

APPENDIX G

Section 59

Outfall 009, February 22, 2008

MEC^X Data Validation Reports



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IRB2341

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: IRB2341
 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	IRB2341-01	30307-001, 8022512-01, 8611- 001	Water	02/22/08 1030	200.8, 245.1, 900.0, 901.1, 903.0, 904.0, 905.0, 906.0, 1613, ASTM D-5174, SM2340-B

II. Sample Management

No anomalies were observed regarding sample management. The samples were received at TestAmerica-Irvine and Weck within the temperature limits of 4°C ±2°C. The samples were received at Vista below the temperature limit; however, the samples were not noted to be damaged or frozen. Eberline did not provide temperature information; however, radiological samples are not required to be chilled. According to the case narrative for this SDG, the samples were received intact at all laboratories. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the sample was couriered to TestAmerica-Irvine, Eberline, and Weck, custody seals were not required. Custody seals were intact upon arrival at Vista. 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.	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: K. Shadowlight

Date Reviewed: April 7, 2008

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was 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.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries 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 detects below the laboratory lower calibration level 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 METHODS 200.8, 245.1—Metals and Mercury

Reviewed By: P. Meeks

Date Reviewed: April 1, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.8 and 245.1*, and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The analytical holding times, 6 months for metals and 28 days for mercury, were met.
- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were $\leq 5\%$, and all masses of interest were calibrated to ≤ 0.1 amu and ≤ 0.9 amu at 10% peak height.
- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP-MS

metals and 85-115% for mercury. All CRI/CRA and check standard recoveries were within the control limits of 70-130%.

- Blanks: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: No ICESA/B analyses were performed in association with the sample in this SDG.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. The bracketing CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. 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.

There were no detects in the original total metals fraction. To confirm these results, the reviewer requested the laboratory to digest and analyze new aliquots for both total and dissolved metals. The dissolved metals results were similar to the original analyses but the total metals reanalysis yielded several detects. It was determined by the laboratory that in the original analysis of the total metals, the analyst inadvertently analyzed a blank instead of the total metals fraction. The original report was subsequently revised to include only the reanalysis results.

The reviewer noted that cadmium was detected marginally above the MDL in the dissolved metals sample fraction but was not detected in the total metals fraction and that antimony was detected at a slightly higher concentration in the dissolved metals fraction. In both cases, the difference between the dissolved and total results was within the sensitivity limits of the analytical instruments and, therefore, the reviewer considered the total and dissolved results to be equivalent.

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

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

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

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: April 2, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174, and the National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The tritium sample was analyzed within 180 days of collection. Aliquots for gross alpha and gross beta were prepared within the five-day analytical holding time for unpreserved samples. Aliquots for radium-226, radium-228, strontium-90, total uranium, and gamma spectroscopy were prepared beyond the five-day holding time for unpreserved samples; therefore, results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects.
- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, nondetected gross alpha in the sample was qualified as an estimated nondetect, "UJ." The gross beta detector efficiency was greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The tritium detector efficiency for the sample was marginally less than 20%; therefore, nondetected tritium was qualified as an estimated nondetect, "UJ." The strontium chemical yield was at least 70% and was considered acceptable. The strontium and radium-226 continuing calibration results were within the laboratory control limits. The radium-228 tracer, yttrium oxalate, yields were greater than 70%. 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: There were no analytes detected in the method blanks.

- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established control limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG.
- 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. 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.

Sample ID: IRB2341-01 <i>Outfall 007</i>		EPA Method 1613						
Client Data		Laboratory Data						
Name: Test America-Irvine, CA	Matrix: Aqueous	Lab Sample: 30307-001	Date Received: 26-Feb-08					
Project: IRB2341	Sample Size: 1.02 L	QC Batch No.: 9997	Date Extracted: 9-Mar-08					
Date Collected: 22-Feb-08		Date Analyzed DB-5: 10-Mar-08	Date Analyzed DB-225: NA					
Time Collected: 1030								
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000769			IS 13C-2,3,7,8-TCDD	74.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000140			13C-1,2,3,7,8-PeCDD	69.7	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000196			13C-1,2,3,4,7,8-HxCDD	69.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000274			13C-1,2,3,6,7,8-HxCDD	74.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000191			13C-1,2,3,4,6,7,8-HpCDD	72.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000144			J	13C-OCDD	63.1	17 - 157	
OCDD	0.000131				13C-2,3,7,8-TCDF	77.7	24 - 169	
2,3,7,8-TCDF	ND	0.000000689			13C-1,2,3,7,8-PeCDF	66.3	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000100			13C-2,3,4,7,8-PeCDF	67.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000105			13C-1,2,3,4,7,8-HxCDF	68.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000447			13C-1,2,3,6,7,8-HxCDF	75.6	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000104			13C-2,3,4,6,7,8-HxCDF	74.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000117			13C-1,2,3,7,8,9-HxCDF	73.4	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000150			13C-1,2,3,4,6,7,8-HpCDF	68.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000281			J	13C-1,2,3,4,7,8,9-HpCDF	68.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000142			13C-OCDF	65.0	17 - 157	
OCDF	0.00000603			J	CRS 37Cl-2,3,7,8-TCDD	112	35 - 197	
Totals								
Total TCDD	ND	0.00000114						
Total PeCDD	ND	0.00000233						
Total HxCDD	ND	0.00000472						
Total HpCDD	0.0000340							
Total TCDF	ND	0.000000689						
Total PeCDF	ND	0.00000180						
Total HxCDF	0.00000139		0.00000221					
Total HpCDF	0.00000656							
Footnotes								
a. Sample specific estimated detection limit.								
b. Estimated maximum possible concentration.								
c. Method detection limit.								
d. Lower control limit - upper control limit.								

Approved By: Martha M. Maier 14-Mar-2008 12:59

Level IV

Analyst: MAS

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2341-01RE1 (Outfall 009 - Water)									
Reporting Units: ug/l									
Antimony	J/DNQ EPA 200.8	8D02076	0.20	2.0	0.91	1	04/02/08	04/02/08	J
Cadmium	U EPA 200.8	8D02076	0.11	1.0	ND	1	04/02/08	04/02/08	
Copper	EPA 200.8	8D02076	0.75	2.0	2.7	1	04/02/08	04/02/08	
Lead	EPA 200.8	8D02076	0.30	1.0	1.6	1	04/02/08	04/02/08	
Thallium	U EPA 200.8	8D02076	0.20	1.0	ND	1	04/02/08	04/02/08	

LEVEL IV

TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IRB2341-01 (Outfall 009 - Water) - cont.										
Reporting Units: ug/l										
Antimony	J/DNR	EPA 200.8-Diss	8B22128	0.20	2.0	0.94	1	02/22/08	02/23/08	J
Cadmium	↓	EPA 200.8-Diss	8B22128	0.11	1.0	0.11	1	02/22/08	02/23/08	J
Copper		EPA 200.8-Diss	8B22128	0.75	2.0	2.6	1	02/22/08	02/23/08	
Lead	U	EPA 200.8-Diss	8B22128	0.30	1.0	ND	1	02/22/08	02/23/08	
Thallium	↓	EPA 200.8-Diss	8B22128	0.20	1.0	ND	1	02/22/08	02/23/08	

LEVEL IV

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Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2341-01 (Outfall 009 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	U	EPA 245.1	W8B0982	0.050	0.20	ND	1	02/26/08	02/27/08
Mercury, Total	↓	EPA 245.1	W8B0982	0.050	0.20	ND	1	02/26/08	02/27/08

LEVEL IV

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Project Manager

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Eberline Services

ANALYSIS RESULTS

SDG <u>8611</u>	Client <u>TA IRVINE</u>
Work Order <u>R802170-01</u>	Contract <u>PROJECT# IRB2341</u>
Received Date <u>02/26/08</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA
Client <u>Sample ID</u> outfall 009 IRB2341-01	8611-001	02/22/08	03/15/08	GrossAlpha	0.210 ± 0.53	pCi/L	0.89	UJ/R
			03/15/08	Gross Beta	1.84 ± 0.81	pCi/L	1.3	
			03/10/08	Ra-228	0.142 ± 0.19	pCi/L	0.48	UJ/H
			03/11/08	K-40 (G)	U	pCi/L	8.7	↓
			03/11/08	Cs-137 (G)	U	pCi/L	0.70	↓
			03/14/08	H-3	-113 ± 84	pCi/L	150	UJ/R
			03/13/08	Ra-226	0.153 ± 0.36	pCi/L	0.66	UJ/H
			03/10/08	Sr-90	-0.040 ± 0.36	pCi/L	0.87	↓
			03/05/08	Total U	0.515 ± 0.059	pCi/L	0.023	J/H

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/19/08</u>
Page 1

APPENDIX G

Section 60

Outfall 009, February 22, 2008

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Routine Outfall 009

Sampled: 02/22/08
Received: 02/22/08
Issued: 03/14/08 14:51

NELAP #01108CA California ELAP#1197 CSDLAC #10256

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

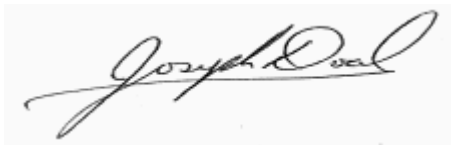
SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID
IRB2341-01

CLIENT ID
Outfall 009

MATRIX
Water

Reviewed By:



TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2341-01 (Outfall 009 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	8B23034	0.20	2.0	ND	1	02/23/08	02/25/08	
Cadmium	EPA 200.8	8B23034	0.11	1.0	ND	1	02/23/08	02/25/08	
Copper	EPA 200.8	8B23034	0.75	2.0	ND	1	02/23/08	02/25/08	
Lead	EPA 200.8	8B23034	0.30	1.0	ND	1	02/23/08	02/25/08	
Thallium	EPA 200.8	8B23034	0.20	1.0	ND	1	02/23/08	02/25/08	

TestAmerica Irvine

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Project Manager

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NPDES - 2327

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08

Received: 02/22/08

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2341-01 (Outfall 009 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	8B22128	0.20	2.0	0.94	1	02/22/08	02/23/08	J
Cadmium	EPA 200.8-Diss	8B22128	0.11	1.0	0.11	1	02/22/08	02/23/08	J
Copper	EPA 200.8-Diss	8B22128	0.75	2.0	2.6	1	02/22/08	02/23/08	
Lead	EPA 200.8-Diss	8B22128	0.30	1.0	ND	1	02/22/08	02/23/08	
Thallium	EPA 200.8-Diss	8B22128	0.20	1.0	ND	1	02/22/08	02/23/08	

TestAmerica Irvine

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Project Manager

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NPDES - 2328

MWH-Pasadena/Boeing
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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08

Received: 02/22/08

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2341-01 (Outfall 009 - Water) - cont.									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	8C03074	1.3	4.7	1.4	1	03/03/08	03/03/08	J
Chloride	EPA 300.0	8B22040	0.25	0.50	13	1	02/22/08	02/23/08	
Nitrate/Nitrite-N	EPA 300.0	8B22040	0.15	0.26	1.5	1	02/22/08	02/23/08	
Sulfate	EPA 300.0	8B22040	0.20	0.50	26	1	02/22/08	02/23/08	
Total Dissolved Solids	SM2540C	8B26076	10	10	140	1	02/26/08	02/26/08	

TestAmerica Irvine

Joseph Doak
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08

Received: 02/22/08

Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRB2341-01 (Outfall 009 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W8B0982	0.050	0.20	ND	1	02/26/08	02/27/08	
Mercury, Total	EPA 245.1	W8B0982	0.050	0.20	ND	1	02/26/08	02/27/08	

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IRB2341 <Page 5 of 15>
NPDES - 2330

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08

Received: 02/22/08

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (IRB2341-01) - Water					
EPA 300.0	2	02/22/2008 10:30	02/22/2008 19:05	02/22/2008 21:00	02/23/2008 00:18
Filtration	1	02/22/2008 10:30	02/22/2008 19:05	02/22/2008 22:44	02/22/2008 22:44

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IRB2341 <Page 6 of 15>
NPDES - 2331

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8B23034 Extracted: 02/23/08											
Blank Analyzed: 02/25/2008 (8B23034-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 02/25/2008 (8B23034-BS1)											
Antimony	82.7	2.0	0.20	ug/l	80.0		103	85-115			
Cadmium	83.1	1.0	0.11	ug/l	80.0		104	85-115			
Copper	83.7	2.0	0.75	ug/l	80.0		105	85-115			
Lead	85.2	1.0	0.30	ug/l	80.0		106	85-115			
Thallium	84.2	1.0	0.20	ug/l	80.0		105	85-115			
Matrix Spike Analyzed: 02/25/2008 (8B23034-MS1) Source: IRB2213-01											
Antimony	90.8	2.0	0.20	ug/l	80.0	ND	113	70-130			
Cadmium	85.2	1.0	0.11	ug/l	80.0	ND	107	70-130			
Copper	78.1	2.0	0.75	ug/l	80.0	2.46	95	70-130			
Lead	76.1	1.0	0.30	ug/l	80.0	ND	95	70-130			
Thallium	76.2	1.0	0.20	ug/l	80.0	0.202	95	70-130			
Matrix Spike Analyzed: 02/25/2008 (8B23034-MS2) Source: IRB1758-01											
Antimony	88.8	2.0	0.20	ug/l	80.0	ND	111	70-130			
Cadmium	84.2	1.0	0.11	ug/l	80.0	ND	105	70-130			
Copper	78.2	2.0	0.75	ug/l	80.0	6.07	90	70-130			
Lead	79.0	1.0	0.30	ug/l	80.0	1.87	96	70-130			
Thallium	77.0	1.0	0.20	ug/l	80.0	ND	96	70-130			
Matrix Spike Dup Analyzed: 02/25/2008 (8B23034-MSD1) Source: IRB2213-01											
Antimony	90.6	2.0	0.20	ug/l	80.0	ND	113	70-130	0	20	
Cadmium	85.1	1.0	0.11	ug/l	80.0	ND	106	70-130	0	20	
Copper	77.2	2.0	0.75	ug/l	80.0	2.46	93	70-130	1	20	
Lead	75.0	1.0	0.30	ug/l	80.0	ND	94	70-130	1	20	
Thallium	74.2	1.0	0.20	ug/l	80.0	0.202	93	70-130	3	20	

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Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
 Received: 02/22/08

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8B22128 Extracted: 02/22/08											
Blank Analyzed: 02/23/2008 (8B22128-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 02/23/2008 (8B22128-BS1)											
Antimony	83.9	2.0	0.20	ug/l	80.0		105	85-115			
Cadmium	84.0	1.0	0.11	ug/l	80.0		105	85-115			
Copper	83.0	2.0	0.75	ug/l	80.0		104	85-115			
Lead	82.4	1.0	0.30	ug/l	80.0		103	85-115			
Thallium	80.2	1.0	0.20	ug/l	80.0		100	85-115			
Matrix Spike Analyzed: 02/23/2008 (8B22128-MS1) Source: IRB2337-01											
Antimony	86.6	2.0	0.20	ug/l	80.0	0.439	108	70-130			
Cadmium	83.8	1.0	0.11	ug/l	80.0	ND	105	70-130			
Copper	78.5	2.0	0.75	ug/l	80.0	ND	98	70-130			
Lead	74.4	1.0	0.30	ug/l	80.0	ND	93	70-130			
Thallium	79.2	1.0	0.20	ug/l	80.0	ND	99	70-130			
Matrix Spike Dup Analyzed: 02/23/2008 (8B22128-MSD1) Source: IRB2337-01											
Antimony	88.3	2.0	0.20	ug/l	80.0	0.439	110	70-130	2	20	
Cadmium	85.8	1.0	0.11	ug/l	80.0	ND	107	70-130	2	20	
Copper	79.1	2.0	0.75	ug/l	80.0	ND	99	70-130	1	20	
Lead	76.2	1.0	0.30	ug/l	80.0	ND	95	70-130	2	20	
Thallium	80.7	1.0	0.20	ug/l	80.0	ND	101	70-130	2	20	

