

APPENDIX G

FOURTH QUARTER 2007 ANALYTICAL LABORATORY REPORTS,  
CHAIN-OF-CUSTODY, AND VALIDATION REPORTS

# **APPENDIX G**

## **Section 1**

Outfall 004, December 19, 2007

MEC<sup>X</sup> Data Validation Reports



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IQL2118

Prepared by

MECX, 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: IQL2118  
 Project Manager: B. Kelly  
 Matrix: Soil  
 QC Level: IV  
 No. of Samples: 1  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine, Weck, Vista

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 004	IQL2118-01	7122004-01, 30101-0001	Water	12/19/07 0945	160.2, 245.1, 300.0, 413.1, 1613, 6020, SM2540C

**II. Sample Management**

No anomalies were observed regarding sample management. The sample in this SDG was received at TestAmerica-Irvine 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 Vista and Weck. If necessary, the client ID was added to the sample result summary by the reviewer.

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### Data Qualifier Reference Table

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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.

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### 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.**

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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.

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### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight

Date Reviewed: January 15, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> 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: Total TCDF was reported in the method blank at a concentration of 0.00000139µg/l; however, total TCDF was not reported in site sample Outfall 004. The method blank had no other 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. An EMPC value for OCDF was qualified as an estimated nondetect, “UJ.” Nondetects are valid to the estimated detection limit (EDL).

## **B. EPA METHODS 245.1, 6020—Metals and Mercury**

Reviewed By: P. Meeks

Date Reviewed: January 15, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 245.1 and 6020*, 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  $\leq 0.1$  amu and  $\leq 0.9$  amu at 10% peak height.
- Calibration: Calibration criteria were met. Mercury initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110% for the ICP-MS metals and 85-115% for mercury.
- Blanks: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: ICSA/B analyses were performed in association with the dissolved metals analyses only. Recoveries were within the method-established control limits. All analytes 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. Recoveries and RPDs were within the laboratory-established control limits.
- 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 CCV analyzed prior to the sample and the CCB analyzed after the sample both had all internal standard recoveries below the control limit; however, as the sample internal standard recoveries were acceptable, no qualifications were applied. The remaining 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.

The reviewer noted that mercury was detected just above the method detection limit (MDL) in the dissolved metals sample fraction but was not detected in the total metals sample fraction. Detection limits are the standard measure of the analytical instrument sensitivity and variations in sample results are expected at concentrations near the MDL.

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

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

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

### C. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: January 15, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *Standard Methods 160.2, 300.0, 413.1, SM2540C* and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: All holding times, 28 days for chloride, sulfate, and oil and grease, seven days for TSS and TDS, and 48 hours for nitrate/nitrite, were met.
- Calibration: Calibration criteria were met. Initial calibration  $r^2$  values were  $\geq 0.995$  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: All recoveries and the oil and grease RPD were within the laboratory-established control limits. 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.
- 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. In order to report chloride within the linear range of the calibration, chloride was analyzed at a 20× dilution.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

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

**EPA Method 1613**

**Sample ID:** IQL2118-01 *Outfall 001*

**Client Data**  
 Name: Test America-Irvine, CA  
 Project: IQL2118  
 Date Collected: 19-Dec-07  
 Time Collected: 0945

**Laboratory Data**  
 Lab Sample: 30101-001  
 QC Batch No.: 9806  
 Date Analyzed DB-5: 25-Dec-07

Date Received: 21-Dec-07  
 Date Extracted: 23-Dec-07  
 Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.00000666			13C-2,3,7,8-TCDD	91.6	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000722			13C-1,2,3,7,8-PeCDD	89.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000160			13C-1,2,3,4,7,8-HxCDD	76.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000168			13C-1,2,3,6,7,8-HxCDD	66.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000163			13C-1,2,3,4,6,7,8-HpCDD	70.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000342				13C-OCDD	64.9	17 - 157	
OCDD	0.000547				13C-2,3,7,8-TCDF	86.2	24 - 169	
2,3,7,8-TCDF	ND	0.00000112			13C-1,2,3,7,8-PeCDF	107	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000841			13C-2,3,4,7,8-PeCDF	95.9	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000994			13C-1,2,3,4,7,8-HxCDF	80.9	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000317			13C-1,2,3,6,7,8-HxCDF	66.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000355			13C-2,3,4,6,7,8-HxCDF	69.0	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000411			13C-1,2,3,7,8,9-HxCDF	65.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000616			13C-1,2,3,4,6,7,8-HpCDF	63.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000479			J	13C-1,2,3,4,7,8,9-HpCDF	61.2	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000765			13C-OCDF	57.4	17 - 157	
OCDF	ND		0.0000106		CRS 37Cl-2,3,7,8-TCDD	102	35 - 197	

**Totals**

Total TCDD	ND	0.00000666		
Total PeCDD	ND	0.00000722		
Total HxCDD	ND	0.00000164		
Total HpCDD	0.0000681			
Total TCDF	ND	0.00000112		
Total PeCDF	ND	0.00000994		
Total HxCDF	0.00000436			
Total HpCDF	0.0000178			

**Footnotes**

- Sample specific estimated detection limit.
- Estimated maximum possible concentration.
- Method detection limit.
- Lower control limit - upper control limit.

Analyst: JMH *Level III* Approved By: Martha M. Maier 26-Dec-2007 13:12

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

Project ID: Routine Outfall 004

Report Number: IQL2118

Sampled: 12/19/07

Received: 12/19/07

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IQL2118-01 (Outfall 004 - Water)										
Reporting Units: ug/l										
Antimony	J/DNQ	EPA 200.8	7L20116	0.20	2.0	0.78	1	12/20/07	12/20/07	J
Cadmium	U	EPA 200.8	7L20116	0.11	1.0	ND	1	12/20/07	12/20/07	
Copper		EPA 200.8	7L20116	0.75	2.0	4.6	1	12/20/07	12/20/07	
Lead		EPA 200.8	7L20116	0.10	1.0	1.1	1	12/20/07	12/20/07	
Thallium	U	EPA 200.8	7L20116	0.15	1.0	ND	1	12/20/07	12/20/07	

LEVEL IV

TestAmerica Irvine

Joseph Doak  
Project Manager

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

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

Project ID: Routine Outfall 004

Report Number: IQL2118

Sampled: 12/19/07  
Received: 12/19/07

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IQL2118-01 (Outfall 004 - Water) - cont.										
Reporting Units: ug/l										
Antimony	J/DNQ	EPA 200.8-Diss	7L20140	0.20	2.0	0.74	1	12/20/07	12/20/07	J
Cadmium	U	EPA 200.8-Diss	7L20140	0.11	1.0	ND	1	12/20/07	12/20/07	
Copper		EPA 200.8-Diss	7L20140	0.75	2.0	2.2	1	12/20/07	12/20/07	
Lead	J/DNQ	EPA 200.8-Diss	7L20140	0.10	1.0	0.12	1	12/20/07	12/20/07	J
Thallium	U	EPA 200.8-Diss	7L20140	0.15	1.0	ND	1	12/20/07	12/20/07	

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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 004

Report Number: IQL2118

Sampled: 12/19/07  
Received: 12/19/07

## 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: IQL2118-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W7L0889	0.050	0.20	0.058	1	12/26/07	12/27/07	J
Mercury, Total	EPA 245.1	W7L0889	0.050	0.20	ND	1	12/26/07	12/27/07	

LEVEL IV

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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 004

Report Number: IQL2118

Sampled: 12/19/07

Received: 12/19/07

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL2118-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	7L19047	5.0	10	46	20	12/19/07	12/20/07	
Nitrate/Nitrite-N	EPA 300.0	7L19047	0.15	0.26	1.1	1	12/19/07	12/20/07	
Oil & Grease	EPA 413.1	7L21125	1.1	4.8	ND	1	12/22/07	12/26/07	
Sulfate	EPA 300.0	7L19047	0.20	0.50	22	1	12/19/07	12/20/07	
Total Dissolved Solids	SM2540C	7L21099	10	10	240	1	12/21/07	12/21/07	
Total Suspended Solids	EPA 160.2	7L20129	10	10	26	1	12/20/07	12/20/07	

LEVEL IV

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Joseph Doak  
Project Manager

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## **APPENDIX G**

### **Section 2**

Outfall 004, December 19, 2007

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 004

Sampled: 12/19/07  
Received: 12/19/07  
Issued: 12/28/07 16:26

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**

IQL2118-01

**CLIENT ID**

Outfall 004

**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 004

Report Number: IQL2118

Sampled: 12/19/07

Received: 12/19/07

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2118-01 (Outfall 004 - Water)</b>									
Reporting Units: ug/l									
Antimony	EPA 200.8	7L20116	0.20	2.0	<b>0.78</b>	1	12/20/07	12/20/07	J
Cadmium	EPA 200.8	7L20116	0.11	1.0	ND	1	12/20/07	12/20/07	
Copper	EPA 200.8	7L20116	0.75	2.0	<b>4.6</b>	1	12/20/07	12/20/07	
Lead	EPA 200.8	7L20116	0.10	1.0	<b>1.1</b>	1	12/20/07	12/20/07	
Thallium	EPA 200.8	7L20116	0.15	1.0	ND	1	12/20/07	12/20/07	

