfall 001
End Date:	12/27/2010 17:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/20/2010 04:38	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

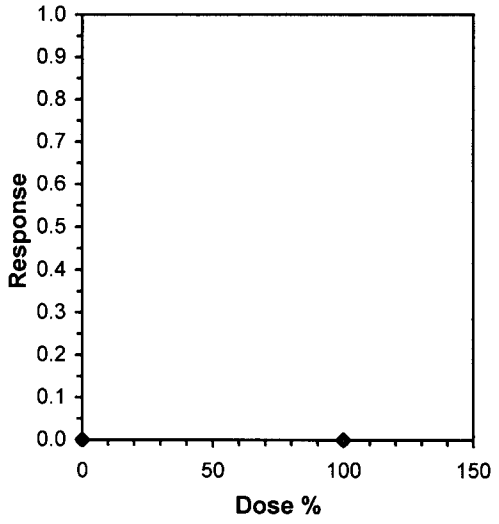
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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:	12/20/2010 18:30	Test ID:	10122004c	Sample ID:	Outfall 001
End Date:	12/27/2010 17:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/20/2010 04:38	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

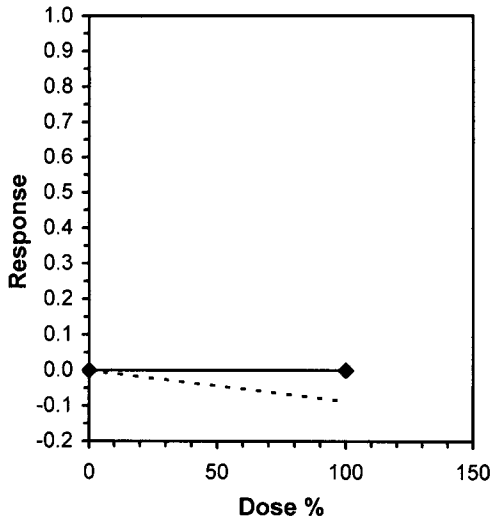
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	25.000	24.000	25.000	25.000	21.000	23.000	22.000	26.000	26.000
100	23.000	23.000	30.000	24.000	26.000	27.000	28.000	27.000	25.000	28.000

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	24.000	1.0000	24.000	21.000	26.000	7.082	10				25.050	1.0000
100	26.100	1.0875	26.100	23.000	30.000	8.931	10	-2.302	1.734	1.582	25.050	1.0000

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.94322		0.905		-0.1022	-0.7578
F-Test indicates equal variances (p = 0.36)	1.88077		6.54109			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	1.58192	0.06591	22.05	4.16111	0.03349	1, 18
Treatments vs D-Control						

Linear Interpolation (200 Resamples)

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



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-10122004-001
Client ID: TestAmerica - Outfall 001
Start Date: 12/20/2010

		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:		1830	1200	1200	1730	1730	1200	1200	1730	1730	1800	1800	1200	1200	1730
Control	DO	8.2	8.5	8.8	8.5	7.9	8.6	8.0	8.4	8.1	8.2	8.4	8.0	8.4	8.1
	pH	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.1	8.2	8.0	8.2	8.0
	Temp	25.1	24.1	24.3	24.0	25.1	24.7	24.2	24.4	24.2	24.3	24.2	24.5	24.2	24.4
100%	DO	9.1	8.6	9.8	8.6	8.9	8.6	9.8	8.2	9.8	8.1	9.4	7.9	9.7	8.0
	pH	7.7	7.8	7.4	8.0	7.5	7.9	7.2	7.9	7.6	8.1	7.5	8.2	7.6	8.2
	Temp	25.6	24.4	24.3	24.6	25.0	25.0	24.7	24.4	24.4	24.3	24.6	24.5	24.3	24.4

Additional Parameters	Control	100% Sample
Conductivity (umohms)	287	91
Alkalinity (mg/l $CaCO_3$)	72	35
Hardness (mg/l $CaCO_3$)	92	35
Ammonia (mg/l NH_3-N)	<0.1	0.2

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

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	3	0	0	4	0	0	0	0	5	12	10	
	4	4	0	3	5	0	2	3	3	4	0	24	10	
	5	7	7	6	6	0	7	7	6	0	7	53	10	
	6	12	0	15	14	5	0	0	13	8	14	81	10	
	7	0	15	0	0	16	12	13	(16)	14	0	70	10	
	Total	23	25	24	25	25	21	23	22	26	26	240	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	0	0	4	0	0	0	5	4	0	13	10	
	4	4	4	5	0	4	3	4	0	0	5	29	10	
	5	7	0	9	7	7	8	7	0	6	7	58	10	
	6	12	7	16	13	0	0	0	8	15	16	87	10	
	7	0	12	0	0	15	16	17	14	(13)	(14)	74	10	
	Total	23	23	30	24	26	27	28	27	25	28	261	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

SUBCONTRACT ORDER
TestAmerica Irvine

ITL1891

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: 5.6°C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)			Sampled: 12/20/10 04:38	
Bioassay-7 dy Chmic	N/A	12/23/10	12/21/10 16:38	Cerio, EPA/821-R02-013, Sub to Aquatic testing
Containers Supplied:				
1 gal Poly (U)				

Released By	Date/Time	Received By	Date/Time
	12/20/10		12-20-10 1815
Released By	Date/Time	Received By	Date/Time

CHAIN OF CUSTODY FORM

Client Name/Address:
MWH-Arcadia
618 Michillinda Ave, Suite 200
Arcadia, CA 91007

Test America Contact: Debby Wilson

Project:
Boeing-SSFL NPDES
Quarterly Outfall 001
COMPOSITE Low

Project Manager: Bronwyn Kelly

Sampler: Rick Bahaga

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

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, Fe, Mn	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 001	W	1L Poly	1	12-20-2010 04:38	None	16	X				Filter w/in 24hrs of receipt at lab
Outfall 001	W	2 5 Gal Cube	1	↓	None	17A		X			Unfiltered and unpreserved analysis
		500 mL Amber	1		None	17B					
Outfall 001	W	500 mL Poly	1	12-20-2010 04:38	NaOH	18			X		
Outfall 001	W	1 Gal Poly	1	12-20-2010 04:38	None	19				X	Only test if first or second rain events of the year

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 001 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 001 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Bahaga	12-20-2010	[illegible]	12/20/10 16:13
Relinquished By	Date/Time:	Received By	Date/Time:
Uma Pashikanti	12/20/10 18:15	[illegible]	12-20-10 1815
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

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

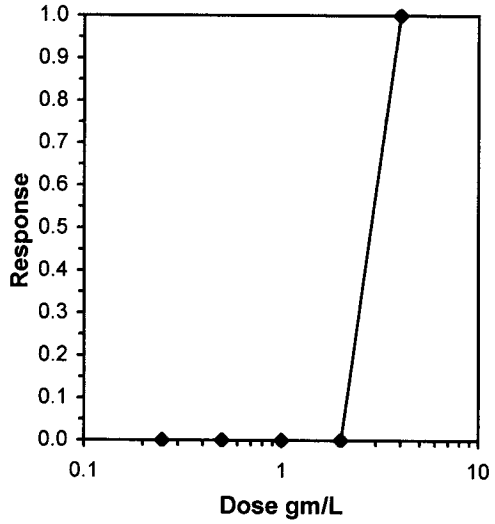
Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	1.0000	1.0000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

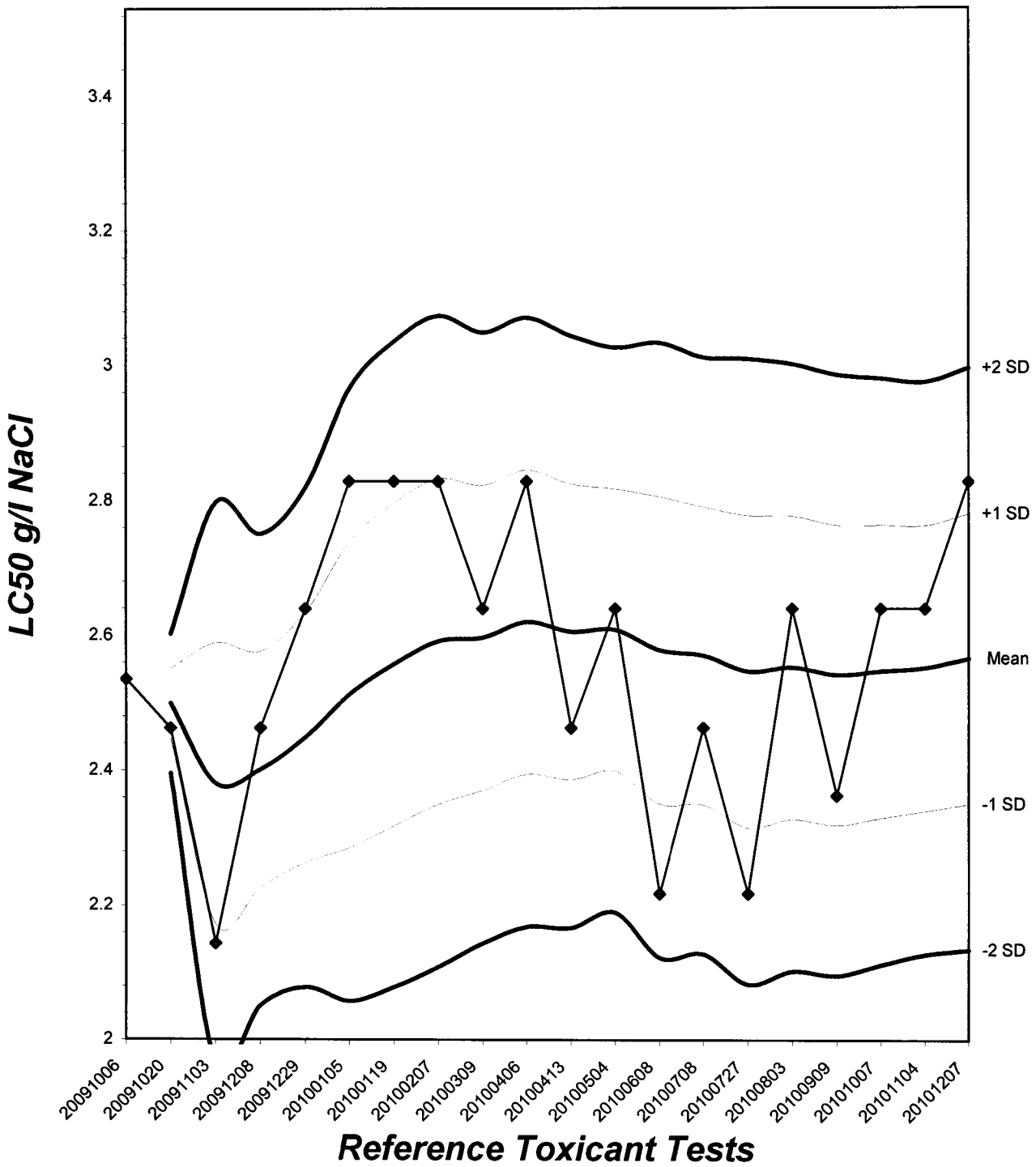
2.8284



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:					

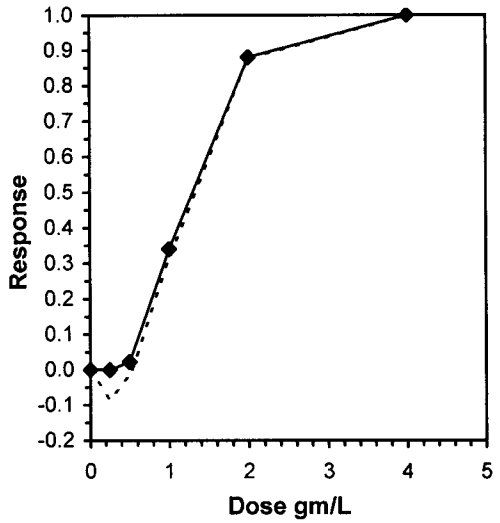
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	22.000	11.000	28.000	27.000	26.000	28.000	21.000	28.000	27.000	15.000
0.25	28.000	29.000	21.000	21.000	28.000	28.000	28.000	25.000	25.000	19.000
0.5	25.000	17.000	20.000	26.000	24.000	29.000	29.000	23.000	25.000	19.000
1	10.000	10.000	20.000	22.000	20.000	11.000	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	0.5	1	0.70711		4.40372	0.189	860.47	19.6156	5.6E-15	4, 45
Treatments vs D-Control										

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

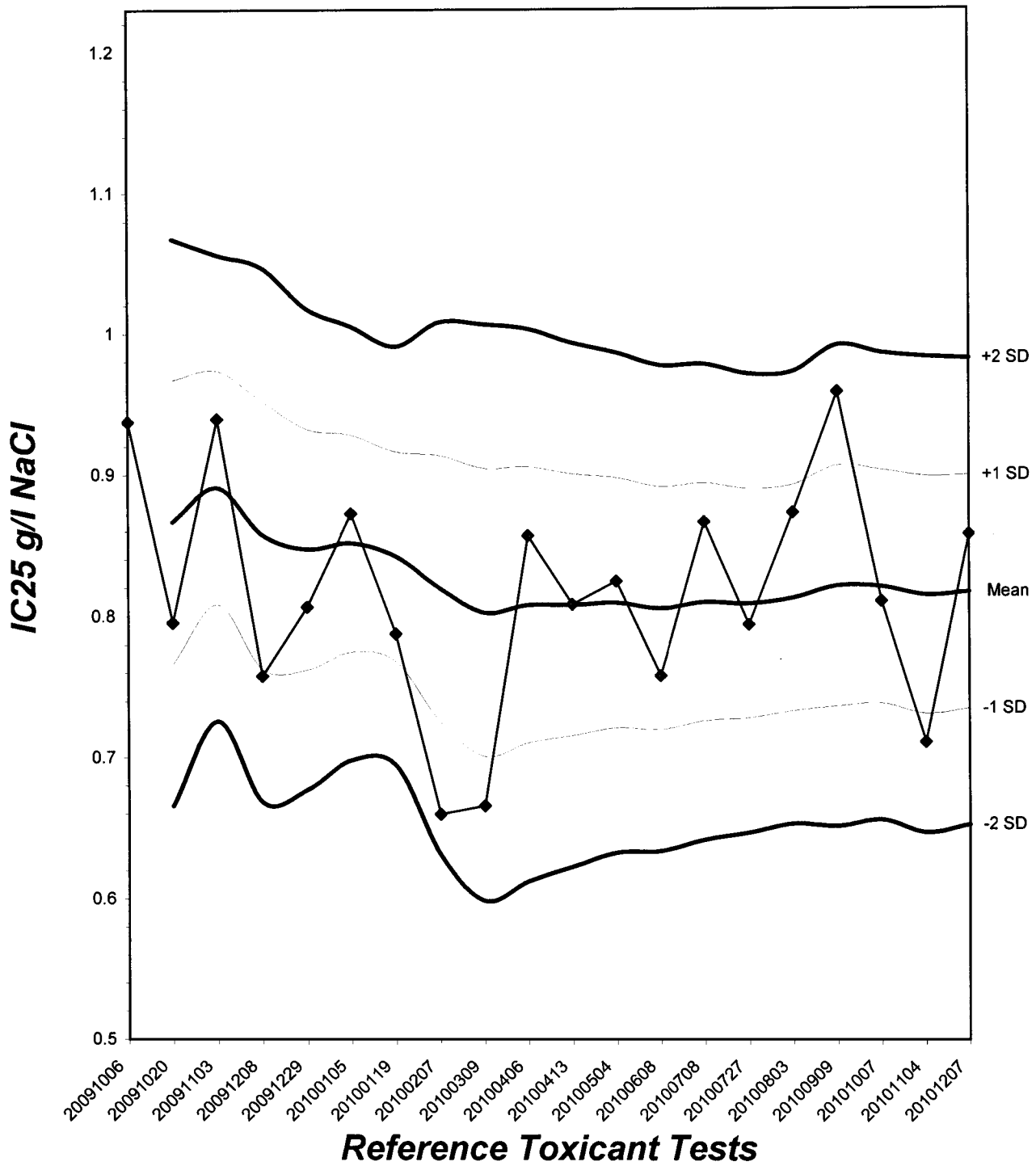


ToxCalc v5.0.23

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	24.0	25.3	24.2	—	—
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	24.0	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	24.1	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