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 8B22040 Extracted: 02/22/08											
Blank Analyzed: 02/22/2008 (8B22040-BLK1)											
Chloride	ND	0.50	0.25	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.20	mg/l							
LCS Analyzed: 02/22/2008 (8B22040-BS1)											
Chloride	4.90	0.50	0.25	mg/l	5.00		98	90-110			
Sulfate	9.58	0.50	0.20	mg/l	10.0		96	90-110			
Matrix Spike Analyzed: 02/22/2008 (8B22040-MS1)											
						Source: IRB2046-01					
Chloride	135	10	5.0	mg/l	50.0	91.1	89	80-120			
Sulfate	289	10	4.0	mg/l	100	205	84	80-120			
Matrix Spike Analyzed: 02/22/2008 (8B22040-MS2)											
						Source: IRB2244-02					
Chloride	20.0	0.50	0.25	mg/l	5.00	15.0	101	80-120			
Sulfate	51.5	0.50	0.20	mg/l	10.0	41.6	99	80-120			
Matrix Spike Dup Analyzed: 02/22/2008 (8B22040-MSD1)											
						Source: IRB2046-01					
Chloride	137	10	5.0	mg/l	50.0	91.1	91	80-120	1	20	
Sulfate	294	10	4.0	mg/l	100	205	89	80-120	2	20	
Batch: 8B26076 Extracted: 02/26/08											
Blank Analyzed: 02/26/2008 (8B26076-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/26/2008 (8B26076-BS1)											
Total Dissolved Solids	984	10	10	mg/l	1000		98	90-110			

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
 Received: 02/22/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 8B26076 Extracted: 02/26/08</u>											
Duplicate Analyzed: 02/26/2008 (8B26076-DUP1)						Source: IRB2347-11					
Total Dissolved Solids	705	10	10	mg/l		699			1	10	
<u>Batch: 8C03074 Extracted: 03/03/08</u>											
Blank Analyzed: 03/03/2008 (8C03074-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 03/03/2008 (8C03074-BS1)											
Hexane Extractable Material (Oil & Grease)	18.9	5.0	1.4	mg/l	20.2		94	78-114			MNR1
LCS Dup Analyzed: 03/03/2008 (8C03074-BSD1)											
Hexane Extractable Material (Oil & Grease)	19.3	5.0	1.4	mg/l	20.2		96	78-114	2	11	

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
 Received: 02/22/08

METHOD BLANK/QC DATA

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: W8B0982 Extracted: 02/26/08											
Blank Analyzed: 02/27/2008 (W8B0982-BLK1)											
Mercury, Dissolved	ND	0.20	0.050	ug/l							
Mercury, Total	ND	0.20	0.050	ug/l							
LCS Analyzed: 02/27/2008 (W8B0982-BS1)											
Mercury, Dissolved	0.920	0.20	0.050	ug/l	1.00		92	85-115			
Mercury, Total	0.920	0.20	0.050	ug/l	1.00		92	85-115			
Matrix Spike Analyzed: 02/27/2008 (W8B0982-MS1) Source: 8022631-01											
Mercury, Dissolved	1.95	0.40	0.10	ug/l	2.00	ND	98	70-130			
Mercury, Total	1.95	0.40	0.10	ug/l	2.00	0.0950	93	70-130			
Matrix Spike Analyzed: 02/27/2008 (W8B0982-MS2) Source: 8022633-01											
Mercury, Dissolved	1.91	0.40	0.10	ug/l	2.00	ND	96	70-130			
Mercury, Total	1.91	0.40	0.10	ug/l	2.00	ND	96	70-130			
Matrix Spike Dup Analyzed: 02/27/2008 (W8B0982-MSD1) Source: 8022631-01											
Mercury, Dissolved	2.00	0.40	0.10	ug/l	2.00	ND	100	70-130	2	20	
Mercury, Total	2.00	0.40	0.10	ug/l	2.00	0.0950	95	70-130	2	20	
Matrix Spike Dup Analyzed: 02/27/2008 (W8B0982-MSD2) Source: 8022633-01											
Mercury, Dissolved	1.93	0.40	0.10	ug/l	2.00	ND	96	70-130	1	20	
Mercury, Total	1.93	0.40	0.10	ug/l	2.00	ND	96	70-130	1	20	

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 Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
 Received: 02/22/08

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
IRB2341-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	1.42	4.7	15
IRB2341-01	Antimony-200.8	Antimony	ug/l	0.012	2.0	6
IRB2341-01	Cadmium-200.8	Cadmium	ug/l	0.015	1.0	4
IRB2341-01	Chloride - 300.0	Chloride	mg/l	13	0.50	150
IRB2341-01	Copper-200.8	Copper	ug/l	0.11	2.0	14
IRB2341-01	Hg_w 245.1	Mercury, Total	ug/l	0.014	0.20	0.2
IRB2341-01	Lead-200.8	Lead	ug/l	0.021	1.0	5.2
IRB2341-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	1.54	0.26	10
IRB2341-01	Sulfate-300.0	Sulfate	mg/l	26	0.50	250
IRB2341-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	139	10	850
IRB2341-01	Thallium-200.8	Thallium	ug/l	0	1.0	2

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 Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

DATA QUALIFIERS AND DEFINITIONS

- 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.
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

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Joseph Doak
Project Manager

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IRB2341 <Page 13 of 15>
NPDES - 2338

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water		
EPA 200.8-Diss	Water	X	X
EPA 200.8	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

Eberline Services

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IRB2341-01

Analysis Performed: Gross Alpha
Samples: IRB2341-01

Analysis Performed: Gross Beta
Samples: IRB2341-01

Analysis Performed: Radium, Combined
Samples: IRB2341-01

Analysis Performed: Strontium 90
Samples: IRB2341-01

Analysis Performed: Tritium
Samples: IRB2341-01

Analysis Performed: Uranium, Combined
Samples: IRB2341-01

TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 009

Report Number: IRB2341

Sampled: 02/22/08
Received: 02/22/08

Vista Analytical *NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413*

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IRB2341-01

Analysis Performed: EDD + Level 4
Samples: IRB2341-01

Weck Laboratories, Inc

14859 E. Clark Avenue - City of Industry, CA 91745

Method Performed: EPA 245.1
Samples: IRB2341-01

TestAmerica Irvine

Joseph Doak
Project Manager

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CHAIN OF CUSTODY FORM

Test America Version 12/20/07

Client Name/Address		Project		ANALYSIS REQUIRED			
MWH-Arcadia 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak		Boeing-SSFL NPDES Routine Outfall 009 Stormwater at WS-13		Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, TI TCDD (and all congeners) Oil & Grease (1664-HEM) Cl ⁻ , SO ₄ ²⁻ , NO ₃ ⁻ & NO ₂ ⁻ 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, TI			
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Field readings:
Outfall 009	W	1L Poly	1	2-22-08 10:30	HNO ₃	1A	Temp = 52.2° pH = 7.5 Time of readings = 10:30
Outfall 009-Dup	W	1L Poly	1	2-22-08 10:30	HNO ₃	1B	
Outfall 009	W	1L Amber	2		None	2A, 2B	
Outfall 009	W	1L Amber	2		HCl	3A, 3B	
Outfall 009	W	500 ml Poly	2		None	4A, 4B	
Outfall 009	W	500 ml Poly	1		None	5	
Outfall 009	W	2.5 Gal Cube 500 ml Amber	1		None	6A	
Outfall 009	W	500 ml Amber	1		None	6B	
Outfall 009	W	1 Gal Poly	1	2-22-08 10:30	None	7	
Outfall 009	W	1L Poly	1	2-22-08 10:30	None	8	
Relinquished By	Date/Time:		Received By	Date/Time:		Turn around Time: (check)	
<i>John Barron</i>	2-22-08 1400		<i>John Barron</i>	2/22/08 1400		24 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/>	
Relinquished By	Date/Time:		Received By	Date/Time:		48 Hours <input type="checkbox"/> 10 Days <input type="checkbox"/>	
<i>John Barron</i>	2/22/08 1905		<i>John Barron</i>	2/22/08 1905		72 Hours <input type="checkbox"/> Normal <input checked="" type="checkbox"/>	
Relinquished By	Date/Time:		Received By	Date/Time:		Sample Integrity: (check) <input checked="" type="checkbox"/> On Ice: <input type="checkbox"/>	
<i>John Barron</i>	2/22/08 1905		<i>John Barron</i>	2/22/08 1905		<input checked="" type="checkbox"/> <input type="checkbox"/>	

AP
2050
2/22/08

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SUBCONTRACT ORDER - PROJECT # IRB2341 v

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:

Weck Laboratories, Inc
 14859 E. Clark Avenue
 City of Industry, CA 91745
 Phone : (626) 336-2139
 Fax: (626) 336-2634
 Project Location: California

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

Analysis	Expiration	Comments
Sample ID: IRB2341-01 ✓ Water	Sampled: 02/22/08 10:30 ✓	ph=7.5 temp=52.2
Level 4 Data Package - Weck	03/21/08 10:30	Out to Weck
✓ Mercury - 245.1, Diss -OUT	03/21/08 10:30	Weck, Boeing, J flags
✓ Mercury - 245.1-OUT	03/21/08 10:30	Weck, Boeing, permit, J flags, if result > ND, call TA

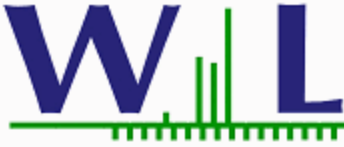
Containers Supplied:
 125 mL Poly w/HNO3 (IRB2341-01M)
 125 mL Poly (IRB2341-01N)

SAMPLE INTEGRITY:

All containers intact: Yes No
 Sample labels/COC agree: Yes No
 Samples Received On Ice: Yes No
 Custody Seals Present: Yes No
 Samples Preserved Properly: Yes No
 Samples Received at (temp): 3.70

Released By: *[Signature]* Date: 2/25/08 Time: 0940
 Received By: *[Signature]* Date: 2/25/08 Time: 0940
 Released By: *[Signature]* Date: 2/25/08 Time: 1038
 Received By: *[Signature]* Date: 2/25/08 Time: 1038

West



CERTIFICATE OF ANALYSIS

Client: TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine, CA 92614
Attention: Joseph Doak

Report Date: 02/28/08 07:51
Received Date: 02/25/08 10:38
Turn Around: Normal

Phone: (949) 261-1022
Fax: (949) 260-3297

Work Order #: 8022512
Client Project: IRB2341

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Joseph Doak :

Enclosed are the results of analyses for samples received 02/25/08 10:38 with the Chain of Custody document. The samples were received in good condition. The samples were received at 3.7 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by:

Kim G Tu

Project Manager





Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8022512
Project ID: IRB2341

Date Received: 02/25/08 10:38
Date Reported: 02/28/08 07:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IRB2341-01	Client		8022512-01	Water	02/22/08 10:30



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Date Received: 02/25/08 10:38
Date Reported: 02/28/08 07:51

IRB2341-01 8022512-01 (Water)

Date Sampled: 02/22/08 10:30

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Analyst	Data Qualifiers
Mercury, Dissolved	ND	0.050	ug/l	0.20	1	EPA 245.1	W8B0982	02/26/08	02/27/08	jlp	
Mercury, Total	ND	0.050	ug/l	0.20	1	EPA 245.1	W8B0982	02/26/08	02/27/08	jlp	



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QUALITY CONTROL SECTION



Weck Laboratories, Inc.
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Date Received: 02/25/08 10:38
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Metals by EPA 200 Series Methods - Quality Control

%REC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch W8B0982 - EPA 245.1										
Blank (W8B0982-BLK1)										
				Analyzed: 02/27/08						
Mercury, Dissolved	ND	0.20	ug/l							
Mercury, Total	ND	0.20	ug/l							
LCS (W8B0982-BS1)										
				Analyzed: 02/27/08						
Mercury, Dissolved	0.920	0.20	ug/l	1.00		92	85-115			
Mercury, Total	0.920	0.20	ug/l	1.00		92	85-115			
Matrix Spike (W8B0982-MS1)										
				Source: 8022631-01			Analyzed: 02/27/08			
Mercury, Dissolved	1.95	0.40	ug/l	2.00	ND	98	70-130			
Mercury, Total	1.95	0.40	ug/l	2.00	0.0950	93	70-130			
Matrix Spike (W8B0982-MS2)										
				Source: 8022633-01			Analyzed: 02/27/08			
Mercury, Dissolved	1.91	0.40	ug/l	2.00	ND	96	70-130			
Mercury, Total	1.91	0.40	ug/l	2.00	ND	96	70-130			
Matrix Spike Dup (W8B0982-MSD1)										
				Source: 8022631-01			Analyzed: 02/27/08			
Mercury, Dissolved	2.00	0.40	ug/l	2.00	ND	100	70-130	2	20	
Mercury, Total	2.00	0.40	ug/l	2.00	0.0950	95	70-130	2	20	
Matrix Spike Dup (W8B0982-MSD2)										
				Source: 8022633-01			Analyzed: 02/27/08			
Mercury, Dissolved	1.93	0.40	ug/l	2.00	ND	96	70-130	0.9	20	
Mercury, Total	1.93	0.40	ug/l	2.00	ND	96	70-130	0.9	20	



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Report ID: 8022512
Project ID: IRB2341

Date Received: 02/25/08 10:38
Date Reported: 02/28/08 07:51

Notes and Definitions

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.



EBERLINE

SERVICES

March 20, 2008

Mr. Joseph Doak
Test America, Inc.
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Reference: Test America Project Nos. IRB1995, IRB2337, IRB2341, IRB2342, IRB2399
IRB2400, IRB2401, IRB2403
Eberline Services NELAP Cert #01120CA
Eberline Services Reports R802140-8609, R802169-8610, R802170-8611
R802171-8612, R802172-8613, R802173-8614
R802174-8615, R802175-8616

Dear Mr. Doak:

Attached are data reports for eight water samples. The samples were received at Eberline Services on February 22, 26, 2008 under eight separate Test America subcontract orders. The samples were analyzed according to the accompanying Test America Subcontract Order Forms, the requested analyses were: gross alpha/gross beta (EPA 900.0), tritium (H-3, EPA906.0), Sr-90 (EPA905.0), Ra-226 (EPA903.1), Ra-228 (EPA 904.0), total uranium (ASTM D-5174), and gamma spectroscopy (EPA901.1, K-40 and Cs-137 only). The parenthetical G after a nuclide indicates that the result was obtained by gamma spectroscopy; a "U" in the results column indicates that the nuclide was not detected greater than the indicated minimum detectable activity (MDA). The samples were not filtered prior to analysis. The samples were analyzed in batches with common QC samples. Batch quality control samples consisted of LCS's, blank analyses, duplicate analyses, and matrix spike analyses (gross alpha/gross beta, H-3, Ra-226, Total-U only). All samples were batched with QC samples 8609-002, 003, 004, and 005 for all analyses. All QC sample results were within the limits defined in Eberline Services Quality Control Procedures Manual.

Please call me if you have any questions concerning this report.

