APPENDIX G

Section 4

Outfall 006, December 11, 2009

MEC^X Data Validation Report

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ISL1605

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:	ISL1605
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 006	ISL1605-02	G9I150587-001, F9J150498-001	Water	12/11/2009 12:54:00 AM	1613, 245.1, 900, 901.1, 903.0, 904, 905, 906.0, EMLA-01-R, ASTM 5174-91

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine within the temperature limits of 4°C ±2°C. The sample for the Method 1613 analysis was received below the temperature limits at TestAmerica-West Sacramento; however, the sample was not noted to be frozen or damaged. The sample receipt temperature was not noted by TestAmerica-St. Louis; 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 transported by courier to TestAmerica-Irvine, custody seals were not required. Custody seals were not present upon receipt at TestAmerica-West Sacramento. Custody seals were present and intact at TestAmerica-Denver and TestAmerica-St. Louis.

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, 2010

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* (9/05).

- 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 with 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 16 native compounds (calibration by isotope dilution) and ≤35% for the one 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 all compounds except 2,3,7,8-TCDF. Any sample detects for individual target compound isomers present at concentrations less than five times the method blank concentrations were qualified as nondetected, “U,” at the RL. Results for totals were qualified as nondetected, “U,” if all peaks comprising the total were present in the method blank at less than five times the

blank concentrations. In some instances, one or more peaks in the method blank did not meet ratio criteria; however, due to the extent of contamination present in the method blank, it was the reviewer's professional opinion that the sample total be qualified as nondetected due to method blank contamination if all peaks in the sample total were also present in the method blank. Results for total HxCDD, total PeCDF, and total HxCDF in the sample included peaks meeting ratio criteria that were not present in the method blank; therefore, results for these totals were qualified as estimated, "J," as only a portion of the total was considered method blank contamination.

- Blank Spikes and Laboratory Control Samples: OPR 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 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 any reportable sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Several results for individual isomers were reported as EMPCs by the laboratory; however, the results were previously qualified as nondetects for method blank contamination and were not further qualified as EMPCs. Any reported totals not qualified as nondetects for method blank contamination that included EMPCs were qualified as estimated, "J." Any detects 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 15, 2010

The sample listed in Table 1 for this analysis were 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. The mercury initial calibration r^2 value was ≥0.995 and all initial and continuing calibration recoveries were within 85-115%. The CRA was within the control limit 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 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. Detects reported below the reporting limit were qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

  Mercury was not detected in the total aliquot but was detected marginally above the MDL in the dissolved aliquot. The detect may be due to the inherent uncertainty of measurements near 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: January 15, 2010

The sample 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, 906.0, and 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 aliquot for gamma spectroscopy was prepared within the five-day holding time for unpreserved aqueous samples. The aliquots for gross alpha and gross beta, radium-226, radium-228, and strontium-90 were prepared beyond the five-day analytical holding time for unpreserved samples; therefore, the results were qualified as estimated, "UJ," for nondetects and, "J," for detects. The aliquot for total uranium was prepared more than 3× beyond the five-day analytical holding time for unpreserved samples; therefore, the nondetected result was rejected, "R."

- 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. The 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. The opening KPA Low-CCV was recovered at 124%; however, as total uranium was not detected in the sample (see Blanks section), no qualification was required. All remaining KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: Total uranium was detected in the method blank at 0.496 pCi/L; therefore, total uranium detected in the sample was qualified as nondetected, "U." There were no other analytes detected in the method blanks.

- Blank Spikes and Laboratory Control Samples: The recoveries and radium-226 and radium-228 RPDs were within laboratory-established control limits.

- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for gross alpha and gross beta, and the gamma spectroscopy analytes. The RPDs were either within the laboratory-established control limit or within the measurement error.

- Matrix Spike/Matrix Spike Duplicate: Matrix spike analyses were performed on the sample in this SDG for gross alpha and gross beta. Both recoveries were within the laboratory-established control limits. Please note that although laboratory reported in the summary that the sample in this SDG had a tritium matrix spike performed, the matrix spike was performed on another sample.

- 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. Detects reported below the reporting limit were qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

  The laboratory originally analyzed for isotopic uranium instead of total uranium as required by the NPDES permit. The isotopic uranium results were, therefore, rejected, "R," in favor of the total uranium result.

- 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: ISL1605

Analysis Method ASTM 5174-91

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.479	0.677	0.21	pCi/L	Jb	R	B,H

Analysis Method EPA 245.1

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

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

Analysis Method EPA 245.1-Diss

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury, dissolved	7439-97-6	0.12	0.20	0.10	ug/l	J	J	DNQ

Analysis Method EPA 900.0 MOD

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

Lab Sample Name: ISL1605-02RE1 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	1.18	3	1	pCi/L	Jb	J	H,C,DNQ
Gross Beta	12587-47-2	4.7	4	1.5	pCi/L		J	H

Analysis Method EPA 901.1 MOD

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	0.05	20	17	pCi/L	U	U	
Potassium 40	13966-00-2	-50	0	300	pCi/L	U	U	

Analysis Method EPA 903.0 MOD

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium (226)	13982-63-3	0.15	1	0.24	pCi/L	U	UJ	H

Analysis Method EPA 904 MOD

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium 228	15262-20-1	0.06	1	0.95	pCi/L	U	UJ	H

Analysis Method EPA 905 MOD

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium 90	10098-97-2	0.76	3	0.55	pCi/L	Jb	J	H,DNQ

Analysis Method EPA 906.0 MOD

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028-17-8	34	500	160	pCi/L	U	U	

Analysis Method EPA-5 1613B

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

Lab Sample Name: ISL1605-02 **Sample Date:** 12/11/2009 12:54:00 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	0.000049	0.0000054	ug/L	J, Q, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.000049	0.0000035	ug/L	J, Q, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000049	0.0000055	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000049	0.000001	ug/L	J, B	U	B
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000049	0.00000067	ug/L	J, B	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000049	0.0000009	ug/L	J, Q, B	U	B
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000049	0.00000064	ug/L	J, B	U	B
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000049	0.00000086	ug/L	J, B	U	B
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000049	0.00000082	ug/L	J, B	U	B
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000049	0.0000015	ug/L	J, Q, B	U	B
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000049	0.0000011	ug/L	J, B	U	B
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000049	0.0000006	ug/L	J, Q, B	U	B
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000049	0.0000012	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.0000098	0.0000011	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.0000098	0.0000036	ug/L	CON	U	
OCDD	3268-87-9	ND	0.000098	0.0000016	ug/L	J, B	U	B
OCDF	39001-02-0	ND	0.000098	0.000002	ug/L	J, B	U	B
Total HpCDD	37871-00-4	ND	0.000049	0.0000054	ug/L	J, Q, B	U	B
Total HpCDF	38998-75-3	ND	0.000049	0.0000035	ug/L	J, Q, B	U	B
Total HxCDD	34465-46-8	7.8e-006	0.000049	0.00000086	ug/L	J, Q, B	J	B,*III,DNQ
Total HxCDF	55684-94-1	1.3e-005	0.000049	0.0000006	ug/L	J, Q, B	J	B,*III,DNQ
Total PeCDD	36088-22-9	ND	0.000049	0.0000015	ug/L	J, Q, B	U	B
Total PeCDF	30402-15-4	3.8e-006	0.000049	0.0000011	ug/L	J, Q, B	J	B,*III,DNQ
Total TCDD	41903-57-5	ND	0.0000098	0.0000011	ug/L		U	
Total TCDF	55722-27-5	ND	0.0000098	0.00000076	ug/L	J, Q, B	U	B

APPENDIX G

Section 5

Outfall 006, December 11, 2009

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

LABORATORY REPORT

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

Project: Routine Outfall 006

Sampled: 12/11/09
Received: 12/12/09
Issued: 01/25/10 14:45

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:	No significant observations were made.
SUBCONTRACTED:	Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID	CLIENT ID	MATRIX
ISL1605-01	Outfall 006 (Grab)	Water
ISL1605-02	Outfall 006 (Comp)	Water

Reviewed By:

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-01 (Outfall 006 (Grab) - Water)									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	9L22049	4.8	1.3	ND	1	12/22/2009	12/22/2009	

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1	9L14095	0.20	0.10	ND	1	12/14/2009	12/14/2009	
Antimony	EPA 200.8	9L14098	2.0	0.30	**0.31**	1	12/14/2009	12/16/2009	J
Cadmium	EPA 200.8	9L14098	1.0	0.10	**0.12**	1	12/14/2009	12/16/2009	J
Copper	EPA 200.8	9L14098	2.0	0.50	**3.5**	1	12/14/2009	12/16/2009	
Lead	EPA 200.8	9L14098	1.0	0.20	**2.7**	1	12/14/2009	12/16/2009	
Thallium	EPA 200.8	9L14098	1.0	0.20	ND	1	12/14/2009	12/16/2009	

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	9L17104	0.20	0.10	**0.12**	1	12/17/2009	12/17/2009	J
Antimony	EPA 200.8-Diss	9L16120	2.0	0.30	**0.47**	1	12/16/2009	12/23/2009	J
Cadmium	EPA 200.8-Diss	9L16120	1.0	0.10	ND	1	12/16/2009	12/21/2009	
Copper	EPA 200.8-Diss	9L16120	2.0	0.50	**2.5**	1	12/16/2009	12/21/2009	
Lead	EPA 200.8-Diss	9L16120	1.0	0.20	ND	1	12/16/2009	12/21/2009	
Thallium	EPA 200.8-Diss	9L16120	1.0	0.20	**0.53**	1	12/16/2009	12/21/2009	J

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

INORGANICS

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: mg/l									
Chloride	EPA 300.0	9L12027	0.50	0.25	**15**	1	12/12/2009	12/12/2009	
Nitrate/Nitrite-N	EPA 300.0	9L12027	0.26	0.15	**6.7**	1	12/12/2009	12/12/2009	
Sulfate	EPA 300.0	9L12027	0.50	0.20	**16**	1	12/12/2009	12/12/2009	
Total Dissolved Solids	SM2540C	9L17009	10	1.0	**180**	1	12/17/2009	12/17/2009	

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EPA-5 1613B

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	9358229	0.000049	0.0000054	**1e-005**	0.98	12/24/2009	12/30/2009	J, Q, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	9358229	0.000049	0.0000035	**1.1e-005**	0.98	12/24/2009	12/30/2009	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	9358229	0.000049	0.0000055	ND	0.98	12/24/2009	12/30/2009	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	9358229	0.000049	0.000001	**1.9e-006**	0.98	12/24/2009	12/30/2009	J, B
1,2,3,4,7,8-HxCDF	EPA-5 1613B	9358229	0.000049	0.0000006	**7.3e-006**	0.98	12/24/2009	12/30/2009	J, B
1,2,3,6,7,8-HxCDD	EPA-5 1613B	9358229	0.000049	0.0000009	**2.1e-006**	0.98	12/24/2009	12/30/2009	J, Q, B
1,2,3,6,7,8-HxCDF	EPA-5 1613B	9358229	0.000049	0.0000006	**2.4e-006**	0.98	12/24/2009	12/30/2009	J, B
1,2,3,7,8,9-HxCDD	EPA-5 1613B	9358229	0.000049	0.0000008	**1.5e-006**	0.98	12/24/2009	12/30/2009	J, B
1,2,3,7,8,9-HxCDF	EPA-5 1613B	9358229	0.000049	0.0000008	**1.8e-006**	0.98	12/24/2009	12/30/2009	J, B
1,2,3,7,8-PeCDD	EPA-5 1613B	9358229	0.000049	0.0000015	**1.5e-006**	0.98	12/24/2009	12/30/2009	J, Q, B
1,2,3,7,8-PeCDF	EPA-5 1613B	9358229	0.000049	0.0000011	**1.9e-006**	0.98	12/24/2009	12/30/2009	J, B
2,3,4,6,7,8-HxCDF	EPA-5 1613B	9358229	0.000049	0.0000006	**1.8e-006**	0.98	12/24/2009	12/30/2009	J, Q, B
2,3,4,7,8-PeCDF	EPA-5 1613B	9358229	0.000049	0.0000012	ND	0.98	12/24/2009	12/30/2009	
2,3,7,8-TCDD	EPA-5 1613B	9358229	0.000009	8.0000011	ND	0.98	12/24/2009	12/30/2009	
2,3,7,8-TCDF	EPA-5 1613B	9358229	0.000009	8.0000036	ND	0.98	12/24/2009	12/30/2009	CON
OCDD	EPA-5 1613B	9358229	0.000098	0.0000016	**9.6e-005**	0.98	12/24/2009	12/30/2009	J, B
OCDF	EPA-5 1613B	9358229	0.000098	0.000002	**3.5e-005**	0.98	12/24/2009	12/30/2009	J, B
Total HpCDD	EPA-5 1613B	9358229	0.000049	0.0000054	**2e-005**	0.98	12/24/2009	12/30/2009	J, Q, B
Total HpCDF	EPA-5 1613B	9358229	0.000049	0.0000035	**1.9e-005**	0.98	12/24/2009	12/30/2009	J, Q, B
Total HxCDD	EPA-5 1613B	9358229	0.000049	0.0000008	**7.8e-006**	0.98	12/24/2009	12/30/2009	J, Q, B
Total HxCDF	EPA-5 1613B	9358229	0.000049	0.0000006	**1.3e-005**	0.98	12/24/2009	12/30/2009	J, Q, B
Total PeCDD	EPA-5 1613B	9358229	0.000049	0.0000015	**1.5e-006**	0.98	12/24/2009	12/30/2009	J, Q, B
Total PeCDF	EPA-5 1613B	9358229	0.000049	0.0000011	**3.8e-006**	0.98	12/24/2009	12/30/2009	J, Q, B
Total TCDD	EPA-5 1613B	9358229	0.000009	8.0000011	ND	0.98	12/24/2009	12/30/2009	
Total TCDF	EPA-5 1613B	9358229	0.000009	8.0000007	**2.3e-006**	0.98	12/24/2009	12/30/2009	J, Q, B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)					*56 %*				
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)					*60 %*				
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)					*55 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)					*59 %*				
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)					*58 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)					*56 %*				
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)					*62 %*				
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)					*56 %*				
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)					*66 %*				
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)					*58 %*				
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)					*65 %*				
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)					*64 %*				
Surrogate: 13C-2,3,7,8-TCDD (25-164%)					*51 %*				
Surrogate: 13C-2,3,7,8-TCDF (24-169%)					*56 %*				
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)					*79 %*				
Surrogate: 13C-OCDD (17-157%)					*55 %*				

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ASTM 5174-91

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: pCi/L									
Total Uranium	ASTM 5174-91	15135	0.677	0.21	**0.479**	1	1/15/2010	1/18/2010	Jb

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EPA 900.0 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02RE1 (Outfall 006 (Comp) - Water)									
Reporting Units: pCi/L									
Gross Alpha	EPA 900.0 MOD	7155	3		**1.18**	1	1/7/2010	1/12/2010	Jb
Gross Beta	EPA 900.0 MOD	7155	4	1.5	**4.7**	1	1/7/2010	1/12/2010	