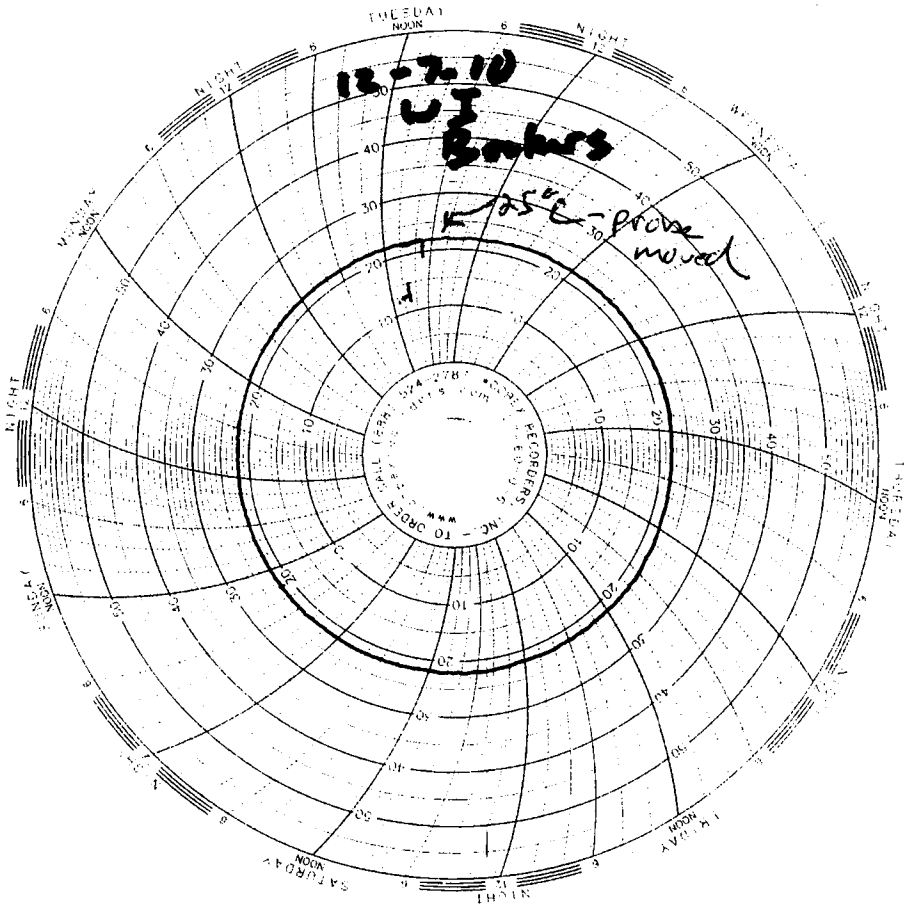
Aquatic Testing Laboratories

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

January 28, 2011

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

Reference: **Test America-Irvine ITL1891**
Eberline Analytical Report S012308-8646
Sample Delivery Group 8646

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. ITL1891. The sample was received on December 22, 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 8646 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 ITL1891-03 was analyzed in a common prep batch with other TA samples. The QC samples from that common prep batch were assigned to SDG 8643 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 – No 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 8646

SDG 8646	Client Test America, Inc.
Contact N. Joseph Verville	Contract ITL1891

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

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL1891

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 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB SAMPLE SUMMARY

SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S012300-03	Lab Control Sample		WATER				
S012300-04	Method Blank		WATER				
S012300-05	Duplicate (S012300-01)		WATER				12/18/10 17:10
S012308-01	ITL1891-03	Boeing-SSFL	WATER			ITL1891	12/20/10 04:38

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

SDG 8646
Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract ITL1891

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8643		Method Blank	WATER						S012300-04	8643-004
		Lab Control Sample	WATER						S012300-03	8643-003
		Duplicate (S012300-01)	WATER						S012300-05	8643-005
8646	ITL1891	ITL1891-03	WATER		9.5 L		12/22/10	2	S012308-01	8646-001

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

SDG 8646
Contact N. Joseph Verville

PREP BATCH SUMMARY

Client Test America, Inc.
Contract ITL1891

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	7258-155	10.4	1			1	1	1/0/1		
SR	WATER	Strontium-90 in Water	7258-155	10.4	1			1	1	1/0/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7258-155	20.6	1			1	1	1/0/1		
80B	WATER	Gross Beta in Water	7258-155	11.0	1			1	1	1/0/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7258-155	7.0	1			1	1	1/0/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7258-155		1			1	1	1/0/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7258-155	10.0	1			1	1	1/0/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7258-155	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 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB WORK SUMMARY

SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S012300-03	Lab Control Sample		8643-003	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water
		WATER	8643-003	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water
			8643-003	AC		01/21/11	01/27/11	BW	Radium-228 in Water
			8643-003	GAM		12/29/10	01/14/11	MWT	Gamma Emitters in Water
			8643-003	H		01/13/11	01/18/11	BW	Tritium in Water
			8643-003	RA		01/06/11	01/24/11	BW	Radium-226 in Water
			8643-003	SR		01/06/11	01/26/11	BW	Strontium-90 in Water
			8643-003	U_T		01/18/11	01/21/11	BW	Uranium, Total
S012300-04	Method Blank		8643-004	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water
		WATER	8643-004	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water
			8643-004	AC		01/21/11	01/27/11	BW	Radium-228 in Water
			8643-004	GAM		12/30/10	01/14/11	MWT	Gamma Emitters in Water
			8643-004	H		01/13/11	01/18/11	BW	Tritium in Water
			8643-004	RA		01/06/11	01/24/11	BW	Radium-226 in Water
			8643-004	SR		01/06/11	01/26/11	BW	Strontium-90 in Water
			8643-004	U_T		01/18/11	01/21/11	BW	Uranium, Total
S012300-05	Duplicate (S012300-01)		8643-005	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water
12/18/10		WATER	8643-005	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water
			8643-005	AC		01/21/11	01/27/11	BW	Radium-228 in Water
			8643-005	GAM		12/30/10	01/14/11	MWT	Gamma Emitters in Water
			8643-005	H		01/13/11	01/18/11	BW	Tritium in Water
			8643-005	RA		01/06/11	01/24/11	BW	Radium-226 in Water
			8643-005	SR		01/06/11	01/26/11	BW	Strontium-90 in Water
			8643-005	U_T		01/18/11	01/21/11	BW	Uranium, Total
S012308-01	ITL1891-03		8646-001	80A/80		01/04/11	01/17/11	BW	Gross Alpha in Water
12/20/10	Boeing-SSFL	WATER	8646-001	80B/80		01/04/11	01/17/11	BW	Gross Beta in Water
12/22/10	ITL1891		8646-001	AC		01/21/11	01/27/11	BW	Radium-228 in Water
			8646-001	GAM		12/31/10	01/14/11	MWT	Gamma Emitters in Water
			8646-001	H		01/13/11	01/18/11	BW	Tritium in Water
			8646-001	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8646-001	SR		01/06/11	01/26/11	BW	Strontium-90 in Water
			8646-001	U_T		01/18/11	01/21/11	BW	Uranium, Total

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 01/28/11

SDG 8646
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract ITL1891

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 01/28/11

EBERLINE ANALYTICAL

SDG 8646

8643-004 **Method Blank**

METHOD BLANK

SDG	8646	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	ITL1891
Lab sample id	S012300-04	Client sample id	Method Blank
Dept sample id	8643-004	Material/Matrix	WATER

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	-0.006	0.27	0.617	3.00	U	80A
Gross Beta	12587472	0.047	0.56	0.950	4.00	U	80B
Tritium	10028178	-94.9	170	294	500	U	H
Radium-226	13982633	0.052	0.48	0.888	1.00	U	RA
Radium-228	15262201	0.032	0.17	0.396	1.00	U	AC
Strontium-90	10098972	-0.110	0.53	1.27	2.00	U	SR
Uranium, Total		0	0.008	0.019	1.00	U	U_T
Potassium-40	13966002	U		24.4	25.0	U	GAM
Cesium-137	10045973	U		2.00	20.0	U	GAM

QC-BLANK #76649

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/28/11

EBERLINE ANALYTICAL

SDG 8646

8643-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8646 | Client Test America, Inc.

Contact N. Joseph Verville | Contract ITL1891

Lab sample id S012300-03 | Client sample id Lab Control Sample

Dept sample id 8643-003 | 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	43.6	2.4	0.575	3.00		80A	40.4	1.6	108	77-123	70-130
Gross Beta	33.7	1.5	1.23	4.00		80B	35.0	1.4	96	88-112	70-130
Tritium	2330	270	297	500		H	2550	100	91	85-115	80-120
Radium-226	46.2	1.9	0.686	1.00		RA	55.7	2.2	83	85-115	80-120
Radium-228	3.81	0.83	0.391	1.00		AC	4.63	0.19	82	80-120	60-140
Strontium-90	17.1	1.5	0.850	2.00		SR	17.5	0.70	98	86-114	80-120
Uranium, Total	58.7	6.6	0.188	1.00		U_T	56.5	2.3	104	88-112	80-120
Cobalt-60	98.6	4.6	2.03	10.0		GAM	102	4.1	97	91-109	80-120
Cesium-137	113	4.3	2.86	20.0		GAM	110	4.4	103	91-109	80-120

QC-LCS #76648

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

8643-005 ITL1881-02

DUPLICATE

SDG 8646 Client Test America, Inc.

Contact N. Joseph Verville Contract ITL1891

DUPLICATE	ORIGINAL	
Lab sample id S012300-05	Lab sample id S012300-01	Client sample id ITL1881-02
Dept sample id 8643-005	Dept sample id 8643-001	Location/Matrix WATER
	Received	Collected 12/18/10 17:10
		Chain of custody id

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	1.05	0.34	0.322	3.00	J	80A	1.22	0.35	0.326	J	15	78	0.6
Gross Beta	1.72	0.54	0.800	4.00	J	80B	1.61	0.57	0.853	J	7	74	0.3
Tritium	-140	160	295	500	U	H	-81.5	170	294	U	-		0.5
Radium-226	0.840	0.40	0.558	1.00	J	RA	0.332	0.37	0.604	U	87	144	1.8
Radium-228	0.187	0.20	0.435	1.00	U	AC	0.118	0.21	0.459	U	-		0.5
Strontium-90	-0.065	0.41	0.986	2.00	U	SR	0.012	0.48	1.12	U	-		0.2
Uranium, Total	0.102	0.014	0.019	1.00	J	U_T	0.103	0.014	0.019	J	1	29	0.1
Potassium-40	U		20.3	25.0	U	GAM	U		17.8	U	-		0.2
Cesium-137	U		1.86	20.0	U	GAM	U		1.28	U	-		0.5

QC-DUP#1 76650

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

8646-001 ITL1891-03

DATA SHEET

SDG	8646	Client	Test America, Inc.
Contact	N. Joseph Verville	Contract	ITL1891
Lab sample id	S012308-01	Client sample id	ITL1891-03
Dept sample id	8646-001	Location/Matrix	Boeing-SSFL WATER
Received	12/22/10	Collected/Volume	12/20/10 04:38 9.5 L
		Chain of custody id	ITL1891

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	4.40	0.75	0.499	3.00		80A
Gross Beta	12587472	7.29	0.75	0.895	4.00		80B
Tritium	10028178	-114	170	297	500	U	H
Radium-226	13982633	0.388	0.43	0.711	1.00	U	RA
Radium-228	15262201	0.393	0.22	0.484	1.00	U	AC
Strontium-90	10098972	-0.198	0.38	0.809	2.00	U	SR
Uranium, Total		0.433	0.046	0.019	1.00	J	U_T
Potassium-40	13966002	U		18.1	25.0	U	GAM
Cesium-137	10045973	U		1.68	20.0	U	GAM

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7258-155						
S012300-03			8643-003	Lab Control Sample	ok	
S012300-04			8643-004	Method Blank	U	
S012300-05			8643-005	Duplicate (S012300-01)	-	U
S012308-01			8646-001	ITL1891-03	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 7258-155			2σ prep error 10.4 %	Reference Lab Notebook No. 7258 pg. 155												
S012300-03			Lab Control Sample	0.391	1.80			88		150				01/21/11	01/21	GRB-202
S012300-04			Method Blank	0.396	1.80			85		150				01/21/11	01/21	GRB-203
S012300-05			Duplicate (S012300-01)	0.435	1.80			78		150			34	01/21/11	01/21	GRB-204
S012308-01			ITL1891-03	0.484	1.80			77		150			32	01/21/11	01/21	GRB-231
Nominal values and limits from method				1.00	1.80			30-105		50			180			