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Reports


Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com
NPDES - 2349

Eberline Services

ANALYSIS RESULTS

SDG <u>8611</u>	Client <u>TA IRVINE</u>
Work Order <u>R802170-01</u>	Contract <u>PROJECT# IRB2341</u>
Received Date <u>02/26/08</u>	Matrix <u>WATER</u>

Client	Lab						
<u>Sample ID</u>	<u>Sample ID</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
IRB2341-01	8611-001	02/22/08	03/15/08	GrossAlpha	0.210 ± 0.53	pCi/L	0.89
			03/15/08	Gross Beta	1.84 ± 0.81	pCi/L	1.3
			03/10/08	Ra-228	0.142 ± 0.19	pCi/L	0.48
			03/11/08	K-40 (G)	U	pCi/L	8.7
			03/11/08	Cs-137 (G)	U	pCi/L	0.70
			03/14/08	H-3	-113 ± 84	pCi/L	150
			03/13/08	Ra-226	0.153 ± 0.36	pCi/L	0.66
			03/10/08	Sr-90	-0.040 ± 0.36	pCi/L	0.87
			03/05/08	Total U	0.515 ± 0.059	pCi/L	0.023

Certified by <u></u>
Report Date <u>03/19/08</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8611</u>	Client <u>TA IRVINE</u>
Work Order <u>R802170-01</u>	Contract <u>PROJECT# IRB2341</u>
Received Date <u>02/26/08</u>	Matrix <u>WATER</u>

Lab						
Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>						
8609-002	GrossAlpha	12.8 ± 0.90	pCi/Smpl	10.2	0.25	125% recovery
	Gross Beta	8.65 ± 0.36	pCi/Smpl	9.37	0.27	92% recovery
	Ra-228	9.55 ± 0.58	pCi/Smpl	8.63	0.79	111% recovery
	Co-60 (G)	216 ± 6.8	pCi/Smpl	223	3.1	97% recovery
	Cs-137 (G)	247 ± 6.5	pCi/Smpl	235	4.3	105% recovery
	Am-241 (G)	208 ± 15	pCi/Smpl	254	17	82% recovery
	H-3	222 ± 14	pCi/Smpl	239	15	93% recovery
	Ra-226	4.52 ± 0.24	pCi/Smpl	4.46	0.081	101% recovery
	Sr-90	10.4 ± 0.75	pCi/Smpl	9.38	0.30	111% recovery
	Total U	1.10 ± 0.13	pCi/Smpl	1.13	0.005	97% recovery

<u>BLANK</u>						
Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
8609-003	GrossAlpha	0 ± 0.15	pCi/Smpl	NA	0.28	<MDA
	Gross Beta	-0.185 ± 0.27	pCi/Smpl	NA	0.44	<MDA
	Ra-228	-0.178 ± 0.26	pCi/Smpl	NA	0.76	<MDA
	K-40 (G)	U	pCi/Smpl	NA	140	<MDA
	Cs-137 (G)	U	pCi/Smpl	NA	5.3	<MDA
	H-3	-3.37 ± 8.5	pCi/Smpl	NA	14	<MDA
	Ra-226	-0.003 ± 0.035	pCi/Smpl	NA	0.071	<MDA
	Sr-90	-0.157 ± 0.21	pCi/Smpl	NA	0.57	<MDA
	Total U	0.00E 00 ± 2.0E-04	pCi/Smpl	NA	4.6E-04	<MDA

<u>DUPLICATES</u>				<u>ORIGINALS</u>					
Sample ID	Nuclide	Results ± 2σ	MDA	Sample ID	Results ± 2σ	MDA	RPD	(Tot)	Eval
8609-004	GrossAlpha	1.98 ± 1.7	2.4	8609-001	3.00 ± 2.0	2.8	41	164	satis.
	Gross Beta	4.45 ± 1.4	2.0		2.91 ± 2.0	3.3	42	108	satis.
	K-40 (G)	U	20		U	39	-	0	satis.
	Cs-137 (G)	U	1.1		U	1.7	-	0	satis.
	H-3	-43.9 ± 86	150		-40.9 ± 84	140	-	0	satis.
	Ra-226	0.125 ± 0.40	0.74		-0.003 ± 0.41	0.79	-	0	satis.
	Sr-90	0.093 ± 0.38	0.86		0.137 ± 0.49	1.1	-	0	satis.
	Total U	1.19 ± 0.13	0.023		1.30 ± 0.15	0.023	9	31	satis.

Certified by

Report Date 03/19/08

Page 2

Eberline Services

QC RESULTS

SDG 8611
Work Order R802170-01
Received Date 02/26/08

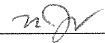
Client TA IRVINE
Contract PROJECT# IRB2341
Matrix WATER

SPIKED SAMPLE

<u>Sample ID</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>MDA</u>
8609-005	GrossAlpha	207 ± 11	2.6
	Gross Beta	148 ± 4.0	2.4
	H-3	14800 ± 280	150
	Ra-226	113 ± 4.4	0.81
	Total U	113 ± 14	2.3

ORIGINAL SAMPLE

<u>Sample ID</u>	<u>Results ± 2σ</u>	<u>MDA</u>	<u>Added</u>	<u>%Recv</u>
8609-001	3.00 ± 2.0	2.8	164	124
	2.91 ± 2.0	3.3	144	101
	-40.9 ± 84	140	16000	93
	-0.003 ± 0.41	0.79	112	101
	1.30 ± 0.15	0.023	113	99

Certified by 
Report Date 03/19/08
Page 3

SUBCONTRACT ORDER

TestAmerica Irvine

IRB2341

8/6/11

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:

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

Analysis	Units	Due	Expires	Comments
Sample ID: IRB2341-01	Water		Sampled: 02/22/08 10:30	ph=7.5 temp=52.2
Gamma Spec-O	mg/kg	03/04/08	02/21/09 10:30	Boeing, permit, J flags, K-40 and CS-137 only
Gross Alpha-O	pCi/L	03/04/08	08/20/08 10:30	Boeing, permit, J flags
Gross Beta-O	pCi/L	03/04/08	08/20/08 10:30	Boeing, permit, J flags
Level 4 Data Package - Out	N/A	03/04/08	03/21/08 10:30	
Radium, Combined-O	pCi/L	03/04/08	02/21/09 10:30	Boeing, permit, J flags
Strontium 90-O	pCi/L	03/04/08	02/21/09 10:30	Boeing, permit, J flags
Tritium-O	pCi/L	03/04/08	02/21/09 10:30	Boeing, permit, J flags
Uranium, Combined-O	pCi/L	03/04/08	02/21/09 10:30	Boeing, permit, J flags

Containers Supplied:

1 (2.5 gal. Poly) 1 (500 ml Amber)


 Released By _____
 Date/Time _____
 FED EX
 Released By _____
 Date/Time _____

FedEx
 Received By _____
 Date/Time _____
flex kulusol
 Received By _____
 Date/Time _____



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received 2/26/08 10:00 CoC No. IRB2341

Container I.D. No. TEST AMER. Requested TAT (Days) STAND P.O. Received Yes [] No []

INSPECTION

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

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
15. Inspected by JK Date 2/26/08 Time: 12:40

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>IRB2341</u>	<u><60</u>						

Ion Chamber Ser. No. _____
 Alpha Meter Ser. No. _____
 Beta/Gamma Meter Ser. No. 100482

Calibration date _____
 Calibration date _____
 Calibration date 9 may 2007

March 14, 2008

Vista Project I.D.: 30307

Mr. Joseph Doak
Test America-Irvine, CA
17461 Derian Avenue
Suite 100
Irvine, CA 92614

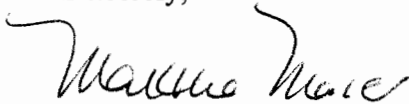
Dear Mr. Doak,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on February 26, 2008 under your Project Name "IRB2341". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha M. Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.



Section I: Sample Inventory Report

Date Received: 2/26/2008

Vista Lab. ID

Client Sample ID

30307-001

IRB2341-01

SECTION II

Method Blank					EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	9997	Lab Sample:	0-MB001	Date Analyzed DB-5:	10-Mar-08	Date Analyzed DB-225:	NA
Sample Size:	1.00 L	Date Extracted:	9-Mar-08						
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers	
2,3,7,8-TCDD	ND	0.00000937			IS 13C-2,3,7,8-TCDD	87.0	25 - 164		
1,2,3,7,8-PeCDD	ND	0.00000106			13C-1,2,3,7,8-PeCDD	77.8	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.00000142			13C-1,2,3,4,7,8-HxCDD	82.4	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.00000142			13C-1,2,3,6,7,8-HxCDD	88.5	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.00000136			13C-1,2,3,4,6,7,8-HpCDD	81.0	23 - 140		
1,2,3,4,6,7,8-HpCDD	ND	0.00000250			13C-OCDD	72.3	17 - 157		
OCDD	ND	0.00000890			13C-2,3,7,8-TCDF	85.2	24 - 169		
2,3,7,8-TCDF	ND	0.000000547			13C-1,2,3,7,8-PeCDF	73.1	24 - 185		
1,2,3,7,8-PeCDF	ND	0.000000924			13C-2,3,4,7,8-PeCDF	73.2	21 - 178		
2,3,4,7,8-PeCDF	ND	0.000000985			13C-1,2,3,4,7,8-HxCDF	82.4	26 - 152		
1,2,3,4,7,8-HxCDF	ND	0.000000699			13C-1,2,3,6,7,8-HxCDF	94.2	26 - 123		
1,2,3,6,7,8-HxCDF	ND	0.000000669			13C-2,3,4,6,7,8-HxCDF	89.8	28 - 136		
2,3,4,6,7,8-HxCDF	ND	0.000000795			13C-1,2,3,7,8,9-HxCDF	83.4	29 - 147		
1,2,3,7,8,9-HxCDF	ND	0.00000107			13C-1,2,3,4,6,7,8-HpCDF	79.0	28 - 143		
1,2,3,4,6,7,8-HpCDF	ND	0.000000964			13C-1,2,3,4,7,8,9-HpCDF	81.7	26 - 138		
1,2,3,4,7,8,9-HpCDF	ND	0.00000105			13C-OCDF	72.4	17 - 157		
OCDF	ND	0.00000275			CRS 37Cl-2,3,7,8-TCDD	113	35 - 197		
Totals					Footnotes				
Total TCDD	ND	0.000000937			a. Sample specific estimated detection limit.				
Total PeCDD	ND	0.00000167			b. Estimated maximum possible concentration.				
Total HxCDD	ND	0.00000235			c. Method detection limit.				
Total HpCDD	ND	0.00000320			d. Lower control limit - upper control limit.				
Total TCDF	ND	0.000000547							
Total PeCDF	ND	0.000000953							
Total HxCDF	ND	0.000000792							
Total HpCDF	ND	0.00000100							

Analyst: MAS

Approved By: Martha M. Maier 14-Mar-2008 12:59

OPR Results				EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	9997	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	9-Mar-08	Date Analyzed DB-5:	10-Mar-08	Date Analyzed DB-225:	NA
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	10.5	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	84.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	50.9	35 - 71	13C-1,2,3,7,8-PeCDD	78.2	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	49.8	35 - 82	13C-1,2,3,4,7,8-HxCDD	77.7	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	50.3	38 - 67	13C-1,2,3,6,7,8-HxCDD	80.5	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	50.3	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	51.0	35 - 70	13C-OCDD	67.4	17 - 157	
OCDD	100	102	78 - 144	13C-2,3,7,8-TCDF	82.6	24 - 169	
2,3,7,8-TCDF	10.0	9.70	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	72.2	24 - 185	
1,2,3,7,8-PeCDF	50.0	51.5	40 - 67	13C-2,3,4,7,8-PeCDF	73.8	21 - 178	
2,3,4,7,8-PeCDF	50.0	51.5	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.8	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	52.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	82.8	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	52.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	78.7	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	53.6	35 - 78	13C-1,2,3,7,8,9-HxCDF	78.2	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	51.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	74.8	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	52.4	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	75.3	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	52.1	39 - 69	13C-OCDF	67.4	17 - 157	
OCDF	100	103	63 - 170	CRS 37Cl-2,3,7,8-TCDD	107	35 - 197	

Analyst: MAS

Approved By: Martha M. Maier 14-Mar-2008 12:59

Sample ID: IRB2341-01					EPA Method 1613			
Client Data			Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA		Matrix:	Aqueous	Lab Sample:	30307-001	Date Received:	26-Feb-08
Project:	IRB2341		Sample Size:	1.02 L	QC Batch No.:	9997	Date Extracted:	9-Mar-08
Date Collected:	22-Feb-08				Date Analyzed DB-5:	10-Mar-08	Date Analyzed DB-225:	NA
Time Collected:	1030							
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000769			IS 13C-2,3,7,8-TCDD	74.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0000140			13C-1,2,3,7,8-PeCDD	69.7	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0000196			13C-1,2,3,4,7,8-HxCDD	69.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0000274			13C-1,2,3,6,7,8-HxCDD	74.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0000191			13C-1,2,3,4,6,7,8-HpCDD	72.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000144			J	13C-OCDD	63.1	17 - 157	
OCDD	0.000131				13C-2,3,7,8-TCDF	77.7	24 - 169	
2,3,7,8-TCDF	ND	0.00000689			13C-1,2,3,7,8-PeCDF	66.3	24 - 185	
1,2,3,7,8-PeCDF	ND	0.0000100			13C-2,3,4,7,8-PeCDF	67.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.0000105			13C-1,2,3,4,7,8-HxCDF	68.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000447			13C-1,2,3,6,7,8-HxCDF	75.6	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.0000104			13C-2,3,4,6,7,8-HxCDF	74.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.0000117			13C-1,2,3,7,8,9-HxCDF	73.4	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.0000150			13C-1,2,3,4,6,7,8-HpCDF	68.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000281			J	13C-1,2,3,4,7,8,9-HpCDF	68.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.0000142			13C-OCDF	65.0	17 - 157	
OCDF	0.0000603			J	CRS 37Cl-2,3,7,8-TCDD	112	35 - 197	
Totals					Footnotes			
Total TCDD	ND	0.0000114			a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.0000233			b. Estimated maximum possible concentration.			
Total HxCDD	ND	0.0000472			c. Method detection limit.			
Total HpCDD	0.0000340				d. Lower control limit - upper control limit.			
Total TCDF	ND	0.00000689						
Total PeCDF	ND	0.0000180						
Total HxCDF	0.0000139		0.00000221					
Total HpCDF	0.0000656							

Analyst: MAS

Approved By: Martha M. Maier 14-Mar-2008 12:59

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

SUBCONTRACT ORDER

TestAmerica Irvine

IRB2341

30307 1.3°


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:

Vista Analytical Laboratory- SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone : (916) 673-1520
Fax: (916) 673-0106
Project Location: California
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRB2341-01	Water			Sampled: 02/22/08 10:30 ph=7.5 temp=52.2
1613-Dioxin-HR-Alta	ug/l	03/04/08	02/29/08 10:30	J flags,17 congeners,no TEQ,ug/L,sub=Vista
EDD + Level 4	N/A	03/04/08	03/21/08 10:30	Excel EDD email to pm,Include Std logs for Lvl IV
<i>Containers Supplied:</i>				
1 L Amber (C)	1 L Amber (D)			



 Released By _____ Date/Time 2/25/08 1700
 Released By Fedex Date/Time 2/26/08

Received By Fedex Date/Time 2/25/08 1700
 Received By Amin B... Date/Time 2/27/08 0928

SAMPLE LOG-IN CHECKLIST



Vista Project #: 30307

TAT unspecified

Samples Arrival:	Date/Time <u>2/26/08 0910</u>	Initials: <u>BBB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>2/27/08 0901</u>	Initials: <u>DB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>E 2</u>
Delivered By:	<u>FedEx</u> UPS	Cal	DHL
			Hand Delivered
Other			
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
			None
Temp °C	<u>1.3°</u>	Time: <u>0932</u>	Thermometer ID: IR-1

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill	<input checked="" type="checkbox"/>		
Trk # <u>7983 8170 4163</u>			
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?			<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?			<input checked="" type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			<u>None</u>
Shipping Container	Vista	<u>Client</u>	Retain
			<u>Return</u>
			Dispose

Comments:

APPENDIX G

Section 61

Outfall 010, January 5, 2008

MEC^X Data Validation Reports



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IRA0400

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: IRA0400
 Project Manager: B. Kelly
 Matrix: Soil
 QC Level: IV
 No. of Samples: 1
 No. of Reanalyses/Dilutions: 1
 Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 010	IRA0400-01	30126-001, 8010770-01, 8679- 001	Water	01/05/08 0920	200.8, 245.1, 300.0, 900.0, 901.1, 903.1, 904.0, 905.0, 906.0, 1613, ASTM D-5174
Outfall 010RE	IRA0400-01RE	N/A	Water	01/05/08 0920	300.0

II. Sample Management

No anomalies were observed regarding sample management. The sample in this SDG was received at TestAmerica-Irvine, Eberline, and Weck within the temperature limits of 4°C ±2°C. The sample was received below the temperature limits at Vista; however, the sample was not noted to have been frozen. According to the case narrative for this SDG, the sample was received intact at all laboratories. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the sample was couriered to TestAmerica-Irvine, custody seals were not required. Custody seals were intact upon arrival at Eberline, Vista, and Weck. 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.	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: K. Shadowlight

Date Reviewed: February 28, 2008

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was 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.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries 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 detects below the laboratory lower calibration level 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 METHODS 200.8, 245.1—Metals and Mercury

Reviewed By: P. Meeks

Date Reviewed: February 29, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.8 and 245.1*, and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The analytical holding times, 6 months for metals and 28 days for mercury, were met.
- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were $\leq 5\%$, and all masses of interest were calibrated to ≤ 0.1 amu and ≤ 0.9 amu at 10% peak height.
- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP-MS metals and 85-115% for mercury.