TestAmerica Irvine

Joseph Doak  
Project Manager

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NPDES - 19

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

Project ID: Routine Outfall 004

Report Number: IQL2118

Sampled: 12/19/07  
 Received: 12/19/07

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2118-01 (Outfall 004 - Water) - cont.</b>									
<b>Reporting Units: ug/l</b>									
<b>Antimony</b>	EPA 200.8-Diss	7L20140	0.20	2.0	<b>0.74</b>	1	12/20/07	12/20/07	J
Cadmium	EPA 200.8-Diss	7L20140	0.11	1.0	ND	1	12/20/07	12/20/07	
<b>Copper</b>	EPA 200.8-Diss	7L20140	0.75	2.0	<b>2.2</b>	1	12/20/07	12/20/07	
<b>Lead</b>	EPA 200.8-Diss	7L20140	0.10	1.0	<b>0.12</b>	1	12/20/07	12/20/07	J
Thallium	EPA 200.8-Diss	7L20140	0.15	1.0	ND	1	12/20/07	12/20/07	

**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 004

Report Number: IQL2118

Sampled: 12/19/07

Received: 12/19/07

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2118-01 (Outfall 004 - Water) - cont.</b>									
Reporting Units: mg/l									
Chloride	EPA 300.0	7L19047	5.0	10	<b>46</b>	20	12/19/07	12/20/07	
Nitrate/Nitrite-N	EPA 300.0	7L19047	0.15	0.26	<b>1.1</b>	1	12/19/07	12/20/07	
Oil & Grease	EPA 413.1	7L21125	1.1	4.8	ND	1	12/22/07	12/26/07	
Sulfate	EPA 300.0	7L19047	0.20	0.50	<b>22</b>	1	12/19/07	12/20/07	
Total Dissolved Solids	SM2540C	7L21099	10	10	<b>240</b>	1	12/21/07	12/21/07	
Total Suspended Solids	EPA 160.2	7L20129	10	10	<b>26</b>	1	12/20/07	12/20/07	

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Sampled: 12/19/07

Received: 12/19/07

## Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2118-01 (Outfall 004 - Water) - cont.</b>									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W7L0889	0.050	0.20	<b>0.058</b>	1	12/26/07	12/27/07	J
Mercury, Total	EPA 245.1	W7L0889	0.050	0.20	ND	1	12/26/07	12/27/07	

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Report Number: IQL2118

Sampled: 12/19/07  
Received: 12/19/07

## DIOXIN (EPA 1613)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2118-01 (Outfall 004 - Water) - cont.</b>									
<b>Reporting Units: ug/L</b>									
2,3,7,8-TCDD	1613-Dioxin-HR Alta	9806	N/A	4.96	ND	1	12/23/07	12/25/07	
1,2,3,7,8-PeCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
1,2,3,4,7,8-HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
1,2,3,6,7,8-HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
1,2,3,7,8,9-HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
<b>1,2,3,4,6,7,8-HpCDD</b>	1613-Dioxin-HR Alta	9806	N/A	24.8	<b>0.0000342</b>	1	12/23/07	12/25/07	
<b>OCDD</b>	1613-Dioxin-HR Alta	9806	N/A	49.6	<b>0.000547</b>	1	12/23/07	12/25/07	
2,3,7,8-TCDF	1613-Dioxin-HR Alta	9806	N/A	4.96	ND	1	12/23/07	12/25/07	
1,2,3,7,8-PeCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
2,3,4,7,8-PeCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
1,2,3,4,7,8-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
1,2,3,6,7,8-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
2,3,4,6,7,8-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
1,2,3,7,8,9-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
<b>1,2,3,4,6,7,8-HpCDF</b>	1613-Dioxin-HR Alta	9806	N/A	24.8	<b>0.00000479</b>	1	12/23/07	12/25/07	Jb
1,2,3,4,7,8,9-HpCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
OCDF	1613-Dioxin-HR Alta	9806	N/A	49.6	ND	1	12/23/07	12/25/07	
Total TCDD	1613-Dioxin-HR Alta	9806	N/A	4.96	ND	1	12/23/07	12/25/07	
Total PeCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
Total HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
<b>Total HpCDD</b>	1613-Dioxin-HR Alta	9806	N/A	24.8	<b>0.0000681</b>	1	12/23/07	12/25/07	
Total TCDF	1613-Dioxin-HR Alta	9806	N/A	4.96	ND	1	12/23/07	12/25/07	
Total PeCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/25/07	
<b>Total HxCDF</b>	1613-Dioxin-HR Alta	9806	N/A	24.8	<b>0.00000436</b>	1	12/23/07	12/25/07	
<b>Total HpCDF</b>	1613-Dioxin-HR Alta	9806	N/A	24.8	<b>0.0000178</b>	1	12/23/07	12/25/07	
<i>Surrogate: 13C-2,3,7,8-TCDD (25-164%)</i>					91.6 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)</i>					89.4 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)</i>					76.9 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)</i>					66.9 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)</i>					70.6 %				
<i>Surrogate: 13C-OCDD (17-157%)</i>					64.9 %				
<i>Surrogate: 13C-2,3,7,8-TCDF (24-169%)</i>					86.2 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)</i>					107 %				
<i>Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)</i>					95.9 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)</i>					80.9 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)</i>					66.9 %				
<i>Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)</i>					69 %				
<i>Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)</i>					65.5 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)</i>					63.7 %				
<i>Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)</i>					61.2 %				
<i>Surrogate: 13C-OCDF (17-157%)</i>					57.4 %				

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

Report Number: IQL2118

Sampled: 12/19/07

Received: 12/19/07

## DIOXIN (EPA 1613)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2118-01 (Outfall 004 - Water) - cont.</b>									
Reporting Units: ug/L									
Surrogate: 37Cl-2,3,7,8-TCDD (35-197%)					102 %				

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Report Number: IQL2118

Sampled: 12/19/07  
Received: 12/19/07

## SHORT HOLD TIME DETAIL REPORT

	<b>Hold Time (in days)</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>	<b>Date/Time Extracted</b>	<b>Date/Time Analyzed</b>
<b>Sample ID: Outfall 004 (IQL2118-01) - Water</b> EPA 300.0	2	12/19/2007 09:45	12/19/2007 19:10	12/19/2007 20:00	12/20/2007 03:22

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Project ID: Routine Outfall 004  
Report Number: IQL2118

Sampled: 12/19/07  
Received: 12/19/07

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L20116 Extracted: 12/20/07</b>											
<b>Blank Analyzed: 12/20/2007 (7L20116-BLK1)</b>											
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	0.10	ug/l							
Thallium	ND	1.0	0.15	ug/l							
<b>LCS Analyzed: 12/20/2007 (7L20116-BS1)</b>											
Antimony	84.5	2.0	0.20	ug/l	80.0		106	85-115			
Cadmium	84.5	1.0	0.11	ug/l	80.0		106	85-115			
Copper	85.1	2.0	0.75	ug/l	80.0		106	85-115			
Lead	84.6	1.0	0.10	ug/l	80.0		106	85-115			
Thallium	86.6	1.0	0.15	ug/l	80.0		108	85-115			
<b>Matrix Spike Analyzed: 12/20/2007 (7L20116-MS1) Source: IQL2190-01</b>											
Antimony	80.0	2.0	0.20	ug/l	80.0	0.268	100	70-130			
Cadmium	78.8	1.0	0.11	ug/l	80.0	0.576	98	70-130			
Copper	102	2.0	0.75	ug/l	80.0	21.3	101	70-130			
Lead	103	1.0	0.10	ug/l	80.0	23.3	100	70-130			
Thallium	82.8	1.0	0.15	ug/l	80.0	ND	103	70-130			
<b>Matrix Spike Analyzed: 12/20/2007 (7L20116-MS2) Source: IQL2059-01</b>											
Antimony	82.3	2.0	0.20	ug/l	80.0	1.68	101	70-130			
Cadmium	78.8	1.0	0.11	ug/l	80.0	0.396	98	70-130			
Copper	101	2.0	0.75	ug/l	80.0	19.1	102	70-130			
Lead	85.1	1.0	0.10	ug/l	80.0	3.19	102	70-130			
Thallium	82.3	1.0	0.15	ug/l	80.0	ND	103	70-130			
<b>Matrix Spike Dup Analyzed: 12/20/2007 (7L20116-MSD1) Source: IQL2190-01</b>											
Antimony	79.3	2.0	0.20	ug/l	80.0	0.268	99	70-130	1	20	
Cadmium	78.6	1.0	0.11	ug/l	80.0	0.576	98	70-130	0	20	
Copper	101	2.0	0.75	ug/l	80.0	21.3	100	70-130	1	20	
Lead	104	1.0	0.10	ug/l	80.0	23.3	101	70-130	1	20	
Thallium	83.5	1.0	0.15	ug/l	80.0	ND	104	70-130	1	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L20140 Extracted: 12/20/07</b>											
<b>Blank Analyzed: 12/20/2007 (7L20140-BLK1)</b>											
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	0.10	ug/l							
Thallium	ND	1.0	0.15	ug/l							
<b>LCS Analyzed: 12/20/2007 (7L20140-BS1)</b>											
Antimony	80.2	2.0	0.20	ug/l	80.0		100	85-115			
Cadmium	78.5	1.0	0.11	ug/l	80.0		98	85-115			
Copper	75.0	2.0	0.75	ug/l	80.0		94	85-115			
Lead	79.6	1.0	0.10	ug/l	80.0		100	85-115			
Thallium	81.8	1.0	0.15	ug/l	80.0		102	85-115			
<b>Matrix Spike Analyzed: 12/20/2007 (7L20140-MS1) Source: IQL2118-01</b>											
Antimony	81.3	2.0	0.20	ug/l	80.0	0.742	101	70-130			
Cadmium	75.0	1.0	0.11	ug/l	80.0	ND	94	70-130			
Copper	73.9	2.0	0.75	ug/l	80.0	2.16	90	70-130			
Lead	76.2	1.0	0.10	ug/l	80.0	0.118	95	70-130			
Thallium	78.3	1.0	0.15	ug/l	80.0	ND	98	70-130			
<b>Matrix Spike Dup Analyzed: 12/20/2007 (7L20140-MSD1) Source: IQL2118-01</b>											
Antimony	81.5	2.0	0.20	ug/l	80.0	0.742	101	70-130	0	20	
Cadmium	75.2	1.0	0.11	ug/l	80.0	ND	94	70-130	0	20	
Copper	73.8	2.0	0.75	ug/l	80.0	2.16	90	70-130	0	20	
Lead	76.0	1.0	0.10	ug/l	80.0	0.118	95	70-130	0	20	
Thallium	78.3	1.0	0.15	ug/l	80.0	ND	98	70-130	0	20	