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

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.426 ± 0.086
YIELD 82 ± 11

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7258-155						
S012300-03			8643-003	Lab Control Sample	ok	
S012300-04			8643-004	Method Blank	U	
S012300-05			8643-005	Duplicate (S012300-01)	-	U
S012308-01			8646-001	ITL1891-03	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 7258-155			2σ prep error 10.4 %	Reference Lab Notebook No. 7258 pg. 155												
S012300-03			Lab Control Sample	0.850	0.500			86		50				01/06/11	01/06	GRB-206
S012300-04			Method Blank	1.27	0.500			69		50				01/06/11	01/06	GRB-221
S012300-05			Duplicate (S012300-01)	0.986	0.500			85		50			19	01/06/11	01/06	GRB-222
S012308-01			ITL1891-03	0.809	0.500			89		100			17	01/06/11	01/06	GRB-221
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 0.979 ± 0.417
YIELD 82 ± 18

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7258-155						
S012300-03	80		8643-003	Lab Control Sample	ok	
S012300-04	80		8643-004	Method Blank	U	
S012300-05	80		8643-005	Duplicate (S012300-01)	ok	J
S012308-01	80		8646-001	ITL1891-03	4.40	
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 7258-155 2σ prep error 20.6 % Reference Lab Notebook No. 7258 pg. 155																
S012300-03	80		Lab Control Sample	0.575	0.250			54		400				12/31/10	01/04	GRB-103
S012300-04	80		Method Blank	0.617	0.250			56		400				12/31/10	01/04	GRB-104
S012300-05	80		Duplicate (S012300-01)	0.322	0.300			14		400			17	12/31/10	01/04	GRB-109
S012308-01	80		ITL1891-03	0.499	0.300			48		400			15	12/31/10	01/04	GRB-105
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 0.503 ± 0.261
RESIDUE 43 ± 39

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7258-155						
S012300-03	80		8643-003	Lab Control Sample	ok	
S012300-04	80		8643-004	Method Blank	U	
S012300-05	80		8643-005	Duplicate (S012300-01)	ok	J
S012308-01	80		8646-001	ITL1891-03	7.29	
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 7258-155			2σ prep error 11.0 %		Reference Lab Notebook No. 7258 pg. 155											
S012300-03	80		Lab Control Sample	1.23	0.250			54		400				12/31/10	01/04	GRB-103
S012300-04	80		Method Blank	0.950	0.250			56		400				12/31/10	01/04	GRB-104
S012300-05	80		Duplicate (S012300-01)	0.800	0.300			14		400			17	12/31/10	01/04	GRB-109
S012308-01	80		ITL1891-03	0.895	0.300			48		400			15	12/31/10	01/04	GRB-105
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 0.969 ± 0.370
RESIDUE 43 ± 39

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7258-155							
S012300-03			8643-003	Lab Control Sample	ok	ok	
S012300-04			8643-004	Method Blank		U	
S012300-05			8643-005	Duplicate (S012300-01)		-	U
S012308-01			8646-001	ITL1891-03		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 7258-155			2σ prep error 7.0 %		Reference Lab Notebook No. 7258 pg. 155											
S012300-03			Lab Control Sample		2.00					630				12/22/10	12/29	01,04,00
S012300-04			Method Blank		2.00					406				12/22/10	12/30	01,01,00
S012300-05			Duplicate (S012300-01)		2.00					406			12	12/22/10	12/30	01,02,00
S012308-01			ITL1891-03		2.00					661			11	12/22/10	12/31	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 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total	
Preparation batch 7258-155						
S012300-03			8643-003	Lab Control Sample	ok	
S012300-04			8643-004	Method Blank	U	
S012300-05			8643-005	Duplicate (S012300-01)	ok	J
S012308-01			8646-001	ITL1891-03	0.433	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 7258-155			2σ prep error		Reference Lab Notebook No. 7258 pg. 155											
S012300-03			Lab Control Sample	0.188	0.0200									01/18/11	01/18	KPA-001
S012300-04			Method Blank	0.019	0.0200									01/18/11	01/18	KPA-001
S012300-05			Duplicate (S012300-01)	0.019	0.0200								31	01/18/11	01/18	KPA-001
S012308-01			ITL1891-03	0.019	0.0200								29	01/18/11	01/18	KPA-001
Nominal values and limits from method				1.00	0.0200								180			

PROCEDURES REFERENCE D5174

AVERAGES ± 2 SD FOR 4 SAMPLES
MDA 0.061 ± 0.169
YIELD _____ ± _____

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7258-155						
S012300-03			8643-003	Lab Control Sample	ok	
S012300-04			8643-004	Method Blank	U	
S012300-05			8643-005	Duplicate (S012300-01)	-	U
S012308-01			8646-001	ITL1891-03	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 7258-155			2σ prep error 10.0 %	Reference Lab Notebook No. 7258 pg. 155												
S012300-03			Lab Control Sample	297	0.100		10		50				01/10/11	01/13	LSC-004	
S012300-04			Method Blank	294	0.100		10		50				01/10/11	01/13	LSC-004	
S012300-05			Duplicate (S012300-01)	295	0.0100		100		50			26	01/10/11	01/13	LSC-004	
S012308-01			ITL1891-03	297	0.0100		100		50			24	01/10/11	01/13	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 296 ± 3.00
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/28/11

EBERLINE ANALYTICAL

SDG 8646

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Test RA Matrix WATER
SDG 8646
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL1891

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7258-155						
S012300-03			8643-003	Lab Control Sample	ok	
S012300-04			8643-004	Method Blank	U	
S012300-05			8643-005	Duplicate (S012300-01)	ok	J
S012308-01			8646-001	ITL1891-03	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 7258-155			2σ prep error 16.4 %	Reference Lab Notebook No. 7258 pg. 155												
S012300-03			Lab Control Sample	0.686	0.100			100		132				01/06/11	01/06	RN-009
S012300-04			Method Blank	0.888	0.100			100		70				01/06/11	01/06	RN-011
S012300-05			Duplicate (S012300-01)	0.558	0.100			100		132			19	01/06/11	01/06	RN-013
S012308-01			ITL1891-03	0.711	0.100			100		104			33	01/22/11	01/22	RN-016
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 0.711 ± 0.272
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SDG 8646
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL1891

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 01/28/11

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 8646
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL1891

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 01/28/11

SUBCONTRACT ORDER
TestAmerica Irvine

ITL1891

8646

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: 7 °C Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
Sample ID: ITL1891-03 (Outfall 001 (Composite) - Water)			Sampled: **12/20/10 04:38**	
Gamma Spec-O	mg/kg	12/23/10	12/20/11 04:38	jflags; Cs 137 + K 40; do not filter; Eberline
Gross Alpha-O	pCi/L	12/23/10	06/18/11 04:38	jflags; do not filter; Eberline
Gross Beta-O	pCi/L	12/23/10	06/18/11 04:38	jflags; do not filter; Eberline
Radium, Combined-O	pCi/L	12/23/10	12/20/11 04:38	jflags; do not filter; Eberline
Strontium 90-O	pCi/L	12/23/10	12/20/11 04:38	jflags; do not filter; Eberline
Tritium-O	pCi/L	12/23/10	12/20/11 04:38	jflags; do not filter; Eberline
Uranium, Combined-O	pCi/L	12/23/10	12/20/11 04:38	jflags; do not filter; Eberline
Containers Supplied:				
2.5 gal Poly (R)	500 mL Amber (S)			

Released By	12/21/10 17:00 Date/Time	Received By	12/21/10 17:00 Date/Time
Released By	Date/Time	Received By	12/22/10 1230 Date/Time

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 12/22/10 1232 CoC No. ITL 1889, 1890, 1891

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

INSPECTION

1. Custody seals on shipping container intact? # Yes [X] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [X] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [ ] No [ ] N/A [X]
4. Custody seals on sample containers dated & signed? Yes [ ] No [ ] N/A [X]

   different group in W.O. 3 samples
5. Packing material is: Wet [ ] Dry [X]
6. Number of samples in shipping container: ~~4~~ 3 Sample Matrix W
7. Number of containers per sample: ______ (Or see CoC X)
8. Samples are in correct container Yes [X] No [ ]
9. Paperwork agrees with samples? Yes [X] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [X]
11. Samples are: In good condition [X] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [ ] Not preserved [X] pH <2 / N/A Preservative ______
13. Describe any anomalies:
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date ______
15. Inspected by [signature] Date: 12/22/10 Time: 1400

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. 106482 Calibration date 24 SEP 10

Form SCP-02, 07-30-07

"over 55 years of quality nuclear services"

APPENDIX G

Section 3

Outfall 001 – December 26, 2010

MEC^X Data Validation Report

THIS PAGE LEFT INTENTIONALLY BLANK

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL2489

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:	ITL2489
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 001 (Grab)	ITL2489-01	N/A	Water	12/26/2010 8:58:00 AM	SM2510B
Outfall 001 (Composite)	ITL2489-03	G0L290485-001, S012369-01	Water	12/26/2010 11:31:00 AM	1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-diss, 200.7, 200.7-Diss, 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. 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: OCDD and 1,2,3,4,6,7,8-HpCDF were recovered above the control limits in the LCS; however, neither isomer was 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 METHODS 200.7 and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: January 17, 2011

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

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

- Tuning: Not applicable to 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 90-110% for the ICP 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 method-established control limits. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.

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

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

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

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

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

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

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are

valid to the MDA. Total uranium, normally reported in aqueous units, was converted to pCi/L using the conversion factor of 0.67 for naturally occurring uranium.

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

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

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

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

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: 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 Methods 2130B and 2540D*, and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: Analytical holding times, 48 hours from collection for turbidity and 28 days for conductivity, were met.

- Calibration: Calibration criteria were met. The initial calibration r^2 values were $\geq$0.995 and all initial and continuing calibration recoveries were within 90-110%.

- Blanks: Method blanks and CCBs had no detects.

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

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

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

- 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.

  Turbidity was analyzed at a 2× dilution in order to report the analyte within the linear range of the calibration.

- 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 ITL2489

Analysis Method 8654

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total		0.177	1	0.017	pCi/L	Ja	J	DNQ

Analysis Method 900

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	1.89	3	0.4	pCi/L	Ja	J	C, DNQ
Gross Beta	12587472	3.06	4	0.885	pCi/L	Ja	J	DNQ

Analysis Method 901.1

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	2.68	pCi/L	U	U	
Potassium-40	13966002	ND	25	53.7	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.097	1	0.653	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.109	1	0.456	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	0.222	2	0.684	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-40.3	500	270	pCi/L	U	U	

Analysis Method EPA 200.7

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	1.8	0.040	0.015	mg/l			
Manganese	7439-96-5	28	20	7.0	ug/l			
Zinc	7440-66-6	11.3	20.0	6.00	ug/l	Ja	J	DNQ

Analysis Method EPA 200.7-Diss

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	0.23	0.040	0.015	mg/l			
Manganese	7439-96-5	ND	20	7.0	ug/l		U	
Zinc	7440-66-6	ND	20.0	6.00	ug/l		U	

Analysis Method EPA 245.1

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

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

Analysis Method EPA 245.1-Diss

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

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

Analysis Method EPA-5 1613B

Sample Name Outfall 001 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000008	ug/L	Q, J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000003	ug/L	J, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000004	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDD	39227-28-6	6.3e-007	0.00005	0.0000004	ug/L	J	J	DNQ
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000000	ug/L	J, B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000003	ug/L	J, Q	UJ	*III
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000000	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000004	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000000	ug/L	J, Q	UJ	*III
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	0.0000005	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	7.4e-007	0.00005	0.0000000	ug/L	J	J	DNQ
2,3,4,7,8-PeCDF	57117-31-4	1.8e-006	0.00005	0.0000005	ug/L	J	J	DNQ
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000005	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	0.0012	ug/L	B	U	B
OCDF	39001-02-0	ND	0.0001	0.0000008	ug/L	J, B	U	B
Total HpCDD	37871-00-4	7.4e-005	0.00005	0.0000008	ug/L	J, Q, B	J	B, DNQ, *III
Total HpCDF	38998-75-3	3.1e-005	0.00005	0.0000004	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	3.7e-006	0.00005	0.0000003	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDF	55684-94-1	7.4e-006	0.00005	0.0000000	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	3.2e-006	0.00005	0.0000005	ug/L	J, Q	J	DNQ, *III
Total TCDD	41903-57-5	ND	0.00001	0.0000005	ug/L		U	
Total TCDF	55722-27-5	1.2e-006	0.00001	0.0000004	ug/L	J	J	DNQ

Analysis Method SM2130B

Sample Name Outfall 001 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2489-03 **Sample Date:** 12/26/2010 11:31:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	42	2.0	0.080	NTU			

Analysis Method SM2510B

Sample Name Outfall 001 (Grab) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL2489-01 **Sample Date:** 12/26/2010 8:58:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	NA	130	1.0	1.0	umhos/c			

THIS PAGE LEFT INTENTIONALLY BLANK

APPENDIX G

Section 4

Outfall 001 - 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 001 2010
Routine Outfall 001

Sampled: 12/26/10
Received: 12/27/10
Issued: 02/02/11 17:09

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

ADDITIONAL INFORMATION:

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
ITL2489-01	Outfall 001 (Grab)	Water
ITL2489-02	Trip Blank	Water
ITL2489-03	Outfall 001 (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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2489-01 (Outfall 001 (Grab) - Water)									
Reporting Units: ug/l									
1,2-Dichloroethane	EPA 624	10L3019	0.50	0.28	ND	1	12/28/2010	12/28/2010	
1,1-Dichloroethene	EPA 624	10L3019	2.0	0.42	ND	1	12/28/2010	12/28/2010	
Trichloroethene	EPA 624	10L3019	2.0	0.26	ND	1	12/28/2010	12/28/2010	
Surrogate: 4-Bromofluorobenzene (80-120%)					*84 %*				
Surrogate: Dibromofluoromethane (80-120%)					*94 %*				
Surrogate: Toluene-d8 (80-120%)					*97 %*				
Sample ID: ITL2489-02 (Trip Blank - Water)									
Reporting Units: ug/l									
1,2-Dichloroethane	EPA 624	10L3019	0.50	0.28	ND	1	12/28/2010	12/28/2010	
1,1-Dichloroethene	EPA 624	10L3019	2.0	0.42	ND	1	12/28/2010	12/28/2010	
Trichloroethene	EPA 624	10L3019	2.0	0.26	ND	1	12/28/2010	12/28/2010	
Surrogate: 4-Bromofluorobenzene (80-120%)					*82 %*				
Surrogate: Dibromofluoromethane (80-120%)					*92 %*				
Surrogate: Toluene-d8 (80-120%)					*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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