- Blanks: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: ICSA/B analyses were performed in association with the total metals analyses only. Recoveries were within the method-established control limits. Cadmium, copper, and lead were reported in the 6020 ICSA solution; however, the reviewer was not able to ascertain if the detection was indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for the 6020 total metals only. All recoveries and RPDs were within the laboratory-established control limits. Evaluation of mercury method accuracy was based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. The bracketing CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. 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.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: March 3, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174, and the National Functional Guidelines for Inorganic Data Review (2/94)*.

- **Holding Times:** The tritium sample was analyzed within 180 days of collection. Aliquots for gross alpha, gross beta, radium-226, radium-228, strontium-90, and gamma spectroscopy were prepared within the five-day analytical holding time for unpreserved samples. The aliquot for total uranium was prepared within five days of collection.
- **Calibration:** The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha detector efficiency was less than 20%; therefore, nondetected gross alpha in the sample was qualified as an estimated nondetect, "UJ." The gross beta detector efficiency was greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The tritium detector efficiency for the sample was at least 20% and was considered acceptable. The internal spike efficiency to default efficiency ratios was near 1, indicating that quenching did not occur.

The strontium chemical yield was at least 70% and was considered acceptable. The strontium continuing calibration results were within the laboratory control limits.

The radium-226 cell efficiencies were determined in September 2006. The radium-226 continuing calibration results were within the laboratory-established control limits. The radium-228 calibration utilized actinium-228 and was verified in February 2001. The radium-228 tracer, yttrium oxalate yields were greater than 70%.

The gamma spectroscopy geometry-specific, detector efficiencies were determined in September 1999 and February 2007. All analytes were determined at the maximum photopeak energy.

The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All calibration check standard recoveries were within 90-110% and were deemed acceptable.

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

- Blank Spikes and Laboratory Control Samples: The gross alpha recovery was above the control limit at 129%; however, gross alpha was not detected in the samples. The remaining recoveries were within laboratory-established control limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. 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.

D. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: March 3, 2008

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 300.0* and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The sample was originally analyzed within the 48-hour holding time for nitrate/nitrite. The sample was subsequently reanalyzed outside of holding time. Nitrate/nitrite reported in the reanalysis was qualified as estimated, “J.”
- Calibration: Calibration criteria were met. Initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110%.
- Blanks: There were no applicable detects in the method blanks or CCBs.
- Blank Spikes and Laboratory Control Samples: A nitrate/nitrite LCS recovery was not listed by the laboratory, but during the review of the raw data, the reviewer noted an

acceptable recovery. An LCS was also analyzed with the reanalysis and the reviewer noted an acceptable nitrate/nitrite recovery.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed. Method accuracy was evaluated based on LCS results.
- Sample Result Verification: The sample results were verified against the raw data. No transcription or calculation errors were noted. After the original analysis, the laboratory determined that the original analysis was performed on a sample aliquot that had been preserved with nitric acid. The laboratory subsequently reanalyzed the sample from an unpreserved aliquot. The reviewer rejected, "R," the original nitrate/nitrite result in favor of the reanalysis 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.

Sample ID: IRA0400-01 *Outfall 010* **EPA Method 1613**

Client Data
 Name: Test America-Irvine, CA
 Project: IRA0400
 Date Collected: 5-Jan-08
 Time Collected: 0920

Sample Data
 Matrix: Aqueous
 Sample Size: 1.01 L

Laboratory Data
 Lab Sample: 30126-001
 QC Batch No.: 9886
 Date Analyzed DB-5: 19-Jan-08
 Date Received: 8-Jan-08
 Date Extracted: 17-Jan-08
 Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000123			IS 13C-2,3,7,8-TCDD	77.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000244			13C-1,2,3,7,8-PeCDD	69.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000226			13C-1,2,3,4,7,8-HxCDD	66.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000236			13C-1,2,3,6,7,8-HxCDD	66.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000222			13C-1,2,3,4,6,7,8-HpCDD	74.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000445			13C-OCDD	60.7	17 - 157	
OCDD	0.0000227			J	13C-2,3,7,8-TCDF	74.8	24 - 169	
2,3,7,8-TCDF	ND	0.00000105			13C-1,2,3,7,8-PeCDF	62.8	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000171			13C-2,3,4,7,8-PeCDF	66.4	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000162			13C-1,2,3,4,7,8-HxCDF	63.7	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000759			13C-1,2,3,6,7,8-HxCDF	64.4	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000831			13C-2,3,4,6,7,8-HxCDF	66.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000866			13C-1,2,3,7,8,9-HxCDF	67.8	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000116			13C-1,2,3,4,6,7,8-HpCDF	75.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000822			13C-1,2,3,4,7,8,9-HpCDF	68.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000112			13C-OCDF	58.5	17 - 157	
OCDF	ND	0.00000498			CRS 37Cl-2,3,7,8-TCDD	103	35 - 197	

Totals

Total TCDD	ND	0.00000123		
Total PeCDD	ND	0.00000312		
Total HxCDD	ND	0.00000228		
Total HpCDD	0.00000333			
Total TCDF	ND	0.00000105		
Total PeCDF	ND	0.00000166		
Total HxCDF	ND	0.000000896		
Total HpCDF	ND	0.000000951		

Footnotes

a. Sample specific estimated detection limit.
 b. Estimated maximum possible concentration.
 c. Method detection limit.
 d. Lower control limit - upper control limit.

Analyst: MAS

Approved By: Martha M. Maier

23-Jan-2008 09:52

Level II

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	8A07086	0.20	2.0	0.35	1	01/07/08	01/08/08	J
Cadmium	EPA 200.8	8A07086	0.11	1.0	ND	1	01/07/08	01/08/08	
Copper	EPA 200.8	8A07086	0.75	2.0	ND	1	01/07/08	01/08/08	
Lead	EPA 200.8	8A07086	0.30	1.0	ND	1	01/07/08	01/08/08	
Thallium	EPA 200.8	8A07086	0.20	1.0	ND	1	01/07/08	01/08/08	

LEVEL IV

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IRA0400 <Page 3 of 15>

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

Project ID: Routine Outfall 010
Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	8A08129	0.20	2.0	0.33	1	01/08/08	01/08/08	J
Cadmium	EPA 200.8-Diss	8A08129	0.11	1.0	ND	1	01/08/08	01/08/08	
Copper	EPA 200.8-Diss	8A08129	0.75	2.0	ND	1	01/08/08	01/08/08	
Lead	EPA 200.8-Diss	8A08129	0.30	1.0	ND	1	01/08/08	01/08/08	
Thallium	EPA 200.8-Diss	8A08129	0.20	1.0	ND	1	01/08/08	01/08/08	

LEVEL IV

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IRA0400 <Page 4 of 15>

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

Project ID: Routine Outfall 010
Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W8A0148	0.050	0.20	ND	1	01/08/08	01/09/08	
Mercury, Total	EPA 245.1	W8A0148	0.050	0.20	ND	1	01/08/08	01/09/08	

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IRA0400 <Page 6 of 15>

Eberline Services

ANALYSIS RESULTS

SDG <u>8679</u>	Client <u>TA IRVINE</u>
Work Order <u>R801026-01</u>	Contract <u>PROJECT# IRA0400</u>
Received Date <u>01/08/08</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA
Client <u>Sample ID</u> Outfall 010 IRA0400-01	8679-001	01/05/08	01/24/08	GrossAlpha	-0.213 ± 0.79	pCi/L	1.4	UJ/R
			01/24/08	Gross Beta	13.0 ± 1.3	pCi/L	1.7	
			01/23/08	Ra-228	-0.111 ± 0.18	pCi/L	0.42	U
			01/14/08	K-40 (G)	U	pCi/L	22	U
			01/14/08	Cs-137 (G)	U	pCi/L	0.88	U
			01/23/08	H-3	-38.8 ± 88	pCi/L	150	U
			01/25/08	Ra-226	-0.081 ± 0.38	pCi/L	0.84	U
			01/28/08	Sr-90	0.213 ± 0.41	pCi/L	0.87	U
			02/15/08	Total U	0.212 ± 0.034	pCi/L	0.021	U

LEVEL IV

pm 3/5/08

Certified by <u>[Signature]</u>
Report Date <u>02/19/08</u>
Page 1

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
 Received: 01/05/08

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water) - cont.									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	8A07065	1.3	4.7	ND	1	01/07/08	01/07/08	
Chloride *	EPA 300.0	8A06026	5.0	10	43	20	01/06/08	01/06/08	
Nitrate/Nitrite-N R/D	EPA 300.0	8A06026	15	26	400	100	01/06/08	01/06/08	A-01
Sulfate *	EPA 300.0	8A06026	4.0	10	24	20	01/06/08	01/06/08	
Total Dissolved Solids *	SM2540C	8A08084	10	10	240	1	01/08/08	01/08/08	
Sample ID: IRA0400-01RE1 (Outfall 010 - Water)									
Reporting Units: mg/l									
Nitrate/Nitrite-N J/H	EPA 300.0	8B18046	0.15	0.26	0.62	1	01/18/08	02/18/08	H

* Analysis not validated

LEVEL IV

TestAmerica Irvine

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 Project Manager

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IRA0400 <Page 5 of 15>

APPENDIX G

Section 62

Outfall 010, January 5, 2008

Test America Analytical Laboratory Report

LABORATORY REPORT

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

Project: Routine Outfall 010

Sampled: 01/05/08
Received: 01/05/08
Issued: 02/21/08 14:11

NELAP #01108CA California ELAP#1197 CSDLAC #10256

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

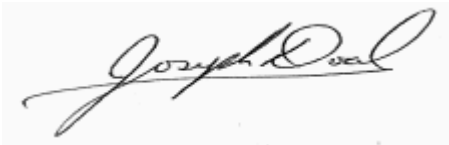
ADDITIONAL INFORMATION: This final report includes the initial and re-analysis for Nitrate+Nitrite. See corrective action.

LABORATORY ID
IRA0400-01

CLIENT ID
Outfall 010

MATRIX
Water

Reviewed By:



TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

CORRECTIVE ACTION REPORT

Department: Wet Chemistry

Date: 02/18/2008

Method: EPA 300.0

Matrix: Water

QC Batch: 8A06026

Identification and Definition of Problem:

The nitrate results for IRA0398-01 and IRA0400-01 were reported incorrectly.

Determination of the Cause of the Problem:

The nitrate results were reported from a nitric acid-preserved container due to analyst error

Corrective Action Taken:

Nitrate results for samples IRA0398-01 and IRA0400-01 have been revised to include results from the unpreserved containers provided (sample suffix RE1), albeit outside the method-specified holding time, as well as the original results from the incorrect containers. Results have been qualified to note holding time exceedance. All personnel involved with the incorrect analysis have been retrained and disciplinary taken.

Quality Assurance Approval:



Dave Dawes

Date: 02/20/2008 04:01 PM

TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08

Received: 01/05/08

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	8A07086	0.20	2.0	0.35	1	01/07/08	01/08/08	J
Cadmium	EPA 200.8	8A07086	0.11	1.0	ND	1	01/07/08	01/08/08	
Copper	EPA 200.8	8A07086	0.75	2.0	ND	1	01/07/08	01/08/08	
Lead	EPA 200.8	8A07086	0.30	1.0	ND	1	01/07/08	01/08/08	
Thallium	EPA 200.8	8A07086	0.20	1.0	ND	1	01/07/08	01/08/08	

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IRA0400 <Page 3 of 15>
NPDES - 2387

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08

Received: 01/05/08

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	8A08129	0.20	2.0	0.33	1	01/08/08	01/08/08	J
Cadmium	EPA 200.8-Diss	8A08129	0.11	1.0	ND	1	01/08/08	01/08/08	
Copper	EPA 200.8-Diss	8A08129	0.75	2.0	ND	1	01/08/08	01/08/08	
Lead	EPA 200.8-Diss	8A08129	0.30	1.0	ND	1	01/08/08	01/08/08	
Thallium	EPA 200.8-Diss	8A08129	0.20	1.0	ND	1	01/08/08	01/08/08	

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
 Received: 01/05/08

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water) - cont.									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	8A07065	1.3	4.7	ND	1	01/07/08	01/07/08	
Chloride	EPA 300.0	8A06026	5.0	10	43	20	01/06/08	01/06/08	
Nitrate/Nitrite-N	EPA 300.0	8A06026	15	26	400	100	01/06/08	01/06/08	A-01
Sulfate	EPA 300.0	8A06026	4.0	10	24	20	01/06/08	01/06/08	
Total Dissolved Solids	SM2540C	8A08084	10	10	240	1	01/08/08	01/08/08	
Sample ID: IRA0400-01RE1 (Outfall 010 - Water)									
Reporting Units: mg/l									
Nitrate/Nitrite-N	EPA 300.0	8B18046	0.15	0.26	0.62	1	01/18/08	02/18/08	H

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRA0400-01 (Outfall 010 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W8A0148	0.050	0.20	ND	1	01/08/08	01/09/08	
Mercury, Total	EPA 245.1	W8A0148	0.050	0.20	ND	1	01/08/08	01/09/08	

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NPDES - 2390

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08

Received: 01/05/08

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 010 (IRA0400-01) - Water					
EPA 300.0	2	01/05/2008 09:20	01/05/2008 19:00	01/06/2008 07:00	01/06/2008 10:49
Sample ID: Outfall 010 (IRA0400-01RE1) - Water					
EPA 300.0	2	01/05/2008 09:20	01/05/2008 19:00	01/18/2008 07:00	02/18/2008 11:48

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NPDES - 2391

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
 Received: 01/05/08

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 8A07086 Extracted: 01/07/08											
Blank Analyzed: 01/08/2008 (8A07086-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 01/08/2008 (8A07086-BS1)											
Antimony	81.7	2.0	0.20	ug/l	80.0		102	85-115			
Cadmium	86.8	1.0	0.11	ug/l	80.0		109	85-115			
Copper	84.2	2.0	0.75	ug/l	80.0		105	85-115			
Lead	85.6	1.0	0.30	ug/l	80.0		107	85-115			
Thallium	90.0	1.0	0.20	ug/l	80.0		113	85-115			
Matrix Spike Analyzed: 01/08/2008 (8A07086-MS1) Source: IRA0400-01											
Antimony	83.3	2.0	0.20	ug/l	80.0	0.351	104	70-130			
Cadmium	86.4	1.0	0.11	ug/l	80.0	ND	108	70-130			
Copper	81.9	2.0	0.75	ug/l	80.0	ND	102	70-130			
Lead	86.5	1.0	0.30	ug/l	80.0	ND	108	70-130			
Thallium	93.0	1.0	0.20	ug/l	80.0	ND	116	70-130			
Matrix Spike Dup Analyzed: 01/08/2008 (8A07086-MSD1) Source: IRA0400-01											
Antimony	83.0	2.0	0.20	ug/l	80.0	0.351	103	70-130	0	20	
Cadmium	86.4	1.0	0.11	ug/l	80.0	ND	108	70-130	0	20	
Copper	82.1	2.0	0.75	ug/l	80.0	ND	103	70-130	0	20	
Lead	86.0	1.0	0.30	ug/l	80.0	ND	108	70-130	1	20	
Thallium	93.9	1.0	0.20	ug/l	80.0	ND	117	70-130	1	20	