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EPA 901.1 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: pCi/L									
Cesium 137	EPA 901.1 MOD	9350109	20	17	**0.05**	1	12/16/2009	1/12/2010	U
Potassium 40	EPA 901.1 MOD	9350109	NA	300	**-50**	1	12/16/2009	1/12/2010	U

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EPA 903.0 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: pCi/L									
Radium (226)	EPA 903.0 MOD	9351242	1	0.24	**0.15**	1	12/17/2009	1/11/2010	U

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EPA 904 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: pCi/L									
Radium 228	EPA 904 MOD	9351244	1	0.95	**0.06**	1	12/17/2009	1/11/2010	U

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EPA 905 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: pCi/L									
Strontium 90	EPA 905 MOD	9351227	3	0.55	**0.76**	1	12/17/2009	12/29/2009	Jb

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EPA 906.0 MOD

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)									
Reporting Units: pCi/L									
Tritium	EPA 906.0 MOD	9365109	500	160	**34**	1	1/4/2010	1/5/2010	U

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SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 006 (Comp) (ISL1605-02) - Water					
EPA 300.0	2	12/11/2009 12:54	12/12/2009 17:40	12/12/2009 13:45	12/12/2009 13:50
Filtration	1	12/11/2009 12:54	12/12/2009 17:40	12/14/2009 17:11	12/14/2009 17:12

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METHOD BLANK/QC DATA

HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L22049 Extracted: 12/22/09										
Blank Analyzed: 12/22/2009 (9L22049-BLK1)										
Hexane Extractable Material (Oil & Grease)	ND	5.0	mg/l							
LCS Analyzed: 12/22/2009 (9L22049-BS1)										**MNR1**
Hexane Extractable Material (Oil & Grease)	19.2	5.0	mg/l	20.0		96	78-114			
LCS Dup Analyzed: 12/22/2009 (9L22049-BSD1)										
Hexane Extractable Material (Oil & Grease)	19.8	5.0	mg/l	20.0		99	78-114	3	11	

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L14095 Extracted: 12/14/09										
Blank Analyzed: 12/14/2009 (9L14095-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/14/2009 (9L14095-BS1)										
Mercury	8.16	0.20	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 12/14/2009 (9L14095-MS1)					**Source: ISL1164-01**					
Mercury	7.93	0.20	ug/l	8.00	ND	99	70-130			
Matrix Spike Dup Analyzed: 12/14/2009 (9L14095-MSD1)					**Source: ISL1164-01**					
Mercury	7.93	0.20	ug/l	8.00	ND	99	70-130	0	20	
Batch: 9L14098 Extracted: 12/14/09										
Blank Analyzed: 12/16/2009 (9L14098-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 12/16/2009 (9L14098-BS1)										
Antimony	84.5	2.0	ug/l	80.0		106	85-115			
Cadmium	83.3	1.0	ug/l	80.0		104	85-115			
Copper	79.3	2.0	ug/l	80.0		99	85-115			
Lead	76.6	1.0	ug/l	80.0		96	85-115			
Thallium	77.1	1.0	ug/l	80.0		96	85-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L14098 Extracted: 12/14/09										
Matrix Spike Analyzed: 12/16/2009 (9L14098-MS1)					**Source: ISL1366-01**					
Antimony	86.6	2.0	ug/l	80.0	0.373	108	70-130			
Cadmium	82.9	1.0	ug/l	80.0	ND	104	70-130			
Copper	79.9	2.0	ug/l	80.0	1.41	98	70-130			
Lead	74.6	1.0	ug/l	80.0	0.230	93	70-130			
Thallium	75.0	1.0	ug/l	80.0	ND	94	70-130			
Matrix Spike Dup Analyzed: 12/16/2009 (9L14098-MSD1)					**Source: ISL1366-01**					
Antimony	85.3	2.0	ug/l	80.0	0.373	106	70-130	1	20	
Cadmium	82.2	1.0	ug/l	80.0	ND	103	70-130	1	20	
Copper	78.9	2.0	ug/l	80.0	1.41	97	70-130	1	20	
Lead	74.0	1.0	ug/l	80.0	0.230	92	70-130	1	20	
Thallium	73.7	1.0	ug/l	80.0	ND	92	70-130	2	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L16120 Extracted: 12/16/09										
Blank Analyzed: 12/21/2009-12/23/2009 (9L16120-BLK1)										
Antimony	ND	2.0	ug/l							
Cadmium	ND	1.0	ug/l							
Copper	ND	2.0	ug/l							
Lead	ND	1.0	ug/l							
Thallium	ND	1.0	ug/l							
LCS Analyzed: 12/21/2009-12/23/2009 (9L16120-BS1)										
Antimony	81.2	2.0	ug/l	80.0		101	85-115			
Cadmium	77.7	1.0	ug/l	80.0		97	85-115			
Copper	82.7	2.0	ug/l	80.0		103	85-115			
Lead	76.4	1.0	ug/l	80.0		96	85-115			
Thallium	75.5	1.0	ug/l	80.0		94	85-115			
Matrix Spike Analyzed: 12/21/2009-12/23/2009 (9L16120-MS1)					**Source: ISL1709-01**					
Antimony	85.2	2.0	ug/l	80.0	ND	106	70-130			
Cadmium	73.8	1.0	ug/l	80.0	ND	92	70-130			
Copper	77.8	2.0	ug/l	80.0	1.57	95	70-130			
Lead	70.4	1.0	ug/l	80.0	ND	88	70-130			
Thallium	69.8	1.0	ug/l	80.0	0.349	87	70-130			
Matrix Spike Dup Analyzed: 12/21/2009-12/23/2009 (9L16120-MSD1)					**Source: ISL1709-01**					
Antimony	84.8	2.0	ug/l	80.0	ND	106	70-130	1	20	
Cadmium	70.8	1.0	ug/l	80.0	ND	89	70-130	4	20	
Copper	77.6	2.0	ug/l	80.0	1.57	95	70-130	0	20	
Lead	69.9	1.0	ug/l	80.0	ND	87	70-130	1	20	
Thallium	69.1	1.0	ug/l	80.0	0.349	86	70-130	1	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L17104 Extracted: 12/17/09										
Blank Analyzed: 12/17/2009 (9L17104-BLK1)										
Mercury	ND	0.20	ug/l							
LCS Analyzed: 12/17/2009 (9L17104-BS1)										
Mercury	8.22	0.20	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 12/17/2009 (9L17104-MS1)					**Source: ISL1531-01**					
Mercury	7.31	0.20	ug/l	8.00	ND	91	70-130			
Matrix Spike Dup Analyzed: 12/17/2009 (9L17104-MSD1)					**Source: ISL1531-01**					
Mercury	7.34	0.20	ug/l	8.00	ND	92	70-130	0	20	

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L12027 Extracted: 12/12/09										
Blank Analyzed: 12/12/2009 (9L12027-BLK1)										
Chloride	ND	0.50	mg/l							
Nitrate/Nitrite-N	ND	0.26	mg/l							
Sulfate	ND	0.50	mg/l							
LCS Analyzed: 12/12/2009 (9L12027-BS1)										
Chloride	4.88	0.50	mg/l	5.00		98	90-110			
Sulfate	10.1	0.50	mg/l	10.0		101	90-110			
Matrix Spike Analyzed: 12/12/2009 (9L12027-MS1)					**Source: ISL1592-01**					
Chloride	7.81	0.50	mg/l	5.00	2.11	114	80-120			
Sulfate	13.1	0.50	mg/l	10.0	2.18	109	80-120			
Matrix Spike Dup Analyzed: 12/12/2009 (9L12027-MSD1)					**Source: ISL1592-01**					
Chloride	7.66	0.50	mg/l	5.00	2.11	111	80-120	2	20	
Sulfate	13.4	0.50	mg/l	10.0	2.18	112	80-120	2	20	
Batch: 9L17009 Extracted: 12/17/09										
Blank Analyzed: 12/17/2009 (9L17009-BLK1)										
Total Dissolved Solids	ND	10	mg/l							
LCS Analyzed: 12/17/2009 (9L17009-BS1)										
Total Dissolved Solids	1010	10	mg/l	1000		101	90-110			
Duplicate Analyzed: 12/17/2009 (9L17009-DUP1)					**Source: ISL1700-02**					
Total Dissolved Solids	276	10	mg/l		272			1	10	

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METHOD BLANK/QC DATA

EPA-5 1613B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9358229 Extracted: 12/24/09										
Blank Analyzed: 12/29/2009 (G9L240000229B)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00004	0.00005	ug/L				-			*J*
1,2,3,4,6,7,8-HpCDF	0.00004	0.00005	ug/L				-			*J*
1,2,3,4,7,8,9-HpCDF	0.000038	0.00005	ug/L				-			*J*
1,2,3,4,7,8-HxCDD	0.000032	0.00005	ug/L				-			*J*
1,2,3,4,7,8-HxCDF	0.000033	0.00005	ug/L				-			*J*
1,2,3,6,7,8-HxCDD	0.000031	0.00005	ug/L				-			*J*
1,2,3,6,7,8-HxCDF	0.00003	0.00005	ug/L				-			*J*
1,2,3,7,8,9-HxCDD	0.000033	0.00005	ug/L				-			*J*
1,2,3,7,8,9-HxCDF	0.000031	0.00005	ug/L				-			*J*
1,2,3,7,8-PeCDD	0.000024	0.00005	ug/L				-			*J*
1,2,3,7,8-PeCDF	0.000021	0.00005	ug/L				-			*J*
2,3,4,6,7,8-HxCDF	0.000029	0.00005	ug/L				-			*J*
2,3,4,7,8-PeCDF	0.000025	0.00005	ug/L				-			*J*
2,3,7,8-TCDD	0.0000027	0.00001	ug/L				-			*J, Q*
2,3,7,8-TCDF	ND	0.00001	ug/L				-			*CON*
OCDD	0.000096	0.0001	ug/L				-			*J*
OCDF	0.000085	0.0001	ug/L				-			*J*
Total HpCDD	0.000043	0.00005	ug/L				-			*J*
Total HpCDF	0.000081	0.00005	ug/L				-			*J*
Total HxCDD	0.000096	0.00005	ug/L				-			*J*
Total HxCDF	0.00012	0.00005	ug/L				-			*J, Q*
Total PeCDD	0.000025	0.00005	ug/L				-			*J, Q*
Total PeCDF	0.000047	0.00005	ug/L				-			*J, Q*
Total TCDD	0.0000055	0.00001	ug/L				-			*J, Q*
Total TCDF	0.000012	0.00001	ug/L				-			*J, Q*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*1400*		*ug/L*	*2000*		*72*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*1400*		*ug/L*	*2000*		*71*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*1400*		*ug/L*	*2000*		*70*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*1300*		*ug/L*	*2000*		*66*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*1300*		*ug/L*	*2000*		*67*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*1400*		*ug/L*	*2000*		*68*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*1400*		*ug/L*	*2000*		*71*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*1400*		*ug/L*	*2000*		*70*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*1100*		*ug/L*	*2000*		*57*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*1100*		*ug/L*	*2000*		*57*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*1500*		*ug/L*	*2000*		*73*	*28-136*			

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METHOD BLANK/QC DATA

EPA-5 1613B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9358229 Extracted: 12/24/09										
Blank Analyzed: 12/29/2009 (G9L240000229B)					**Source:**					
Surrogate: 13C-2,3,4,7,8-PeCDF	*1200*		*ug/L*	*2000*		*59*	*21-178*			
Surrogate: 13C-2,3,7,8-TCDD	*1200*		*ug/L*	*2000*		*61*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*1200*		*ug/L*	*2000*		*62*	*24-169*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.00061*		*ug/L*	*0.0008*		*77*	*35-197*			
Surrogate: 13C-OCDD	*2800*		*ug/L*	*4000*		*70*	*17-157*			
LCS Analyzed: 12/29/2009 (G9L240000229C)					**Source:**					
1,2,3,4,6,7,8-HpCDD	0.00093	0.00005	ug/L	0.001		93	70-140			*B*
1,2,3,4,6,7,8-HpCDF	0.000924	0.00005	ug/L	0.001		92	82-122			*B*
1,2,3,4,7,8,9-HpCDF	0.000939	0.00005	ug/L	0.001		94	78-138			*B*
1,2,3,4,7,8-HxCDD	0.000967	0.00005	ug/L	0.001		97	70-164			*B*
1,2,3,4,7,8-HxCDF	0.000987	0.00005	ug/L	0.001		99	72-134			*B*
1,2,3,6,7,8-HxCDD	0.000955	0.00005	ug/L	0.001		95	76-134			*B*
1,2,3,6,7,8-HxCDF	0.000944	0.00005	ug/L	0.001		94	84-130			*B*
1,2,3,7,8,9-HxCDD	0.00098	0.00005	ug/L	0.001		98	64-162			*B*
1,2,3,7,8,9-HxCDF	0.000942	0.00005	ug/L	0.001		94	78-130			*B*
1,2,3,7,8-PeCDD	0.000947	0.00005	ug/L	0.001		95	70-142			*B*
1,2,3,7,8-PeCDF	0.00097	0.00005	ug/L	0.001		97	80-134			*B*
2,3,4,6,7,8-HxCDF	0.00096	0.00005	ug/L	0.001		96	70-156			*B*
2,3,4,7,8-PeCDF	0.000961	0.00005	ug/L	0.001		96	68-160			*B*
2,3,7,8-TCDD	0.000187	0.00001	ug/L	0.0002		93	67-158			*B*
2,3,7,8-TCDF	0.000184	0.00001	ug/L	0.0002		92	75-158			
OCDD	0.00185	0.0001	ug/L	0.002		93	78-144			*B*
OCDF	0.00186	0.0001	ug/L	0.002		93	63-170			*B*
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	*0.00134*		*ug/L*	*2000*		*67*	*23-140*			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	*0.0014*		*ug/L*	*2000*		*70*	*28-143*			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	*0.0013*		*ug/L*	*2000*		*65*	*26-138*			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	*0.0013*		*ug/L*	*2000*		*65*	*32-141*			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	*0.00133*		*ug/L*	*2000*		*66*	*26-152*			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	*0.00135*		*ug/L*	*2000*		*67*	*28-130*			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	*0.00142*		*ug/L*	*2000*		*71*	*26-123*			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	*0.00135*		*ug/L*	*2000*		*67*	*29-147*			
Surrogate: 13C-1,2,3,7,8-PeCDD	*0.00113*		*ug/L*	*2000*		*57*	*25-181*			
Surrogate: 13C-1,2,3,7,8-PeCDF	*0.00115*		*ug/L*	*2000*		*57*	*24-185*			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	*0.00142*		*ug/L*	*2000*		*71*	*28-136*			
Surrogate: 13C-2,3,4,7,8-PeCDF	*0.00118*		*ug/L*	*2000*		*59*	*21-178*			