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

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	10L3149	4.72	1.60	ND	0.943	12/28/2010	12/31/2010	
2,4-Dinitrotoluene	EPA 625	10L3149	4.72	0.189	ND	0.943	12/28/2010	12/31/2010	
N-Nitrosodimethylamine	EPA 625	10L3149	4.72	0.0943	ND	0.943	12/28/2010	12/31/2010	
Pentachlorophenol	EPA 625	10L3149	4.72	0.0943	ND	0.943	12/28/2010	12/31/2010	
2,4,6-Trichlorophenol	EPA 625	10L3149	5.66	0.0943	ND	0.943	12/28/2010	12/31/2010	
Surrogate: 2,4,6-Tribromophenol (40-120%)					*88 %*				
Surrogate: 2-Fluorobiphenyl (50-120%)					*72 %*				
Surrogate: 2-Fluorophenol (30-120%)					*64 %*				
Surrogate: Nitrobenzene-d5 (45-120%)					*75 %*				
Surrogate: Phenol-d6 (35-120%)					*68 %*				
Surrogate: Terphenyl-d14 (50-125%)					*85 %*				

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: ug/l									
alpha-BHC	EPA 608	10L3051	0.0094	0.0024	ND	0.943	12/28/2010	12/28/2010	
Surrogate: Decachlorobiphenyl (45-120%)					*85 %*				
Surrogate: Tetrachloro-m-xylene (35-115%)					*60 %*				

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-01 (Outfall 001 (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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: mg/l									
Iron	EPA 200.7	10L3271	0.040	0.015	**1.8**	1	12/29/2010	12/30/2010	
Sample ID: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1	10L3468	0.20	0.10	ND	1	12/30/2010	12/30/2010	
Manganese	EPA 200.7	10L3271	20	7.0	**28**	1	12/29/2010	12/30/2010	
Cadmium	EPA 200.8	10L3064	1.0	0.10	ND	1	12/28/2010	12/29/2010	
Zinc	EPA 200.7	10L3271	20.0		ND	1	12/29/2010	12/30/2010	
Copper	EPA 200.8	10L3064	2.0	0.50	**4.0**	1	12/28/2010	12/29/2010	
Lead	EPA 200.8	10L3064	1.0	0.20	**0.98**	1	12/28/2010	12/29/2010	
Selenium	EPA 200.8	10L3064	2.0	0.50	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: mg/l									
Iron	EPA 200.7-Diss	10L3118	0.040	0.015	**0.23**	1	12/28/2010	12/28/2010	
Sample ID: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	10L3474	0.20	0.10	ND	1	12/30/2010	12/30/2010	
Manganese	EPA 200.7-Diss	10L3118	20	7.0	ND	1	12/28/2010	12/28/2010	
Cadmium	EPA 200.8-Diss	10L3120	1.0	0.10	ND	1	12/28/2010	12/29/2010	
Zinc	EPA 200.7-Diss	10L3118	20	6.0	ND	1	12/28/2010	12/28/2010	
Copper	EPA 200.8-Diss	10L3120	2.0	0.50	**2.1**	1	12/28/2010	12/28/2010	
Lead	EPA 200.8-Diss	10L3120	1.0	0.20	ND	1	12/28/2010	12/29/2010	
Selenium	EPA 200.8-Diss	10L3120	2.0	0.50	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-01 (Outfall 001 (Grab) - Water)									
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	10L3092	0.10	0.10	ND	1	12/28/2010	12/28/2010	
Sample ID: ITL2489-01 (Outfall 001 (Grab) - Water)									
Reporting Units: umhos/cm @ 25C									
Specific Conductance	SM2510B	11A0029	1.0	1.0	**130**	1	1/3/2011	1/3/2011	
Sample ID: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	10L3337	0.500	0.500	ND	1	12/29/2010	12/29/2010	
Biochemical Oxygen Demand	SM5210B	10L3057	2.0	0.50	**1.2**	1	12/28/2010	1/2/2011	
Chloride	EPA 300.0	10L3000	0.50	0.25	**5.9**	1	12/27/2010	12/27/2010	
Nitrate-N	EPA 300.0	10L3000	0.11	0.060	**0.41**	1	12/27/2010	12/27/2010	
Nitrite-N	EPA 300.0	10L3000	0.15	0.090	ND	1	12/27/2010	12/27/2010	
Nitrate/Nitrite-N	EPA 300.0	10L3000	0.26	0.15	**0.41**	1	12/27/2010	12/27/2010	
Sulfate	EPA 300.0	10L3000	0.50	0.20	**8.5**	1	12/27/2010	12/27/2010	
Surfactants (MBAS)	SM5540-C	10L3003	0.10	0.050	**0.070**	1	12/27/2010	12/27/2010	
Total Dissolved Solids	SM2540C	10L3090	10	1.0	**71**	1	12/28/2010	12/28/2010	
Total Suspended Solids	SM 2540D	10L3361	10	1.0	**16**	1	12/29/2010	12/29/2010	
Sample ID: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: NTU									
Turbidity	SM2130B	10L3072	2.0	0.080	**42**	2	12/28/2010	12/28/2010	
Sample ID: ITL2489-03 (Outfall 001 (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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

8654

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ITL2489-03 (Outfall 001 (Composite) - Water)								
Reporting Units: pCi/L								
Uranium, Total	8654	8654	1	**0.177**	1	1/20/2011	1/20/2011	Ja

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)								
Reporting Units: pCi/L								
Gross Alpha	900	8654	3	**1.89**	1	1/6/2011	1/6/2011	Ja
Gross Beta	900	8654	4	**3.06**	1	1/6/2011	1/6/2011	Ja

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)								
Reporting Units: pCi/L								
Cesium-137	901.1	8654	20	ND	1	1/5/2011	1/5/2011	U
Potassium-40	901.1	8654	25	ND	1	1/5/2011	1/5/2011	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)								
Reporting Units: pCi/L								
Radium-226	903.1	8654	1	**0.097**	1	1/13/2011	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)								
Reporting Units: pCi/L								
Radium-228	904	8654	1	**0.109**	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)								
Reporting Units: pCi/L								
Strontium-90	905	8654	2	**0.222**	1	1/8/2011	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)								
Reporting Units: pCi/L								
Tritium	906	8654	500	**-40.3**	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03 (Outfall 001 (Composite) - Water)									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	363256	0.00005	0.00000088	**3.7e-005**	0.99	12/29/2010	12/30/2010	Q, J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	363256	0.00005	0.00000038	**7.8e-006**	0.99	12/29/2010	12/30/2010	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	363256	0.00005	0.00000048	**1.3e-006**	0.99	12/29/2010	12/30/2010	J, Q
1,2,3,4,7,8-HxCDD	EPA-5 1613B	363256	0.00005	0.0000004	**6.3e-007**	0.99	12/29/2010	12/30/2010	J
1,2,3,4,7,8-HxCDF	EPA-5 1613B	363256	0.00005	0.00000007	**1.9e-006**	0.99	12/29/2010	12/30/2010	J, B
1,2,3,6,7,8-HxCDD	EPA-5 1613B	363256	0.00005	0.00000034	**6.1e-007**	0.99	12/29/2010	12/30/2010	J, Q
1,2,3,6,7,8-HxCDF	EPA-5 1613B	363256	0.00005	0.00000008	**7e-007**	0.99	12/29/2010	12/30/2010	J, Q
1,2,3,7,8,9-HxCDD	EPA-5 1613B	363256	0.00005	0.00000049	ND	0.99	12/29/2010	12/30/2010	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	363256	0.00005	0.00000009	**6.3e-007**	0.99	12/29/2010	12/30/2010	J, Q
1,2,3,7,8-PeCDD	EPA-5 1613B	363256	0.00005	0.00000084	ND	0.99	12/29/2010	12/30/2010	
1,2,3,7,8-PeCDF	EPA-5 1613B	363256	0.00005	0.0000005	ND	0.99	12/29/2010	12/30/2010	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	363256	0.00005	0.00000007	**7.4e-007**	0.99	12/29/2010	12/30/2010	J
2,3,4,7,8-PeCDF	EPA-5 1613B	363256	0.00005	0.00000059	**1.8e-006**	0.99	12/29/2010	12/30/2010	J
2,3,7,8-TCDD	EPA-5 1613B	363256	0.00001	0.00000051	ND	0.99	12/29/2010	12/30/2010	
OCDD	EPA-5 1613B	363256	0.0001	0.0000012	**0.0012**	0.99	12/29/2010	12/30/2010	B
OCDF	EPA-5 1613B	363256	0.00010	0.00000082	**5.7e-005**	0.99	12/29/2010	12/30/2010	J, B
Total HpCDD	EPA-5 1613B	363256	0.00005	0.00000088	**7.4e-005**	0.99	12/29/2010	12/30/2010	J, Q, B
Total HpCDF	EPA-5 1613B	363256	0.00005	0.00000042	**3.1e-005**	0.99	12/29/2010	12/30/2010	J, Q, B
Total HxCDD	EPA-5 1613B	363256	0.00005	0.00000036	**3.7e-006**	0.99	12/29/2010	12/30/2010	J, Q, B
Total HxCDF	EPA-5 1613B	363256	0.00005	0.00000087	**7.4e-006**	0.99	12/29/2010	12/30/2010	J, Q, B
Total PeCDD	EPA-5 1613B	363256	0.00005	0.00000084	ND	0.99	12/29/2010	12/30/2010	
Total PeCDF	EPA-5 1613B	363256	0.00005	0.00000054	**3.2e-006**	0.99	12/29/2010	12/30/2010	J, Q
Total TCDD	EPA-5 1613B	363256	0.00001	0.00000051	ND	0.99	12/29/2010	12/30/2010	
Total TCDF	EPA-5 1613B	363256	0.00001	0.00000043	**1.2e-006**	0.99	12/29/2010	12/30/2010	J
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*95 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*80 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*83 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*74 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*69 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*83 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*68 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*67 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*78 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*78 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*71 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*74 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*74 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*67 %*				
Surrogate: 13C-OCDD (17-157%)					*82 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*89 %*				

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: ITL2489-03RE (Outfall 001 (Composite) - Water) - cont.									
Reporting Units: ug/L									
2,3,7,8-TCDF	EPA-5 1613B	363256	0.00001	0.00000016	ND	1	12/29/2010	1/7/2011	
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*84 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*82 %*				

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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 001 (Grab) (ITL2489-01) - Water					
SM2540F	2	12/26/2010 08:58	12/27/2010 08:15	12/28/2010 08:15	12/28/2010 08:15
Sample ID: Outfall 001 (Composite) (ITL2489-03) - Water					
EPA 300.0	2	12/26/2010 11:31	12/27/2010 08:15	12/27/2010 18:00	12/27/2010 21:51
Filtration	1	12/26/2010 11:31	12/27/2010 08:15	12/27/2010 20:50	12/27/2010 20:50
SM2130B	2	12/26/2010 11:31	12/27/2010 08:15	12/28/2010 08:25	12/28/2010 08:25
SM5210B	2	12/26/2010 11:31	12/27/2010 08:15	12/28/2010 08:30	01/02/2011 13:00
SM5540-C	2	12/26/2010 11:31	12/27/2010 08:15	12/27/2010 19:00	12/27/2010 19:51

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3019 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3019-BLK1)										
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	2.0	ug/l							
Trichloroethene	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*20.9*		*ug/l*	*25.0*		*84*	*80-120*			
Surrogate: Dibromofluoromethane	*22.9*		*ug/l*	*25.0*		*92*	*80-120*			
Surrogate: Toluene-d8	*23.9*		*ug/l*	*25.0*		*96*	*80-120*			
LCS Analyzed: 12/28/2010 (10L3019-BS1)										
1,2-Dichloroethane	21.6	0.50	ug/l	25.0		87	60-140			
1,1-Dichloroethene	22.6	2.0	ug/l	25.0		90	70-125			
Trichloroethene	22.9	2.0	ug/l	25.0		91	70-125			
Surrogate: 4-Bromofluorobenzene	*22.6*		*ug/l*	*25.0*		*91*	*80-120*			
Surrogate: Dibromofluoromethane	*22.4*		*ug/l*	*25.0*		*90*	*80-120*			
Surrogate: Toluene-d8	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			
Matrix Spike Analyzed: 12/28/2010 (10L3019-MS1)					**Source: ITL1707-01**					
1,2-Dichloroethane	20.8	0.50	ug/l	25.0	0.380	82	60-140			
1,1-Dichloroethene	20.3	2.0	ug/l	25.0	ND	81	60-130			
Trichloroethene	20.9	2.0	ug/l	25.0	ND	84	65-125			
Surrogate: 4-Bromofluorobenzene	*22.6*		*ug/l*	*25.0*		*90*	*80-120*			
Surrogate: Dibromofluoromethane	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Toluene-d8	*24.0*		*ug/l*	*25.0*		*96*	*80-120*			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3019-MSD1)					**Source: ITL1707-01**					
1,2-Dichloroethane	20.8	0.50	ug/l	25.0	0.380	81	60-140	0.2	20	
1,1-Dichloroethene	19.9	2.0	ug/l	25.0	ND	80	60-130	2	20	
Trichloroethene	20.9	2.0	ug/l	25.0	ND	83	65-125	0.1	20	
Surrogate: 4-Bromofluorobenzene	*22.9*		*ug/l*	*25.0*		*92*	*80-120*			
Surrogate: Dibromofluoromethane	*24.1*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Toluene-d8	*24.1*		*ug/l*	*25.0*		*96*	*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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3149 Extracted: 12/28/10										
Blank Analyzed: 12/31/2010 (10L3149-BLK1)										
Bis(2-ethylhexyl)phthalate	ND	5.00	ug/l							
2,4-Dinitrotoluene	ND	5.00	ug/l							
N-Nitrosodimethylamine	ND	5.00	ug/l							
Pentachlorophenol	ND	5.00	ug/l							
2,4,6-Trichlorophenol	ND	6.00	ug/l							
Surrogate: 2,4,6-Tribromophenol	*15.5*		*ug/l*	*20.0*		*78*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*7.84*		*ug/l*	*10.0*		*78*	*50-120*			
Surrogate: 2-Fluorophenol	*12.4*		*ug/l*	*20.0*		*62*	*30-120*			
Surrogate: Nitrobenzene-d5	*7.26*		*ug/l*	*10.0*		*73*	*45-120*			
Surrogate: Phenol-d6	*13.6*		*ug/l*	*20.0*		*68*	*35-120*			
Surrogate: Terphenyl-d14	*8.88*		*ug/l*	*10.0*		*89*	*50-125*			
LCS Analyzed: 12/31/2010 (10L3149-BS1)										**MNR1**
Bis(2-ethylhexyl)phthalate	7.88	5.00	ug/l	10.0		79	65-130			
2,4-Dinitrotoluene	7.54	5.00	ug/l	10.0		75	65-120			
N-Nitrosodimethylamine	6.48	5.00	ug/l	10.0		65	45-120			
Pentachlorophenol	4.28	5.00	ug/l	10.0		43	24-121			
2,4,6-Trichlorophenol	7.52	6.00	ug/l	10.0		75	55-120			
Surrogate: 2,4,6-Tribromophenol	*17.5*		*ug/l*	*20.0*		*88*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*7.32*		*ug/l*	*10.0*		*73*	*50-120*			
Surrogate: 2-Fluorophenol	*12.0*		*ug/l*	*20.0*		*60*	*30-120*			
Surrogate: Nitrobenzene-d5	*6.82*		*ug/l*	*10.0*		*68*	*45-120*			
Surrogate: Phenol-d6	*13.4*		*ug/l*	*20.0*		*67*	*35-120*			
Surrogate: Terphenyl-d14	*8.24*		*ug/l*	*10.0*		*82*	*50-125*			
LCS Dup Analyzed: 12/31/2010 (10L3149-BSD1)										
Bis(2-ethylhexyl)phthalate	8.28	5.00	ug/l	10.0		83	65-130	5	20	
2,4-Dinitrotoluene	8.00	5.00	ug/l	10.0		80	65-120	6	20	
N-Nitrosodimethylamine	6.82	5.00	ug/l	10.0		68	45-120	5	20	
Pentachlorophenol	4.26	5.00	ug/l	10.0		43	24-121	0.5	25	
2,4,6-Trichlorophenol	7.82	6.00	ug/l	10.0		78	55-120	4	30	
Surrogate: 2,4,6-Tribromophenol	*17.8*		*ug/l*	*20.0*		*89*	*40-120*			
Surrogate: 2-Fluorobiphenyl	*7.80*		*ug/l*	*10.0*		*78*	*50-120*			
Surrogate: 2-Fluorophenol	*12.1*		*ug/l*	*20.0*		*60*	*30-120*			
Surrogate: Nitrobenzene-d5	*7.20*		*ug/l*	*10.0*		*72*	*45-120*			
Surrogate: Phenol-d6	*13.1*		*ug/l*	*20.0*		*65*	*35-120*			
Surrogate: Terphenyl-d14	*8.24*		*ug/l*	*10.0*		*82*	*50-125*			