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L19047 Extracted: 12/19/07</b>											
<b>Blank Analyzed: 12/19/2007 (7L19047-BLK1)</b>											
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							
<b>LCS Analyzed: 12/19/2007 (7L19047-BS1)</b>											
Chloride	5.10	0.50	0.25	mg/l	5.00		102	90-110			
Sulfate	9.75	0.50	0.20	mg/l	10.0		98	90-110			
<b>Matrix Spike Analyzed: 12/19/2007 (7L19047-MS1)</b>											
						<b>Source: IQL2030-01</b>					
Chloride	5.70	0.50	0.25	mg/l	5.00	0.848	97	80-120			
Sulfate	11.3	0.50	0.20	mg/l	10.0	1.85	94	80-120			
<b>Matrix Spike Dup Analyzed: 12/19/2007 (7L19047-MSD1)</b>											
						<b>Source: IQL2030-01</b>					
Chloride	5.70	0.50	0.25	mg/l	5.00	0.848	97	80-120	0	20	
Sulfate	11.3	0.50	0.20	mg/l	10.0	1.85	94	80-120	0	20	
<b>Batch: 7L20129 Extracted: 12/20/07</b>											
<b>Blank Analyzed: 12/20/2007 (7L20129-BLK1)</b>											
Total Suspended Solids	ND	10	10	mg/l							
<b>LCS Analyzed: 12/20/2007 (7L20129-BS1)</b>											
Total Suspended Solids	927	10	10	mg/l	1000		93	85-115			
<b>Duplicate Analyzed: 12/20/2007 (7L20129-DUP1)</b>											
						<b>Source: IQL2122-01</b>					
Total Suspended Solids	71.0	10	10	mg/l		73.0			3	10	

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L21099 Extracted: 12/21/07</b>											
<b>Blank Analyzed: 12/21/2007 (7L21099-BLK1)</b>											
Total Dissolved Solids	ND	10	10	mg/l							
<b>LCS Analyzed: 12/21/2007 (7L21099-BS1)</b>											
Total Dissolved Solids	992	10	10	mg/l	1000		99	90-110			
<b>Duplicate Analyzed: 12/21/2007 (7L21099-DUP1)</b>											
Total Dissolved Solids	492	10	10	mg/l		Source: IQL2115-04 496			1	10	
<b>Batch: 7L21125 Extracted: 12/22/07</b>											
<b>Blank Analyzed: 12/26/2007 (7L21125-BLK1)</b>											
Oil & Grease	ND	5.0	1.2	mg/l							
<b>LCS Analyzed: 12/26/2007 (7L21125-BS1)</b>											
Oil & Grease	18.8	5.0	1.2	mg/l	20.0		94	65-120			MNR1
<b>LCS Dup Analyzed: 12/26/2007 (7L21125-BSD1)</b>											
Oil & Grease	18.7	5.0	1.2	mg/l	20.0		94	65-120	1	20	

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## METHOD BLANK/QC DATA

### Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: W7L0889 Extracted: 12/26/07</b>											
<b>Blank Analyzed: 12/27/2007 (W7L0889-BLK1)</b>											
Mercury, Dissolved	ND	0.20	0.050	ug/l							
Mercury, Total	ND	0.20	0.050	ug/l							
<b>LCS Analyzed: 12/27/2007 (W7L0889-BS1)</b>											
Mercury, Dissolved	1.00	0.20	0.050	ug/l	1.00		100	85-115			
Mercury, Total	1.00	0.20	0.050	ug/l	1.00		100	85-115			
<b>Matrix Spike Analyzed: 12/27/2007 (W7L0889-MS1)</b>											
						<b>Source: 7121925-01</b>					
Mercury, Dissolved	0.882	0.20	0.050	ug/l	1.00	ND	88	70-130			
Mercury, Total	0.882	0.20	0.050	ug/l	1.00	ND	88	70-130			
<b>Matrix Spike Analyzed: 12/27/2007 (W7L0889-MS2)</b>											
						<b>Source: 7121925-03</b>					
Mercury, Dissolved	0.882	0.20	0.050	ug/l	1.00	ND	88	70-130			
Mercury, Total	0.882	0.20	0.050	ug/l	1.00	ND	88	70-130			
<b>Matrix Spike Dup Analyzed: 12/27/2007 (W7L0889-MSD1)</b>											
						<b>Source: 7121925-01</b>					
Mercury, Dissolved	0.909	0.20	0.050	ug/l	1.00	ND	91	70-130	3	20	
Mercury, Total	0.909	0.20	0.050	ug/l	1.00	ND	91	70-130	3	20	
<b>Matrix Spike Dup Analyzed: 12/27/2007 (W7L0889-MSD2)</b>											
						<b>Source: 7121925-03</b>					
Mercury, Dissolved	0.907	0.20	0.050	ug/l	1.00	ND	91	70-130	3	20	
Mercury, Total	0.907	0.20	0.050	ug/l	1.00	ND	91	70-130	3	20	

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

Project ID: Routine Outfall 004  
 Report Number: IQL2118

Sampled: 12/19/07  
 Received: 12/19/07

## METHOD BLANK/QC DATA

### DIOXIN (EPA 1613)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 9806 Extracted: 12/23/07</b>											
<b>Blank Analyzed: 12/25/2007 (MB001)</b>											
						<b>Source:</b>					
2,3,7,8-TCDD	ND	5.00	N/A	ug/L				50-150		25	
1,2,3,7,8-PeCDD	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,4,7,8-HxCDD	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,6,7,8-HxCDD	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,7,8,9-HxCDD	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,4,6,7,8-HpCDD	ND	25.0	N/A	ug/L				50-150		25	
OCDD	ND	50.0	N/A	ug/L				50-150		25	
2,3,7,8-TCDF	ND	5.00	N/A	ug/L				50-150		25	
1,2,3,7,8-PeCDF	ND	25.0	N/A	ug/L				50-150		25	
2,3,4,7,8-PeCDF	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,4,7,8-HxCDF	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,6,7,8-HxCDF	ND	25.0	N/A	ug/L				50-150		25	
2,3,4,6,7,8-HxCDF	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,7,8,9-HxCDF	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,4,6,7,8-HpCDF	ND	25.0	N/A	ug/L				50-150		25	
1,2,3,4,7,8,9-HpCDF	ND	25.0	N/A	ug/L				50-150		25	
OCDF	ND	50.0	N/A	ug/L				50-150		25	
Total TCDD	ND	5.00	N/A	ug/L				50-150		25	
Total PeCDD	ND	25.0	N/A	ug/L				50-150		25	
Total HxCDD	ND	25.0	N/A	ug/L				50-150		25	
Total HpCDD	ND	25.0	N/A	ug/L				50-150		25	
Total TCDF	0.00000139	5.00	N/A	ug/L				50-150		25	
Total PeCDF	ND	25.0	N/A	ug/L				50-150		25	
Total HxCDF	ND	25.0	N/A	ug/L				50-150		25	
Total HpCDF	ND	25.0	N/A	ug/L				50-150		25	
Surrogate: 13C-2,3,7,8-TCDD	0.00156			ug/L	2000		78	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00193			ug/L	2000		96	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00139			ug/L	2000		70	50-150			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00124			ug/L	2000		62	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00128			ug/L	2000		64	50-150			
Surrogate: 13C-OCDD	0.00237			ug/L	4000		59	50-150			
Surrogate: 13C-2,3,7,8-TCDF	0.00158			ug/L	2000		79	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00197			ug/L	2000		99	50-150			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00208			ug/L	2000		104	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00139			ug/L	2000		70	50-150			