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 8A08129 Extracted: 01/08/08											
Blank Analyzed: 01/08/2008 (8A08129-BLK1)											
Antimony	ND	2.0	0.20	ug/l							
Cadmium	ND	1.0	0.11	ug/l							
Copper	ND	2.0	0.75	ug/l							
Lead	ND	1.0	0.30	ug/l							
Thallium	ND	1.0	0.20	ug/l							
LCS Analyzed: 01/08/2008 (8A08129-BS1)											
Antimony	78.0	2.0	0.20	ug/l	80.0		98	85-115			
Cadmium	79.9	1.0	0.11	ug/l	80.0		100	85-115			
Copper	76.8	2.0	0.75	ug/l	80.0		96	85-115			
Lead	85.3	1.0	0.30	ug/l	80.0		107	85-115			
Thallium	86.4	1.0	0.20	ug/l	80.0		108	85-115			
Matrix Spike Analyzed: 01/08/2008 (8A08129-MS1) Source: IRA0393-01											
Antimony	79.2	2.0	0.20	ug/l	80.0	0.570	98	70-130			
Cadmium	76.6	1.0	0.11	ug/l	80.0	ND	96	70-130			
Copper	76.2	2.0	0.75	ug/l	80.0	2.23	92	70-130			
Lead	83.2	1.0	0.30	ug/l	80.0	ND	104	70-130			
Thallium	84.3	1.0	0.20	ug/l	80.0	ND	105	70-130			
Matrix Spike Dup Analyzed: 01/08/2008 (8A08129-MSD1) Source: IRA0393-01											
Antimony	79.1	2.0	0.20	ug/l	80.0	0.570	98	70-130	0	20	
Cadmium	76.4	1.0	0.11	ug/l	80.0	ND	96	70-130	0	20	
Copper	76.0	2.0	0.75	ug/l	80.0	2.23	92	70-130	0	20	
Lead	82.9	1.0	0.30	ug/l	80.0	ND	104	70-130	0	20	
Thallium	83.6	1.0	0.20	ug/l	80.0	ND	104	70-130	1	20	

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
 Received: 01/05/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 8A06026 Extracted: 01/06/08</u>											
Blank Analyzed: 01/06/2008 (8A06026-BLK1)											
Chloride	ND	0.50	0.25	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	0.320	0.50	0.20	mg/l							J
LCS Analyzed: 01/06/2008 (8A06026-BS1)											
Chloride	4.53	0.50	0.25	mg/l	5.00		91	90-110			
Sulfate	9.97	0.50	0.20	mg/l	10.0		100	90-110			
Matrix Spike Analyzed: 01/06/2008 (8A06026-MS1) Source: IRA0399-01											
Chloride	12.9	0.50	0.25	mg/l	5.00	7.84	101	80-120			
Sulfate	22.3	0.50	0.20	mg/l	10.0	12.0	103	80-120			
Matrix Spike Dup Analyzed: 01/06/2008 (8A06026-MSD1) Source: IRA0399-01											
Chloride	12.6	0.50	0.25	mg/l	5.00	7.84	94	80-120	3	20	
Sulfate	21.6	0.50	0.20	mg/l	10.0	12.0	96	80-120	3	20	
<u>Batch: 8A07065 Extracted: 01/07/08</u>											
Blank Analyzed: 01/07/2008 (8A07065-BLK1)											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
LCS Analyzed: 01/07/2008 (8A07065-BS1) MNR1											
Hexane Extractable Material (Oil & Grease)	17.9	5.0	1.4	mg/l	20.2		89	78-114			
LCS Dup Analyzed: 01/07/2008 (8A07065-BSD1)											
Hexane Extractable Material (Oil & Grease)	18.6	5.0	1.4	mg/l	20.2		92	78-114	4	11	

TestAmerica Irvine

Joseph Doak
 Project Manager

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

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
 Received: 01/05/08

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 8A08084 Extracted: 01/08/08</u>											
Blank Analyzed: 01/08/2008 (8A08084-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 01/08/2008 (8A08084-BS1)											
Total Dissolved Solids	996	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 01/08/2008 (8A08084-DUP1)											
Total Dissolved Solids	238	10	10	mg/l		Source: IRA0400-01 240			1	10	
<u>Batch: 8B18046 Extracted: 02/18/08</u>											
Blank Analyzed: 02/18/2008 (8B18046-BLK1)											
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							

TestAmerica Irvine

Joseph Doak
 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
 Received: 01/05/08

METHOD BLANK/QC DATA

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: W8A0148 Extracted: 01/08/08											
Blank Analyzed: 01/09/2008 (W8A0148-BLK1)											
Mercury, Dissolved	ND	0.20	0.050	ug/l							
Mercury, Total	ND	0.20	0.050	ug/l							
LCS Analyzed: 01/09/2008 (W8A0148-BS1)											
Mercury, Dissolved	0.965	0.20	0.050	ug/l	1.00		96	85-115			
Mercury, Total	0.965	0.20	0.050	ug/l	1.00		96	85-115			
Matrix Spike Analyzed: 01/09/2008 (W8A0148-MS1) Source: 7120722-01											
Mercury, Dissolved	1.97	0.40	0.10	ug/l	2.00	ND	98	70-130			
Mercury, Total	1.97	0.40	0.10	ug/l	2.00	ND	98	70-130			
Matrix Spike Analyzed: 01/09/2008 (W8A0148-MS2) Source: 7120722-03											
Mercury, Dissolved	1.88	0.40	0.10	ug/l	2.00	ND	94	70-130			
Mercury, Total	1.88	0.40	0.10	ug/l	2.00	ND	94	70-130			
Matrix Spike Dup Analyzed: 01/09/2008 (W8A0148-MSD1) Source: 7120722-01											
Mercury, Dissolved	1.92	0.40	0.10	ug/l	2.00	ND	96	70-130	2	20	
Mercury, Total	1.92	0.40	0.10	ug/l	2.00	ND	96	70-130	2	20	
Matrix Spike Dup Analyzed: 01/09/2008 (W8A0148-MSD2) Source: 7120722-03											
Mercury, Dissolved	1.96	0.40	0.10	ug/l	2.00	ND	98	70-130	4	20	
Mercury, Total	1.96	0.40	0.10	ug/l	2.00	ND	98	70-130	4	20	

TestAmerica Irvine

Joseph Doak
 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08

Received: 01/05/08

DATA QUALIFIERS AND DEFINITIONS

- A-01** Please see Corrective Action Report.
- H** Sample analysis performed past method-specified holding time.
- 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.
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- 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

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IRA0400 <Page 13 of 15>
NPDES - 2397

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water		
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 300.0	Water	X	X
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 Chrnrc
Samples: IRA0400-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gamma Spec
Samples: IRA0400-01

Analysis Performed: Gross Alpha
Samples: IRA0400-01

Analysis Performed: Gross Beta
Samples: IRA0400-01

Analysis Performed: Radium, Combined
Samples: IRA0400-01

Analysis Performed: Strontium 90
Samples: IRA0400-01

Analysis Performed: Tritium
Samples: IRA0400-01

Analysis Performed: Uranium, Combined
Samples: IRA0400-01

TestAmerica Irvine

Joseph Doak
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IRA0400

Sampled: 01/05/08
Received: 01/05/08

Vista Analytical *NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413*

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IRA0400-01

Analysis Performed: EDD + Level 4
Samples: IRA0400-01

Weck Laboratories, Inc

14859 E. Clark Avenue - City of Industry, CA 91745

Method Performed: EPA 245.1
Samples: IRA0400-01

TestAmerica Irvine

Joseph Doak
Project Manager

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IRAC0400 CHAIN OF CUSTODY FORM

ANALYSIS REQUIRED

Client Name/Address
MWH-Arcadia
 618 Michillinda Avenue, Suite 200
 Arcadia, CA 91007
 Test America Contact: Joseph Doak

Project:
 Boeing-SSFL NPDES
Routine Outfall 010
 Stormwater at Building 203

Project Manager: Bronwyn Kelly
 Phone Number:
 (626) 568-6691
 Fax Number:
 (626) 568-6515

Sampler: *MARISCALI, J.*
BARRERA, R.

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED						Comments					
							Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Oil & Grease (1664-HEM)	Cl ⁻ , SO ₄ ²⁻ , NO ₃ ⁻ , NO ₂ ⁻	TDS	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combrind 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			
Outfall 010	W	1L Poly	1	1-5-08 09:42	HNO ₃	1A	X											
Outfall 010-Dup	W	1L Poly	1		HNO ₃	1B	X											
Outfall 010	W	1L Amber	2		None	2A, 2B												
Outfall 010	W	1L Amber	2		HCl	3A, 3B		X										
Outfall 010	W	500 ml Poly	2		None	4A, 4B			X									
Outfall 010	W	500 ml Poly	1		None	5				X								
Outfall 010	W	2.5 Gal Cube 500 ml Amber	1		None	6A 6B					X							
Outfall 010	W	1 Gal Poly	1		None	7												
Outfall 010	W	1L Poly	1	1-5-08 09:40	None	8												

Relinquished By: *Josh Barr* Date/Time: 1-5-08 1531
 Relinquished By: *Shane Barrera* Date/Time: 1/5/08 1900
 Relinquished By: _____ Date/Time: _____

Received By: *Shane Barrera* Date/Time: 6/5/08 1531
 Received By: *Amylea Barrera* Date/Time: 1/5/08 1800
 Received By: _____ Date/Time: _____

Turn around Time: (check)
 24 Hours _____ 5 Days _____
 48 Hours _____ 10 Days _____
 72 Hours _____ Normal _____

Sample Integrity: (check)
 Intact On Ice: 3

170
1/5/08
20:00

LABORATORY REPORT



**Aquatic
Testing
Laboratories**

"dedicated to providing quality aquatic toxicity testing"

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

Date: January 13, 2008
Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Joseph Doak

Laboratory No.: A-08010506
Sample I.D.: IRA0400-01 (Outfall 010)

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

Date Sampled: 01/05/08
Date Received: 01/05/08
Temp. Received: 6°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 01/06/08 to 01/12/08

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

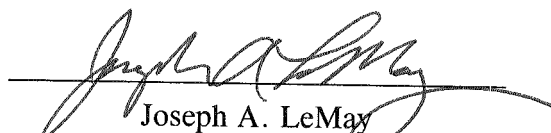
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

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

Result Summary:

	<u>NOEC</u>	<u>TUc</u>
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-08010506-001
Client/ID: Test America – Outfall 010

Date Tested: 01/06/08 to 01/12/08

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-080106.

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

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	19.4
100% Sample	100%	22.9
* 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 (19.4 young)
≥60% surviving controls had 3 broods	Pass (80% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 19.5%)
Statistically significantly different concentrations relative difference >13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date: 1/6/2008 13:00 Test ID: 8010506c Sample ID: Outfall 010
 End Date: 1/12/2008 13:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial
 Sample Date: 1/5/2008 09:20 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia

Comments:

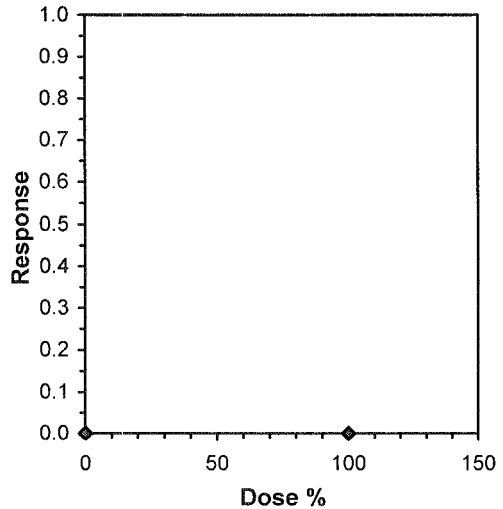
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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

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

Linear Interpolation (200 Resamples)

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



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 1/6/2008 13:00 Test ID: 8010506c Sample ID: Outfall 010
 End Date: 1/12/2008 13:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: EFF2-Industrial
 Sample Date: 1/5/2008 09:20 Protocol: FWCH 4TH-EPA-821-R-02-0 Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	24.000	17.000	19.000	11.000	20.000	16.000	20.000	19.000	25.000	23.000
100	24.000	23.000	28.000	25.000	25.000	25.000	14.000	24.000	12.000	29.000

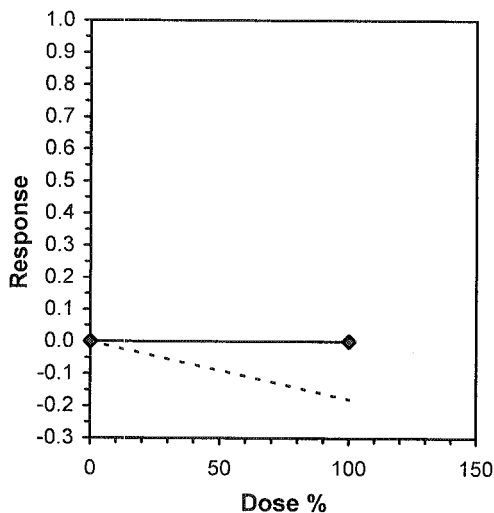
Conc-%	Mean	N-Mean	Transform: Untransformed				N	Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%				Mean	N-Mean
D-Control	19.400	1.0000	19.400	11.000	25.000	21.350	10			21.150	1.0000
100	22.900	1.1804	22.900	12.000	29.000	24.222	10	130.00	82.00	21.150	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.89099	0.905	-1.0467	0.56243
F-Test indicates equal variances (p = 0.40)	1.79339	6.54109		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences
 Treatments vs D-Control

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



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet



Lab No.: A-08010506

Client ID: TestAmerica - Outfall 010

Start Date: 01/06/2008

		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:		JK		JK		JK		JK		JK		JK		—	
Time of Readings:		1300	1400	1400	1300	1300	1230	1230	1300	1300	1300	1300	1300	—	
Control	DO	7.5	7.7	7.3	8.0	7.2	7.7	7.2	7.5	7.8	8.0	7.8	8.0	—	
	pH	7.8	7.4	7.4	7.2	7.3	7.3	7.2	7.4	7.4	7.4	7.4	7.5	—	
	Temp	24.2	25.1	25.5	25.0	24.2	24.9	24.6	24.7	24.6	24.6	24.4	25.1	—	
100%	DO	9.1	6.2	9.1	7.9	10.1	7.8	9.2	7.6	10.2	8.4	10.6	8.3	—	
	pH	7.3	7.1	7.2	7.4	7.0	7.4	7.1	7.4	7.1	7.4	7.1	7.4	—	
	Temp	24.4	25.0	25.1	25.1	25.0	25.0	24.5	24.3	24.1	24.5	25.1	24.9	—	

Additional Parameters	Control	100% Sample
Conductivity (umohms)	350	346
Alkalinity (mg/l CaCO ₃)	66	84
Hardness (mg/l CaCO ₃)	98	125
Ammonia (mg/l NH ₃ -N)	0.1	0.2

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

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials	
		A	B	C	D	E	F	G	H	I	J				
Control	1	0	0	0	0	0	0	0	0	0	0	0	0	10	JK
	2	0	0	0	0	0	0	0	0	0	0	0	0	10	JK
	3	3	2	0	0	0	0	3	0	3	0	11	10	JK	
	4	0	0	3	4	3	4	0	2	0	2	18	10	JK	
	5	8	6	6	7	7	0	6	7	9	8	64	10	JK	
	6	13	9	10	0	10	12	11	10	13	13	101	10	JK	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	24	17	19	11	20	16	20	19	25	23	194	10	JK	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	JK	
	2	0	0	0	0	0	0	0	0	0	0	0	10	JK	
	3	4	0	3	0	0	3	0	4	0	0	14	10	JK	
	4	0	5	0	5	4	0	5	0	4	5	28	10	JK	
	5	9	8	10	8	7	9	9	8	8	9	85	10	JK	
	6	11	10	15	12	14	13	0	12	0	15	102	10	JK	
	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	24	23	28	25	25	25	14	24	12	29	229	10	JK	

Circled fourth brood not used in statistical analysis.