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 10L3051 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3051-BLK1)										
alpha-BHC	ND	0.010	ug/l							
Surrogate: Decachlorobiphenyl	*0.430*		*ug/l*	*0.500*		*86*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.379*		*ug/l*	*0.500*		*76*	*35-115*			
LCS Analyzed: 12/28/2010 (10L3051-BS1)										**MNR1**
alpha-BHC	0.385	0.010	ug/l	0.500		77	45-115			
Surrogate: Decachlorobiphenyl	*0.419*		*ug/l*	*0.500*		*84*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.360*		*ug/l*	*0.500*		*72*	*35-115*			
LCS Dup Analyzed: 12/28/2010 (10L3051-BSD1)										
alpha-BHC	0.395	0.010	ug/l	0.500		79	45-115	2	30	
Surrogate: Decachlorobiphenyl	*0.425*		*ug/l*	*0.500*		*85*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.363*		*ug/l*	*0.500*		*73*	*35-115*			

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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)										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	ug/l							
LCS Analyzed: 12/29/2010 (10L3064-BS1)										
Cadmium	83.4	1.0	ug/l	80.0		104	85-115			
Copper	83.9	2.0	ug/l	80.0		105	85-115			
Lead	83.4	1.0	ug/l	80.0		104	85-115			
Selenium	80.1	2.0	ug/l	80.0		100	85-115			
Matrix Spike Analyzed: 12/29/2010 (10L3064-MS1)					**Source: ITL2444-01**					
Cadmium	78.9	1.0	ug/l	80.0	ND	99	70-130			
Copper	69.9	2.0	ug/l	80.0	0.843	86	70-130			
Lead	73.2	1.0	ug/l	80.0	ND	91	70-130			
Selenium	79.1	2.0	ug/l	80.0	1.25	97	70-130			
Matrix Spike Analyzed: 12/29/2010 (10L3064-MS2)					**Source: ITL2444-02**					
Cadmium	81.7	1.0	ug/l	80.0	ND	102	70-130			
Copper	73.4	2.0	ug/l	80.0	0.584	91	70-130			
Lead	77.7	1.0	ug/l	80.0	ND	97	70-130			
Selenium	72.3	2.0	ug/l	80.0	ND	90	70-130			
Matrix Spike Dup Analyzed: 12/29/2010 (10L3064-MSD1)					**Source: ITL2444-01**					
Cadmium	80.6	1.0	ug/l	80.0	ND	101	70-130	2	20	
Copper	69.9	2.0	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	
Selenium	80.8	2.0	ug/l	80.0	1.25	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: 10L3271 Extracted: 12/29/10										
Blank Analyzed: 12/30/2010 (10L3271-BLK1)										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20.0	ug/l							
LCS Analyzed: 12/30/2010 (10L3271-BS1)										
Iron	0.537	0.040	mg/l	0.500		107	85-115			
Manganese	518	20	ug/l	500		104	85-115			
Zinc	513	20.0	ug/l	500		103	85-115			
Matrix Spike Analyzed: 12/30/2010 (10L3271-MS1)					**Source: ITL2459-01**					
Iron	1.38	0.040	mg/l	0.500	0.789	119	70-130			
Manganese	556	20	ug/l	500	16.0	108	70-130			
Zinc	1070	20.0	ug/l	500	516	111	70-130			
Matrix Spike Analyzed: 12/30/2010 (10L3271-MS2)					**Source: ITL2419-01**					
Iron	0.931	0.040	mg/l	0.500	0.380	110	70-130			
Manganese	519	20	ug/l	500	9.05	102	70-130			
Zinc	594	20.0	ug/l	500	90.2	101	70-130			
Matrix Spike Dup Analyzed: 12/30/2010 (10L3271-MSD1)					**Source: ITL2459-01**					
Iron	1.18	0.040	mg/l	0.500	0.789	79	70-130	16	20	
Manganese	522	20	ug/l	500	16.0	101	70-130	6	20	
Zinc	1030	20.0	ug/l	500	516	102	70-130	4	20	
Batch: 10L3468 Extracted: 12/30/10										
Blank Analyzed: 12/30/2010 (10L3468-BLK1)										
Mercury	ND	0.20	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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										
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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: 10L3118 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3118-BLK1)										
Iron	ND	0.040	mg/l							
Manganese	ND	20	ug/l							
Zinc	ND	20	ug/l							
LCS Analyzed: 12/28/2010 (10L3118-BS1)										
Iron	0.519	0.040	mg/l	0.500		104	85-115			
Manganese	497	20	ug/l	500		99	85-115			
Zinc	498	20	ug/l	500		100	85-115			
Matrix Spike Analyzed: 12/28/2010 (10L3118-MS1)					**Source: ITL2272-03**					
Iron	0.890	0.040	mg/l	0.500	0.375	103	70-130			
Manganese	509	20	ug/l	500	ND	102	70-130			
Zinc	510	20	ug/l	500	ND	102	70-130			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3118-MSD1)					**Source: ITL2272-03**					
Iron	0.887	0.040	mg/l	0.500	0.375	102	70-130	0.3	20	
Manganese	506	20	ug/l	500	ND	101	70-130	0.5	20	
Zinc	511	20	ug/l	500	ND	102	70-130	0.1	20	
Batch: 10L3120 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3120-BLK1)										
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Selenium	ND	2.0	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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										
LCS Analyzed: 12/28/2010 (10L3120-BS1)										
Cadmium	82.5	1.0	ug/l	80.0		103	85-115			
Copper	81.0	2.0	ug/l	80.0		101	85-115			
Lead	84.2	1.0	ug/l	80.0		105	85-115			
Selenium	80.5	2.0	ug/l	80.0		101	85-115			
Matrix Spike Analyzed: 12/28/2010 (10L3120-MS1)					**Source: ITL2486-02**					
Cadmium	80.1	1.0	ug/l	80.0	ND	100	70-130			
Copper	79.5	2.0	ug/l	80.0	3.50	95	70-130			
Lead	81.7	1.0	ug/l	80.0	0.379	102	70-130			
Selenium	81.3	2.0	ug/l	80.0	ND	102	70-130			
Matrix Spike Dup Analyzed: 12/28/2010 (10L3120-MSD1)					**Source: ITL2486-02**					
Cadmium	81.2	1.0	ug/l	80.0	ND	102	70-130	1	20	
Copper	79.6	2.0	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	
Selenium	81.0	2.0	ug/l	80.0	ND	101	70-130	0.4	20	
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			

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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										
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 001 2010
Routine Outfall 001
Report Number: ITL2489

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-N	ND	0.11	mg/l							
Nitrite-N	ND	0.15	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			
Nitrate-N	1.04	0.11	mg/l	1.13		92	90-110			
Nitrite-N	1.41	0.15	mg/l	1.52		93	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			
Nitrate-N	1.31	0.11	mg/l	1.13	0.309	89	80-120			
Nitrite-N	1.45	0.15	mg/l	1.52	ND	96	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	
Nitrate-N	1.40	0.11	mg/l	1.13	0.309	96	80-120	6	20	
Nitrite-N	1.51	0.15	mg/l	1.52	ND	99	80-120	4	20	
Sulfate	14.1	0.50	mg/l	10.0	4.49	97	80-120	5	20	
Batch: 10L3003 Extracted: 12/27/10										
Blank Analyzed: 12/27/2010 (10L3003-BLK1)										
Surfactants (MBAS)	ND	0.10	mg/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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: 10L3003 Extracted: 12/27/10										
LCS Analyzed: 12/27/2010 (10L3003-BS1)										
Surfactants (MBAS)	0.263	0.10	mg/l	0.250		105	90-110			
Matrix Spike Analyzed: 12/27/2010 (10L3003-MS1)					**Source: ITL2488-03**					
Surfactants (MBAS)	0.352	0.10	mg/l	0.250	0.0783	109	50-125			
Matrix Spike Dup Analyzed: 12/27/2010 (10L3003-MSD1)					**Source: ITL2488-03**					
Surfactants (MBAS)	0.344	0.10	mg/l	0.250	0.0783	106	50-125	2	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			
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: 10L3057 Extracted: 12/28/10										
Blank Analyzed: 01/02/2011 (10L3057-BLK1)										
Biochemical Oxygen Demand	ND	2.0	mg/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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: 10L3057 Extracted: 12/28/10										
LCS Analyzed: 01/02/2011 (10L3057-BS1)										
Biochemical Oxygen Demand	194	100	mg/l	198		98	85-115			
LCS Dup Analyzed: 01/02/2011 (10L3057-BSD1)										
Biochemical Oxygen Demand	202	100	mg/l	198		102	85-115	4	20	
Batch: 10L3072 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3072-BLK1)										
Turbidity	ND	1.0	NTU							
Duplicate Analyzed: 12/28/2010 (10L3072-DUP1)					**Source: ITL2483-01**					
Turbidity	3.48	1.0	NTU		3.50			0.6	20	
Duplicate Analyzed: 12/28/2010 (10L3072-DUP2)					**Source: ITL2525-25**					
Turbidity	ND	1.0	NTU		ND				20	
Batch: 10L3090 Extracted: 12/28/10										
Blank Analyzed: 12/28/2010 (10L3090-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 12/28/2010 (10L3090-BS1)										
Total Dissolved Solids	992	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 12/28/2010 (10L3090-DUP1)					**Source: ITL2477-01**					
Total Dissolved Solids	142	10	mg/l		136			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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: 10L3090 Extracted: 12/28/10										
Duplicate Analyzed: 12/28/2010 (10L3090-DUP2)					**Source: ITL2532-01**					
Total Dissolved Solids	391	10	mg/l		372			5	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	
Batch: 10L3337 Extracted: 12/29/10										
Blank Analyzed: 12/29/2010 (10L3337-BLK1)										
Ammonia-N (Distilled)	ND	0.500	mg/l							
LCS Analyzed: 12/29/2010 (10L3337-BS1)										
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0		98	80-115			
Matrix Spike Analyzed: 12/29/2010 (10L3337-MS1)					**Source: ITL2485-02**					
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120			

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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: 10L3337 Extracted: 12/29/10										
Matrix Spike Dup Analyzed: 12/29/2010 (10L3337-MSD1)					**Source: ITL2485-02**					
Ammonia-N (Distilled)	9.80	0.500	mg/l	10.0	ND	98	70-120	0	15	
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	
Batch: 11A0029 Extracted: 01/03/11										
Blank Analyzed: 01/03/2011 (11A0029-BLK1)										
Specific Conductance	ND	1.0	umhos/cm @ 25C							
LCS Analyzed: 01/03/2011 (11A0029-BS1)										
Specific Conductance	1440	1.0	umhos/cm @ 25C	1410		102	90-110			
Duplicate Analyzed: 01/03/2011 (11A0029-DUP1)					**Source: ITL2530-01**					
Specific Conductance	890	1.0	umhos/cm @ 25C		888			0.2	5	

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

8654

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8654 Extracted: 01/20/11										
LCS Analyzed: 01/20/2011 (S012369-03)					**Source:**					
Uranium, Total	59.8	1	pCi/L	62.5		96	80-120			
Blank Analyzed: 01/20/2011 (S012369-04)					**Source:**					
Uranium, Total	0	1	pCi/L				-			*U*
Duplicate Analyzed: 01/20/2011 (S012369-05)					**Source: ITL2489-03**					
Uranium, Total	0.164	1	pCi/L		0.177		-	8		*Ja*

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

900

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8654 Extracted: 01/06/11										
LCS Analyzed: 01/06/2011 (S012369-03)					**Source:**					
Gross Alpha	36.6	3	pCi/L	40.4		91	70-130			
Gross Beta	33.6	4	pCi/L	35		96	70-130			
Blank Analyzed: 01/06/2011 (S012369-04)					**Source:**					
Gross Alpha	0.205	3	pCi/L				-			*U*
Gross Beta	-0.321	4	pCi/L				-			*U*
Duplicate Analyzed: 01/06/2011 (S012369-05)					**Source: ITL2489-03**					
Gross Alpha	1.65	3	pCi/L		1.89		-	14		*Ja*
Gross Beta	3.05	4	pCi/L		3.06		-	0		*Ja*