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METHOD BLANK/QC DATA

EPA-5 1613B

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9358229 Extracted: 12/24/09										
LCS Analyzed: 12/29/2009 (G9L240000229C)					**Source:**					
Surrogate: 13C-2,3,7,8-TCDD	*0.00127*		*ug/L*	*2000*		*63*	*25-164*			
Surrogate: 13C-2,3,7,8-TCDF	*0.00131*		*ug/L*	*2000*		*66*	*24-169*			
Surrogate: 37Cl4-2,3,7,8-TCDD	*0.000616*		*ug/L*	*0.0008*		*77*	*35-197*			
Surrogate: 13C-OCDD	*0.00253*		*ug/L*	*4000*		*63*	*17-157*			

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METHOD BLANK/QC DATA

ASTM 5174-91

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 15135 Extracted: 01/15/10										
Blank Analyzed: 01/18/2010 (F0A150000135B)					**Source:**					
Total Uranium	0.496	0.677	pCi/L				-			*Jb*
LCS Analyzed: 01/18/2010 (F0A150000135C)					**Source:**					
Total Uranium	6.18	0.68	pCi/L	5.42		114	90-120			
Matrix Spike Dup Analyzed: 01/18/2010 (F9L100528001D)					**Source: F9L100528001**					
Total Uranium	29	0.7	pCi/L	27.1	0.443	105	62-150	2	20	
Matrix Spike Analyzed: 01/18/2010 (F9L100528001S)					**Source: F9L100528001**					
Total Uranium	29.4	0.7	pCi/L	27.1	0.443	107	62-150			

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METHOD BLANK/QC DATA

EPA 900.0 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7155 Extracted: 01/07/10										
Blank Analyzed: 01/12/2010 (F0A070000155B)					**Source:**					
Gross Alpha	0.04	2	pCi/L				-			*U*
Gross Beta	-2.91	4	pCi/L				-			*U*
LCS Analyzed: 01/12/2010 (F0A070000155C)					**Source:**					
Gross Alpha	47.5	3	pCi/L	49.4		96	62-134			
Gross Beta	77.8	4	pCi/L	68.3		114	58-133			
Matrix Spike Analyzed: 01/12/2010 (F9L150498001S)					**Source: ISL1605-02**					
Gross Alpha	29.4	3	pCi/L	49.4	1.18	57	35-150			
Gross Beta	79.5	4	pCi/L	68.3	4.7	110	54-150			
Duplicate Analyzed: 01/12/2010 (F9L150498001X)					**Source: ISL1605-02**					
Gross Alpha	1.8	3	pCi/L		1.18		-			*Jb*
Gross Beta	4.4	4	pCi/L		4.7		-			

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METHOD BLANK/QC DATA

EPA 901.1 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9350109 Extracted: 12/16/09										
Duplicate Analyzed: 01/09/2010 (F9L150498001X)					**Source: ISL1605-02**					
Antimony 125	7	NA	pCi/L				-			*U*
Barium 133	-2.6	NA	pCi/L				-			*U*
Cesium 134	0.2	NA	pCi/L				-			*U*
Cobalt 60	-3.9	NA	pCi/L				-			*U*
Europium 152	0.7	NA	pCi/L				-			*U*
Europium 154	-15	NA	pCi/L				-			*U*
Europium 155	3	NA	pCi/L				-			*U*
Manganese 54	-0.7	NA	pCi/L				-			*U*
Sodium 22	0	NA	pCi/L				-			*U*
Cesium 137	2.4	20	pCi/L		0.05		-			*U*
Potassium 40	-80	NA	pCi/L		-50		-			*U*
Blank Analyzed: 01/09/2010 (F9L160000109B)					**Source:**					
Cesium 137	2.6	20	pCi/L				-			*U*
Potassium 40	-100	NA	pCi/L				-			*U*
LCS Analyzed: 01/09/2010 (F9L160000109C)					**Source:**					
Americium 241	132000	NA	pCi/L	141000		94	90-110			
Cobalt 60	78700	NA	pCi/L	87900		90	90-110			*a*
Cesium 137	48500	20	pCi/L	53100		91	90-110			

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METHOD BLANK/QC DATA

EPA 903.0 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9351242 Extracted: 12/17/09										
Blank Analyzed: 01/11/2010 (F9L170000242B)					**Source:**					
Radium (226)	0.05	1	pCi/L				-			*U*
LCS Analyzed: 01/11/2010 (F9L170000242C)					**Source:**					
Radium (226)	10.9	1	pCi/L	11.3		97	45-150			
LCS Dup Analyzed: 01/11/2010 (F9L170000242L)					**Source:**					
Radium (226)	10.6	1	pCi/L	11.3		95	45-150	2	40	

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METHOD BLANK/QC DATA

EPA 904 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9351244 Extracted: 12/17/09										
Blank Analyzed: 01/11/2010 (F9L170000244B)					**Source:**					
Radium 228	0.16	1	pCi/L				-			*U*
LCS Analyzed: 01/11/2010 (F9L170000244C)					**Source:**					
Radium 228	6.98	1	pCi/L	6.51		107	64-150			
LCS Dup Analyzed: 01/11/2010 (F9L170000244L)					**Source:**					
Radium 228	7.39	1	pCi/L	6.51		113	64-150	6	40	

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METHOD BLANK/QC DATA

EPA 905 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9351227 Extracted: 12/17/09										
Matrix Spike Dup Analyzed: 12/29/2009 (F9L160444007D)					**Source: F9L160444007**					
Strontium 90	10.1	3	pCi/L	7	3.4	96	80-120	18	20	
Matrix Spike Analyzed: 12/29/2009 (F9L160444007S)					**Source: F9L160444007**					
Strontium 90	12.1	3	pCi/L	7.01	3.4	125	80-120			*a*
Blank Analyzed: 12/29/2009 (F9L170000227B)					**Source:**					
Strontium 90	0.13	3	pCi/L				-			*U*
LCS Analyzed: 12/29/2009 (F9L170000227C)					**Source:**					
Strontium 90	8.23	3	pCi/L	6.82		121	90-143			

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METHOD BLANK/QC DATA

EPA 906.0 MOD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9365109 Extracted: 01/04/10										
Duplicate Analyzed: 01/04/2010 (F9L100525001X)					**Source: F9L100525001**					
Tritium	34	500	pCi/L		-26		-			*U*
Matrix Spike Analyzed: 01/04/2010 (F9L100528001S)					**Source: F9L100528001**					
Tritium	4360	500	pCi/L	4560	-6	96	62-147			
Blank Analyzed: 01/04/2010 (F9L310000109B)					**Source:**					
Tritium	120	500	pCi/L				-			*U*
LCS Analyzed: 01/04/2010 (F9L310000109C)					**Source:**					
Tritium	4380	500	pCi/L	4560		96	85-112			

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

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

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

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
ISL1605-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0.29	4.8	15

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ISL1605-02	Antimony-200.8	Antimony	ug/l	0.31	2.0	6
ISL1605-02	Cadmium-200.8	Cadmium	ug/l	0.12	1.0	4
ISL1605-02	Chloride - 300.0	Chloride	mg/l	15	0.50	150
ISL1605-02	Copper-200.8	Copper	ug/l	3.52	2.0	14
ISL1605-02	Lead-200.8	Lead	ug/l	2.74	1.0	5.2
ISL1605-02	Mercury - 245.1	Mercury	ug/l	0.041	0.20	0.2
ISL1605-02	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	6.70	0.26	10
ISL1605-02	Sulfate-300.0	Sulfate	mg/l	16	0.50	250
ISL1605-02	TDS - SM2540C	Total Dissolved Solids	mg/l	176	10	850
ISL1605-02	Thallium-200.8	Thallium	ug/l	0.029	1.0	2

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit

TestAmerica Irvine

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

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

DATA QUALIFIERS AND DEFINITIONS

a	Spiked analyte outside of stated QC limits.
B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
CON	Confirmation analysis.
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
Jb	Result is greater than sample detection limit but less than stated reporting limit.
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	Result is less than the sample detection limit.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
Filtration	Water	N/A	N/A
SM2540C	Water	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: ISL1605-02

Analysis Performed: EDD + Level 4
Samples: ISL1605-02

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

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

Project ID: Routine Outfall 006
Report Number: ISL1605

Sampled: 12/11/09
Received: 12/12/09

TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Method Performed: ASTM 5174-91
Samples: ISL1605-02

Method Performed: EPA 900.0 MOD
Samples: ISL1605-02RE1

Method Performed: EPA 901.1 MOD
Samples: ISL1605-02

Method Performed: EPA 903.0 MOD
Samples: ISL1605-02

Method Performed: EPA 904 MOD
Samples: ISL1605-02

Method Performed: EPA 905 MOD
Samples: ISL1605-02

Method Performed: EPA 906.0 MOD
Samples: ISL1605-02

TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B
Samples: ISL1605-02

TestAmerica Irvine

Kathleen A. Robb For Joseph Doak
Project Manager

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

IS 4605

Client Name/Address:	Project:
MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak	Boeing-SSFL NPDES **Routine Outfall 006** **GRAB** Stormwater at FSDF-2
Project Manager: Bronwyn Kelly Sampler: S Davison	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED: Oil & Grease (1664-HEM)	Field readings / Comments
Outfall 006	W	1L Amber	2	12-11-09 1058	HCl	1A, 1B	X	Field readings: Temp °F = 53.4 pH = 6.35 Time of readings = 1050 **Comments**

These Samples are the Grab Portion of Outfall 006 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/11/09 14:10	[signature]	12-11-09 14:10
[signature]	12-11-09 17:40	[signature]	12/11/09 1740

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

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

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

M111 25

CHAIN OF CUSTODY FORM

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

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES
~~Semi-Annual~~ Outfall 006
COMPOSITE
Stormwater at FSDF-2

Project Manager: Bronwyn Kelly

Sampler: SDawson

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl⁻, SO_4, NO_3+NO_2-N, ~~Perchlorate~~	TDS	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**	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl							**Comments**
Outfall 006	W	1L Poly	1	12/11/09 1254	HNO_3	2A	X													
Outfall 006 Dup	W	1L Poly	1		HNO_3	2B	X													
Outfall 006	W	1L Amber	2		None	3A, 3B		X												
Outfall 006	W	500 mL Poly	2		None	4A, 4B			X											
Outfall 006	W	500 mL Poly	1		None	5				X										
Outfall 006	W	2.5 Gal Cube	1		None	6A					X									Unfiltered and unpreserved analysis
		500 ml Amber	1		None	6B														
Outfall 006	W	1 Gal Poly	1		None	7						X								**Only test if first or second rain events of the year**
Outfall 006	W	1L Poly	1	12/11/09 1254	None	8							X							Filter w/in 24hrs of receipt at lab

COC Page 2 of 2 are the composite samples for Outfall 006 for this storm event.
These must be added to the same work order for COC Page 1 of 2 for Outfall 006 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/11/09 14:10	[signature]	12-11-09 14:10
[signature]	12-11-09 17:40	[signature]	12/11/09 17:40
[signature]			

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

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

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

MS
12-12-09
10:35

CHAIN OF CUSTODY FORM

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

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES
~~Semi-Annual~~ Outfall 006
COMPOSITE
Stormwater at FSDF-2

Project Manager: Bronwyn Kelly

Sampler: SDawson

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

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N, ~~Perchlorate~~	TDS	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**	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl							Comments
Outfall 006	W	1L Poly	1	12/11/09 1254	HNO_3	2A	X													
Outfall 006 Dup	W	1L Poly	1		HNO_3	2B	X													
Outfall 006	W	1L Amber	2		None	3A, 3B		X												
Outfall 006	W	500 mL Poly	2		None	4A, 4B			X											
Outfall 006	W	500 mL Poly	1		None	5				X										
Outfall 006	W	2.5 Gal Cube	1		None	6A					X									Unfiltered and unpreserved analysis
		500 ml Amber	1		None	6B														
Outfall 006	W	1 Gal Poly	1		None	7						X								**Only test if first or second rain events of the year**
Outfall 006	W	1L Poly	1	12/11/09 1254	None	8							X							Filter w/in 24hrs of receipt at lab

COC Page 2 of 2 are the composite samples for Outfall 006 for this storm event.
These must be added to the same work order for COC Page 1 of 2 for Outfall 006 for the same event.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/11/09 14:10	[signature]	12-11-09 14:10
[signature]	12-11-09 17:40	[signature]	12/11/09 17:40
	Date/Time:		Date/Time:

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

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

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

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

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

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES
Routine Outfall 006
GRAB
Stormwater at FSDF-2

Project Manager: Bronwyn Kelly

Sampler: S Dawson

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

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)
Outfall 006	W	1L Amber	2	12-11-09 1050	HCl	TA TB	X

Field readings:

Temp °F = 53.4

pH = 6.35

Time of readings = 1050

Comments

These Samples are the Grab Portion of Outfall 006 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/11/09 14:10	[signature]	12-11-09 14:10
[signature]	12-11-09 17:40	[signature]	12/11/09 17:40

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

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

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

M111 25

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

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

Test America Contact: Joseph Doak

Project:
Boeing-SSFL NPDES
Routine Outfall 006
GRAB
Stormwater at FSDF-2

Project Manager: Bronwyn Kelly

Sampler: S Dawson

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)	Comments
Outfall 006	W	1L Amber	2	12-11-09 1050	HCl	1A, 1B	X	

ANALYSIS REQUIRED

Field readings:

Temp °F = 53.4

pH = ~~6.5~~ 6.4 SW

Time of readings = 1050

These Samples are the Grab Portion of Outfall 006 for this storm event. Composite samples will follow and are to be added to this work order.

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/11/09 14:10	[signature]	12-11-09 14:10
Relinquished By	Date/Time:	Received By	Date/Time:
Relinquished By	Date/Time:	Received By	Date/Time:

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

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

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: Joseph Doak	Boeing-SSFL NPDES ~~Semi-Annual~~ Outfall 006 COMPOSITE Stormwater at FSDF-2
Project Manager: Bronwyn Kelly Sampler: SDawson	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

SD Rollup

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl, SO_4, NO_3+NO_2-N, ~~Perchlorate~~	TDS	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	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Comments
Outfall 006	W	1L Poly	1	12/11/09 1254	HNO_3	2A	X							
Outfall 006 Dup	W	1L Poly	1		HNO_3	2B	X							
Outfall 006	W	1L Amber	2		None	3A, 3B		X						
Outfall 006	W	500 mL Poly	2		None	4A, 4B			X					
Outfall 006	W	500 mL Poly	1		None	5				X				
Outfall 006	W	2.5 Gal Cube	1		None	6A					X			Unfiltered and unpreserved analysis
		500 ml Amber	1		None	6B								
Outfall 006	W	1 Gal Poly	1		None	7						X		Only test if first or second rain events of the year
Outfall 006	W	1L Poly	1	12/11/09 1254	None	8							X	Filter w/in 24hrs of receipt at lab

COC Page 2 of 2 are the composite samples for Outfall 006 for this storm event.