7th day only used if <60% of the surviving control females have produced their third brood.

TestAmerica Irvine
IRA0400


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: California
Receipt Temperature: 6 °C Ice: Y N

Analysis	Units	Due	Expires	Comments
Sample ID: IRA0400-01	Water			Sampled: 01/05/08 09:20 pH=7.4, temp=53.8
Bioassay-7 dy Chmic	N/A	01/16/08	01/06/08 21:20	Cerio, EPA/821-R02-013, Sub to Aquatic testing
Containers Supplied: 1 gal Poly (M)				


Released By _____ Date/Time _____


Received By _____ Date/Time 1-5-08 1700

Released By _____ Date/Time _____

Received By _____ Date/Time _____

CHAIN OF CUSTODY FORM

Client Name/Address: MWH-Arcadia 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak		Project: Boeing-SSFL NPDES Routine Outfall 010 Stormwater at Building 203		Project Manager: Bronwyn Kelly Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Field readings: Temp = 53.8° pH = 7.4 Time of readings = 9:20	
Sampler: MATISCAL, J. BARRERO, R.		ANALYSIS REQUIRED		Comments		Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl TCDD (and all congeners) Oil & Grease (1664-HEM) Cl, SO ₄ , NO ₃ +NO ₂ -N 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	
Sample Description	Sample Matrix	Container Type	# of Cont.	Preservative	Sampling Date/Time	Bottle #	Field readings
Outfall 010	W	1L Poly	1	HNO ₃	1-5-08 09:20	1A	Unfiltered and unpreserved analysis Only test if second rain event of the year Filter w/in 24hrs of receipt at lab
Outfall 010-Dup	W	1L Poly	1	HNO ₃		1B	
Outfall 010	W	1L Amber	2	None		2A, 2B	
Outfall 010	W	1L Amber	2	HCl		3A, 3B	
Outfall 010	W	500 ml Poly	2	None		4A, 4B	
Outfall 010	W	500 ml Poly	1	None		5	
Outfall 010	W	2.5 Gal Cube 500 ml Amber	1	None		6A 6B	
Outfall 010	W	1 Gal Poly	1	None	1-5-08 09:20	7	
Outfall 010	W	1L Poly	1	None		8	
Relinquished By	John Ben	Date/Time:	1-5-08	Received By	Shirley TAI	Date/Time:	01/05/08
Relinquished By	Shirley TAI	Date/Time:	01/05/08 1700	Received By	Shirley TAI	Date/Time:	1-5-08 1700
Relinquished By		Date/Time:		Received By		Date/Time:	
				Turn around Time: (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal <input checked="" type="checkbox"/>		Sample Integrity: (check) Intact _____ On Ice: _____	



***REFERENCE
TOXICANT
DATA***

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-080106

Date Tested: 01/06/08 to 01/12/08

TEST SUMMARY

Test type: Daily static-renewal.

Species: *Ceriodaphnia dubia*.

Age: < 24 hrs; all released within 8 hrs.

Test vessel size: 30 ml.

Number of test organisms per vessel: 1.

Temperature: 25 +/- 1°C.

Dilution water: Mod. hard reconstituted (MHRW).

Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.

Source: In-laboratory culture.

Food: .1 ml YTC, algae per day.

Test solution volume: 20 ml.

Number of replicates: 10.

Photoperiod: 16/8 hrs. light/dark cycle.

Test duration: 6 days.

Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		20.5	
0.25 g/l	100%		19.5	
0.5 g/l	100%		19.5	
1.0 g/l	100%		14.0	*
2.0 g/l	80%		3.2	*
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	0.88 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥ 15 young per surviving control female	Pass (20.5 young)
≥60% surviving controls had 3 broods	Pass (90% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 19.1%)
Stat. sig. diff. conc. relative difference > 13%	Pass (Stat. sig. diff. conc. = 31.7%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

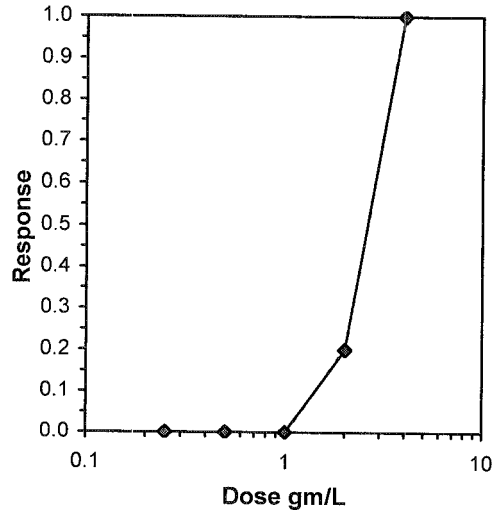
Start Date: 1/6/2008 13:00 Test ID: RT-080106c Sample ID: REF-Ref Toxicant
 End Date: 1/12/2008 13:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 1/6/2008 Protocol: FWCH-EPA-821-R-02-013 Test Species: CD-Ceriodaphnia dubia
 Comments:

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

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

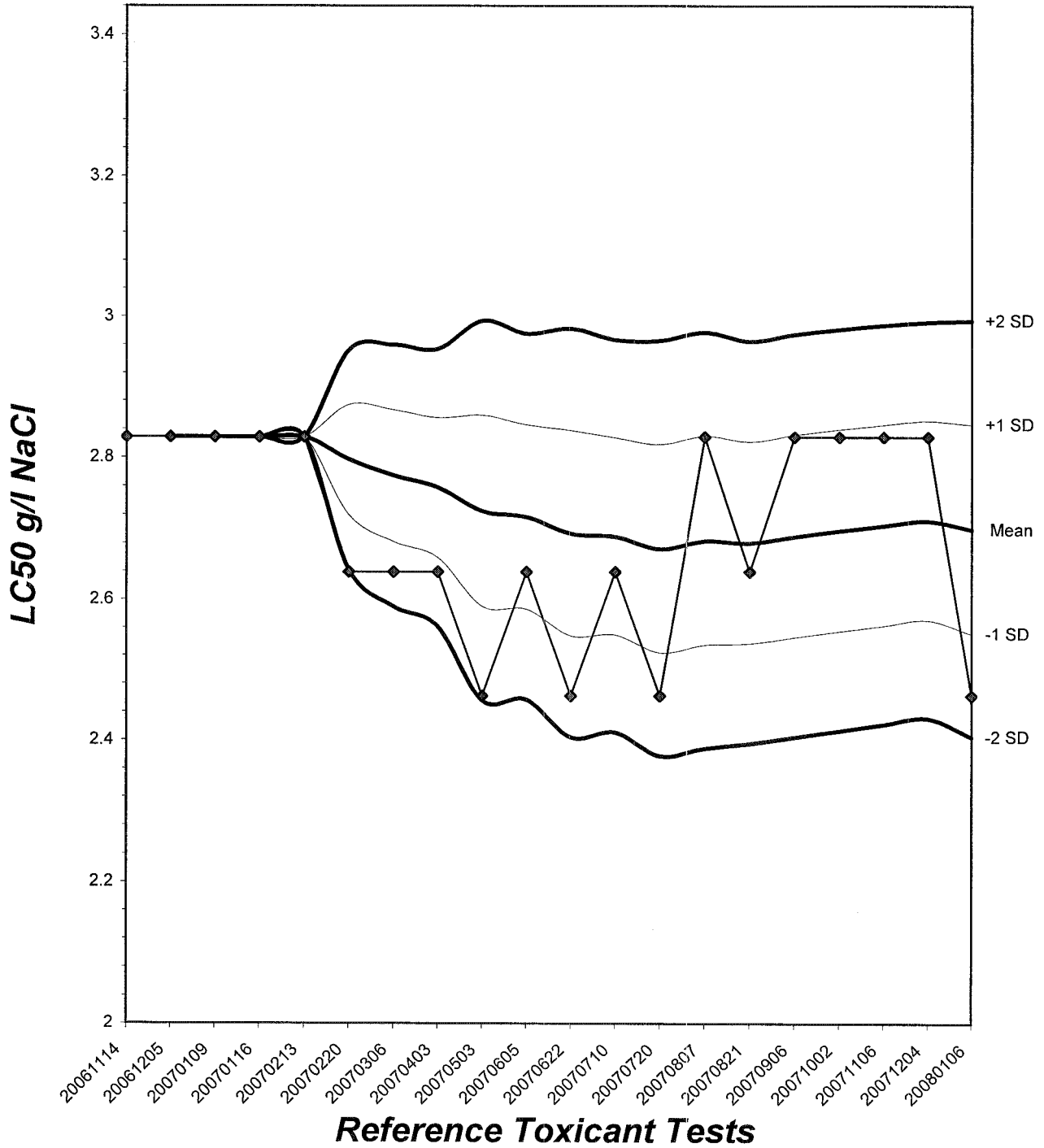
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	2	4	2.82843	
Treatments vs D-Control				

Trimmed Spearman-Kärber			
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 dubia Chronic Survival Laboratory Control Chart

CV% = 5.46



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 1/6/2008 13:00 Test ID: RT-080106c Sample ID: REF-Ref Toxicant
 End Date: 1/12/2008 13:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 1/6/2008 Protocol: FWCH-EPA-821-R-02-013 Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	11.000	21.000	21.000	23.000	20.000	19.000	22.000	20.000	25.000
0.25	12.000	24.000	19.000	22.000	9.000	20.000	21.000	21.000	22.000	25.000
0.5	21.000	19.000	21.000	22.000	16.000	12.000	22.000	21.000	22.000	19.000
1	19.000	9.000	9.000	19.000	14.000	10.000	16.000	17.000	19.000	8.000
2	8.000	2.000	2.000	5.000	4.000	3.000	3.000	5.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Conc-gm/L	Mean	N-Mean	Transform: Untransformed					Rank Sum	1-Tailed Critical	Isotonic	
			Mean	Min	Max	CV%	N			Mean	N-Mean
D-Control	20.500	1.0000	20.500	11.000	25.000	18.432	10			20.500	1.0000
0.25	19.500	0.9512	19.500	9.000	25.000	26.177	10	102.00	76.00	19.500	0.9512
0.5	19.500	0.9512	19.500	12.000	22.000	16.617	10	94.50	76.00	19.500	0.9512
*1	14.000	0.6829	14.000	8.000	19.000	32.819	10	62.50	76.00	14.000	0.6829
*2	3.200	0.1561	3.200	0.000	8.000	76.263	10	55.00	76.00	3.200	0.1561
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests

	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.91281	0.947	-0.9793	0.67912
Bartlett's Test indicates equal variances (p = 0.25)	5.39	13.2767		

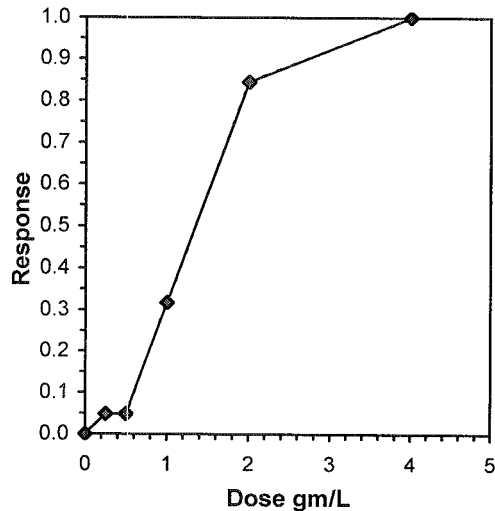
Hypothesis Test (1-tail, 0.05)

	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	

Treatments vs D-Control

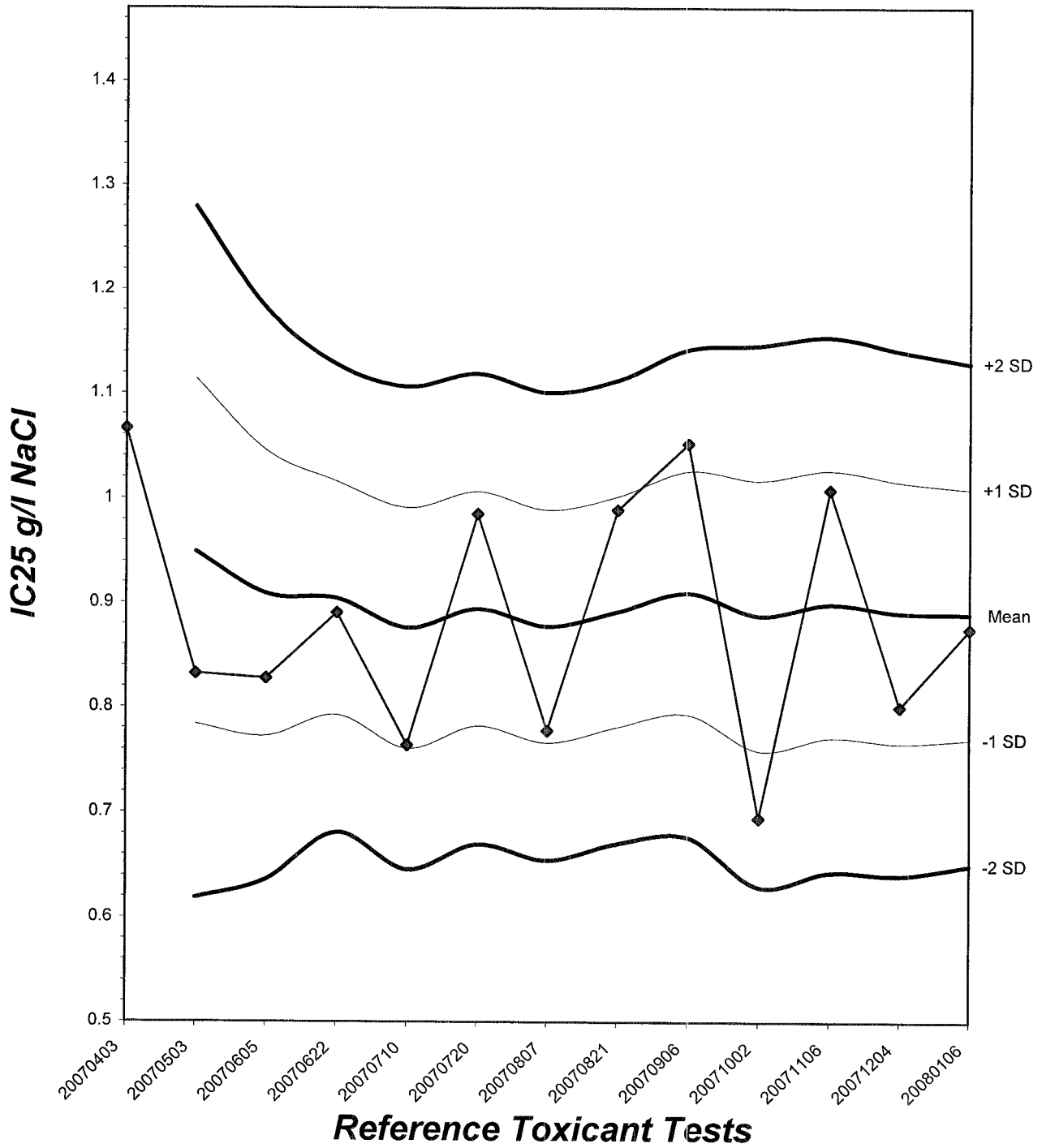
Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL	Skew
IC05	0.5023	0.1876	0.0809	0.6178
IC10	0.5955	0.1768	0.1617	0.7497
IC15	0.6886	0.1424	0.2426	0.9253
IC20	0.7818	0.1259	0.4995	1.0352
IC25	0.8750	0.1224	0.6413	1.1094
IC40	1.1574	0.1139	0.9216	1.3331
IC50	1.3472	0.0972	1.1197	1.4847



***Ceriodaphnia dubia* Chronic Reproduction Laboratory Control Chart**

CV% = 13.5



CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-080106

Start Date: 01/06/2008

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	h
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	2	0	0	0	3	0	3	0	8	10	
	4	4	3	0	4	3	2	0	2	0	3	21	10	
	5	9	8	7	7	6	7	6	7	6	7	70	10	
	6	10	0	12	10	14	11	10	13	11	15	106	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	23	11	21	21	23	20	19	22	20	25	205	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	10	h	
	2	0	0	0	0	0	0	0	0	0	0	10		
	3	0	3	0	3	0	2	0	0	3	0	11		10
	4	4	0	2	0	3	6	4	2	0	3	24		10
	5	8	8	7	5	6	0	7	6	7	8	62		10
	6	0	13	10	14	0	12	10	13	12	14	98		10
	7	-	-	-	-	-	-	-	-	-	-	-		-
	Total	12	24	19	22	9	20	21	21	22	25	195		10
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	10	h	
	2	0	0	0	0	0	0	0	0	0	0	10		
	3	2	0	2	0	0	0	3	2	0	0	9		10
	4	0	3	0	3	4	3	0	0	3	3	19		10
	5	9	6	7	7	0	9	8	7	7	6	66		10
	6	10	10	12	12	12	0	11	12	12	10	101		10
	7	-	-	-	-	-	-	-	-	-	-	-		-
	Total	21	19	21	22	16	12	22	21	22	19	195		10

Circled fourth brood not used in statistical analysis.