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

901.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8654 Extracted: 01/05/11										
LCS Analyzed: 01/05/2011 (S012369-03)					**Source:**					
Cobalt-60	94.8	10	pCi/L	102		93	80-120			
Cesium-137	114	20	pCi/L	110		104	80-120			
Blank Analyzed: 01/05/2011 (S012369-04)					**Source:**					
Cesium-137	ND	20	pCi/L				-			*U*
Potassium-40	ND	25	pCi/L				-			*U*
Duplicate Analyzed: 01/05/2011 (S012369-05)					**Source: ITL2489-03**					
Cesium-137	ND	20	pCi/L		0		-	0		*U*
Potassium-40	ND	25	pCi/L		0		-	0		*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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

903.1

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8654 Extracted: 01/22/11										
LCS Analyzed: 01/22/2011 (S012369-03)					**Source:**					
Radium-226	58.4	1	pCi/L	55.7		105	80-120			
Blank Analyzed: 01/22/2011 (S012369-04)					**Source:**					
Radium-226	0.034	1	pCi/L				-			*U*
Duplicate Analyzed: 01/22/2011 (S012369-05)					**Source: ITL2489-03**					
Radium-226	-0.022	1	pCi/L		0.097		-	0		*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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

904

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8654 Extracted: 01/24/11										
LCS Analyzed: 01/24/2011 (S012369-03)					**Source:**					
Radium-228	4.53	1	pCi/L	4.62		98	60-140			
Blank Analyzed: 01/24/2011 (S012369-04)					**Source:**					
Radium-228	-0.118	1	pCi/L				-			*U*
Duplicate Analyzed: 01/24/2011 (S012369-05)					**Source: ITL2489-03**					
Radium-228	0.035	1	pCi/L		0.109		-	0		*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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

905

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8654 Extracted: 01/08/11										
LCS Analyzed: 01/13/2011 (S012369-03)					**Source:**					
Strontium-90	17.9	2	pCi/L	17.5		102	80-120			
Blank Analyzed: 01/13/2011 (S012369-04)					**Source:**					
Strontium-90	0.064	2	pCi/L				-			*U*
Duplicate Analyzed: 01/13/2011 (S012369-05)					**Source: ITL2489-03**					
Strontium-90	-0.005	2	pCi/L		0.222		-	0		*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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

METHOD BLANK/QC DATA

906

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8654 Extracted: 01/12/11										
LCS Analyzed: 01/12/2011 (S012369-03)					**Source:**					
Tritium	2420	500	pCi/L	2550		95	80-120			
Blank Analyzed: 01/12/2011 (S012369-04)					**Source:**					
Tritium	22.6	500	pCi/L				-			*U*
Duplicate Analyzed: 01/12/2011 (S012369-05)					**Source: ITL2489-03**					
Tritium	44.4	500	pCi/L		-40.3		-	0		*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 001 2010
Routine Outfall 001
Report Number: ITL2489

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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
ITL2489-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15
ITL2489-01	624-(601list)	1,1-Dichloroethene	ug/l	0	2.0	6
ITL2489-01	624-(601list)	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL2489-01	624-(601list)	Trichloroethene	ug/l	0	2.0	5
ITL2489-01	Settleable Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3

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
ITL2489-02	624-(601list)	1,1-Dichloroethene	ug/l	0	2.0	6
ITL2489-02	624-(601list)	1,2-Dichloroethane	ug/l	0	0.50	0.5
ITL2489-02	624-(601list)	Trichloroethene	ug/l	0	2.0	5

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
ITL2489-03	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0094	0.03
ITL2489-03	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.66	13
ITL2489-03	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	4.72	18
ITL2489-03	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.19	4.72	4
ITL2489-03	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	4.72	16
ITL2489-03	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	4.72	16.5
ITL2489-03	Ammonia-N, Titr 4500NH3-C (w/di	Ammonia-N (Distilled)	mg/l	0	0.500	10.1
ITL2489-03	BOD - SM5210B	Biochemical Oxygen Demand	mg/l	1.15	2.0	30
ITL2489-03	Cadmium-200.8	Cadmium	ug/l	0.052	1.0	3.1
ITL2489-03	Chloride - 300.0	Chloride	mg/l	5.87	0.50	150
ITL2489-03	Copper-200.8	Copper	ug/l	4.01	2.0	14
ITL2489-03	Cyanide, Total-4500CN-E (5ppb)	Total Cyanide	ug/l	-2	5.0	8.5
ITL2489-03	**Iron-200.7**	**Iron**	**mg/l**	**1.79**	**0.040**	**0.3**
ITL2489-03	Lead-200.8	Lead	ug/l	0.98	1.0	5.2
ITL2489-03	Manganese-200.7	Manganese	ug/l	28	20	50
ITL2489-03	MBAS - SM5540C	Surfactants (MBAS)	mg/l	0.070	0.10	0.5
ITL2489-03	Mercury - 245.1	Mercury	ug/l	0.030	0.20	0.1

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

ITL2489-03	Nitrate-N, 300.0	Nitrate-N	mg/l	0.41	0.11	8
ITL2489-03	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
ITL2489-03	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.41	0.26	8
ITL2489-03	Perchlorate 314.0 - Default	Perchlorate	ug/l	0	4.0	6
ITL2489-03	Selenium-200.8	Selenium	ug/l	0.33	2.0	5
ITL2489-03	Sulfate-300.0	Sulfate	mg/l	8.51	0.50	300
ITL2489-03	TDS - SM2540C	Total Dissolved Solids	mg/l	71	10	950
ITL2489-03	TSS - SM2540D	Total Suspended Solids	mg/l	16	10	45

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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	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 001 2010
Routine Outfall 001
Report Number: ITL2489

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 200.7-Diss	Water	X	X
EPA 200.7	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
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM2130B	Water	X	X
SM2510B	Water	X	X
SM2540C	Water	X	
SM2540F	Water	X	X
SM4500CN-E	Water	X	X
SM4500NH3-C	Water	X	X
SM5210B	Water	X	X
SM5540-C	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: ITL2489-03

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: ITL2489-03

Analysis Performed: Gross Alpha
Samples: ITL2489-03

Analysis Performed: Gross Beta
Samples: ITL2489-03

Analysis Performed: Level 4 Data Package
Samples: ITL2489-03

Analysis Performed: Radium, Combined
Samples: ITL2489-03

Analysis Performed: Strontium 90
Samples: ITL2489-03

Analysis Performed: Tritium
Samples: ITL2489-03

Analysis Performed: Uranium, Combined
Samples: ITL2489-03

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 001 2010
Routine Outfall 001
Report Number: ITL2489

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

TestAmerica Buffalo

10 Hazelwood Drive, Suite 106 - Amherst, NY 14228

Method Performed: 8654
Samples: ITL2489-03

Method Performed: 900
Samples: ITL2489-03

Method Performed: 901.1
Samples: ITL2489-03

Method Performed: 903.1
Samples: ITL2489-03

Method Performed: 904
Samples: ITL2489-03

Method Performed: 905
Samples: ITL2489-03

Method Performed: 906
Samples: ITL2489-03

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

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: ITL2489-03, ITL2489-03RE

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

38 Test America Version 6/29/09

CHAIN OF CUSTODY FORM

ITL2489

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Routine Outfall 001** **GRAB**
Project Manager: Bronwyn Kelly Sampler: R Ellis	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	1,1-DCE, 1,2-DCA, TCE (624)	Oil & Grease (1664-HEM)	Settleable Solids	Conductivity										Comments
Outfall 001	W	VOAs	5	12/26/10 0858	HCl	1A, 1B, 1C, 1D, 1E	X													
Outfall 001	W	1L Amber	2	12/26/10 0858	HCl	2A, 2B		X												
Outfall 001	W	1L Poly	1	12/26/10 0858	None	3			X											
Outfall 001	W	500 mL Poly	2	12/26/10 0858	None	4A, 4B				X										
Trip Blanks	W	VOAs	3	12/26/10 0858	HCl	5A, 5B, 5C	X													

ANALYSIS REQUIRED

Field readings:
(Log in and include in report Temp and pH)
8.5°C
Temp °F = 47.5°F
pH = 7.3
DO = 10.31 mg/L
Time of readings = 0858

These Samples are the Grab Portion of Outfall 001 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:
	1155h 26 DEC 10	Rick Bingo	12-26-2010
Rick Bingo	12-26-2010 1305	Rick Kerida	1305 12-26-10
Rick Kerida	12-26-10 1525 TO SAMPLE CONTROL FRIDGE		12/27/10 815

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°C

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 001** **COMPOSITE** - H.6H
Project Manager: Bronwyn Kelly Sampler: Rick Bahnag IV 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: Cu, Pb, Hg, Cd, Se, Zn, **Fe, Mn**	TCDD (and all congeners)	BOD_5 (20 degrees C)	Surfactants (MBAS)	Cl^-, SO_4, NO_3+NO_2-N, Perchlorate	Nitrate-N, Nitrite-N	Turbidity, TDS, TSS	Ammonia-N (350.2)	Alpha BHC (608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs 625)					Comments
							ANALYSIS REQUIRED														
Outfall 001	W	1L Poly	1	12-26-2010 11:31	HNO_3	6A	X														
Outfall 001 Dup	W	1L Poly	1		HNO_3	6B	X														
Outfall 001	W	1L Amber	2		None	7A, 7B		X													
Outfall 001	W	1L Poly	1		None	8			X												
Outfall 001	W	500 mL Poly	2		None	9A, 9B				X											
Outfall 001	W	500 mL Poly	2		None	10A, 10B					X										
Outfall 001	W	500 mL Poly	1		None	11						X									
Outfall 001	W	500 mL Poly	2		None	12A, 12B							X								
Outfall 001	W	500 mL Poly	1		H_2SO_4	13								X							
Outfall 001	W	1L Amber	2		None	14A, 14B									X						
Outfall 001	W	1L Amber	2	12-26-2010 11:31	None	15A, 15B										X					

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 001 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 001 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 1735		
Relinquished By	Date/Time	Received By	Date/Time
			12/27/10 17:30

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

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 001** **COMPOSITE**
Project Manager: Bronwyn Kelly Sampler: Rick Danag'a 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 #	ANALYSIS REQUIRED: Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, Fe, Mn	ANALYSIS REQUIRED: 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)	ANALYSIS REQUIRED: Chronic Toxicity	ANALYSIS REQUIRED: Cyanide	Comments
Outfall 001	W	1L Poly	1	12-26-2010 11:31	None	16	X				Filter w/in 24hrs of receipt at lab
Outfall 001	W	2.5 Gal Cube	1		None	17A		X			Unfiltered and unpreserved analysis
		500 mL Amber	1		None	17B					
Outfall 001	W	1 Gal Cube	1		None	18			X		**Only test if first or second rain events of the year**
Outfall 001	W	500 mL Poly	1	12-26-2010 11:31	NaOH	19				X	

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 001 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 001 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 1735		
Relinquished By	Date/Time:	Received By	Date/Time:
			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

Data Requirements: (Check)

No Level IV: _ All Level IV: __ NPDES Level IV: X

3.9

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-10122701-001
Sample I.D.: ITL2489-03 (Outfall 001)

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:	5.7°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-10122701-001
Client/ID: Test America - ITL2489-03 (Outfall 001)

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%	27.4
* 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 (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 = 9.0%)
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:	10122701c	Sample ID:	Outfall 001
End Date:	1/3/2011 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	12/26/2010 11:31	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

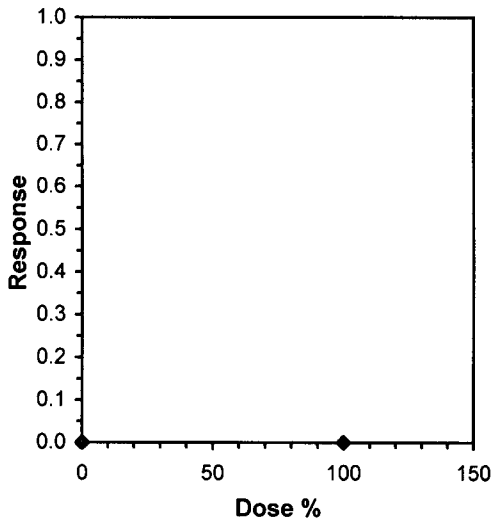
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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:	10122701c	Sample ID:	Outfall 001
End Date:	1/3/2011 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	12/26/2010 11:31	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

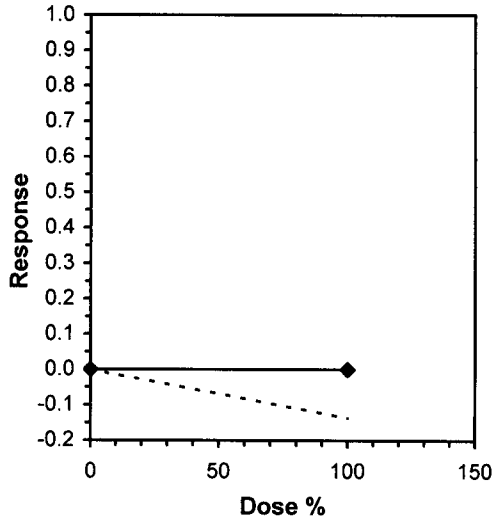
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	25.000	20.000	26.000	21.000	23.000	25.000	23.000	30.000	25.000	23.000
100	23.000	27.000	26.000	27.000	24.000	27.000	28.000	32.000	30.000	30.000

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	24.100	1.0000	24.100	20.000	30.000	11.646	10				25.750	1.0000
100	27.400	1.1369	27.400	23.000	32.000	10.061	10	-2.653	1.734	2.157	25.750	1.0000

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96718		0.905		0.34466	0.03255
F-Test indicates equal variances (p = 0.96)	1.03655		6.54109			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences Treatments vs D-Control	2.15734	0.08952	54.45	7.73889	0.0162	1, 18

Linear Interpolation (200 Resamples)

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



ToxCalc v5.0.23

Reviewed by:

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-10122701-001
Client ID: TestAmerica - Outfall 001
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	9.9	8.8	10.4	8.9	10.5	8.7	8.4	8.4	10.2	8.2	9.6	8.1	10.2	8.3
	pH	7.8	8.1	7.5	8.0	7.4	8.1	8.0	8.0	7.8	8.2	8.0	8.2	8.0	8.2
	Temp	24.3	24.4	25.2	24.7	24.7	25.0	24.3	24.2	24.7	24.3	24.3	24.6	24.3	24.3

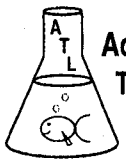
Additional Parameters	Control	100% Sample
Conductivity (umohms)	310	127
Alkalinity (mg/l $CaCO_3$)	77	44
Hardness (mg/l $CaCO_3$)	88	65
Ammonia (mg/l NH_3-N)	<0.1	0.2

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	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	0	0	3	0	0	4	0	0	3	0	10	10	
	4	4	4	0	5	3	0	4	5	0	5	30	10	
	5	0	7	0	9	0	7	0	10	9	9	51	10	
	6	5	16	7	0	7	16	9	17	18	0	95	10	
	7	14	0	16	13	14	0	15	0	0	16	88	10	
	Total	23	27	26	27	24	27	28	32	30	30	274	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 **Routine Outfall 001** **COMPOSITE**
Project Manager: Bronwyn Kelly Sampler: Rick Danaga 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 #	ANALYSIS REQUIRED: Total Dissolved Metals: Cu, Pb, Hg, Cd, Se, Zn, **Fe, Mn**	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 001	W	1L Poly	1	12-26-2010 11:31	None	16	X				Filter w/in 24hrs of receipt at lab
Outfall 001	W	2.5 Gal Cube	1		None	17A		X			Unfiltered and unpreserved analysis
		500 mL Amber	1		None	17B					
Outfall 001	W	1 Gal Cube	1		None	18			X		Only test if first or second rain events of the year
Outfall 001	W	500 mL Poly	1	12-26-2010 11:31	NaOH	19				X	

COC Page 2 of 3 and Page 3 of 3 are the composite samples for Outfall 001 for this storm event.