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

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/11/09 14:10	[signature]	12/11/09 14:10
Relinquished By	Date/Time:	Received By	Date/Time:
Relinquished By	Date/Time:	Received By	Date/Time:

Turn-around time: (Check)

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

48 Hour: _____ 5 Day: _____ Normal _____

Sample Integrity: (Check)

Intact: _____ On Ice: X

Data Requirements: (Check)

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

LABORATORY REPORT

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

Date: December 20, 2009

Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Joseph Doak

Laboratory No.: A-09121203-001
Sample I.D.: ISL1605-02 (Outfall 006)

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

Date Sampled:	12/11/09
Date Received:	12/12/09
Temp. Received:	1.0°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	12/12/09 to 12/19/09

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-09121203-001
Client/ID: Test America – ISL1605-02 (Outfall 006)

Date Tested: 12/12/09 to 12/19/09

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-091208.

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%	25.5
100% Sample	100%	35.6
* Sample not statistically significantly less than Control.		

CHRONIC TOXICITY

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

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (25.5 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 14.7%)
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:	12/12/2009 15:00	Test ID:	9121203c	Sample ID:	ISL1605-02
End Date:	12/19/2009 15:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/11/2009 12:54	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

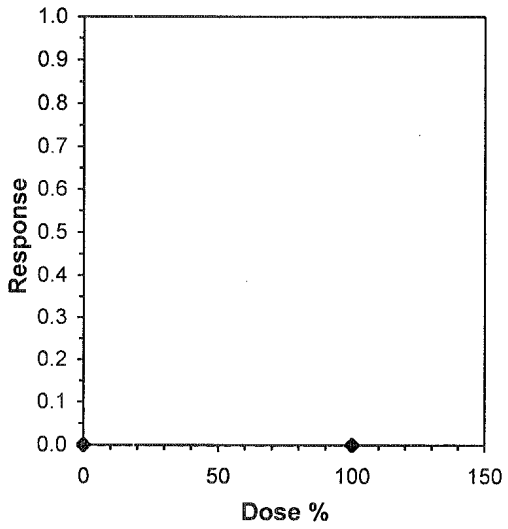
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	12/12/2009 15:00	Test ID:	9121203c	Sample ID:	ISL1605-02
End Date:	12/19/2009 15:30	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	EFF2-Industrial
Sample Date:	12/11/2009 12:54	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	28.000	30.000	24.000	28.000	16.000	24.000	23.000	31.000	16.000	35.000
100	39.000	33.000	35.000	39.000	38.000	34.000	39.000	35.000	32.000	32.000

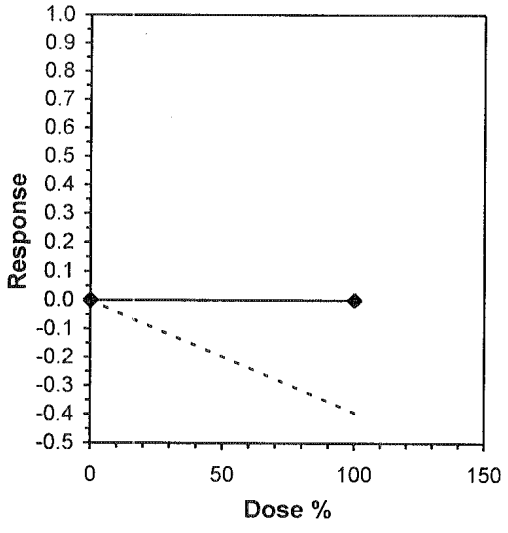
			Transform: Untransformed						1-Tailed		Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	25.500	1.0000	25.500	16.000	35.000	24.262	10				30.550	1.0000
100	35.600	1.3961	35.600	32.000	39.000	8.184	10	-4.670	1.734	3.750	30.550	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.95141	0.905	-0.3223	0.39266
F-Test indicates equal variances (p = 0.04)	4.50916	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	3.75002	0.14706	510.05	23.3833	1.9E-04	1, 18

Linear Interpolation (200 Resamples)

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



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A09121203-001
Client ID: TA ISL1605-02

Start Date: 12/12/2009

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:															
Time of Readings:		1500	1500	1500	1500	1500	1600	1600	1500	1500	1430	1430	1530	1530	1530
Control	DO	8.0	8.1	8.2	7.9	8.3	8.4	8.6	8.1	8.3	8.0	8.4	8.1	8.3	8.4
	pH	7.8	7.7	7.9	7.7	7.6	7.5	7.6	7.7	7.7	7.9	8.0	7.7	7.9	7.9
	Temp	25.9	25.6	25.7	24.4	24.7	24.6	25.8	25.2	25.6	24.6	25.4	24.5	25.5	24.9
100%	DO	10.1	8.0	9.3	7.3	9.1	7.8	11.0	8.1	10.2	8.1	9.8	8.0	10.0	8.6
	pH	6.4	7.0	6.7	7.4	7.1	7.3	6.7	7.3	6.6	7.8	6.8	7.4	6.9	7.8
	Temp	25.3	25.2	25.0	24.4	24.8	24.8	25.3	25.0	25.0	24.8	24.8	24.7	25.0	25.1

Additional Parameters	Control	100% Sample
Conductivity (umohms)	328	215
Alkalinity (mg/l $CaCO_3$)	71	38
Hardness (mg/l $CaCO_3$)	94	44
Ammonia (mg/l NH_3-N)	<0.2	0.3

Source of Neonates

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

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	0	0	0	0	0	0	0	0	0	10	
	4	6	5	6	6	6	3	3	4	4	6	49	10	
	5	7	11	10	8	10	6	12	13	12	14	103	10	
	6	0	0	8	14	0	0	8	0	0	0	30	10	
	7	15	14	0	0	0	15	0	14	0	15	73	10	
	Total	28	30	24	28	16	24	23	31	16	35	255	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	0	0	0	6	0	0	0	6	10	
	4	5	5	3	5	6	5	0	5	5	4	43	10	
	5	14	11	13	15	13	9	12	12	10	10	119	10	
	6	20	17	19	19	19	20	21	18	17	18	188	10	
	7	0	0	0	0	0	0	(15)	0	0	0	0	10	
	Total	39	33	35	39	38	34	39	35	32	32	356	10	

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

SUBCONTRACT ORDER
TestAmerica Irvine

ISL1605

SENDING LABORATORY:

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

RECEIVING LABORATORY:

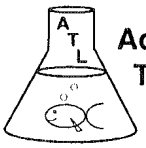
Aquatic Testing Laboratories-SUB
4350 Transport Street, Unit 107
Ventura, CA 93003
Phone :(805) 650-0546
Fax: (805) 650-0756
Project Location: CA - CALIFORNIA
Receipt Temperature: ____ °C Ice: (Y) / N

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

Analysis	Units	Expires	Comments
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)		Sampled: 12/11/09 12:54	
Bioassay-7 dy Chrnic	N/A	12/13/09 00:54	Cerio, EPA/821-R02-013, Sub to Aquatic testing
EDD + Level 4	N/A	01/08/10 12:54	Excel EDD email to pm,Include Std logs for Lvl IV

Containers Supplied:
1 gal Poly (J)

Released By	12/12/09 1150 Date/Time	Received By	12/12/09 1150 Date/Time
Released By	12/12/09 1340 Date/Time	Received By	12-12-09 1400 Date/Time



Aquatic
Testing
Laboratories

REFERENCE TOXICANT DATA

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-091208

Date Tested: 12/08/09 to 12/15/09

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: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		21.4	
0.25 g/l	100%		24.2	
0.5 g/l	100%		23.7	
1.0 g/l	100%		11.9	*
2.0 g/l	80%		3.4	*
4.0 g/l	0%	*	0	**

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

CHRONIC TOXICITY

Survival LC50	2.5 g/l
Reproduction IC25	0.76 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (21.4 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 10.5%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 44.4%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date:	12/8/2009 15:00	Test ID:	RT091208c	Sample ID:	REF-Ref Toxicant
End Date:	12/15/2009 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/8/2009	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

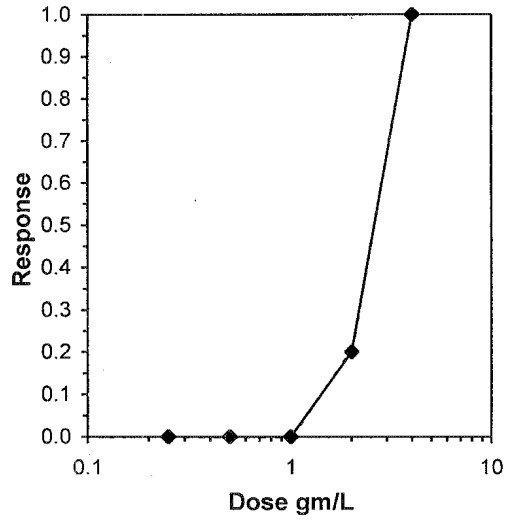
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	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
B-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	0.8000	0.8000	2	8	10	10	0.2368	0.0500	2	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 B-Control				

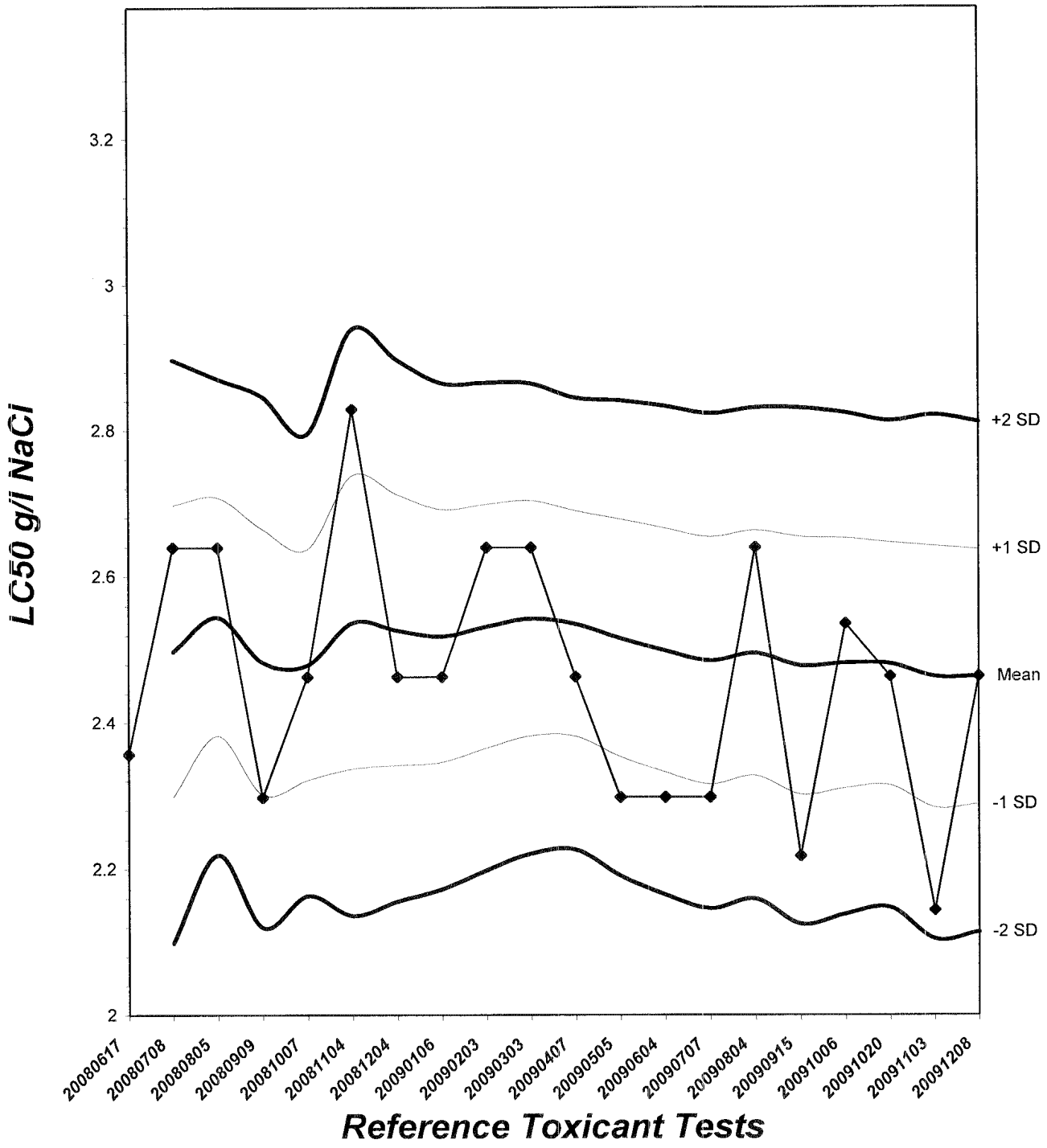
Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	2.4623	2.0663	2.9342
5.0%	2.5108	2.0545	3.0683
10.0%	2.5519	1.9976	3.2599
20.0%	2.5937	2.2616	2.9745
Auto-0.0%	2.4623	2.0663	2.9342



Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 7.08



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	12/8/2009 15:00	Test ID:	RT091208c	Sample ID:	REF-Ref Toxicant
End Date:	12/15/2009 14:00	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	12/8/2009	Protocol:	FWCH EPA	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
B-Control	20.000	19.000	20.000	24.000	20.000	21.000	24.000	21.000	23.000	22.000
0.25	27.000	25.000	26.000	24.000	21.000	24.000	26.000	25.000	20.000	24.000
0.5	24.000	20.000	27.000	24.000	25.000	22.000	22.000	25.000	23.000	25.000
1	12.000	13.000	17.000	9.000	15.000	13.000	8.000	8.000	9.000	15.000
2	5.000	3.000	2.000	3.000	7.000	2.000	2.000	2.000	5.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

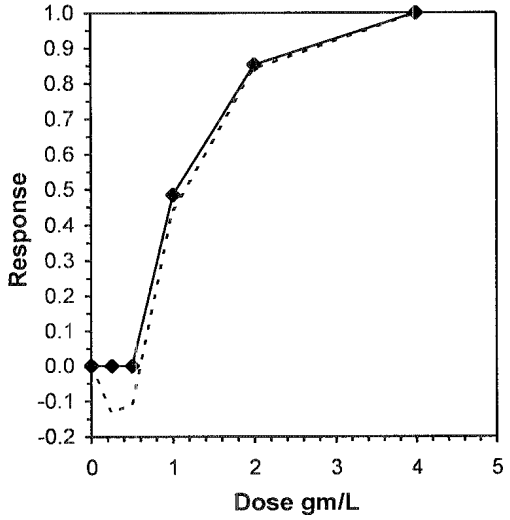
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
B-Control	21.400	1.0000	21.400	19.000	24.000	8.301	10				23.100	1.0000
0.25	24.200	1.1308	24.200	20.000	27.000	9.095	10	-2.773	2.223	2.245	23.100	1.0000
0.5	23.700	1.1075	23.700	20.000	27.000	8.451	10	-2.278	2.223	2.245	23.100	1.0000
*1	11.900	0.5561	11.900	8.000	17.000	27.288	10	9.408	2.223	2.245	11.900	0.5152
*2	3.400	0.1589	3.400	2.000	7.000	50.373	10	17.827	2.223	2.245	3.400	0.1472
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)	0.9759	0.947	-0.0043	-0.4159
Bartlett's Test indicates equal variances (p = 0.27)	5.13764	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs B-Control	0.5	1	0.70711		2.24497	0.10491	817.57	5.09778	5.2E-26	4, 45