**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 004  
 Report Number: IQL2118

Sampled: 12/19/07  
 Received: 12/19/07

## METHOD BLANK/QC DATA

### DIOXIN (EPA 1613)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 9806 Extracted: 12/23/07</b>										
<b>Blank Analyzed: 12/25/2007 (MB001)</b>										
					<b>Source:</b>					
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00113			ug/L	2000		57		50-150	
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00129			ug/L	2000		64		50-150	
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00128			ug/L	2000		64		50-150	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00112			ug/L	2000		56		50-150	
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00112			ug/L	2000		56		50-150	
Surrogate: 13C-OCDF	0.00203			ug/L	4000		51		50-150	
Surrogate: 37Cl-2,3,7,8-TCDD	0.000755			ug/L	800		94		50-150	
<b>LCS Analyzed: 12/24/2007 (OPR001)</b>										
					<b>Source:</b>					
2,3,7,8-TCDD	10.3	5.00	N/A	ug/L	10		103		50-150	25
1,2,3,7,8-PeCDD	51.0	25.0	N/A	ug/L	50		102		50-150	25
1,2,3,4,7,8-HxCDD	50.5	25.0	N/A	ug/L	50		101		50-150	25
1,2,3,6,7,8-HxCDD	53.0	25.0	N/A	ug/L	50		106		50-150	25
1,2,3,7,8,9-HxCDD	51.8	25.0	N/A	ug/L	50		104		50-150	25
1,2,3,4,6,7,8-HpCDD	50.8	25.0	N/A	ug/L	50		102		50-150	25
OCDD	100	50.0	N/A	ug/L	100		100		50-150	25
2,3,7,8-TCDF	10.5	5.00	N/A	ug/L	10		105		50-150	25
1,2,3,7,8-PeCDF	51.3	25.0	N/A	ug/L	50		103		50-150	25
2,3,4,7,8-PeCDF	52.4	25.0	N/A	ug/L	50		105		50-150	25
1,2,3,4,7,8-HxCDF	50.2	25.0	N/A	ug/L	50		100		50-150	25
1,2,3,6,7,8-HxCDF	54.1	25.0	N/A	ug/L	50		108		50-150	25
2,3,4,6,7,8-HxCDF	53.7	25.0	N/A	ug/L	50		107		50-150	25
1,2,3,7,8,9-HxCDF	52.4	25.0	N/A	ug/L	50		105		50-150	25
1,2,3,4,6,7,8-HpCDF	50.4	25.0	N/A	ug/L	50		101		50-150	25
1,2,3,4,7,8,9-HpCDF	51.8	25.0	N/A	ug/L	50		104		50-150	25
OCDF	104	50.0	N/A	ug/L	100		104		50-150	25
Surrogate: 13C-2,3,7,8-TCDD	84.4			ug/L	100		84		50-150	
Surrogate: 13C-1,2,3,7,8-PeCDD	83.4			ug/L	100		83		50-150	
Surrogate: 13C-1,2,3,4,7,8-HxCDD	81.1			ug/L	100		81		50-150	
Surrogate: 13C-1,2,3,6,7,8-HxCDD	68.0			ug/L	100		68		50-150	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	75.4			ug/L	100		75		50-150	
Surrogate: 13C-OCDD	126			ug/L	200		63		50-150	
Surrogate: 13C-2,3,7,8-TCDF	79.7			ug/L	100		80		50-150	
Surrogate: 13C-1,2,3,7,8-PeCDF	91.9			ug/L	100		92		50-150	
Surrogate: 13C-2,3,4,7,8-PeCDF	88.6			ug/L	100		89		50-150	
Surrogate: 13C-1,2,3,4,7,8-HxCDF	79.3			ug/L	100		79		50-150	

**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 004  
 Report Number: IQL2118

Sampled: 12/19/07  
 Received: 12/19/07

## METHOD BLANK/QC DATA

### DIOXIN (EPA 1613)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 9806 Extracted: 12/23/07</b>											
<b>LCS Analyzed: 12/24/2007 (OPR001)</b>											
Surrogate: 13C-1,2,3,6,7,8-HxCDF	65.5			ug/L	100		66	50-150			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	68.9			ug/L	100		69	50-150			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	68.6			ug/L	100		69	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	65.2			ug/L	100		65	50-150			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	62.5			ug/L	100		63	50-150			
Surrogate: 13C-OCDF	108			ug/L	200		54	50-150			
Surrogate: 37Cl-2,3,7,8-TCDD	39.6			ug/L	40		99	50-150			

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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 004

Report Number: IQL2118

Sampled: 12/19/07  
Received: 12/19/07

## 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
IQL2118-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	4.8	15
IQL2118-01	Antimony-200.8	Antimony	ug/l	0.78	2.0	6.00
IQL2118-01	Antimony-200.8, Diss	Antimony	ug/l	0.74	2.0	6.00
IQL2118-01	Cadmium-200.8	Cadmium	ug/l	0.066	1.0	4.00
IQL2118-01	Cadmium-200.8, Diss	Cadmium	ug/l	0.031	1.0	4.00
IQL2118-01	Chloride - 300.0	Chloride	mg/l	46	10	150
IQL2118-01	Copper-200.8	Copper	ug/l	4.64	2.0	14
IQL2118-01	Copper-200.8, Diss	Copper	ug/l	2.16	2.0	14
IQL2118-01	Lead-200.8	Lead	ug/l	1.05	1.0	5.20
IQL2118-01	Lead-200.8, Diss	Lead	ug/l	0.12	1.0	5.20
IQL2118-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	1.07	0.26	10.00
IQL2118-01	Sulfate-300.0	Sulfate	mg/l	22	0.50	250
IQL2118-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	244	10	850
IQL2118-01	Thallium-200.8	Thallium	ug/l	0.057	1.0	2.00
IQL2118-01	Thallium-200.8, Diss	Thallium	ug/l	0.0100	1.0	2.00

TestAmerica Irvine

Joseph Doak  
Project Manager

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IQL2118 <Page 17 of 19>

NPDES - 34

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

Project ID: Routine Outfall 004

Report Number: IQL2118

Sampled: 12/19/07

Received: 12/19/07

## 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.
- Jb** The amount detected is below the Lower Calibration Limit of the instrument
- 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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**IQL2118** <Page 18 of 19>

**NPDES - 35**

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

Project ID: Routine Outfall 004  
Report Number: IQL2118

Sampled: 12/19/07  
Received: 12/19/07

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	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](http://www.testamericainc.com)*

### Subcontracted Laboratories

#### Alta Analytical Perspectives

2714 Exchange Drive - Wilmington, NC 28405

Method Performed: 1613-Dioxin-HR Alta  
Samples: IQL2118-01

#### 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: IQL2118-01

Analysis Performed: EDD + Level 4  
Samples: IQL2118-01

#### Weck Laboratories, Inc

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

Method Performed: EPA 245.1  
Samples: IQL2118-01

### TestAmerica Irvine

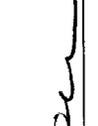
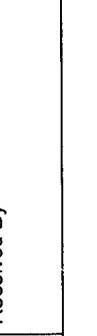
Joseph Doak  
Project Manager

*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.*

10LZ118

# CHAIN OF CUSTODY FORM

Test America Version 04/28/06

Client Name/Address: <b>MWH-Arcadia</b> 618 Michilinda Avenue, Suite 200 Arcadia, CA 91007		Project: Boeing-SSFL NPDES <b>Routine Outfall 004</b> Stormwater at SRE-1		Total Recoverable Metals Sb, Cd, Cu, Pb, Hg, Tl		TCDD (and all congeners)		Oil & Grease (EPA 413.1)		Cl, SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N		TDS, TSS		Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl		Field readings: Temp = <b>54.0</b> pH = <b>8.43</b> Sample Collection Time = <b>0945</b> Comments	
Test America Contact: Joseph Doak Project Manager: Bronwyn Kelly Sampler: <b>J. Mariscal</b> <b>K. Barnes</b>		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Sampling Date/Time <b>12-19-07 - 0945</b>		Preservative HNO <sub>3</sub> HNO <sub>3</sub> None HCl None None None		Bottle # 1A 1B 2A, 2B 3A, 3B 4A, 4B 5A, 5B 6		ANALYSIS REQUIRED		Turn around Time: (check) 24 Hours _____ 5 Days <b>X</b> 48 Hours _____ 10 Days _____ 72 Hours _____ Normal _____ Sample Integrity: (Check) Intact _____ On Ice: <b>X</b> <b>26% 1.6°C</b>					
Sample Description Outfall 004 Outfall 004 Dup Outfall 004 Outfall 004 Outfall 004 Outfall 004 Outfall 004 Outfall 004	Sample Matrix W W W W W W W	Container Type 1L Poly 1L Poly 1L Amber 1L Amber 500 ml Poly 500 ml Poly 1L Poly	# of Cont. 1 1 2 2 2 2 1	Sampling Date/Time <b>12-19-07 - 0945</b>	Preservative HNO <sub>3</sub> HNO <sub>3</sub> None HCl None None None	Bottle # 1A 1B 2A, 2B 3A, 3B 4A, 4B 5A, 5B 6	Total Recoverable Metals Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl, SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N	TDS, TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Field readings: Temp = <b>54.0</b> pH = <b>8.43</b> Sample Collection Time = <b>0945</b> Comments				
Relinquished By 	Date/Time: <b>12-19-07 1620</b>	Received By 	Date/Time: <b>12/19/07 1620</b>														
Relinquished By 	Date/Time: <b>12/19/07 1910</b>	Received By 	Date/Time: <b>12/19/07 1910</b>														
Relinquished By 	Date/Time: <b>12/19/07 1910</b>	Received By 	Date/Time: <b>12/19/07 1910</b>														