These must be added to the same work order for COC Page 1 of 3 for Outfall 001 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

ITL2489

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: ITL2489-03	**Water**	**Sampled: 12/26/10 11:31**		Outfall 001
Bioassay-7 dy Chrnic	01/03/11 15:00	12/27/10 23:31		Cerio, EPA/821-R02-013, Sub to Aquatic tes
Containers Supplied:				
1 gal Poly (U)				

Released By	Date	Received By	Date
		[signature]	12-27-10 1445
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

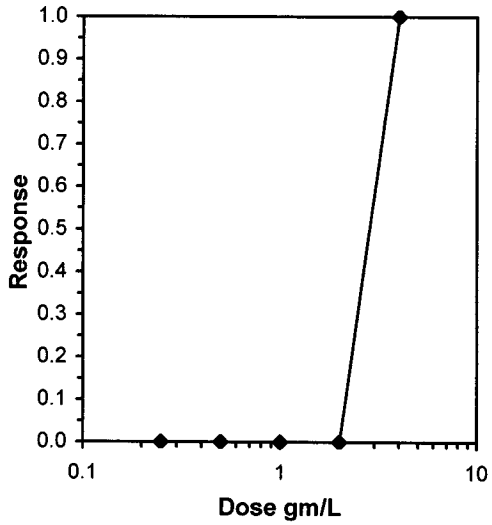
Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	1.0000	1.0000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

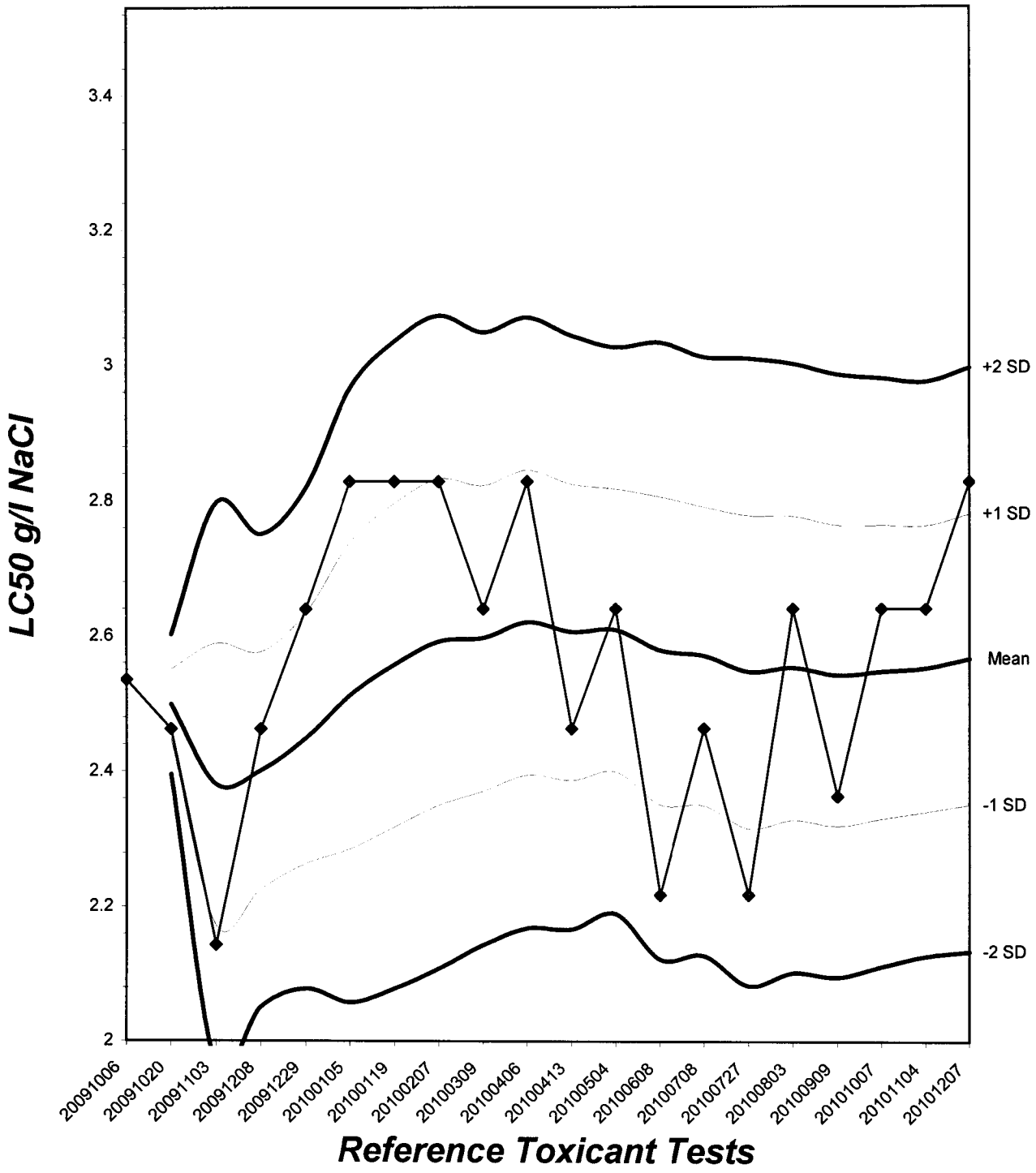
2.8284



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

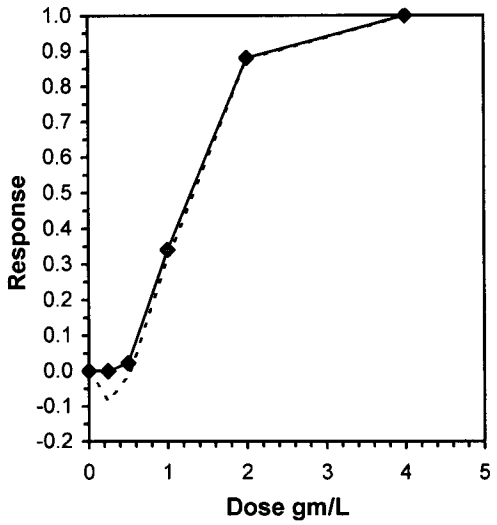
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	23.300	1.0000	23.300	11.000	28.000	25.913	10				24.250	1.0000
0.25	25.200	1.0815	25.200	19.000	29.000	14.466	10	-0.959	2.223	4.404	24.250	1.0000
0.5	23.700	1.0172	23.700	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)

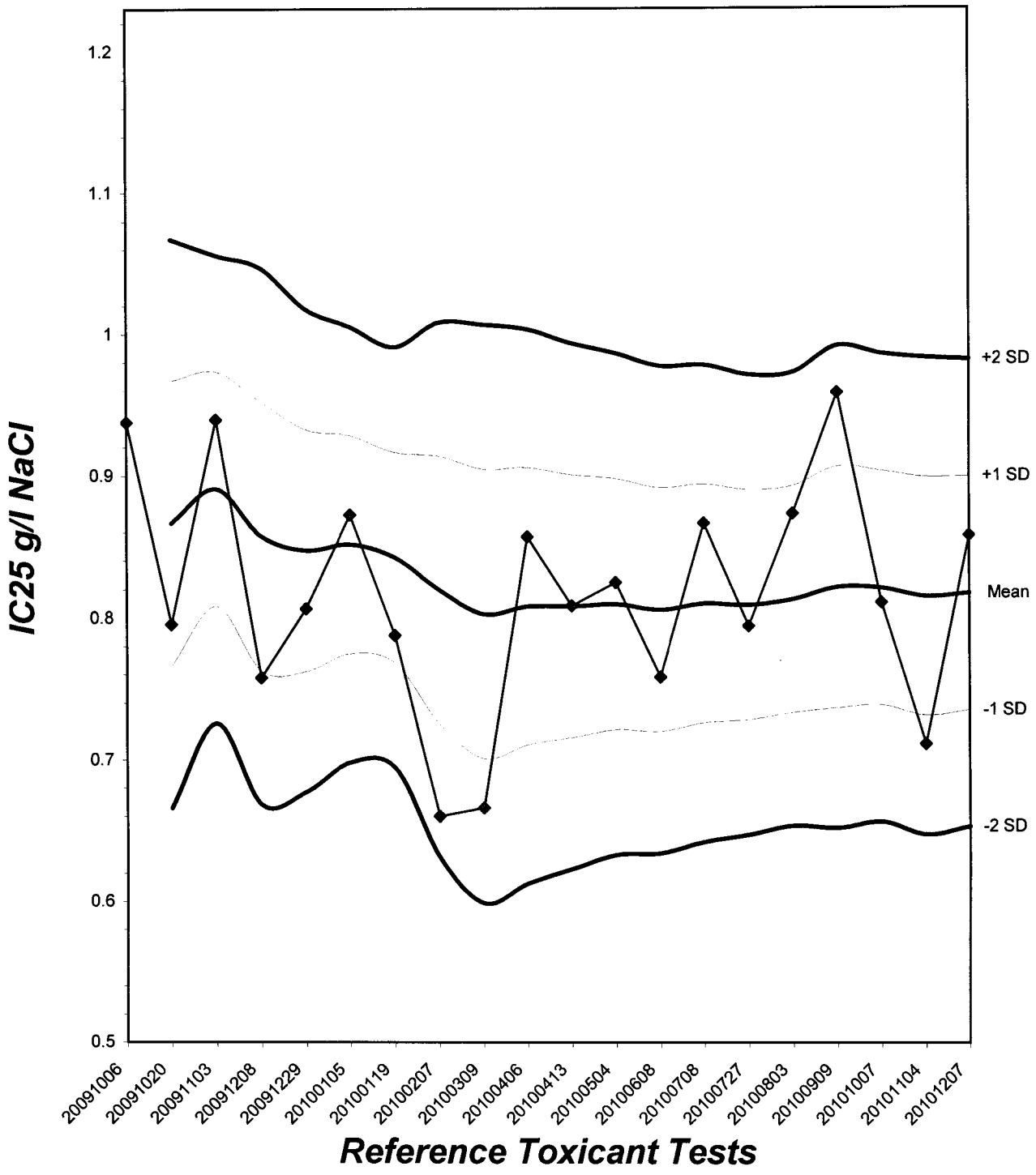
Point	gm/L	SD	95% CL		Skew
IC05	0.5430	0.1060	0.2194	0.6041	-1.2164
IC10	0.6218	0.0833	0.4101	0.7081	-1.1699
IC15	0.7005	0.0819	0.5141	0.8292	-0.4850
IC20	0.7792	0.0859	0.5998	0.9452	0.1951
IC25	0.8580	0.0903	0.6963	1.0439	0.3636
IC40	1.1107	0.1011	0.9055	1.2772	-0.0498
IC50	1.2958	0.0936	1.0659	1.4429	-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	7.4	8.2	7.6	—	—
	pH	8.2	8.3	8.4	7.9	8.2	8.0	8.2	8.0	8.1	7.4	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	7.4	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	7.4	8.3	7.6	—	—
	pH	8.2	8.2	8.3	7.9	8.2	8.0	8.2	8.0	8.1	7.4	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	7.4	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	7.4	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

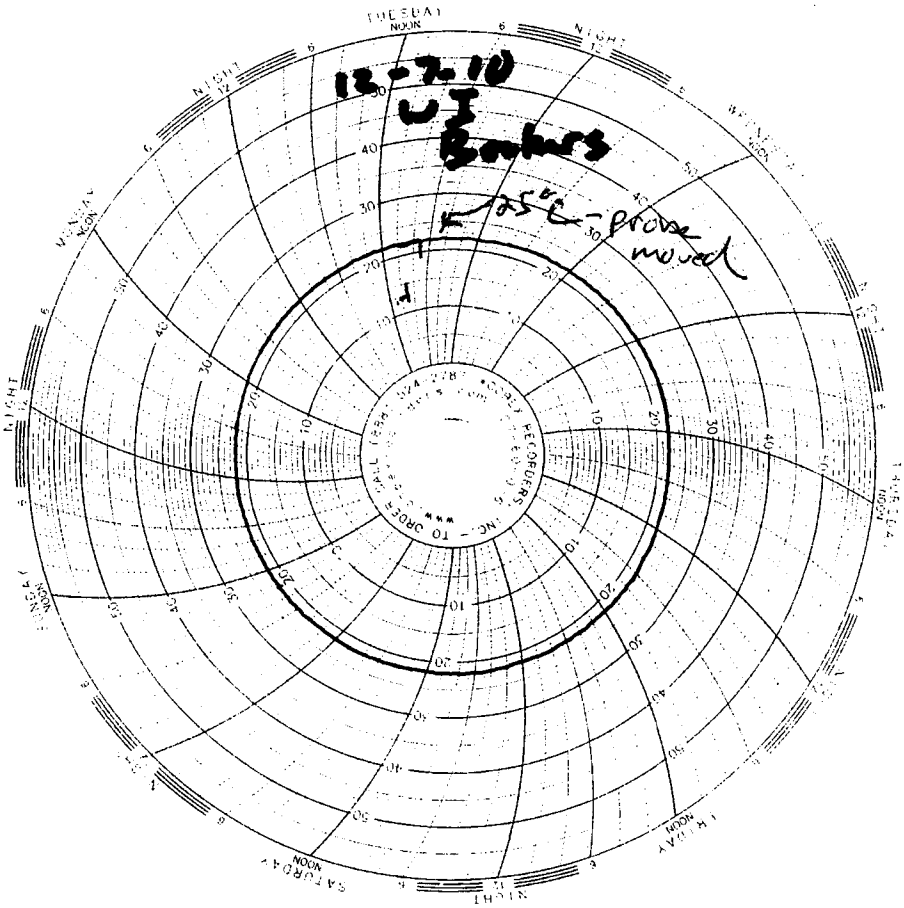
Aquatic Testing Laboratories

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 ITL2489**
Eberline Analytical Report S012369-8654
Sample Delivery Group 8654