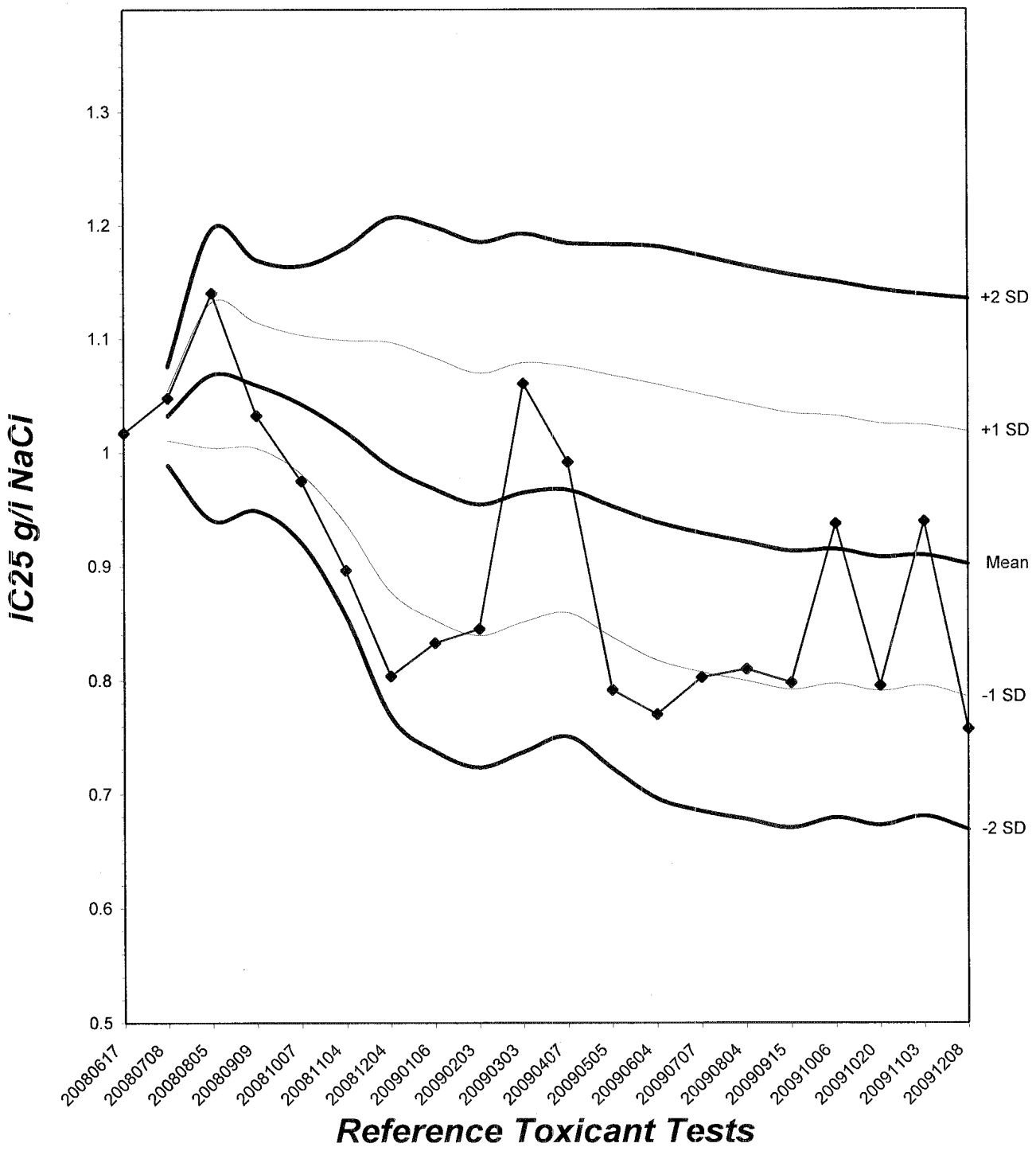
Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05	0.5516	0.0118	0.5284	0.5608	-5.4562
IC10	0.6031	0.0119	0.5774	0.6216	-1.4663
IC15	0.6547	0.0152	0.6281	0.6825	-0.4551
IC20	0.7063	0.0190	0.6734	0.7433	-0.0416
IC25	0.7578	0.0230	0.7215	0.8041	0.1328
IC40	0.9125	0.0358	0.8551	0.9866	0.3331
IC50	1.0412	0.0766	0.9444	1.2179	0.3935



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 12.9



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

Aquatic Testing Laboratories

QA/QC No.: RT-091208

Start Date:12/08/2009

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	0	0	0	0	0	0	0	0	0	10	
	4	3	4	2	3	4	3	3	4	3	3	32	10	
	5	8	7	6	7	0	0	9	7	8	7	59	10	
	6	9	8	0	0	6	7	12	10	0	12	64	10	
	7	0	(14)	12	14	10	11	0	0	12	0	59	10	
	Total	20	19	20	24	20	21	24	21	23	22	214	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	0	0	0	0	0	0	0	0	0	10	
	4	3	4	4	2	4	3	3	4	0	3	30	10	
	5	0	9	7	8	0	7	8	9	4	8	60	10	
	6	8	12	0	14	6	14	15	12	6	13	100	10	
	7	16	0	15	0	11	0	0	0	10	0	52	10	
	Total	27	25	26	24	21	24	26	25	20	24	242	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	4	0	0	0	0	0	0	0	0	3	7	10	
	4	0	4	3	3	4	3	2	4	3	0	26	10	
	5	8	0	9	0	7	0	9	0	8	7	48	10	
	6	12	6	15	7	14	7	0	7	0	15	83	10	
	7	0	10	0	14	0	12	11	14	12	0	73	10	
	Total	24	20	27	24	25	22	22	25	23	25	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-091208

Start Date:12/08/2009

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	3	3	10	
	4	3	4	2	2	3	4	4	4	3	0	29	10	
	5	0	3	5	0	6	5	0	0	0	4	23	10	
	6	4	0	0	3	0	0	4	4	6	0	21	10	
	7	5	6	10	4	6	4	0	0	0	8	43	10	
	Total	12	13	17	9	15	13	8	8	9	15	119	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	3	0	0	0	2	2	0	0	3	0	10	10	
	5	0	3	2	0	0	X	2	0	0	3	10	9	
	6	2	0	X	3	2	-	0	2	0	0	9	8	
	7	0	0	-	0	3	-	0	0	2	0	5	8	
	Total	5	3	2	3	7	2	2	2	5	3	34	8	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	X	X	X	X	X	X	X	X	X	X	—	—	—
	3	—	—	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	—	—	—	—	—	—	—	—	—	—	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-091208

Start Date:12/08/2009

		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:		RM	RM	RM	RM	RM	RM	RM	RM	RM	JA	A	A	A	A
Time of Readings:		1500	1500	1500	1400	1400	1500	1500	1400	1400	1500	1500	1500	1500	1400
Control	DO	8.1	8.1	8.1	8.5	8.7	8.3	8.4	8.2	8.0	8.3	8.2	7.9	8.0	8.2
	pH	7.8	8.0	7.7	8.0	7.8	8.0	7.8	7.9	7.8	7.9	7.8	7.7	7.8	7.8
	Temp	24.2	24.4	24.4	24.2	24.7	25.1	25.5	25.2	25.9	24.9	25.4	24.2	24.1	24.6
0.25 g/l	DO	8.1	8.1	8.1	8.6	8.7	8.2	8.4	8.0	8.0	8.1	8.2	8.0	8.0	8.3
	pH	7.8	8.0	7.7	8.1	7.8	8.0	7.8	7.9	7.8	7.9	7.8	7.7	7.8	7.9
	Temp	24.2	24.4	24.4	24.4	24.7	25.2	25.6	25.2	25.9	24.8	25.3	24.3	24.1	24.8
0.5 g/l	DO	8.2	8.2	8.1	8.5	8.7	8.3	8.4	7.9	7.9	8.3	8.2	7.9	8.0	8.3
	pH	7.9	8.0	7.8	8.1	7.8	8.0	7.8	7.9	7.9	7.9	7.8	7.7	7.8	7.7
	Temp	24.2	24.5	24.4	24.5	24.7	25.4	25.6	25.3	25.9	24.9	25.4	24.5	24.2	24.9
1.0 g/l	DO	8.2	8.2	8.2	8.4	8.7	8.2	8.5	7.9	7.9	8.2	8.3	8.0	8.1	8.1
	pH	7.9	8.0	7.8	8.1	7.8	8.0	7.8	7.9	7.9	7.9	7.9	7.8	7.8	7.7
	Temp	24.2	24.5	24.5	24.5	24.8	25.3	25.7	25.3	26.0	24.8	25.5	24.3	24.3	25.0
2.0 g/l	DO	8.3	8.2	8.2	8.6	8.6	8.3	8.5	7.8	8.0	8.3	8.2	7.9	8.1	7.7
	pH	7.9	8.0	7.9	8.1	7.9	8.0	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.7
	Temp	24.2	24.4	24.6	24.4	24.9	25.3	25.9	25.3	26.0	24.9	25.6	24.2	24.2	25.1
4.0 g/l	DO	8.3	8.3	—	—	—	—	—	—	—	—	—	—	—	—
	pH	7.9	8.0	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.1	24.4	—	—	—	—	—	—	—	—	—	—	—	—

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)	333	325	328	6290	3700	3850
Alkalinity (mg/l $CaCO_3$)	72	70	71	73	71	73
Hardness (mg/l $CaCO_3$)	93	94	94	94	94	96

Source of Neonates

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

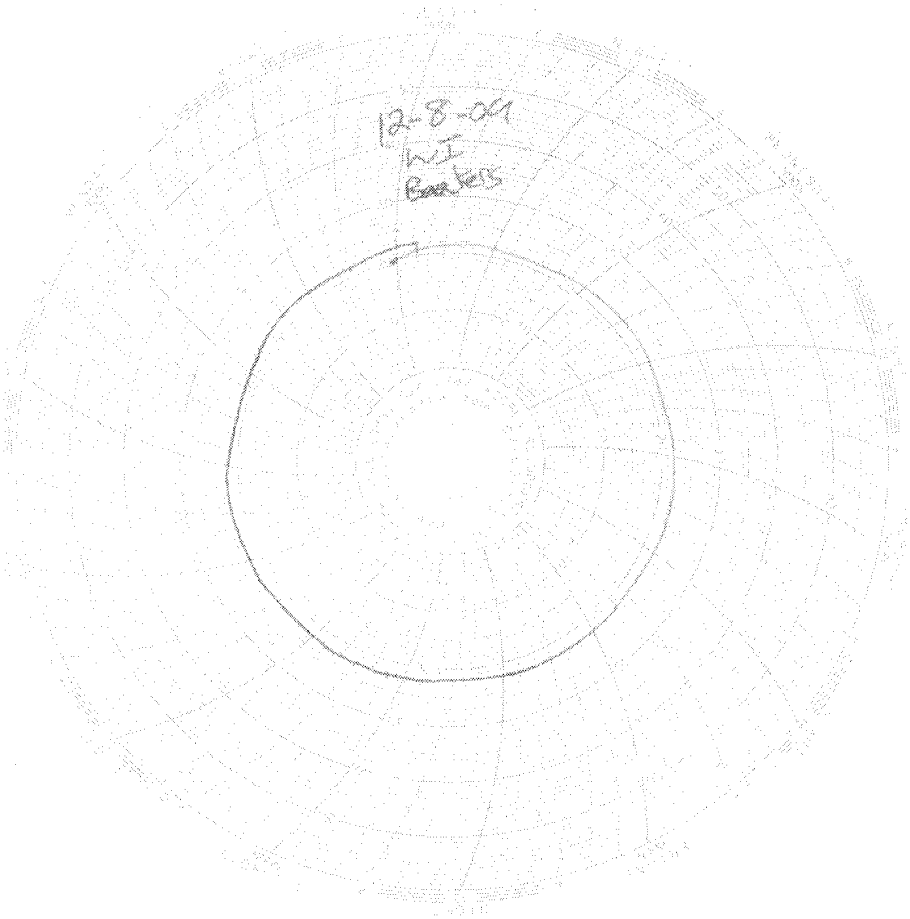
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-091208

Date Tested: 12/08/09 to 12/15/09

Acceptable Range: 25+/- 1°C



TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

January 5, 2010

TestAmerica Project Number: G9L150587
PO/Contract: ISL1605

Joe Doak
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817

Dear Mr. Doak,

This report contains the analytical results for the sample received under chain of custody by TestAmerica on December 15, 2009. This sample is associated with your MWH Boeing project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4362.

Sincerely,

Linda C. Laver

Linda C. Laver
Project Manager

Table of Contents

TestAmerica West Sacramento Project Number G9L150587

Case Narrative

TestAmerica West Sacramento Project Number G9L150587

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

The analytical result for 2,3,7,8-TCDF in this sample is reported from the confirmation data that was analyzed on December 31, 2009 and on December 29, 2009 for the MB. Analytical results are reported with a “CON” flag.

There are no other anomalies associated with this project.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ACCREDITED IN ACCORDANCE WITH nelac

TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas	T104704399-08-TX
Connecticut	PH-0691	Utah*	QUAN1
Florida*	E87570	Virginia	00178
Georgia	960	Washington	C1281
Hawaii	NA	West Virginia	9930C, 334
Illinois	200060	Wisconsin	998204680
Kansas*	E-10375	NFESC	NA
Louisiana*	30612	USACE	NA
Michigan	9947	USDA Foreign Plant	37-82605
Nevada	CA44	USDA Foreign Soil	P330-09-00055
New Jersey*	CA005	US Fish & Wildlife	LE148388-0
New Mexico	NA	Guam	09-014r

*NELAP accredited. A more detailed parameter list is available upon request. Updated 3/25/2009

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary

TestAmerica West Sacramento Project Number G9L150587

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
LQ55R	1	ISL1605-02	12/11/2009 12:54 PM	12/15/2009 03:00 PM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

SUBCONTRACT ORDER
TestAmerica Irvine

ISL1605

SENDING LABORATORY:

TestAmerica Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Joseph Doak
Client: MWH-Pasadena/Boeing

RECEIVING LABORATORY:

TestAmerica West Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone :(916) 373-5600
Fax: (916) 372-1059
Project Location: CA - CALIFORNIA
Receipt Temperature:_____°C Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)			Sampled: 12/11/09 12:54			
1613-Dioxin-HR-Alta	ug/l	12/23/09	12/18/09 12:54	$1,400.00	0%	J flags,17 congeners,no TEQ,ug/L,sub=West Sac
Level 4 Data Package	N/A	12/23/09	01/08/10 12:54	$0.00	0%	
Containers Supplied:						
1 L Amber (C)	1 L Amber (D)					

Released By	12.14.09 Date/Time	Received By	12.14.09 19:00 Date/Time
Released By	Date/Time	Received By	12-15-09 1500 Date/Time

TestAmerica

411111 THE LEADER IN ENVIRONMENTAL TESTING

LOT RECEIPT CHECKLIST
TestAmerica West Sacramento

CLIENT TAL-Irvine PM LL LOG # 62463

LOT# (QUANTIMS ID) G9L150587 QUOTE# 84779 LOCATION W12C

Checked (✓)

DATE RECEIVED 12-15-09 TIME RECEIVED 1500 ☑

DELIVERED BY ☐ FEDEX ☐ ON TRAC ☐ CLIENT

☐ GOLDENSTATE ☐ UPS ☐ GO-GETTERS ☐ OTHER

☐ TAL COURIER ☒ TAL SF ☐ VALLEY LOGISTICS ☑

CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN ☒ N/A ☑

CUSTODY SEAL #(S) _____

SHIPPPING CONTAINER(S) ☒ TAL ☐ CLIENT ☐ N/A ☑

COC #(S) _____ ☑

TEMPERATURE BLANK Observed: N/A Corrected: _____

SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C)

Observed: 1 2 2 Average 2 Corrected Average 2

LABORATORY THERMOMETER ID:

IR UNIT: #4 ☐ #5 ☒ ☐ OTHER _____ ☑

CH 12-15-09
Initials Date

---

pH MEASURED ☐ YES ☐ ANOMALY ☒ N/A ☑

LABELED BY..... ☑

LABELS CHECKED BY..... ☑

PEER REVIEW _____ ☒ NA

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING ☑

WETCHEM ☒ N/A ☑

VOA-ENCORES ☒ N/A ☑

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☒ N/A ☑

☒ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☐ N/A ☑

☐ CLOUSEAU ☐ TEMPERATURE EXCEEDED (2 °C – 6 °C)*1 ☒ N/A

☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED ☐ PM NOTIFIED

CH 12-15-09
Initials Date

Notes _____

*1 Acceptable temperature range for State of Wisconsin samples is ≤4°C.