December 26, 2007

**Vista Project I.D.: 30101**

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 December 21, 2007 under your Project Name "IQL2118". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush 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](mailto: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: 12/21/2007**

Vista Lab. ID

Client Sample ID

30101-001

IQL2118-01

## SECTION II

**EPA Method 1613**

<b>Method Blank</b>		<b>EPA Method 1613</b>						
Matrix:	Aqueous	QC Batch No.:	9806	Lab Sample:	0-MB001			
Sample Size:	1.00 L	Date Extracted:	23-Dec-07	Date Analyzed DB-5:	25-Dec-07			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000817			IS 13C-2,3,7,8-TCDD	78.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000965			13C-1,2,3,7,8-PeCDD	96.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000174			13C-1,2,3,4,7,8-HxCDD	69.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000175			13C-1,2,3,6,7,8-HxCDD	62.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000174			13C-1,2,3,4,6,7,8-HpCDD	63.9	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000246			13C-OCDD	59.3	17 - 157	
OCDD	ND	0.00000423			13C-2,3,7,8-TCDF	79.1	24 - 169	
2,3,7,8-TCDF	ND	0.00000140			13C-1,2,3,7,8-PeCDF	98.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000129			13C-2,3,4,7,8-PeCDF	104	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000126			13C-1,2,3,4,7,8-HxCDF	69.6	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000846			13C-1,2,3,6,7,8-HxCDF	56.7	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000904			13C-2,3,4,6,7,8-HxCDF	64.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000973			13C-1,2,3,7,8,9-HxCDF	63.8	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000140			13C-1,2,3,4,6,7,8-HpCDF	55.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000100			13C-1,2,3,4,7,8,9-HpCDF	55.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000138			13C-OCDF	50.8	17 - 157	
OCDF	ND	0.00000156			CRS 37Cl-2,3,7,8-TCDD	94.4	35 - 197	
<b>Totals</b>								
Total TCDD	ND	0.000000817			a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.000000965			b. Estimated maximum possible concentration.			
Total HxCDD	ND	0.00000175			c. Method detection limit.			
Total HpCDD	ND	0.00000246			d. Lower control limit - upper control limit.			
Total TCDF	0.00000139							
Total PeCDF	ND	0.00000128						
Total HxCDF	ND	0.00000101						
Total HpCDF	ND	0.00000117						

Analyst: JMH

Approved By: Martha M. Maier 26-Dec-2007 13:12

EPA Method 1613							
OPR Results		Matrix:	QC Batch No.:	9806	Lab Sample:	0-OPR001	
		Sample Size:	Date Extracted:	23-Dec-07	Date Analyzed DB-5:	24-Dec-07	
		1.00 L			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	10.3	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	84.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	51.0	35 - 71	13C-1,2,3,7,8-PeCDD	83.4	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	50.5	35 - 82	13C-1,2,3,4,7,8-HxCDD	81.1	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	53.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	68.0	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	51.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	75.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	50.8	35 - 70	13C-OCDD	63.2	17 - 157	
OCDD	100	100	78 - 144	13C-2,3,7,8-TCDF	79.7	24 - 169	
2,3,7,8-TCDF	10.0	10.5	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	91.9	24 - 185	
1,2,3,7,8-PeCDF	50.0	51.3	40 - 67	13C-2,3,4,7,8-PeCDF	88.6	21 - 178	
2,3,4,7,8-PeCDF	50.0	52.4	34 - 80	13C-1,2,3,4,7,8-HxCDF	79.3	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	50.2	36 - 67	13C-1,2,3,6,7,8-HxCDF	65.5	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	54.1	42 - 65	13C-2,3,4,6,7,8-HxCDF	68.9	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	53.7	35 - 78	13C-1,2,3,7,8,9-HxCDF	68.6	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	52.4	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	65.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	50.4	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	62.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	51.8	39 - 69	13C-OCDF	54.0	17 - 157	
OCDF	100	104	63 - 170	CRS 37Cl-2,3,7,8-TCDD	99.1	35 - 197	

Analyst: JMH

Approved By: Martha M. Maier 26-Dec-2007 13:00

**Sample ID: IQL2118-01**

**EPA Method 1613**

<u>Client Data</u>		<u>Sample Data</u>		<u>Laboratory Data</u>	
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	30101-001
Project:	IQL2118	Sample Size:	1.01 L	QC Batch No.:	9806
Date Collected:	19-Dec-07			Date Analyzed DB-5:	25-Dec-07
Time Collected:	0945			Date Analyzed DB-225:	NA
				Date Received:	21-Dec-07
				Date Extracted:	23-Dec-07

Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.00000666			IS 13C-2,3,7,8-TCDD	91.6	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000722			13C-1,2,3,7,8-PeCDD	89.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000160			13C-1,2,3,4,7,8-HxCDD	76.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000168			13C-1,2,3,6,7,8-HxCDD	66.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000163			13C-1,2,3,4,6,7,8-HpCDD	70.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000342				13C-OCDD	64.9	17 - 157	
OCDD	0.000547				13C-2,3,7,8-TCDF	86.2	24 - 169	
2,3,7,8-TCDF	ND	0.0000112			13C-1,2,3,7,8-PeCDF	107	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000841			13C-2,3,4,7,8-PeCDF	95.9	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000994			13C-1,2,3,4,7,8-HxCDF	80.9	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000317			13C-1,2,3,6,7,8-HxCDF	66.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000355			13C-2,3,4,6,7,8-HxCDF	69.0	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000411			13C-1,2,3,7,8,9-HxCDF	65.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000616			13C-1,2,3,4,6,7,8-HpCDF	63.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000479			J	13C-1,2,3,4,7,8,9-HpCDF	61.2	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000765			13C-OCDF	57.4	17 - 157	
OCDF	ND		0.0000106		CRS 37Cl-2,3,7,8-TCDD	102	35 - 197	

<b>Totals</b>				<b>Footnotes</b>	
Total TCDD	ND	0.00000666			a. Sample specific estimated detection limit.
Total PeCDD	ND	0.00000722			b. Estimated maximum possible concentration.
Total HxCDD	ND	0.00000164			c. Method detection limit.
Total HpCDD	0.0000681				d. Lower control limit - upper control limit.
Total TCDF	ND	0.0000112			
Total PeCDF	ND	0.00000911			
Total HxCDF	0.00000436				
Total HpCDF	0.0000178				

Analyst: JMH

Approved By:

Martha M. Maier

26-Dec-2007 13:12

## APPENDIX

## DATA QUALIFIERS & ABBREVIATIONS

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

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

## CERTIFICATIONS

<b>Accrediting Authority</b>	<b>Certificate Number</b>
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  
IQL2118

*LAB 12/21/07*  
*30101* 30101

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

*0.3°C*

Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IQL2118-01	Water		Sampled: 12/19/07 09:45	
1613-Dioxin-HR-Alta	ug/l	12/28/07	12/26/07 09:45	J flags, 17 congeners, no TEQ, ug/L, sub=Vista
EDD + Level 4	N/A	12/28/07	01/16/08 09:45	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

*12/20/07 1700*  
Date/Time

*FedEx 12/20/07 17:00*  
Received By Date/Time

Released By

Date/Time

*Bethina Benedict 12/21/07 1026*  
Received By Date/Time

SAMPLE LOG-IN CHECKLIST



Vista Project #: 30101 TAT 7

Samples Arrival:	Date/Time <u>12/21/07 0947</u>	Initials: <u>WBB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>12/21/07 1032</u>	Initials: <u>WBB</u>	Location: <u>WR2</u>
			Shelf/Rack: <u>C-3</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	<u>0.3</u>	Time: <u>0952</u>	Thermometer ID: IR-1

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill	Trk # <u>7909 0204 7014</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample Container Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC Anomaly/Sample Acceptance Form completed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> None
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	Retain <input type="checkbox"/> Return <input checked="" type="checkbox"/> Dispose