Dear Ms. Wilson:

Enclosed is a Level IV CLP-like data package (on CD) for one water sample received under Test America Job No. ITL2489. 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 8654 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

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 **Date**
Client Services Manager

EBERLINE ANALYTICAL
SDG 8654

SDG 8654	Client Test America, Inc.
Contact N. Joseph Verville	Contract ITL2489

SUMMARY DATA SECTION

TABLE OF CONTENTS

Prepared by

Reviewed by

Lab id	EAS
Protocol	TA
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	01/29/11

EBERLINE ANALYTICAL

SDG 8654

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2489

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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB SAMPLE SUMMARY

SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAS NO	CHAIN OF CUSTODY	COLLECTED
S012369-01	ITL2489-03	Boeing - SSFL	WATER			ITL2489	12/26/10 08:58
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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

SDG 8654
Contact N. Joseph Verville

QC SUMMARY

Client Test America, Inc.
Contract ITL2489

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% MOIST	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
8654	ITL2489	ITL2489-03	WATER		10.0 L		12/29/10	3	S012369-01	8654-001
		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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

PREP BATCH SUMMARY

SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

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	1/1		
SR	WATER	Strontium-90 in Water	7271-037	10.4	1			1	1	1/1		
Gas Proportional Counting												
80A	WATER	Gross Alpha in Water	7271-037	20.6	1			1	1	1/1		
80B	WATER	Gross Beta in Water	7271-037	11.0	1			1	1	1/1		
Gamma Spectroscopy												
GAM	WATER	Gamma Emitters in Water	7271-037	7.0	1			1	1	1/1		
Kinetic Phosphorimetry, ug												
U_T	WATER	Uranium, Total	7271-037		1			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7271-037	10.0	1			1	1	1/1		
Radon Counting												
RA	WATER	Radium-226 in Water	7271-037	16.4	1			1	1	1/1		

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB WORK SUMMARY

SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY / SAS no	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
S012369-01	ITL2489-03		8654-001	80A/80		01/06/11	01/07/11	BW	Gross Alpha in Water
12/26/10	Boeing - SSFL	WATER	8654-001	80B/80		01/06/11	01/07/11	BW	Gross Beta in Water
12/29/10	ITL2489		8654-001	AC		01/24/11	01/25/11	BW	Radium-228 in Water
			8654-001	GAM		01/05/11	01/11/11	MWT	Gamma Emitters in Water
			8654-001	H		01/12/11	01/18/11	BW	Tritium in Water
			8654-001	RA		01/22/11	01/24/11	BW	Radium-226 in Water
			8654-001	SR		01/13/11	01/25/11	BW	Strontium-90 in Water
			8654-001	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 01/29/11

SDG 8654
Contact N. Joseph Verville

WORK SUMMARY, cont.

Client Test America, Inc.
Contract ITL2489

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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

8654-004

Method Blank

METHOD BLANK

SDG 8654 Client Test America, Inc.
Contact N. Joseph Verville Contract ITL2489

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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

8654-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

Lab sample id S012369-03
Dept sample id 8654-003

Client sample id Lab Control Sample
Material/Matrix WATER

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	2σ LMTS (TOTAL)	PROTOCOL LIMITS
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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

8654-005

ITL2489-03

DUPLICATE

SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

DUPLICATE
Lab sample id S012369-05
Dept sample id 8654-005

ORIGINAL
Lab sample id S012369-01
Dept sample id 8654-001
Received 12/29/10

Client sample id ITL2489-03
Location/Matrix Boeing - SSFL WATER
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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

8654-001 ITL2489-03

DATA SHEET

SDG 8654 Client Test America, Inc.
Contact N. Joseph Verville Contract ITL2489

Lab sample id S012369-01 Client sample id ITL2489-03
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	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587461	1.89	0.47	0.400	3.00	J	80A
Gross Beta	12587472	3.06	0.63	0.885	4.00	J	80B
Tritium	10028178	-40.3	150	270	500	U	H
Radium-226	13982633	0.097	0.36	0.653	1.00	U	RA
Radium-228	15262201	0.109	0.17	0.456	1.00	U	AC
Strontium-90	10098972	0.222	0.33	0.684	2.00	U	SR
Uranium, Total		0.177	0.022	0.017	1.00	J	U_T
Potassium-40	13966002	U		53.7	25.0	U	GAM
Cesium-137	10045973	U		2.68	20.0	U	GAM

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB METHOD SUMMARY

RADIUM-228 IN WATER

BETA COUNTING

Test AC Matrix WATER
SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-228	
Preparation batch 7271-037						
S012369-01			8654-001	ITL2489-03	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												
S012369-01			ITL2489-03	0.456	1.80			76		150			29	01/24/11	01/24	GRB-229
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 0.452 ± 0.035
YIELD 74 ± 3

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB METHOD SUMMARY

STRONTIUM-90 IN WATER

BETA COUNTING

Test SR Matrix WATER
SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Strontium-90	
Preparation batch 7271-037						
S012369-01			8654-001	ITL2489-03	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												
S012369-01			ITL2489-03	0.684	0.500			75		50			18	01/08/11	01/13	GRB-204
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 0.660 ± 0.087
YIELD 78 ± 11

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB METHOD SUMMARY

GROSS ALPHA IN WATER

GAS PROPORTIONAL COUNTING

Test 80A Matrix WATER
SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
Preparation batch 7271-037						
S012369-01	80		8654-001	ITL2489-03	1.89	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												
S012369-01	80		ITL2489-03	0.400	0.300			29		400			11	01/06/11	01/06	GRB-105
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 0.472 ± 0.272
RESIDUE 46 ± 36

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Test 80B Matrix WATER
SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
Preparation batch 7271-037						
S012369-01	80		8654-001	ITL2489-03	3.06	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												
S012369-01	80		ITL2489-03	0.885	0.300			29		400			11	01/06/11	01/06	GRB-105
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 1.07 ± 0.695
RESIDUE 46 ± 36

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB METHOD SUMMARY

GAMMA EMITTERS IN WATER

GAMMA SPECTROSCOPY

Test GAM Matrix WATER
SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt-60	Cesium-137	
Preparation batch 7271-037							
S012369-01			8654-001	ITL2489-03		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											
S012369-01			ITL2489-03		2.00					540			10	01/05/11	01/05	MB,05,00
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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB METHOD SUMMARY

URANIUM, TOTAL

KINETIC PHOSPHORIMETRY, UG

Test U T Matrix WATER
SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Uranium, Total
Preparation batch 7271-037					
S012369-01			8654-001	ITL2489-03	0.177 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											
S012369-01			ITL2489-03	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 01/29/11

EBERLINE ANALYTICAL

SDG 8654

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Test H Matrix WATER
SDG 8654
Contact N. Joseph Verville

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7271-037						
S012369-01			8654-001	ITL2489-03	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												
S012369-01			ITL2489-03	270	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 ± 4.32
YIELD 55 ± 104

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

Test RA Matrix WATER
SDG 8654
Contact N. Joseph Verville

LAB METHOD SUMMARY

RADIUM-226 IN WATER

RADON COUNTING

Client Test America, Inc.
Contract ITL2489

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium-226	
Preparation batch 7271-037						
S012369-01			8654-001	ITL2489-03	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												
S012369-01			ITL2489-03	0.653	0.100			100		87			27	01/13/11	01/22	RN-011
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 0.616 ± 0.073
YIELD 100 ± 0

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 01/29/11

EBERLINE ANALYTICAL

SDG 8654

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SDG 8654
Contact N. Joseph Verville

REPORT GUIDE

Client Test America, Inc.
Contract ITL2489

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 01/29/11

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

SDG 8654
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2489

METHOD SUMMARY

specified for the method.

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

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

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

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

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

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

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

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

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

Lab id EAS
Protocol TA
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 01/29/11

SDG 8654
Contact N. Joseph Verville

GUIDE, cont.

Client Test America, Inc.
Contract ITL2489

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 01/29/11

SUBCONTRACT ORDER
TestAmerica Irvine

4/3/

ITL2489

8654

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: ITL2489-03 (Outfall 001 (Composite) - Water)			Sampled: 12/26/10 08:58	
Gamma Spec-O	mg/kg	01/03/11	12/26/11 08:58	jflags; Cs 137 + K 40; do not filter
Gross Alpha-O	pCi/L	01/03/11	06/24/11 08:58	jflags; do not filter
Gross Beta-O	pCi/L	01/03/11	06/24/11 08:58	jflags; do not filter
Level 4 Data Package - Out	N/A	01/03/11	01/23/11 08:58	
Radium, Combined-O	pCi/L	01/03/11	12/26/11 08:58	jflags; do not filter
Strontium 90-O	pCi/L	01/03/11	12/26/11 08:58	jflags; do not filter
Tritium-O	pCi/L	01/03/11	12/26/11 08:58	jflags; do not filter
Uranium, Combined-O	pCi/L	01/03/11	12/26/11 08:58	jflags; do not filter

Containers Supplied:
2.5 gal Poly (S) 500 mL Amber (T)

Released By	Date/Time	Received By	Date/Time
Stephanie Arik	12/28/10 17:06	FedEx	12/28/10 17:00
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) 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: 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 [✓]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [✓]
11. Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [✓] Not preserved [ ] pH 2 Preservative HNO3
13. Describe any anomalies: two client TRIP BLANKS Not included in COC
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date
15. Inspected by JK Date: 12/29/10 Time: 14:20

6 samples 12/30 ? ?

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

Ion Chamber Ser. No. Calibration date

Alpha Meter Ser. No. Calibration date

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

THIS PAGE LEFT INTENTIONALLY BLANK

APPENDIX G

Section 5

Outfall 002 – December 19 & 20, 2010

MEC^X Data Validation Report

THIS PAGE LEFT INTENTIONALLY BLANK

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITL1890

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:	ITL1890
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 002 (Grab)	ITL1890-01	N/A	Water	12/19/2010 2:10:00 PM	120.1
Outfall 002 (Composite)	ITL1890-03	G0L230564-001, S012307-001	Water	12/20/2010 12:30:00 PM	314.0, 1613B, 900, 901.1, 903.1, 904, 905, 906, 245.1, 245.1-Diss, 180.1, 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 ≤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. 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 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: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.

- Serial Dilution: No serial dilution analyses were performed.

- Internal Standards Performance: Not applicable to this analysis.

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

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

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

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

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

- Sample Result Verification: Calculations were verified and the sample result reported on the sample result summary was verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit. 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. Due to matrix interference, present as an additional peak eluting just prior to perchlorate, the reviewer further estimated the sample result, "J."

- 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 7, 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 Methods SM2130B and SM2510B,* and the *National Functional Guidelines for Inorganic Data Review* (7/02).

- Holding Times: The analytical holding times, 48 hours from collection for turbidity and conductivity, were met.

- Calibration: The turbidity initial calibration r^2 value was≥0.990 and the initial and continuing calibration recoveries were within 90-100%.

- Blanks: There were no detects in the method blanks or CCBs.

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

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

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

- 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.

In order to report the analyte within the linear range of the calibration, turbidity was analyzed at a 10× dilution.

- 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 ITL1890

Analysis Method 8645

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	NA	0.279	1	0.019	pCi/L	Jb	J	DNQ

Analysis Method 900

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587461	1.72	3	0.486	pCi/L	Jb	J	C,DNQ
Gross Beta	12587472	4.24	4	0.852	pCi/L			

Analysis Method 901.1

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	10045973	ND	20	1.07	pCi/L	U	U	
Potassium-40	13966002	ND	25	13.8	pCi/L	U	U	

Analysis Method 903.1

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	13982633	0.307	1	0.518	pCi/L	U	U	

Analysis Method 904

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	15262201	0.298	1	0.439	pCi/L	U	U	

Analysis Method 905

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	10098972	-0.202	2	1.05	pCi/L	U	U	

Analysis Method 906

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028178	-133	500	298	pCi/L	U	U	

Analysis Method EPA 120.1

Sample Name Outfall 002 (Grab) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1890-01 **Sample Date:** 12/19/2010 2:10:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Specific Conductance	NA	110	1.0	1.0	umhos/c			

Analysis Method EPA 180.1

Sample Name Outfall 002 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Turbidity	Turb	75	10	0.40	NTU			

Analysis Method EPA 200.7

Sample Name Outfall 002 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	2.7	0.040	0.015	mg/l			
Manganese	7439-96-5	43	20	7.0	ug/l			
Zinc	7440-66-6	15.3	20.0	6.00	ug/l	J	J	DNQ

Analysis Method EPA 200.7-Diss

Sample Name Outfall 002 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Iron	7439-89-6	0.067	0.040	0.015	mg/l			
Manganese	7439-96-5	42	20	7.0	ug/l			
Zinc	7440-66-6	17.6	20.0	6.00	ug/l	J	J	DNQ

Analysis Method EPA 245.1

Sample Name Outfall 002 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 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 002 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 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 002 (Composite) **Matrix Type:** Water **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797-73-0	2.2	4.0	0.90	ug/l	J	J	DNQ, *III

Analysis Method EPA-5 1613B

Sample Name Outfall 002 (Composite) **Matrix Type:** WATER **Validation Level:** IV

Lab Sample Name: ITL1890-03 **Sample Date:** 12/20/2010 12:30:00 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	0.0000001	ug/L	J, Q, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.00005	0.0000004	ug/L	J, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.00005	0.0000005	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.00005	0.0000003	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000001	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.00005	0.0000003	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.00005	0.0000001	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.00005	0.0000003	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.00005	0.0000000	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000006	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000002	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000001	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000003	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000004	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000002	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	0.0000006	ug/L	J, B	U	B
Total HpCDD	37871-00-4	1.1e-005	0.00005	0.0000001	ug/L	J, Q, B	J	B, DNQ, *III
Total HpCDF	38998-75-3	4.3e-006	0.00005	0.0000005	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	ND	0.00005	0.0000003	ug/L		U	
Total HxCDF	55684-94-1	ND	0.00005	0.0000000	ug/L		U	
Total PeCDD	36088-22-9	ND	0.00005	0.0000006	ug/L		U	
Total PeCDF	30402-15-4	ND	0.00005	0.0000002	ug/L		U	
Total TCDD	41903-57-5	ND	0.00001	0.0000004	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000002	ug/L		U	