TestAmerica West Sacramento

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Bottle Lot Inventory

Lot ID: GAL150587

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*																				
VOAh*																				
AGB	2																			
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
____AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
____CGJ																				
500CGJ																				
250CGJ																				
125CGJ																				
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
_____"CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid **s** = sulfuric acid **na** = sodium hydroxide **n** = nitric acid **zn** = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

Page 3

LEAVE NO SPACES BLANK. USE "NA" IF NOT APPLICABLE.

WATER, 1613B, Dioxins/Furans with Totals

TestAmerica Irvine

Sample ID: ISL1605-02

Trace Level Organic Compounds

EPA-5 1613B

Lot - Sample #....:	G9L150587 - 001	**Work Order #....:**	LQ55R1AA	**Matrix....:**	WATER
Date Sampled....:	12/11/09	**Date Received....:**	12/15/09	**Dilution Factor:**	0.98
Prep Date....:	12/24/09	**Analysis Date....:**	12/30/09		
Prep Batch # ....:	9358229	**Instrument ID....:**	4D5		
Initial Wgt/Vol :	1017.6 mL	**Analyst ID....:**	Sonia Ouni		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.0000098	0.0000011	ug/L
Total TCDD	ND		0.0000098	0.0000011	ug/L
1,2,3,7,8-PeCDD	**0.0000015**	**J Q B**	**0.000049**	**0.0000015**	**ug/L**
Total PeCDD	**0.0000015**	**J Q B**	**0.000049**	**0.0000015**	**ug/L**
1,2,3,4,7,8-HxCDD	**0.0000019**	**J B**	**0.000049**	**0.0000010**	**ug/L**
1,2,3,6,7,8-HxCDD	**0.0000021**	**J Q B**	**0.000049**	**0.00000090**	**ug/L**
1,2,3,7,8,9-HxCDD	**0.0000015**	**J B**	**0.000049**	**0.00000086**	**ug/L**
Total HxCDD	**0.0000078**	**J Q B**	**0.000049**	**0.00000086**	**ug/L**
1,2,3,4,6,7,8-HpCDD	**0.000010**	**J Q B**	**0.000049**	**0.0000054**	**ug/L**
Total HpCDD	**0.000020**	**J Q B**	**0.000049**	**0.0000054**	**ug/L**
OCDD	**0.000096**	**J B**	**0.000098**	**0.0000016**	**ug/L**
2,3,7,8-TCDF	ND	CON	0.0000098	0.0000036	ug/L
Total TCDF	**0.0000023**	**J Q B**	**0.0000098**	**0.00000076**	**ug/L**
1,2,3,7,8-PeCDF	**0.0000019**	**J B**	**0.000049**	**0.0000011**	**ug/L**
2,3,4,7,8-PeCDF	ND		0.000049	0.0000012	ug/L
Total PeCDF	**0.0000038**	**J Q B**	**0.000049**	**0.0000011**	**ug/L**
1,2,3,4,7,8-HxCDF	**0.0000033**	**J B**	**0.000049**	**0.00000067**	**ug/L**
1,2,3,6,7,8-HxCDF	**0.0000024**	**J B**	**0.000049**	**0.00000064**	**ug/L**
2,3,4,6,7,8-HxCDF	**0.0000018**	**J Q B**	**0.000049**	**0.00000060**	**ug/L**
1,2,3,7,8,9-HxCDF	**0.0000018**	**J B**	**0.000049**	**0.00000082**	**ug/L**
Total HxCDF	**0.000013**	**J Q B**	**0.000049**	**0.00000060**	**ug/L**
1,2,3,4,6,7,8-HpCDF	**0.000011**	**J Q B**	**0.000049**	**0.0000035**	**ug/L**
1,2,3,4,7,8,9-HpCDF	ND		0.000049	0.0000055	ug/L
Total HpCDF	**0.000019**	**J Q B**	**0.000049**	**0.0000035**	**ug/L**
OCDF	**0.000035**	**J B**	**0.000098**	**0.0000020**	**ug/L**

TestAmerica Irvine

Sample ID: ISL1605-02

Trace Level Organic Compounds

EPA-5 1613B

Lot - Sample #....:	G9L150587 - 001	**Work Order #....:**	LQ55R1AA	**Matrix.....:**	WATER
Date Sampled....:	12/11/09	**Date Received....:**	12/15/09	**Dilution Factor:**	0.98
Prep Date....:	12/24/09	**Analysis Date....:**	12/30/09		
Prep Batch # ....:	9358229	**Instrument ID....:**	4D5		
Initial Wgt/Vol :	1017.6 mL	**Analyst ID....:**	Sonia Ouni		

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	51	25 - 164
13C-1,2,3,7,8-PeCDD	66	25 - 181
13C-1,2,3,4,7,8-HxCDD	59	32 - 141
13C-1,2,3,6,7,8-HxCDD	56	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	56	23 - 140
13C-OCDD	55	17 - 157
13C-2,3,7,8-TCDF	56	24 - 169
13C-1,2,3,7,8-PeCDF	58	24 - 185
13C-2,3,4,7,8-PeCDF	64	21 - 178
13C-1,2,3,6,7,8-HxCDF	62	26 - 123
13C-2,3,4,6,7,8-HxCDF	65	28 - 136
13C-1,2,3,7,8,9-HxCDF	56	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	60	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	55	26 - 138
13C-1,2,3,4,7,8-HxCDF	58	26 - 152

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	35 - 197

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CON Confirmation analysis.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

QC DATA ASSOCIATION SUMMARY

G9L150587

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	EPA-5 1613B		9358229	

Method Blank Report

Trace Level Organic Compounds

EPA-5 1613B

Lot - Sample #....:	G9L240000 - 229B	**Work Order #....:**	LRLV71AA	**Matrix....:**	WATER
Date Sampled....:	12/11/09	**Date Received....:**	12/16/09	**Dilution Factor:**	1
Prep Date....:	12/24/09	**Analysis Date....:**	12/29/09		
Prep Batch # ....:	9358229	**Instrument ID....:**	4D5		
Initial Wgt/Vol :	1000 mL	**Analyst ID....:**	Sonia Ouni		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	**0.0000027**	**J Q**	**0.000010**	**0.00000062**	**ug/L**
Total TCDD	**0.0000055**	**J Q**	**0.000010**	**0.00000062**	**ug/L**
1,2,3,7,8-PeCDD	**0.000024**	**J**	**0.000050**	**0.0000015**	**ug/L**
Total PeCDD	**0.000025**	**J Q**	**0.000050**	**0.0000015**	**ug/L**
1,2,3,4,7,8-HxCDD	**0.000032**	**J**	**0.000050**	**0.0000011**	**ug/L**
1,2,3,6,7,8-HxCDD	**0.000031**	**J**	**0.000050**	**0.0000010**	**ug/L**
1,2,3,7,8,9-HxCDD	**0.000033**	**J**	**0.000050**	**0.00000095**	**ug/L**
Total HxCDD	**0.000096**	**J**	**0.000050**	**0.00000095**	**ug/L**
1,2,3,4,6,7,8-HpCDD	**0.000040**	**J**	**0.000050**	**0.00000087**	**ug/L**
Total HpCDD	**0.000043**	**J**	**0.000050**	**0.00000087**	**ug/L**
OCDD	**0.000096**	**J**	**0.00010**	**0.00000097**	**ug/L**
2,3,7,8-TCDF	ND	CON	0.000010	0.0000039	ug/L
Total TCDF	**0.000012**	**J Q**	**0.000010**	**0.00000098**	**ug/L**
1,2,3,7,8-PeCDF	**0.000021**	**J**	**0.000050**	**0.0000015**	**ug/L**
2,3,4,7,8-PeCDF	**0.000025**	**J**	**0.000050**	**0.0000016**	**ug/L**
Total PeCDF	**0.000047**	**J Q**	**0.000050**	**0.0000015**	**ug/L**
1,2,3,4,7,8-HxCDF	**0.000033**	**J**	**0.000050**	**0.0000010**	**ug/L**
1,2,3,6,7,8-HxCDF	**0.000030**	**J**	**0.000050**	**0.0000010**	**ug/L**
2,3,4,6,7,8-HxCDF	**0.000029**	**J**	**0.000050**	**0.00000092**	**ug/L**
1,2,3,7,8,9-HxCDF	**0.000031**	**J**	**0.000050**	**0.0000011**	**ug/L**
Total HxCDF	**0.00012**	**J Q**	**0.000050**	**0.00000092**	**ug/L**
1,2,3,4,6,7,8-HpCDF	**0.000040**	**J**	**0.000050**	**0.0000013**	**ug/L**
1,2,3,4,7,8,9-HpCDF	**0.000038**	**J**	**0.000050**	**0.0000018**	**ug/L**
Total HpCDF	**0.000081**	**J**	**0.000050**	**0.0000013**	**ug/L**
OCDF	**0.000085**	**J**	**0.00010**	**0.00000083**	**ug/L**

Method Blank Report

Trace Level Organic Compounds

EPA-5 1613B

Lot - Sample #....:	G9L240000 - 229B	**Work Order #....:**	LRLV71AA	**Matrix....:**	WATER
Date Sampled....:	12/11/09	**Date Received....:**	12/16/09	**Dilution Factor:**	1
Prep Date....:	12/24/09	**Analysis Date....:**	12/29/09		
Prep Batch # ....:	9358229	**Instrument ID....:**	4D5		
Initial Wgt/Vol :	1000 mL	**Analyst ID....:**	Sonia Ouni		

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	25 - 164
13C-1,2,3,7,8-PeCDD	57	25 - 181
13C-1,2,3,4,7,8-HxCDD	66	32 - 141
13C-1,2,3,6,7,8-HxCDD	68	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	72	23 - 140
13C-OCDD	70	17 - 157
13C-2,3,7,8-TCDF	62	24 - 169
13C-1,2,3,7,8-PeCDF	57	24 - 185
13C-2,3,4,7,8-PeCDF	59	21 - 178
13C-1,2,3,6,7,8-HxCDF	71	26 - 123
13C-2,3,4,6,7,8-HxCDF	73	28 - 136
13C-1,2,3,7,8,9-HxCDF	70	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	71	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	70	26 - 138
13C-1,2,3,4,7,8-HxCDF	67	26 - 152

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	35 - 197

QUALIFIERS

CON Confirmation analysis.
J Estimated Result.
Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	G9L150587	**Work Order # ...:**	LRLV71AC-LCS	**Matrix .....:**	WATER
LCS Lot-Sample# :	G9L240000 - 229				
Prep Date .....:	12/24/09	**Analysis Date ..:**	12/29/09		
Prep Batch # ...:	9358229				
Dilution Factor :	1				
Analyst ID.....:	Sonia Ouni	**Instrument ID..:**	4D5	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1000 mL				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**0.0002**	**0.0001**	**ug/L**	**93**	**B**	**(67 - 158)**
1,2,3,7,8-PeCDD	**0.0010**	**0.0009**	**ug/L**	**95**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**0.0010**	**0.0009**	**ug/L**	**97**	**B**	**(70 - 164)**
1,2,3,6,7,8-HxCDD	**0.0010**	**0.0009**	**ug/L**	**95**	**B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**0.0010**	**0.0009**	**ug/L**	**98**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**0.0010**	**0.0009**	**ug/L**	**93**	**B**	**(70 - 140)**
OCDD	**0.0020**	**0.0018**	**ug/L**	**93**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**0.0002**	**0.0001**	**ug/L**	**92**		**(75 - 158)**
1,2,3,7,8-PeCDF	**0.0010**	**0.0009**	**ug/L**	**97**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**0.0010**	**0.0009**	**ug/L**	**96**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**0.0010**	**0.0009**	**ug/L**	**99**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**0.0010**	**0.0009**	**ug/L**	**94**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**0.0010**	**0.0009**	**ug/L**	**96**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**0.0010**	**0.0009**	**ug/L**	**94**	**B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**0.0010**	**0.0009**	**ug/L**	**92**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**0.0010**	**0.0009**	**ug/L**	**94**	**B**	**(78 - 138)**
OCDF	**0.0020**	**0.0018**	**ug/L**	**93**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	67	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,6,7,8-HxCDF	71	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

WATER, 1613B, Dioxins/Furans with Totals

SUBCONTRACT ORDER
TestAmerica Irvine

ISL1605

SENDING LABORATORY:

TestAmerica Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Joseph Doak
Client: MWH-Pasadena/Boeing

RECEIVING LABORATORY:

TestAmerica West Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone :(916) 373-5600
Fax: (916) 372-1059
Project Location: CA - CALIFORNIA
Receipt Temperature:_____°C Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)			Sampled: **12/11/09 12:54**			
1613-Dioxin-HR-Alta	ug/l	12/23/09	12/18/09 12:54	$1,400.00	0%	J flags,17 congeners,no TEQ,ug/L,sub=West Sac
Level 4 Data Package	N/A	12/23/09	01/08/10 12:54	$0.00	0%	

Containers Supplied:
1 L Amber (C) 1 L Amber (D)

Released By	12-14-09 Date/Time	FedEx Received By	12-14-09 19:00 Date/Time
Released By	Date/Time	Received By	12-15-09 1500 Date/Time

TestAmerica

411111 THE LEADER IN ENVIRONMENTAL TESTING

LOT RECEIPT CHECKLIST
TestAmerica West Sacramento

CLIENT TAL-Irvine PM LL LOG # 60463

LOT# (QUANTIMS ID) G9L150587 QUOTE# 84779 LOCATION W12C

Checked (✓)

DATE RECEIVED 12-15-09 TIME RECEIVED 1500 ☐

DELIVERED BY ☐ FEDEX ☐ ON TRAC ☐ CLIENT
☐ GOLDENSTATE ☐ UPS ☐ GO-GETTERS ☐ OTHER
☐ TAL COURIER ☒ TAL SF ☐ VALLEY LOGISTICS ☒

CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN ☒ N/A ☒

CUSTODY SEAL #(S) ____

SHIPPPING CONTAINER(S) ☒ TAL ☐ CLIENT ☐ N/A ☒

COC #(S) ____ ☒

TEMPERATURE BLANK Observed: N/A Corrected: ____

SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C)

Observed: 1 2 2 Average 2 Corrected Average 2

LABORATORY THERMOMETER ID:

IR UNIT: #4 ☐ #5 ☒ ☐ OTHER ____ ☒

CR 12-15-09
Initials **Date**

==========

pH MEASURED ☐ YES ☐ ANOMALY ☒ N/A ☒

LABELED BY.......... ☒

LABELS CHECKED BY.......... ☒

PEER REVIEW ____ ☒ NA

SHORT HOLD TEST NOTIFICATION SAMPLE RECEIVING ☒
WETCHEM ☒ N/A ☒
VOA-ENCORES ☒ N/A ☒

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☒ N/A ☒

☒ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☐ N/A ☒

☐ CLOUSEAU ☐ TEMPERATURE EXCEEDED (2 °C – 6 °C)[1] ☒ N/A

☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED ☐ PM NOTIFIED

CR 12-15-09
Initials **Date**

Notes ____

[1] Acceptable temperature range for State of Wisconsin samples is ≤4°C.