7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl

Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-080106

Start Date: 01/06/2008

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	h
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	3	0	0	2	0	5	10	
	4	3	2	2	3	0	0	3	2	0	2	17	10	
	5	5	7	7	4	5	7	5	4	7	6	57	10	
	6	11	0	0	12	9	0	8	11	10	0	61	10	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	19	9	9	19	14	10	16	17	19	8	140	10	
2.0 g/l	1	0	0	0	0	0	0	0	X	0	0	9	h	
	2	0	0	0	0	0	0	0	-	0	0	9		
	3	0	0	0	0	0	0	0	-	0	0	9		
	4	2	0	2	3	0	0	0	2	-	0	9		9
	5	3	0	0	2	2	3	3	0	-	0	13		9
	6	3	2	0	0	2	0	0	3	-	X	10		8
	7	-	-	-	-	-	-	-	-	-	-	-		-
	Total	8	2	2	5	4	3	3	5	0	0	32		8
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	h	
	2	-	-	-	-	-	-	-	-	-	-	-		
	3	-	-	-	-	-	-	-	-	-	-	-		
	4	-	-	-	-	-	-	-	-	-	-	-		
	5	-	-	-	-	-	-	-	-	-	-	-		
	6	-	-	-	-	-	-	-	-	-	-	-		
	7	-	-	-	-	-	-	-	-	-	-	-		
	Total	0	0	0	0	0	0	0	0	0	0	0		0

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

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reference Toxicant - NaCl Water Chemistries Raw Data Sheet



QA/QC No.: RT-080106

Start Date: 01/06/2008

		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:		g	h	h	h	h	h	h	h	h	h	h	h	-	-	
Time of Readings:		1300	1330	1330	1300	1300	1230	1230	1300	1300	1300	1300	1300	1300	-	-
Control	DO	7.6	7.2	7.4	7.7	7.4	7.6	7.4	7.5	8.2	7.8	7.9	7.7	-	-	
	pH	7.6	7.4	7.4	7.3	7.3	7.2	7.2	7.7	7.5	7.6	7.9	7.6	-	-	
	Temp	24.3	25.1	25.4	24.8	24.1	24.9	24.9	25.1	24.4	25.0	24.6	25.1	-	-	
0.25 g/l	DO	7.5	7.3	7.5	7.5	7.5	7.7	7.3	7.4	8.2	7.8	7.9	7.7	-	-	
	pH	7.6	7.3	7.4	7.4	7.4	7.2	7.3	7.4	7.6	7.5	7.6	7.7	-	-	
	Temp	24.4	25.2	25.3	24.9	24.2	24.9	24.7	25.0	24.4	25.1	24.6	25.1	-	-	
0.5 g/l	DO	7.4	7.2	7.4	7.6	7.4	7.4	7.4	7.6	8.5	7.6	8.0	7.8	-	-	
	pH	7.5	7.3	7.4	7.4	7.4	7.2	7.3	7.5	7.6	7.5	7.7	7.7	-	-	
	Temp	24.3	25.1	25.3	24.9	24.1	25.2	24.6	24.9	24.4	24.9	24.4	24.9	-	-	
1.0 g/l	DO	7.5	7.2	7.6	7.7	7.3	7.8	7.4	7.4	8.4	7.8	7.7	7.7	-	-	
	pH	7.5	7.3	7.6	7.5	7.4	7.2	7.3	7.5	7.6	7.6	7.4	7.6	-	-	
	Temp	24.4	25.2	25.1	24.7	24.2	25.2	24.6	25.0	24.4	24.9	24.6	25.0	-	-	
2.0 g/l	DO	7.4	7.4	7.6	7.5	7.4	7.8	7.2	7.6	8.2	7.6	7.6	7.7	-	-	
	pH	7.5	7.4	7.6	7.6	7.4	7.3	7.2	7.6	7.5	7.6	7.9	7.6	-	-	
	Temp	24.5	25.1	25.0	24.6	24.2	25.3	24.8	25.2	24.4	24.8	24.6	25.1	-	-	
4.0 g/l	DO	7.5	7.8	-	-	-	-	-	-	-	-	-	-	-	-	
	pH	7.6	7.8	-	-	-	-	-	-	-	-	-	-	-	-	
	Temp	24.3	24.6	-	-	-	-	-	-	-	-	-	-	-	-	

Dissolved Oxygen (DO) readings are in mg/l O₂; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	350	348	305	6400	3100	3210
Alkalinity (mg/l CaCO ₃)	66	65	63	65	66	64
Hardness (mg/l CaCO ₃)	98	97	98	98	97	98

Source of Neonates

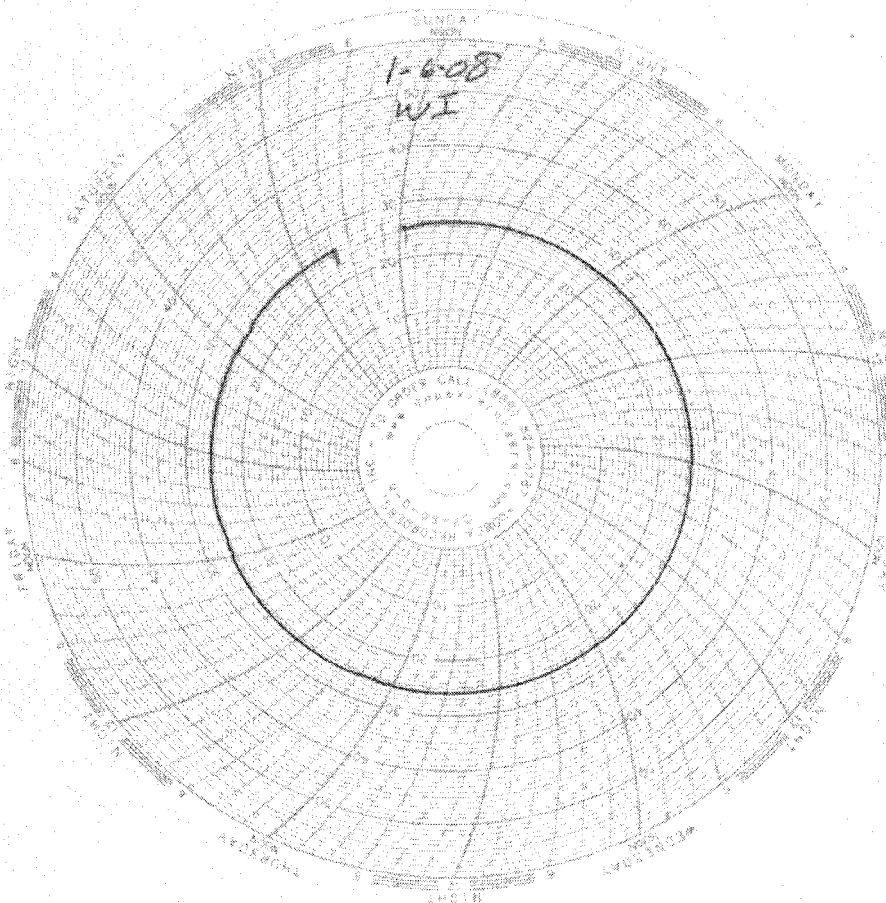
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	2B	1B	3C	2C	2A	3D	3E	2E	3E	2G

Laboratory Temperature Chart

QA/QC Batch No: RT-080106

Date Tested: 01/06/08 to 01/12/08

Acceptable Range: 25 \pm 1 $^{\circ}$ C





February 20, 2008

Mr. Joseph Doak
Test America, Inc.
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Reference: Test America Project Nos. IRA0393, IRA0398, IRA0399, IRA0400, IRA0906
Eberline Services NELAP Cert #01120CA
Eberline Services Reports R801023-8676, R801024-8677, R801025-8678
R801029-8679, R801048-8680

Dear Mr. Doak:

Enclosed are results from the analyses of five water samples. Four of the samples were received at Eberline Services on January 8, and one on January 12, 2008. The samples were analyzed according to the accompanying Test America Subcontract Order Forms, the requested analyses were: gross alpha/gross beta (EPA 900.0), tritium (H-3, EPA906.0), Sr-90 (EPA905.0), Ra-226 (EPA903.1), Ra-228 (EPA 904.0), total uranium (ASTM D-5174), and gamma spectroscopy (EPA901.1, K-40 and Cs-137). Batch quality control samples consisted of LCS's, blank analyses, duplicate analyses, and matrix spike analyses (gross alpha/gross beta, H-3, Ra-226, Total-U only). All QC sample results were within the limits defined in Eberline Services Quality Control Procedures Manual.

Please call me if you have any questions concerning this report.

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Reports/CoC's
Invoices

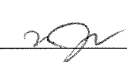
Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com
NPDES - 2418

Eberline Services

ANALYSIS RESULTS

SDG <u>8679</u>	Client <u>TA IRVINE</u>
Work Order <u>R801026-01</u>	Contract <u>PROJECT# IRA0400</u>
Received Date <u>01/08/08</u>	Matrix <u>WATER</u>

Client	Lab						
<u>Sample ID</u>	<u>Sample ID</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
IRA0400-01	8679-001	01/05/08	01/24/08	GrossAlpha	-0.213 ± 0.79	pCi/L	1.4
			01/24/08	Gross Beta	13.0 ± 1.3	pCi/L	1.7
			01/23/08	Ra-228	-0.111 ± 0.18	pCi/L	0.42
			01/14/08	K-40 (G)	U	pCi/L	22
			01/14/08	Cs-137 (G)	U	pCi/L	0.88
			01/23/08	H-3	-38.8 ± 88	pCi/L	150
			01/25/08	Ra-226	-0.081 ± 0.38	pCi/L	0.84
			01/28/08	Sr-90	0.213 ± 0.41	pCi/L	0.87
			02/15/08	Total U	0.212 ± 0.034	pCi/L	0.021

Certified by <u></u>
Report Date <u>02/19/08</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8679</u> Work Order <u>R801026-01</u> Received Date <u>01/08/08</u>	Client <u>TA IRVINE</u> Contract <u>PROJECT# IRA0400</u> Matrix <u>WATER</u>
--	--

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8676-002	GrossAlpha	13.0 ± 0.93	pCi/Smpl	10.1	0.43	129% recovery
		Gross Beta	9.21 ± 0.38	pCi/Smpl	9.41	0.29	98% recovery
		Ra-228	7.16 ± 0.54	pCi/Smpl	7.97	0.85	90% recovery
		Co-60 (G)	220 ± 17	pCi/Smpl	228	11	96% recovery
		Cs-137 (G)	256 ± 14	pCi/Smpl	236	9.8	108% recovery
		H-3	189 ± 14	pCi/Smpl	203	15	93% recovery
		Ra-226	4.87 ± 0.23	pCi/Smpl	4.46	0.083	109% recovery
		Sr-90	8.90 ± 0.73	pCi/Smpl	9.40	0.33	95% recovery
		Total U	1.05 ± 0.12	pCi/Smpl	1.13	0.004	93% recovery

<u>BLANK</u>							
	8676-003	GrossAlpha	0.067 ± 0.16	pCi/Smpl	NA	0.27	<MDA
		Gross Beta	-0.079 ± 0.26	pCi/Smpl	NA	0.44	<MDA
		Ra-228	-0.491 ± 0.26	pCi/Smpl	NA	0.79	<MDA
		K-40 (G)	U	pCi/Smpl	NA	220	<MDA
		Cs-137 (G)	U	pCi/Smpl	NA	8.0	<MDA
		H-3	-1.49 ± 8.7	pCi/Smpl	NA	15	<MDA
		Ra-226	-0.012 ± 0.035	pCi/Smpl	NA	0.083	<MDA
		Sr-90	-0.030 ± 0.18	pCi/Smpl	NA	0.45	<MDA
		Total U	0.00E 00 ± 1.8E-04	pCi/Smpl	NA	4.2E-04	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8676-004	GrossAlpha	-0.027 ± 1.1	1.9
	Gross Beta	62.4 ± 2.4	2.4
	K-40 (G)	U	32
	Cs-137 (G)	U	1.1
	H-3	-71.6 ± 86	150
	Ra-226	-0.062 ± 0.36	0.71
	Sr-90	-0.067 ± 0.35	0.86
	Total U	2.58 ± 0.29	0.021

<u>ORIGINALS</u>						
Sample ID	Results ± 2σ	MDA	RPD	(Tot)	Eval	3σ
8676-001	0.784 ± 2.0	2.8	-	0	satis.	
	62.4 ± 2.4	2.1	0	43	satis.	
	62.0 ± 8.4	5.3	64	108	satis.	
	U	0.54	-	0	satis.	
	-15.1 ± 88	150	-	0	satis.	
	0.081 ± 0.44	0.81	-	0	satis.	
	0.063 ± 0.44	1.0	-	0	satis.	
	2.58 ± 0.29	0.021	0	31	satis.	