Comments:



### CERTIFICATE OF ANALYSIS

<b>Client:</b> TestAmerica, Inc. - Irvine 17461 Derian Ave, Suite 100 Irvine, CA 92614 Attention: Joseph Doak  Phone: (949) 261-1022 Fax: (949) 260-3297	<b>Report Date:</b> 12/28/07 15:28 <b>Received Date:</b> 12/20/07 10:00 <b>Turn Around:</b> 5 days  <b>Work Order #:</b> 7122004  <b>Client Project:</b> IQL2118
--	--

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 12/20/07 10:00 with the Chain of Custody document. The samples were received in good condition. The samples were received at 4.5 °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: 7122004  
Project ID: IQL2118

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:28

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IQL2118-01	Client		7122004-01	Water	12/19/07 09:45



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: 7122004  
Project ID: IQL2118

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:28

**IQL2118-01 7122004-01 (Water)**

Date Sampled: 12/19/07 09:45

**Metals by EPA 200 Series Methods**

Analyte	Result	MDL	Units	Reporting Limit	Dilution Factor	Method	Batch Number	Date Prepared	Date Analyzed	Data Qualifiers
<b>Mercury, Dissolved</b>	<b>0.058</b>	0.050	ug/l	0.20	1	EPA 245.1	W7L0889	12/26/07	12/27/07	jlj
Mercury, Total	ND	0.050	ug/l	0.20	1	EPA 245.1	W7L0889	12/26/07	12/27/07	jlj



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: 7122004  
Project ID: IQL2118

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:28

# 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: 7122004  
 Project ID: IQL2118

Date Received: 12/20/07 10:00  
 Date Reported: 12/28/07 15:28

**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 W7L0889 - EPA 245.1**

**Blank (W7L0889-BLK1)**

Analyzed: 12/27/07

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

**LCS (W7L0889-BS1)**

Analyzed: 12/27/07

Mercury, Dissolved	1.00	0.20	ug/l	1.00		100	85-115			
Mercury, Total	1.00	0.20	ug/l	1.00		100	85-115			

**Matrix Spike (W7L0889-MS1)**

Source: 7121925-01

Analyzed: 12/27/07

Mercury, Dissolved	0.882	0.20	ug/l	1.00	ND	88	70-130			
Mercury, Total	0.882	0.20	ug/l	1.00	ND	88	70-130			

**Matrix Spike (W7L0889-MS2)**

Source: 7121925-03

Analyzed: 12/27/07

Mercury, Dissolved	0.882	0.20	ug/l	1.00	ND	88	70-130			
Mercury, Total	0.882	0.20	ug/l	1.00	ND	88	70-130			

**Matrix Spike Dup (W7L0889-MSD1)**

Source: 7121925-01

Analyzed: 12/27/07

Mercury, Dissolved	0.909	0.20	ug/l	1.00	ND	91	70-130	3	20	
Mercury, Total	0.909	0.20	ug/l	1.00	ND	91	70-130	3	20	

**Matrix Spike Dup (W7L0889-MSD2)**

Source: 7121925-03

Analyzed: 12/27/07

Mercury, Dissolved	0.907	0.20	ug/l	1.00	ND	91	70-130	3	20	
Mercury, Total	0.907	0.20	ug/l	1.00	ND	91	70-130	3	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: 7122004  
Project ID: IQL2118

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:28

### Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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.

SUBCONTRACT ORDER

TestAmerica Irvine  
IQL2118

7122004

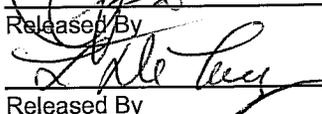
SENDING LABORATORY:

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: \_\_\_\_\_ °C      Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IQL2118-01	Water			Sampled: 12/19/07 09:45
Mercury - 245.1, Diss -OUT	mg/l	12/28/07	01/16/08 09:45	
Mercury - 245.1-OUT	mg/l	12/28/07	01/16/08 09:45	
<i>Containers Supplied:</i>				
125 mL Poly w/HNO3	125 mL Poly (M)			
(L)				

  
 Released By \_\_\_\_\_ Date/Time 12/20/07  
  
 Released By \_\_\_\_\_ Date/Time 12/20/07

  
 Received By \_\_\_\_\_ Date/Time 12/20/07 0700  
  
 Received By \_\_\_\_\_ Date/Time 12/20/07 10:00  
 NPDES Page 55 of 1

## **APPENDIX G**

### **Section 3**

Outfall 006, December 07, 2007

MEC<sup>X</sup> Data Validation Reports



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IQL0947

Prepared by

MEC<sup>X</sup>, 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: IQL0947  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 1  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine, Weck, Vista

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 006	IQL0947-01	7121004-01, 30063-001	Water	12/7/07 0840	160.2, 245.1, 300.0, 413.1, 900.0, 1613, 6020, SM2540C

**II. Sample Management**

No anomalies were observed regarding sample management. The sample in this SDG was received at TestAmerica-Irvine, Vista, and Weck within the temperature limits of 4°C ±2°C. 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 Weck and 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: January 14, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> 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: Total HpCDD was reported in the method blank at a concentration of 0.00000171  $\mu\text{g/l}$ . Total HpCDD was reported in the sample at a concentration less than five times the

method blank; therefore, the detect was qualified as an estimated nondetect, "UJ," at the reporting limit in sample Outfall 006. There were no other 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 245.1, 6020—Metals and Mercury**

Reviewed By: P. Meeks

Date Reviewed: January 11, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 245. and 6020*, 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  $\leq 0.1$  amu and  $\leq 0.9$  amu at 10% peak height.

- Calibration: Calibration criteria were met. Mercury initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110% for the ICP-MS metals and 85-115% for mercury.
- Blanks: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: Recoveries were within the method-established control limits. Cadmium, copper, and thallium 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 dissolved 6020 analytes. All recoveries and RPDs were within the laboratory-established control limits.
- 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. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. 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.

Thallium was detected just above the method detection limit (MDL) in the dissolved metals sample fraction only, and antimony was detected just above the MDL in both fractions but at a higher concentration in the dissolved metals sample fraction. Detection limits are the standard measure of the analytical instrument sensitivity and variations in sample results are expected at concentrations near the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

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

### C. EPA METHOD 900.0 — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: January 14, 2008

The sample listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Method 900.0* and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The analytical holding time for gross beta was exceeded was by one day. The gross beta result was qualified as estimated, "J."
- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability. The gross beta detector efficiency was greater than 20%.
- Blanks: Gross beta was not detected above the MDA in the method blank.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratory-established control limits.
- Laboratory Duplicates: Duplicate analysis was performed for the sample in this SDG. The RPD was within the laboratory-established control limit.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for the sample in this SDG. The recovery was within the laboratory-established control limits.
- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample result and MDA 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: January 11, 2008

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *Standard Methods 160.2, 300.0, 413.1, SM2540C* and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: All holding times, 28 days for chloride, sulfate, and oil and grease, seven days for TSS and TDS, and 48 hours for nitrate/nitrite, were met.
- Calibration: Calibration criteria were met. Initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110%.
- Blanks: There were no detects in the method blanks or CCBs.
- Blank Spikes and Laboratory Control Samples: All recoveries and the oil and grease RPD were within the laboratory-established control limits. 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.
- 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. The reviewer was not able to exactly reproduce the sulfate result. The difference between the reported result and the result calculated by the reviewer was 10%. No other transcription or calculation errors were noted. Chloride was reported from a 20x dilution in order to report chloride within the linear range of the calibration.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.

Sample ID: IQL0947-01 Outfall 006 EPA Method 1613

**Client Data**  
 Name: Test America-Irvine, CA  
 Project: IQL0947  
 Date Collected: 7-Dec-07  
 Time Collected: 0840

**Sample Data**  
 Matrix: Aqueous  
 Sample Size: 0.990 L

**Laboratory Data**  
 Lab Sample: 30063-001  
 QC Batch No.: 9773  
 Date Analyzed DB-5: 15-Dec-07  
 Date Received: 11-Dec-07  
 Date Extracted: 13-Dec-07  
 Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000780			13C-2,3,7,8-TCDD	97.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000733			13C-1,2,3,7,8-PeCDD	94.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000111			13C-1,2,3,4,7,8-HxCDD	83.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000118			13C-1,2,3,6,7,8-HxCDD	69.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000114			13C-1,2,3,4,6,7,8-HpCDD	78.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000300			13C-OCDD	66.0	17 - 157	
OCDD	0.0000127			J	13C-2,3,7,8-TCDF	93.9	24 - 169	
2,3,7,8-TCDF	ND	0.00000113			13C-1,2,3,7,8-PeCDF	99.2	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000857			13C-2,3,4,7,8-PeCDF	99.7	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000855			13C-1,2,3,4,7,8-HxCDF	85.5	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000529			13C-1,2,3,6,7,8-HxCDF	69.5	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000583			13C-2,3,4,6,7,8-HxCDF	73.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000684			13C-1,2,3,7,8,9-HxCDF	76.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000858			13C-1,2,3,4,6,7,8-HpCDF	68.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000999			13C-1,2,3,4,7,8,9-HpCDF	75.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000121			13C-OCDF	58.9	17 - 157	
OCDF	ND	0.00000322			CRS 37Cl-2,3,7,8-TCDD	133	35 - 197	