TestAmerica West Sacramento

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Bottle Lot Inventory

Lot ID: BGL150587

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*																				
VOAh*																				
AGB	2																			
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
____AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
____CGJ																				
500CGJ																				
250CGJ																				
125CGJ																				
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
____"CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid **s** = sulfuric acid **na** = sodium hydroxide **n** = nitric acid **zn** = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

Page 3

LEAVE NO SPACES BLANK. USE "NA" IF NOT APPLICABLE.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

REVISED

PROJECT NO. BOEING NPDES

SSFL MWH-Pasadena/Boeing

Lot #: F9L150498

Joseph Doak

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817

TESTAMERICA LABORATORIES, INC.

Kay Clay
Project Manager

Case Narrative
LOT NUMBER: F9L150498
Revised 01-25-10

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on December 15, 2009. This sample is associated with your SSFL MWH-Pasadena/Boeing project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

This report shall not be reproduced, except in full, without the written approval of the laboratory.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Report revised to update gamma isotope list.

Report revised to include uranium results by KPA.

Report revised to remove Iso-uranium results.

Observations/Nonconformances
Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Strontium 90 Method: 905 MOD

The Strontium 90 MS recovered high due to a matrix effect of unknown origin. The Strontium 90 MSD recovered within range. The LCS recovered within the required limits, demonstrating acceptable batch extraction efficiency. The data is reported.
Affected Sample:
F9L150498 (1): ISL1605-02

METHODS SUMMARY

F9L150498

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EPA 901.1 MOD	
Gross Alpha/Beta EPA 900	EPA 900.0 MOD	EPA 900.0
H-3 by Distillation & LSC	EPA 906.0 MOD	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Radium-226 by GFPC	EPA 903.0 MOD	EPA 903.0
Radium-228 by GFPC	EPA 904 MOD	EPA 904
Strontium 90 by GFPC	EPA 905 MOD	
Total Uranium By Laser Ph osphorimetry	ASTM 5174-91	

References:

ASTM Annual Book Of ASTM Standards.

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL" HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

EPA "EASTERN ENVIRONMENTAL RADIATION FACILITY RADIOCHEMISTRY PROCEDURES MANUAL" US EPA EPA 520/5-84-006 AUGUST 1984

SAMPLE SUMMARY

F9L150498

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LQ5C3	001	ISL1605-02	12/11/09	12:54

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Irvine

Client Sample ID: ISL1605-02

Radiochemistry

Lab Sample ID: F9L150498-001
Work Order: LQ5C3
Matrix: WATER

Date Collected: 12/11/09 1254
Date Received: 12/15/09 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	mdc	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**Batch # 9350109**		**Yld %**
Cesium 137	0.05	U	9.0	20.0	17	12/16/09	01/12/10
Potassium 40	-50	U	370		300	12/16/09	01/12/10
Radium 226 by EPA 903.0 MOD				**pCi/L**	**Batch # 9351242**		**Yld % 60**
Radium (226)	0.15	U	0.15	1.00	0.24	12/17/09	01/11/10
Radium 228 by GFPC EPA 904 MOD				**pCi/L**	**Batch # 9351244**		**Yld % 52**
Radium 228	0.06	U	0.56	1.00	0.95	12/17/09	01/11/10
TRITIUM (Distill) by EPA 906.0 MOD				**pCi/L**	**Batch # 9365109**		**Yld %**
Tritium	34	U	88	500	160	01/04/10	01/05/10
SR-90 BY GFPC EPA-905 MOD				**pCi/L**	**Batch # 9351227**		**Yld % 72**
Strontium 90	0.76	J	0.37	3.00	0.55	12/17/09	12/29/09
Total Uranium by KPA ASTM 5174-91				**pCi/L**	**Batch # 0015135**		**Yld %**
Total Uranium	0.479	J	0.055	0.677	0.21	01/15/10	01/18/10
Gross Alpha/Beta EPA 900				**pCi/L**	**Batch # 0007155**		**Yld %**
Gross Alpha	1.18	J	0.79	3.00	1.0	01/07/10	01/12/10
Gross Beta	4.7		1.2	4.0	1.5	01/07/10	01/12/10

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC.

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F9L150498
Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
Gamma Cs-137 & Hits by EPA 901.1 MOD			**pCi/L**	**Batch #**	**9350109**	**Yld %**			**F9L160000-109B**
Cesium 137	2.6	U	6.2	20.0	11		12/16/09	01/09/10	
Potassium 40	-100	U	4100		300		12/16/09	01/09/10	
SR-90 BY GFPC EPA-905 MOD			**pCi/L**	**Batch #**	**9351227**	**Yld %**	**84**		**F9L170000-227B**
Strontium 90	0.13	U	0.29	3.00	0.48		12/17/09	12/29/09	
Radium 226 by EPA 903.0 MOD			**pCi/L**	**Batch #**	**9351242**	**Yld %**	**88**		**F9L170000-242B**
Radium (226)	0.05	U	0.13	1.00	0.23		12/17/09	01/11/10	
Radium 228 by GFPC EPA 904 MOD			**pCi/L**	**Batch #**	**9351244**	**Yld %**	**80**		**F9L170000-244B**
Radium 228	0.16	U	0.38	1.00	0.63		12/17/09	01/11/10	
Total Uranium by KPA ASTM 5174-91			**pCi/L**	**Batch #**	**0015135**	**Yld %**			**F0A150000-135B**
Total Uranium	**0.496**	**J**	0.060	0.677	**0.21**		**01/15/10**	**01/18/10**	
TRITIUM (Distill) by EPA 906.0 MOD			**pCi/L**	**Batch #**	**9365109**	**Yld %**			**F9L310000-109B**
Tritium	120	U	100	500	160		01/04/10	01/04/10	
Gross Alpha/Beta EPA 900			**pCi/L**	**Batch #**	**0007155**	**Yld %**			**F0A070000-155B**
Gross Alpha	0.04	U	0.38	2.00	0.75		01/07/10	01/12/10	
Gross Beta	-2.91	U	0.88	4.00	1.7		01/07/10	01/12/10	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC.

J Result is greater than sample detection limit but less than stated reporting limit.

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F9L150498
Matrix: WATER

Parameter	Spike Amount	Result		Total Uncert. (2 σ +/-)	MDC	% Yld	% Rec		Lab Sample ID QC Control Limits
Gross Alpha/Beta EPA 900				**pCi/L**	**900.0 MOD**				**F0A070000-155C**
Gross Alpha	49.4	47.5		5.3	1		96		(62 - 134)
	Batch #:	0007155			Analysis Date:	01/12/10			
Gross Alpha/Beta EPA 900				**pCi/L**	**900.0 MOD**				**F0A070000-155C**
Gross Beta	68.3	77.8		6.5	1.5		114		(58 - 133)
	Batch #:	0007155			Analysis Date:	01/12/10			
Total Uranium by KPA ASTM 5174-91				**pCi/L**	**5174-91**				**F0A150000-135C**
Total Uranium	27.1	28.4		3.5	0.2		105		(90 - 120)
	Batch #:	0015135			Analysis Date:	01/18/10			
Total Uranium by KPA ASTM 5174-91				**pCi/L**	**5174-91**				**F0A150000-135C**
Total Uranium	5.42	6.18		0.64	0.21		114		(90 - 120)
	Batch #:	0015135			Analysis Date:	01/18/10			
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**901.1 MOD**				**F9L160000-109C**
Americium 241	141000	132000		11000	500		94		(90 - 110)
Cesium 137	53100	48500		2800	200		91		(90 - 110)
Cobalt 60	87900	78700	a	4400	200		90	a	(90 - 110)
	Batch #:	9350109			Analysis Date:	01/09/10			
SR-90 BY GFPC EPA-905 MOD				**pCi/L**	**905 MOD**				**F9L170000-227C**
Strontium 90	6.82	8.23		0.92	0.52	80	121		(90 - 143)
	Batch #:	9351227			Analysis Date:	12/29/09			
TRITIUM (Distill) by EPA 906.0 MOD				**pCi/L**	**906.0 MOD**				**F9L310000-109C**
Tritium	4560	4380		460	160		96		(85 - 112)
	Batch #:	9365109			Analysis Date:	01/04/10			

NOTE(S)

MDC is determined by instrument performance only
Calculations are performed before rounding to avoid round-off error in calculated results

Laboratory Control Sample/LCS Duplicate Report

Radiochemistry

Client Lot ID: F9L150498
Matrix: WATER

Parameter		Spike Amount	Result		Total Uncert. (2 σ+/-)	% Yld	% Rec	QC Control Limits	Lab Sample ID Precision	
Radium 226 by EPA 903.0 MOD				pCi/L	903.0 MOD			F9L170000-242C		
Radium (226)		11.3	10.9		1.1	100	97	(45 - 150)		
	Spk 2	11.3	10.6		1.1	96	95	(45 - 150)	2	%RPD
		Batch #:	9351242			Analysis Date:		01/11/10		
Radium 228 by GFPC EPA 904 MOD				pCi/L	904 MOD			F9L170000-244C		
Radium 228		6.51	6.98		0.80	94	107	(64 - 150)		
	Spk 2	6.51	7.39		0.85	91	113	(64 - 150)	6	%RPD
		Batch #:	9351244			Analysis Date:		01/11/10		

NOTE(S)

Calculations are performed before rounding to avoid round-off error in calculated results

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F9L150498
Matrix: WATER

Date Sampled: 12/11/09
Date Received: 12/15/09

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by EPA 901.1 MOD				**pCi/L**	**901.1 MOD**				**F9L150498-001**	
Cesium 137	0.05	U	9.0		2.4	U	6.3		191	%RPD
Potassium 40	-50	U	370		-80	U	900		52	%RPD
	Batch #:		9350109	(Sample)	9350109		(Duplicate)			
Gross Alpha/Beta EPA 900				**pCi/L**	**900.0 MOD**				**F9L150498-001**	
Gross Alpha	1.18	J	0.79		1.8	J	1.0		44	%RPD
Gross Beta	4.7		1.2		4.4		1.2		6	%RPD
	Batch #:		0007155	(Sample)	0007155		(Duplicate)			
TRITIUM (Distill) by EPA 906.0 MOD				**pCi/L**	**906.0 MOD**				**F9L100525-001**	
Tritium	-26	U	77		34	U	87		1480	%RPD
	Batch #:		9365109	(Sample)	9365109		(Duplicate)			

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Radiochemistry

Client Lot ID: F9L160444
Matrix: WATER

Date Sampled: 12/14/09 1300
Date Received: 12/16/09 0915

Parameter		Spike Amount	SPIKE Result		Total Uncert. (2 σ+/-)	Spike Yld	SAMPLE Result		Total Uncert. (2σ +/-)	QC Sample ID % Yld	%Rec		QC Control Limits
SR-90 BY GFPC EPA-905 MOD					**pCi/L**		**905 MOD**				**F9L160444-007**		
Strontium 90		7.01	12.1	a	1.3	67	3.40		0.70	53	125	a	(80 - 120)
	Spk2	7.00	10.1		1.1	74	3.40		0.70	53	96		(80 - 120)
										Precision:	18		%RPD
		Batch #:	9351227		Analysis date:		12/29/09						
Total Uranium by KPA ASTM 5					**pCi/L**		**5174-91**				**F9L100528-001**		
Total Uranium		27.1	29.4		3.6		0.443	J	0.052		107		(62 - 150)
	Spk2	27.1	29.0		3.5		0.443	J	0.052		105		(62 - 150)
										Precision:	2		%RPD
		Batch #:	0015135		Analysis date:		01/18/10						

NOTE(S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off error in calculated results

a Spiked analyte outside of stated QC limits.

MATRIX SPIKE REPORT

Radiochemistry

Client Lot Id: F9L150498
Matrix: WATER

Date Sampled: 12/11/09
Date Received: 12/15/09

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2 σ +/-)	QC Sample ID %YLD	QC Sample ID %REC	QC Control Limits
Gross Alpha/Beta EPA 900			pCi/L		900.0 MOD			F9L150498-001	
Gross Alpha	49.4	29.4	4.0		1.18	0.79		57	(35 - 150)
	Batch #:	0007155		Analysis Date:		01/12/10			
Gross Alpha/Beta EPA 900			pCi/L		900.0 MOD			F9L150498-001	
Gross Beta	68.3	79.5	6.7		4.7	1.2		110	(54 - 150)
	Batch #:	0007155		Analysis Date:		01/12/10			
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L		906.0 MOD			F9L100528-001	
Tritium	4560	4360	460		-6	82		96	(62 - 147)
	Batch #:	9365109		Analysis Date:		01/04/10			

NOTE(S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off errors in calculated results.