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA

<u>ORIGINAL SAMPLE</u>					
Sample ID	Results ± 2σ	MDA	Added	%Recv	

Certified by _____ *ngw*

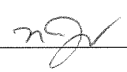
Report Date 02/19/08

Page 2

Eberline Services

SDG <u>8679</u>	Client <u>TA IRVINE</u>
Work Order <u>R801026-01</u>	Contract <u>PROJECT# IRA0400</u>
Received Date <u>01/08/08</u>	Matrix <u>WATER</u>

8676-005	GrossAlpha	154 ± 8.1	2.8	8676-001	0.784 ± 2.0	2.8	115	133
	Gross Beta	161 ± 3.3	1.5		62.4 ± 2.4	2.1	102	97
	H-3	15700 ± 510	260		-15.1 ± 88	150	16100	98
	Ra-226	116 ± 4.3	0.75		0.081 ± 0.44	0.81	112	103
	Total U	111 ± 14	2.1		2.58 ± 0.29	0.021	113	96

Certified by <u></u>
Report Date <u>02/19/08</u>
Page 3

SUBCONTRACT ORDER

TestAmerica Irvine

IRA0400

~~8799~~ 8679
Tm
1-2-3

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:

Eberline Services - SUB
2030 Wright Avenue
Richmond, CA 94804
Phone : (510) 235-2633
Fax: (510) 235-0438
Project Location: California
Receipt Temperature: 4.5 °C Ice: (Y) / N

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

Sample ID: IRA0400-01	Water	Sampled: 01/05/08 09:20		ph=7.4, temp=53.8
Gamma Spec-O	mg/kg	01/16/08	01/04/09 09:20	Boeing, J flags, K-40 and CS-137 only
Gross Alpha-O	pCi/L	01/16/08	07/03/08 09:20	Out to Eberline
Gross Beta-O	pCi/L	01/16/08	07/03/08 09:20	Out to eberline
Level 4 Data Package - Out	N/A	01/16/08	02/02/08 09:20	
Radium, Combined-O	pCi/L	01/16/08	01/04/09 09:20	Out to Eberline
Strontium 90-O	pCi/L	01/16/08	01/04/09 09:20	Out to Eberline
Tritium-O	pCi/L	01/16/08	01/04/09 09:20	Out to Eberline
Uranium, Combined-O	pCi/L	01/16/08	01/04/09 09:20	Out to Eberline

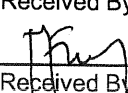
Containers Supplied:

2.5 gal Poly (K) 500 mL Amber (L)


Released By _____ Date/Time 1/7/08 1700

FedEx
Received By _____ Date/Time 1/7/08 17:00

Released By _____ Date/Time _____


Received By _____ Date/Time 01/08/08 09:30

January 23, 2008

Vista Project I.D.: 30126

Mr. Joseph Doak
Test America-Irvine, CA
17461 Derian Avenue
Suite 100
Irvine, CA 92614

Dear Mr. Doak,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on January 08, 2008 under your Project Name "IRA0400". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha M. Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.



Section I: Sample Inventory Report

Date Received: 1/8/2008

Vista Lab. ID

Client Sample ID

30126-001

IRA0400-01

SECTION II

Method Blank					EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	9886	Lab Sample:	0-MB001	Date Analyzed DB-5:	19-Jan-08	Date Analyzed DB-225:	NA
Sample Size:	1.00 L	Date Extracted:	17-Jan-08						
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers	
2,3,7,8-TCDD	ND	0.00000111			IS 13C-2,3,7,8-TCDD	85.7	25 - 164		
1,2,3,7,8-PeCDD	ND	0.00000171			13C-1,2,3,7,8-PeCDD	76.8	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.00000174			13C-1,2,3,4,7,8-HxCDD	75.3	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.00000184			13C-1,2,3,6,7,8-HxCDD	75.1	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.00000172			13C-1,2,3,4,6,7,8-HpCDD	87.8	23 - 140		
1,2,3,4,6,7,8-HpCDD	ND	0.00000243			13C-OCDD	70.8	17 - 157		
OCDD	ND	0.00000780			13C-2,3,7,8-TCDF	83.6	24 - 169		
2,3,7,8-TCDF	ND	0.00000116			13C-1,2,3,7,8-PeCDF	72.8	24 - 185		
1,2,3,7,8-PeCDF	ND	0.00000159			13C-2,3,4,7,8-PeCDF	75.3	21 - 178		
2,3,4,7,8-PeCDF	ND	0.00000156			13C-1,2,3,4,7,8-HxCDF	72.9	26 - 152		
1,2,3,4,7,8-HxCDF	ND	0.000000815			13C-1,2,3,6,7,8-HxCDF	73.2	26 - 123		
1,2,3,6,7,8-HxCDF	ND	0.000000832			13C-2,3,4,6,7,8-HxCDF	76.3	28 - 136		
2,3,4,6,7,8-HxCDF	ND	0.000000894			13C-1,2,3,7,8,9-HxCDF	79.4	29 - 147		
1,2,3,7,8,9-HxCDF	ND	0.00000120			13C-1,2,3,4,6,7,8-HpCDF	88.5	28 - 143		
1,2,3,4,6,7,8-HpCDF	ND	0.000000977			13C-1,2,3,4,7,8,9-HpCDF	86.1	26 - 138		
1,2,3,4,7,8,9-HpCDF	ND	0.00000133			13C-OCDF	72.3	17 - 157		
OCDF	ND	0.00000313			CRS 37Cl-2,3,7,8-TCDD	105	35 - 197		
Totals					Footnotes				
Total TCDD	ND	0.00000111			a. Sample specific estimated detection limit.				
Total PeCDD	ND	0.00000373			b. Estimated maximum possible concentration.				
Total HxCDD	ND	0.00000177			c. Method detection limit.				
Total HpCDD	ND	0.00000314			d. Lower control limit - upper control limit.				
Total TCDF	ND	0.00000116							
Total PeCDF	ND	0.00000157							
Total HxCDF	ND	0.000000928							
Total HpCDF	ND	0.00000114							

Analyst: MAS

Approved By: Martha M. Maier 23-Jan-2008 09:52

OPR Results				EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	9886	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	17-Jan-08	Date Analyzed DB-5:	19-Jan-08	Date Analyzed DB-225:	NA
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	10.0	10.4	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	76.2	25 - 164	
1,2,3,7,8-PeCDD	50.0	52.4	35 - 71	13C-1,2,3,7,8-PeCDD	68.3	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	52.8	35 - 82	13C-1,2,3,4,7,8-HxCDD	66.2	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	51.4	38 - 67	13C-1,2,3,6,7,8-HxCDD	66.8	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	52.3	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	87.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	51.7	35 - 70	13C-OCDD	70.1	17 - 157	
OCDD	100	103	78 - 144	13C-2,3,7,8-TCDF	74.1	24 - 169	
2,3,7,8-TCDF	10.0	9.71	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	64.3	24 - 185	
1,2,3,7,8-PeCDF	50.0	50.9	40 - 67	13C-2,3,4,7,8-PeCDF	67.4	21 - 178	
2,3,4,7,8-PeCDF	50.0	51.2	34 - 80	13C-1,2,3,4,7,8-HxCDF	62.5	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	51.5	36 - 67	13C-1,2,3,6,7,8-HxCDF	63.5	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	52.2	42 - 65	13C-2,3,4,6,7,8-HxCDF	66.6	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	52.3	35 - 78	13C-1,2,3,7,8,9-HxCDF	69.3	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	51.7	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	76.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	50.6	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	85.4	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	51.2	39 - 69	13C-OCDF	71.9	17 - 157	
OCDF	100	104	63 - 170	CRS 37Cl-2,3,7,8-TCDD	84.4	35 - 197	

Analyst: MAS

Approved By: Martha M. Maier 23-Jan-2008 09:52

Sample ID: IRA0400-01					EPA Method 1613			
Client Data			Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA		Matrix:	Aqueous	Lab Sample:	30126-001	Date Received:	8-Jan-08
Project:	IRA0400		Sample Size:	1.01 L	QC Batch No.:	9886	Date Extracted:	17-Jan-08
Date Collected:	5-Jan-08				Date Analyzed DB-5:	19-Jan-08	Date Analyzed DB-225:	NA
Time Collected:	0920							
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000123			IS 13C-2,3,7,8-TCDD	77.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000244			13C-1,2,3,7,8-PeCDD	69.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000226			13C-1,2,3,4,7,8-HxCDD	66.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000236			13C-1,2,3,6,7,8-HxCDD	66.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000222			13C-1,2,3,4,6,7,8-HpCDD	74.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000445			13C-OCDD	60.7	17 - 157	
OCDD	0.0000227			J	13C-2,3,7,8-TCDF	74.8	24 - 169	
2,3,7,8-TCDF	ND	0.00000105			13C-1,2,3,7,8-PeCDF	62.8	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000171			13C-2,3,4,7,8-PeCDF	66.4	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000162			13C-1,2,3,4,7,8-HxCDF	63.7	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000759			13C-1,2,3,6,7,8-HxCDF	64.4	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000831			13C-2,3,4,6,7,8-HxCDF	66.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000866			13C-1,2,3,7,8,9-HxCDF	67.8	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000116			13C-1,2,3,4,6,7,8-HpCDF	75.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000822			13C-1,2,3,4,7,8,9-HpCDF	68.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000112			13C-OCDF	58.5	17 - 157	
OCDF	ND	0.00000498			CRS 37Cl-2,3,7,8-TCDD	103	35 - 197	
Totals					Footnotes			
Total TCDD	ND	0.00000123			a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.00000312			b. Estimated maximum possible concentration.			
Total HxCDD	ND	0.00000228			c. Method detection limit.			
Total HpCDD	0.00000333				d. Lower control limit - upper control limit.			
Total TCDF	ND	0.00000105						
Total PeCDF	ND	0.00000166						
Total HxCDF	ND	0.000000896						
Total HpCDF	ND	0.000000951						

Analyst: MAS

Approved By: Martha M. Maier 23-Jan-2008 09:52

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical Interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

SUBCONTRACT ORDER

TestAmerica Irvine

IRA0400

30126
0.7°C

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:

Vista Analytical Laboratory- SUB
1104 Windfield Way
El Dorado Hills, CA 95762
Phone : (916) 673-1520
Fax: (916) 673-0106
Project Location: California
Receipt Temperature: _____ °C Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRA0400-01	Water			Sampled: 01/05/08 09:20 ph=7.4, temp=53.8
1613-Dioxin-HR-Alta	ug/l	01/16/08	01/12/08 09:20	J flags, 17 congeners, no TEQ, ug/L, sub=Vista
<i>Containers Supplied:</i>				
1 L Amber (C)	1 L Amber (D)			

~~Released By~~ _____ ~~Date/Time~~ _____
 1/7/08 1700

Released By _____ Date/Time _____

FedEx 1/7/08 1700

Received By _____ Date/Time _____
 Betina Benedict 1/8/08 1231

Received By _____ Date/Time _____

SAMPLE LOG-IN CHECKLIST



30126

Vista Project #:

TAT Standard

Samples Arrival:	Date/Time 1/8/08 0909	Initials: URSB	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time 1/8/08 1246	Initials: URSB	Location: WR-2
			Shelf/Rack: C3
Delivered By:	FedEx	UPS	Cal
			DHL
			Hand Delivered
			Other
Preservation:	Ice	Blue Ice	Dry Ice
			None
Temp °C	0.7°C	Time:	0924
			Thermometer ID: IR-1

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	Trk # 792626742469	✓	
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?	COC	Sample Container	None
Shipping Container	Vista	Client	Retain
		Return	Dispose

Comments:

SUBCONTRACT ORDER

TestAmerica Irvine

IRA0400

8010770

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:

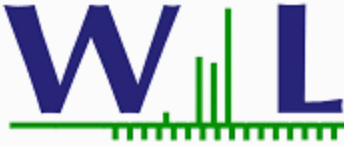
Weck Laboratories, Inc-SUB
14859 E. Clark Avenue
City of Industry, CA 91745
Phone :(626) 336-2139
Fax: (626) 336-2634
Project Location: California
Receipt Temperature: 3.1 °C

Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRA0400-01	Water		Sampled: 01/05/08 09:20	ph=7.4, temp=53.8
Level 4 + EDD-OUT	N/A	01/16/08	02/02/08 09:20	Sub to Weck, transfer file EDD
Level 4 Data Package - Wec	N/A	01/16/08	02/02/08 09:20	Out to Weck
Mercury - 245.1, Diss -OUT	mg/l	01/16/08	02/02/08 09:20	Weck, Boeing, J flags
Mercury - 245.1-OUT	mg/l	01/16/08	02/02/08 09:20	Weck,Boeing, permit, J flags, if result>ND,call TA

Containers Supplied:
125 mL Poly w/HNO3 125 mL Poly (O)
(N)

Released By: [Signature] Date/Time: 1/7/08 0900
Received By: [Signature] Date/Time: 1/7/08 0900
Released By: [Signature] Date/Time: 1/7/08 1420
Received By: Jeanne Bremer Date/Time: 1/7/08 1420



CERTIFICATE OF ANALYSIS

Client: TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine, CA 92614
Attention: Joseph Doak

Phone: (949) 261-1022

Fax: (949) 260-3297

Report Date: 01/10/08 08:44

Received Date: 01/07/08 14:20

Turn Around: 7 days

Work Order #: 8010770

Client Project: IRA0400

NELAP #04229CA ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.

Dear Joseph Doak :

Enclosed are the results of analyses for samples received 01/07/08 14:20 with the Chain of Custody document. The samples were received in good condition. The samples were received at 3.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Reviewed by:

Kim G Tu

Project Manager



Page 1 of 6





Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8010770
Project ID: IRA0400

Date Received: 01/07/08 14:20
Date Reported: 01/10/08 08:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IRA0400-01	Client		8010770-01	Water	01/05/08 09:20



Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8010770
Project ID: IRA0400

Date Received: 01/07/08 14:20
Date Reported: 01/10/08 08:44

IRA0400-01 8010770-01 (Water)

Date Sampled: 01/05/08 09:20

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
Mercury, Dissolved	ND	0.050	ug/l	0.20	1	EPA 245.1	W8A0148	01/08/08	01/09/08	jlp
Mercury, Total	ND	0.050	ug/l	0.20	1	EPA 245.1	W8A0148	01/08/08	01/09/08	jlp



Weck Laboratories, Inc.
14859 E. Clark Ave.
Industry, CA 91745
Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
17461 Derian Ave, Suite 100
Irvine CA, 92614

Report ID: 8010770
Project ID: IRA0400

Date Received: 01/07/08 14:20
Date Reported: 01/10/08 08:44

QUALITY CONTROL SECTION



Weck Laboratories, Inc.
 14859 E. Clark Ave.
 Industry, CA 91745
 Phone 626.336.2139 Fax 626.336.2634

TestAmerica, Inc. - Irvine
 17461 Derian Ave, Suite 100
 Irvine CA, 92614

Report ID: 8010770
 Project ID: IRA0400

Date Received: 01/07/08 14:20
 Date Reported: 01/10/08 08:44

Metals by EPA 200 Series Methods - Quality Control

%REC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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Batch W8A0148 - EPA 245.1

Blank (W8A0148-BLK1)

Analyzed: 01/09/08

Mercury, Dissolved	ND	0.20	ug/l							
Mercury, Total	ND	0.20	ug/l							

LCS (W8A0148-BS1)

Analyzed: 01/09/08

Mercury, Dissolved	0.965	0.20	ug/l	1.00		96	85-115			
Mercury, Total	0.965	0.20	ug/l	1.00		96	85-115			

Matrix Spike (W8A0148-MS1)

Source: 7120722-01

Analyzed: 01/09/08

Mercury, Dissolved	1.97	0.40	ug/l	2.00	ND	98	70-130			
Mercury, Total	1.97	0.40	ug/l	2.00	ND	98	70-130			

Matrix Spike (W8A0148-MS2)

Source: 7120722-03

Analyzed: 01/09/08

Mercury, Dissolved	1.88	0.40	ug/l	2.00	ND	94	70-130			
Mercury, Total	1.88	0.40	ug/l	2.00	ND	94	70-130			

Matrix Spike Dup (W8A0148-MSD1)

Source: 7120722-01

Analyzed: 01/09/08

Mercury, Dissolved	1.92	0.40	ug/l	2.00	ND	96	70-130	2	20	
Mercury, Total	1.92	0.40	ug/l	2.00	ND	96	70-130	2	20	

Matrix Spike Dup (W8A0148-MSD2)

Source: 7120722-03

Analyzed: 01/09/08

Mercury, Dissolved	1.96	0.40	ug/l	2.00	ND	98	70-130	4	20	
Mercury, Total	1.96	0.40	ug/l	2.00	ND	98	70-130	4	20	



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Report ID: 8010770
Project ID: IRA0400

Date Received: 01/07/08 14:20
Date Reported: 01/10/08 08:44

Notes and Definitions

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL)
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Sub	Subcontracted analysis, original report available upon request
MDL	Method Detection Limit
MDA	Minimum Detectable Activity

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.