**Totals**

Total TCDD	ND	0.000000780		
Total PeCDD	ND	0.00000155		
Total HxCDD	ND	0.00000188		
Total HpCDD	0.00000271			B
Total TCDF	ND	0.00000113		
Total PeCDF	ND	0.000000856		
Total HxCDF	ND	0.000000652		
Total HpCDF	ND	0.00000110		

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

Analyst: level III Approved By: Martha M. Maier 17-Dec-2007 12:19

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

Project ID: Routine Outfall 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL0947-01 (Outfall 006 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	7L10143	0.20	2.0	0.43	1	12/10/07	12/11/07	J
Cadmium	EPA 200.8	7L10143	0.11	1.0	0.13	1	12/10/07	12/11/07	J
Copper	EPA 200.8	7L10143	0.75	2.0	0.97	1	12/10/07	12/11/07	J
Lead	EPA 200.8	7L10143	0.10	1.0	0.36	1	12/10/07	12/11/07	J
Thallium	EPA 200.8	7L10143	0.15	1.0	ND	1	12/10/07	12/11/07	

LEVEL IV

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 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IQL0947-01 (Outfall 006 - Water) - cont.										
Reporting Units: ug/l										
Antimony	J/DNQ	EPA 200.8-Diss	7L07145	0.20	2.0	0.45	1	12/07/07	12/07/07	J
Cadmium	U	EPA 200.8-Diss	7L07145	0.11	1.0	ND	1	12/07/07	12/07/07	
Copper		EPA 200.8-Diss	7L07145	0.75	2.0	ND	1	12/07/07	12/07/07	
Lead	↓	EPA 200.8-Diss	7L07145	0.10	1.0	ND	1	12/07/07	12/07/07	
Thallium	J/DNQ	EPA 200.8-Diss	7L07145	0.15	1.0	0.35	1	12/07/07	12/07/07	J

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IQL0947	Sampled: 12/07/07 Received: 12/07/07
---	---	---

## 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: IQL0947-01 (Outfall 006 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W7L0421	0.050	0.20	ND	1	12/12/07	12/13/07	
Mercury, Total	EPA 245.1	W7L0421	0.050	0.20	ND	1	12/12/07	12/13/07	

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Eberline Services

ANALYSIS RESULTS

SDG <u>8673</u>	Client <u>TA IRVINE</u>
Work Order <u>R712070-01</u>	Contract <u>PROJECT# IQL0947</u>
Received Date <u>12/11/07</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>
IQL0947-01 <i>J/A</i>	8673-001	12/07/07	12/15/07	Gross Beta	33.0 ± 3.0	pCi/L	3.4

LEVEL IV

Certified by <u>Melissa Martin</u>
Report Date <u>12/17/07</u>
Page 1

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

Project ID: Routine Outfall 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL0947-01 (Outfall 006 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	7L07051	5.0	10	170	20	12/07/07	12/07/07	
Nitrate/Nitrite-N	EPA 300.0	7L07051	0.15	0.26	ND	1	12/07/07	12/07/07	U
Oil & Grease	EPA 413.1	7L16026	1.1	4.7	ND	1	12/16/07	12/17/07	U
Sulfate	EPA 300.0	7L07051	0.20	0.50	56	1	12/07/07	12/07/07	
Total Dissolved Solids	SM2540C	7L13066	10	10	620	1	12/12/07	12/12/07	
Total Suspended Solids	EPA 160.2	7L13160	10	10	ND	1	12/13/07	12/13/07	U

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Project Manager

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## **APPENDIX G**

### **Section 4**

Outfall 006, December 07, 2007

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 006

Sampled: 12/07/07  
Received: 12/07/07  
Issued: 12/18/07 12:41

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**

IQL0947-01

**CLIENT ID**

Outfall 006

**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 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL0947-01 (Outfall 006 - Water)</b>									
Reporting Units: ug/l									
Antimony	EPA 200.8	7L10143	0.20	2.0	<b>0.43</b>	1	12/10/07	12/11/07	J
Cadmium	EPA 200.8	7L10143	0.11	1.0	<b>0.13</b>	1	12/10/07	12/11/07	J
Copper	EPA 200.8	7L10143	0.75	2.0	<b>0.97</b>	1	12/10/07	12/11/07	J
Lead	EPA 200.8	7L10143	0.10	1.0	<b>0.36</b>	1	12/10/07	12/11/07	J
Thallium	EPA 200.8	7L10143	0.15	1.0	ND	1	12/10/07	12/11/07	

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

Project ID: Routine Outfall 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL0947-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: ug/l</b>									
<b>Antimony</b>	EPA 200.8-Diss	7L07145	0.20	2.0	<b>0.45</b>	1	12/07/07	12/07/07	J
Cadmium	EPA 200.8-Diss	7L07145	0.11	1.0	ND	1	12/07/07	12/07/07	
Copper	EPA 200.8-Diss	7L07145	0.75	2.0	ND	1	12/07/07	12/07/07	
Lead	EPA 200.8-Diss	7L07145	0.10	1.0	ND	1	12/07/07	12/07/07	
<b>Thallium</b>	EPA 200.8-Diss	7L07145	0.15	1.0	<b>0.35</b>	1	12/07/07	12/07/07	J

**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 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL0947-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: mg/l</b>									
<b>Chloride</b>	EPA 300.0	7L07051	5.0	10	<b>170</b>	20	12/07/07	12/07/07	
Nitrate/Nitrite-N	EPA 300.0	7L07051	0.15	0.26	ND	1	12/07/07	12/07/07	
Oil & Grease	EPA 413.1	7L16026	1.1	4.7	ND	1	12/16/07	12/17/07	
<b>Sulfate</b>	EPA 300.0	7L07051	0.20	0.50	<b>56</b>	1	12/07/07	12/07/07	
<b>Total Dissolved Solids</b>	SM2540C	7L13066	10	10	<b>620</b>	1	12/12/07	12/12/07	
Total Suspended Solids	EPA 160.2	7L13160	10	10	ND	1	12/13/07	12/13/07	

**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 006  
Report Number: IQL0947

Sampled: 12/07/07  
Received: 12/07/07

## Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL0947-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: ug/l</b>									
Mercury, Dissolved	EPA 245.1	W7L0421	0.050	0.20	ND	1	12/12/07	12/13/07	
Mercury, Total	EPA 245.1	W7L0421	0.050	0.20	ND	1	12/12/07	12/13/07	

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NPDES - 78

MWH-Pasadena/Boeing  
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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## DIOXIN (EPA 1613)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL0947-01 (Outfall 006 - Water) - cont.</b>									
<b>Reporting Units: ug/L</b>									
2,3,7,8-TCDD	1613-Dioxin-HR Alta	9773	N/A	5.05	ND	1	12/13/07	12/15/07	
1,2,3,7,8-PeCDD	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,4,7,8-HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,6,7,8-HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,7,8,9-HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,4,6,7,8-HpCDD	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
<b>OCDD</b>	1613-Dioxin-HR Alta	9773	N/A	50.5	<b>0.0000127</b>	1	12/13/07	12/15/07	Ja
2,3,7,8-TCDF	1613-Dioxin-HR Alta	9773	N/A	5.05	ND	1	12/13/07	12/15/07	
1,2,3,7,8-PeCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
2,3,4,7,8-PeCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,4,7,8-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,6,7,8-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
2,3,4,6,7,8-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,7,8,9-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,4,6,7,8-HpCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
1,2,3,4,7,8,9-HpCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
OCDF	1613-Dioxin-HR Alta	9773	N/A	50.5	ND	1	12/13/07	12/15/07	
Total TCDD	1613-Dioxin-HR Alta	9773	N/A	5.05	ND	1	12/13/07	12/15/07	
Total PeCDD	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
Total HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
<b>Total HpCDD</b>	1613-Dioxin-HR Alta	9773	N/A	25.3	<b>0.00000271</b>	1	12/13/07	12/15/07	B
Total TCDF	1613-Dioxin-HR Alta	9773	N/A	5.05	ND	1	12/13/07	12/15/07	
Total PeCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
Total HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
Total HpCDF	1613-Dioxin-HR Alta	9773	N/A	25.3	ND	1	12/13/07	12/15/07	
<i>Surrogate: 13C-2,3,7,8-TCDD (25-164%)</i>					97.7 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)</i>					94.6 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)</i>					83.8 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)</i>					69.8 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)</i>					78 %				
<i>Surrogate: 13C-OCDD (17-157%)</i>					66 %				
<i>Surrogate: 13C-2,3,7,8-TCDF (24-169%)</i>					93.9 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)</i>					99.2 %				
<i>Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)</i>					99.7 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)</i>					85.5 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)</i>					69.5 %				
<i>Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)</i>					73.6 %				
<i>Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)</i>					76.5 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)</i>					68.7 %				
<i>Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)</i>					75 %				
<i>Surrogate: 13C-OCDF (17-157%)</i>					58.9 %				