SUBCONTRACT ORDER
TestAmerica Irvine

ISL1605

cwf
3/2

SENDING LABORATORY:

TestAmerica Irvine
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Phone: (949) 261-1022
Fax: (949) 260-3297
Project Manager: Joseph Doak
Client: MWH-Pasadena/Boeing

RECEIVING LABORATORY:

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Phone :(314) 298-8566
Fax: (314) 298-8757
Project Location: CA - CALIFORNIA
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: ISL1605-02 (Outfall 006 (Comp) - Water)			Sampled: 12/11/09 12:54			
Gamma Spec-O	mg/kg	12/23/09	12/11/10 12:54	$250.00	0%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER
Gross Alpha-O	pCi/L	12/23/09	06/09/10 12:54	$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	12/23/09	06/09/10 12:54	$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	12/23/09	01/08/10 12:54	$0.00	0%	
Radium, Combined-O	pCi/L	12/23/09	12/11/10 12:54	$238.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	12/23/09	12/11/10 12:54	$155.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	12/23/09	12/11/10 12:54	$80.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	12/23/09	12/11/10 12:54	$120.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!

Containers Supplied:
2.5 gal Poly (H) 500 mL Amber (I)

Released By — Date/Time: 12.14.09

Received By — Date/Time: 12.14.09 15:00
12.15.09 0920

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F9L150498 509

362

CONDITION UPON RECEIPT FORM

Client: TA Irvine
Quote No: 81594/77635
COC/RFA No: ISL 1574, 1605
Initiated By: JW
Date: 12.15.09 Time: 0920

Shipping Information

Shipper: (FedEx) UPS DHL Courier Client Other: _____ Multiple Packages: Y (N)

Shipping # (s):*				Sample Temperature (s):**			
1.	4289 2132 2926	6.		1.	2	6.	
2.		7.		2.		7.	
3.		8.		3.		8.	
4.		9.		4.		9.	
5.		10.		5.		10.	

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	(Y) N	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	(Y) N	Sample received in proper containers?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
6.	Y (N)	Was sample received broken?	13.	(Y) N (N/A)	Was Internal COC/Workshare received?
7.	(Y) N	Is sample volume sufficient for analysis?	14.	(Y) N (N/A)	Was pH taken by original TestAmerica lab? JW 12-15-09

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
☐ Client Contact Name: _____ Informed by: _____
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: _____ If released, notify: _____
Project Management Review: _____ Date: 12-17-09

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 10/21/08 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

APPENDIX G

Section 6

Outfall 006, BMP Effectiveness, December 11 & 12, 2009

Test America Analytical Laboratory Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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

LABORATORY REPORT

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

Project: BMP Effectiveness
Monitoring Program

Sampled: 12/11/09-12/12/09
Received: 12/14/09
Issued: 12/23/09 11:56

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

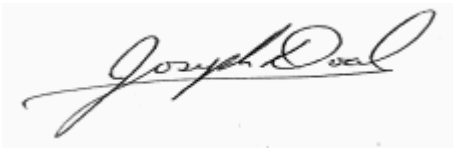
CASE NARRATIVE

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:	No significant observations were made.
SUBCONTRACTED:	No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
ISL1726-01	006 EFF-1	Water
ISL1726-02	006 EFF-2	Water

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

Reviewed By:



TestAmerica Irvine

Joseph Doak
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: BMP Effectiveness Monitoring Program
Report Number: ISL1726

Sampled: 12/11/09-12/12/09
Received: 12/14/09

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Analyst	Date Analyzed	Data Qualifiers
Sample ID: ISL1726-01 (006 EFF-1 - Water)					**Sampled: 12/11/09**				
Reporting Units: g/cc									
Density	Displacement	9L22115	N/A	NA	**1.0**	1	DC	12/22/09	
Sample ID: ISL1726-02 (006 EFF-2 - Water)					**Sampled: 12/12/09**				
Reporting Units: g/cc									
Density	Displacement	9L22115	N/A	NA	**0.99**	1	DC	12/22/09	
Sample ID: ISL1726-01 (006 EFF-1 - Water)					**Sampled: 12/11/09**				
Reporting Units: mg/l									
Sediment	ASTM D3977	9L22120	10	10	**14**	1	DC	12/22/09	
Sample ID: ISL1726-02 (006 EFF-2 - Water)					**Sampled: 12/12/09**				
Reporting Units: mg/l									
Sediment	ASTM D3977	9L22120	10	10	**12**	1	DC	12/22/09	

TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: BMP Effectiveness Monitoring Program
Report Number: ISL1726

Sampled: 12/11/09-12/12/09
Received: 12/14/09

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9L22115 Extracted: 12/22/09										
Duplicate Analyzed: 12/22/2009 (9L22115-DUP1)					**Source: ISL1724-11**					
Density	0.992	NA	g/cc		0.992			0	20	

TestAmerica Irvine

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

Project ID: BMP Effectiveness Monitoring Program
Report Number: ISL1726

Sampled: 12/11/09-12/12/09
Received: 12/14/09

DATA QUALIFIERS AND DEFINITIONS

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

RPD Relative Percent Difference

TestAmerica Irvine

Joseph Doak
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: BMP Effectiveness Monitoring Program
Report Number: ISL1726

Sampled: 12/11/09-12/12/09
Received: 12/14/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
ASTM D3977	Water		
Displacement	Water		

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

TestAmerica Irvine

Joseph Doak
Project Manager

Test America Version 6/29/09

CHAIN OF CUSTODY FORM

JSL1726 Page 1 of 1

Client Name/Address:	Project: **Boeing BMP Effectiveness Monitoring Program**
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Del Mar Contact: Joe Doak	
Project Manager: Bronwyn Kelly Sampler: S Dawson	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: Suspended Sediment Concentration (SSC, ASTM-D3977-1997)	Comments
006 EFF-1	W	Poly-1L	1	12/11/09 1050	None	1	X	GRAB
006 EFF-2	W	500ml Poly	1	12/13/09 1048	None	2	X	COMPOSITE

SD

0.0
12/15/09
12:50

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	12/14/09 13:35	[signature]	12-14-09 13:35
[signature]	12-14-09 17:45	[signature]	12/14/09 1745
Relinquished By	Date/Time:	Received By	Date/Time:

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal __X__
Perchlorate Only 72 Hours_____
Metals Only 72 Hours_____
Sample Integrity: (Check)
Intact ✓ On Ice: ✓

2.1 M143

NPDES Page 269 of 1088

APPENDIX G

Section 7

Outfall 009, October 14, 2009

MEC^X Data Validation Reports

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ISJ1373

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:	ISJ1373
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009	ISJ1373-01	32139-001, F9J160241-001, D9J160338-001	Water	10/14/2009 8:10:00 AM	1613, 245.1, 900, 901.1, 903.0, 904, 905, 906.0, ASTM 5174-91

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine within the temperature limits of 4°C ±2°C. The sample for the Method 1613 analysis was received below the temperature limits at Vista and TestAmerica-Denver; however, the sample was not noted to be frozen or damaged. The sample was received at ambient temperature at TestAmerica-St. Louis; 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 transported by courier to TestAmerica-Irvine and Vista, custody seals were not required. Custody seals were intact at TestAmerica-Denver and TestAmerica-St. Louis. 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: November 23, 2009

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* (9/05).

- 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 not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards. 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 16 native compounds (calibration by isotope dilution) and $\leq$35% for the one 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 no target compound detects above the EDL. One peak in the blank reported as an EMPC for total HpCDD was also present in sample Outfall 009

and reported as part of the total HpCDD result. The sample result was qualified as estimated, "J."

- Blank Spikes and Laboratory Control Samples: OPR 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 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 any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any target compound results reported as EMPCs by the laboratory were qualified as estimated nondetects, "UJ." The laboratory does not include EMPCs in the results reported for totals; therefore, no totals were qualified for EMPCs. Any detects 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 estimated detection limit (EDL).

B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks
Date Reviewed: November 23, 2009

The sample listed in Table 1 for this analysis were 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 times 28 days for mercury, was met.

- Tuning: Not applicable to this analysis.

- Calibration: Calibration criteria were met. The mercury initial calibration r^2 value was ≥0.995 and all initial and continuing calibration recoveries were within 85-115%.

- Blanks: Mercury was reported in a CCB bracketing the total mercury analysis at -0.028 µg/L; therefore, nondetected total mercury in the sample was qualified as estimated, "UJ." Method blanks and CCBs had no other 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 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. Any detects between the method detection limit and the RL 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: December 3, 2009

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, 906.0, and 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. Aliquots for gross alpha and gross beta and gamma spectroscopy were prepared one day beyond the five-day analytical holding time for unpreserved samples; therefore, results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects.. Aliquots for radium-226, radium-228, strontium-90, and total uranium gamma spectroscopy were prepared within the five-day holding time for unpreserved aqueous 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. The strontium chemical yield was at least 90% and was considered acceptable. The radium-226 and radium-228 barium chemical yields were at least 65% and were considered acceptable. The radium-228 tracer, yttrium oxalate, yield was approximately 100%. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: Strontium was detected in the method blank at 0.47 pCi/L but was not detected in the site sample. There were no other analytes detected in the method blanks.

- Blank Spikes and Laboratory Control Samples: The recoveries and uranium, strontium, radium-226, and radium-228 RPDs were within laboratory-established control limits.

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

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for the sample in this SDG for uranium and a matrix spike was performed on the sample for tritium. The recoveries and RPD were within the laboratory-established control limits.

- 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 RL were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

- 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.

Outfall 009

Sample ID:	ISJ1373-01				EPA Method 1613
Client Data		**Sample Data**		**Laboratory Data**	
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	32139-001
Project:	ISJ1373	Sample Size:	1.01 L	QC Batch No.:	2469
Date Collected:	14-Oct-09			Date Analyzed DB-5:	22-Oct-09
Time Collected:	0810			Date Received:	16-Oct-09
				Date Extracted:	19-Oct-09
				Date Analyzed DB-225:	NA

Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.000000895		
1,2,3,7,8-PeCDD	0.00000190			J
1,2,3,4,7,8-HxCDD	ND		0.00000303	
1,2,3,6,7,8-HxCDD	0.00000675			J
1,2,3,7,8,9-HxCDD	0.00000800			J
1,2,3,4,6,7,8-HpCDD	0.000146			
OCDD	0.00129			
2,3,7,8-TCDF	ND	0.000000402		
1,2,3,7,8-PeCDF	ND	0.000000816		
2,3,4,7,8-PeCDF	ND	0.000000821		
1,2,3,4,7,8-HxCDF	0.00000153			J
1,2,3,6,7,8-HxCDF	ND		0.00000128	
2,3,4,6,7,8-HxCDF	0.00000167			J
1,2,3,7,8,9-HxCDF	ND	0.000000593		
1,2,3,4,6,7,8-HpCDF	0.0000161			J
1,2,3,4,7,8,9-HpCDF	ND		0.00000310	
OCDF	0.0000663			

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	81.2	25 - 164	
	13C-1,2,3,7,8-PeCDD	77.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	70.2	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	61.2	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	72.4	23 - 140	
	13C-OCDD	62.5	17 - 157	
	13C-2,3,7,8-TCDF	73.4	24 - 169	
	13C-1,2,3,7,8-PeCDF	71.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	71.7	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	72.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	66.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	69.8	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	73.5	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	72.0	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	71.9	26 - 138	
	13C-OCDF	64.4	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	104	35 - 197	

Totals			
Total TCDD	ND	0.000000895	
Total PeCDD	0.00000190		
Total HxCDD	0.0000302		0.0000409
Total HpCDD	0.000287		
Total TCDF	ND	0.000000402	
Total PeCDF	ND		0.00000123
Total HxCDF	0.00000525		0.0000149
Total HpCDF	0.0000388		0.0000419

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

Analyst: JMH

LEVEL IV

Approved By: Martha M. Maier 27-Oct-2009 11:07

Validated Sample Result Forms: ISJ1373

Analysis Method ASTM 5174-91

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.412	0.677	0.21	pCi/L	Ja	J	DNQ

Analysis Method EPA 900.0 MOD

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	1.01	3	0.75	pCi/L	Ja	J	H,C,DNQ
Gross Beta	12587-47-2	2.4	4	1.6	pCi/L	Ja	J	H,DNQ

Analysis Method EPA 901.1 MOD

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	0	20	16	pCi/L	U	UJ	H
Potassium 40	13966-00-2	-100	0	200	pCi/L	U	UJ	H

Analysis Method EPA 903.0 MOD

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium (226)	13982-63-3	0.046	1	0.14	pCi/L	U	U	

Analysis Method EPA 904 MOD

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium 228	15262-20-1	0.1	1	0.39	pCi/L	U	U	

Analysis Method EPA 905 MOD

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium 90	10098-97-2	-0.003	3	0.5	pCi/L	U	U	

Analysis Method EPA 906.0 MOD

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028-17-8	-113	500	190	pCi/L	U	U	

Analysis Method MCAWW 245.1

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	ND	0.2	0.027	ug/L		UJ	B

Analysis Method MCAWW 245.1-DISS

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

Lab Sample Name: ISJ1373-01 **Sample Date:** 10/14/2009 8:10:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury, dissolved	7439-97-6	ND	0.2	0.027	ug/L		U	

DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ISJ1389

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:	ISJ1389
Project Manager:	B. Kelly
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009	ISJ1389-01	132965-1	Water	10/14/09 0850	100.2

II. Sample Management

The temperature upon receipt was not noted by either TestAmerica-Irvine or EMS Laboratories but the TestAmerica-Irvine case narrative noted that the samples were received on ice. According to the case narrative for this SDG, the samples were received intact at both laboratories. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the sample was couriered to TestAmerica-Irvine and EMS, custody seals were not required. If necessary, the client ID was added to the 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 and PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 100.2—Asbestos

Reviewed By: P. Meeks
Date Reviewed: November 11, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 600/R-93/116*, and the *National Functional Guidelines for Inorganic Data Review* (10/2004).

- Holding Times: The sample was filtered within 48 hours of collection. There is no analysis holding time; however, the sample was analyzed within 14 days of collection.

- Calibration: The laboratory provided no documentation for the light microscope refractive index calibration.

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

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

- Laboratory Duplicates: No laboratory duplicate analyses were performed.

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

- Sample Result Verification: The sample result was verified against the raw data. No transcription errors were noted. Any detects reported below the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

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

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

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

ANALYSIS OF WATER BY TEM (EPA-600 R 94 134) EPA 100.2

LAB NO: 132965
CLIENT: Test America
10/22/2009

Laboratory I.D.	Client I.D.	FILTER MEDIA DATA Type	Diameter mm	Effective Area mm^2	No. of G.O.	Analyzed Area, mm^2	Sample Volume (ml)
132965-1	ISJ1389-01*	PC	47	1017	10	0.094	1

* FOR FIBERS > 10um ONLY

Outfall 009

ANALYTICAL RESULTS

Laboratory I.D.	Client I.D.	No. of Asbestos Str. All Sizes	5-9.9um	>10um	Detection Limit (MFL)	CONCENTRATION (MFL) All Sizes	5-9.9um	>10um
132965-1	ISJ1389-01*	-	-	N.D.	11.0	-	-	< 11

* FOR FIBERS > 10um ONLY

The analysis was carried out to the approved TEM method. This laboratory is in compliance with the quality specified by the method.

Authorized Signature

PC - Polycarbonate
MCE - Mixed cellulose ester
G.O. - Grid Openings
Str - Structures
MFL - Millions of fibers per liter

TEM-7A (2009Rev.)

LEVEL IV

11/16/09