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

Project ID: Routine Outfall 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## DIOXIN (EPA 1613)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL0947-01 (Outfall 006 - Water) - cont.</b>									
Reporting Units: ug/L									
Surrogate: 37Cl-2,3,7,8-TCDD (35-197%)					133 %				

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**NPDES - 80**

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Project ID: Routine Outfall 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## SHORT HOLD TIME DETAIL REPORT

	<b>Hold Time (in days)</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>	<b>Date/Time Extracted</b>	<b>Date/Time Analyzed</b>
<b>Sample ID: Outfall 006 (IQL0947-01) - Water</b> EPA 300.0	2	12/07/2007 08:40	12/07/2007 16:30	12/07/2007 18:00	12/07/2007 19:38

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**IQL0947** <Page 8 of 19>

**NPDES - 81**

MWH-Pasadena/Boeing  
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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 006  
 Report Number: IQL0947

Sampled: 12/07/07  
 Received: 12/07/07

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L10143 Extracted: 12/10/07</b>											
<b>Blank Analyzed: 12/11/2007 (7L10143-BLK1)</b>											
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	0.10	ug/l							
Thallium	0.288	1.0	0.15	ug/l							J
<b>LCS Analyzed: 12/11/2007 (7L10143-BS1)</b>											
Antimony	90.1	2.0	0.20	ug/l	80.0		113	85-115			
Cadmium	87.6	1.0	0.11	ug/l	80.0		109	85-115			
Copper	83.6	2.0	0.75	ug/l	80.0		104	85-115			
Lead	87.6	1.0	0.10	ug/l	80.0		109	85-115			
Thallium	88.5	1.0	0.15	ug/l	80.0		111	85-115			
<b>Matrix Spike Analyzed: 12/11/2007 (7L10143-MS1) Source: IQL0980-01</b>											
Antimony	85.0	2.0	0.20	ug/l	80.0	0.272	106	70-130			
Cadmium	80.6	1.0	0.11	ug/l	80.0	ND	101	70-130			
Copper	78.2	2.0	0.75	ug/l	80.0	ND	98	70-130			
Lead	85.3	1.0	0.10	ug/l	80.0	ND	107	70-130			
Thallium	85.1	1.0	0.15	ug/l	80.0	0.190	106	70-130			
<b>Matrix Spike Dup Analyzed: 12/11/2007 (7L10143-MSD1) Source: IQL0980-01</b>											
Antimony	83.3	2.0	0.20	ug/l	80.0	0.272	104	70-130	2	20	
Cadmium	79.4	1.0	0.11	ug/l	80.0	ND	99	70-130	2	20	
Copper	75.4	2.0	0.75	ug/l	80.0	ND	94	70-130	4	20	
Lead	85.0	1.0	0.10	ug/l	80.0	ND	106	70-130	0	20	
Thallium	84.9	1.0	0.15	ug/l	80.0	0.190	106	70-130	0	20	

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Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L07145 Extracted: 12/07/07</b>											
<b>Blank Analyzed: 12/07/2007 (7L07145-BLK1)</b>											
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	0.10	ug/l							
Thallium	ND	1.0	0.15	ug/l							
<b>LCS Analyzed: 12/07/2007 (7L07145-BS1)</b>											
Antimony	81.6	2.0	0.20	ug/l	80.0		102	85-115			
Cadmium	85.3	1.0	0.11	ug/l	80.0		107	85-115			
Copper	82.6	2.0	0.75	ug/l	80.0		103	85-115			
Lead	82.7	1.0	0.10	ug/l	80.0		103	85-115			
Thallium	82.0	1.0	0.15	ug/l	80.0		103	85-115			
<b>Matrix Spike Analyzed: 12/07/2007 (7L07145-MS1) Source: IQL0947-01</b>											
Antimony	86.6	2.0	0.20	ug/l	80.0	0.448	108	70-130			
Cadmium	79.9	1.0	0.11	ug/l	80.0	ND	100	70-130			
Copper	79.5	2.0	0.75	ug/l	80.0	ND	99	70-130			
Lead	79.9	1.0	0.10	ug/l	80.0	ND	100	70-130			
Thallium	80.8	1.0	0.15	ug/l	80.0	0.352	101	70-130			
<b>Matrix Spike Dup Analyzed: 12/07/2007 (7L07145-MSD1) Source: IQL0947-01</b>											
Antimony	86.6	2.0	0.20	ug/l	80.0	0.448	108	70-130	0	20	
Cadmium	80.2	1.0	0.11	ug/l	80.0	ND	100	70-130	0	20	
Copper	79.9	2.0	0.75	ug/l	80.0	ND	100	70-130	0	20	
Lead	80.1	1.0	0.10	ug/l	80.0	ND	100	70-130	0	20	
Thallium	80.8	1.0	0.15	ug/l	80.0	0.352	101	70-130	0	20	

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 Report Number: IQL0947

Sampled: 12/07/07  
 Received: 12/07/07

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L07051 Extracted: 12/07/07</b>											
<b>Blank Analyzed: 12/07/2007 (7L07051-BLK1)</b>											
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							
<b>LCS Analyzed: 12/07/2007 (7L07051-BS1)</b>											
Chloride	4.82	0.50	0.25	mg/l	5.00		96	90-110			
Sulfate	10.0	0.50	0.20	mg/l	10.0		100	90-110			M-3
<b>Matrix Spike Analyzed: 12/07/2007 (7L07051-MS1)</b>											
						<b>Source: IQL0841-02</b>					
Chloride	22.3	0.50	0.25	mg/l	5.00	17.4	98	80-120			
<b>Matrix Spike Dup Analyzed: 12/07/2007 (7L07051-MSD1)</b>											
						<b>Source: IQL0841-02</b>					
Chloride	22.1	0.50	0.25	mg/l	5.00	17.4	95	80-120	1	20	
<b>Batch: 7L13066 Extracted: 12/12/07</b>											
<b>Blank Analyzed: 12/12/2007 (7L13066-BLK1)</b>											
Total Dissolved Solids	ND	10	10	mg/l							
<b>LCS Analyzed: 12/12/2007 (7L13066-BS1)</b>											
Total Dissolved Solids	996	10	10	mg/l	1000		100	90-110			
<b>Duplicate Analyzed: 12/12/2007 (7L13066-DUP1)</b>											
						<b>Source: IQL0758-01</b>					
Total Dissolved Solids	1350	10	10	mg/l		1350			0	10	
<b>Batch: 7L13160 Extracted: 12/13/07</b>											
<b>Blank Analyzed: 12/13/2007 (7L13160-BLK1)</b>											
Total Suspended Solids	ND	10	10	mg/l							

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Sampled: 12/07/07  
 Received: 12/07/07

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L13160 Extracted: 12/13/07</b>											
<b>LCS Analyzed: 12/13/2007 (7L13160-BS1)</b>											
Total Suspended Solids	994	10	10	mg/l	1000		99	85-115			
<b>Duplicate Analyzed: 12/13/2007 (7L13160-DUP1)</b>											
Total Suspended Solids	ND	10	10	mg/l		Source: IQL0962-01 ND				10	
<b>Batch: 7L16026 Extracted: 12/16/07</b>											
<b>Blank Analyzed: 12/17/2007 (7L16026-BLK1)</b>											
Oil & Grease	ND	5.0	1.2	mg/l							
<b>LCS Analyzed: 12/17/2007 (7L16026-BS1)</b>											
Oil & Grease	19.7	5.0	1.2	mg/l	20.0		98	65-120			MNR1
<b>LCS Dup Analyzed: 12/17/2007 (7L16026-BSD1)</b>											
Oil & Grease	19.5	5.0	1.2	mg/l	20.0		98	65-120	1	20	

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## 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
<b>Batch: W7L0421 Extracted: 12/12/07</b>											
<b>Blank Analyzed: 12/13/2007 (W7L0421-BLK1)</b>											
Mercury, Dissolved	ND	0.20	0.050	ug/l							
Mercury, Total	ND	0.20	0.050	ug/l							
<b>LCS Analyzed: 12/13/2007 (W7L0421-BS1)</b>											
Mercury, Dissolved	0.905	0.20	0.050	ug/l	1.00		90	85-115			
Mercury, Total	0.905	0.20	0.050	ug/l	1.00		90	85-115			
<b>Matrix Spike Analyzed: 12/13/2007 (W7L0421-MS1) Source: 7120467-04</b>											
Mercury, Dissolved	0.950	0.20	0.050	ug/l	1.00	ND	95	70-130			
Mercury, Total	0.950	0.20	0.050	ug/l	1.00	ND	95	70-130			
<b>Matrix Spike Analyzed: 12/13/2007 (W7L0421-MS2) Source: 7120467-07</b>											
Mercury, Dissolved	0.970	0.20	0.050	ug/l	1.00	ND	97	70-130			
Mercury, Total	0.970	0.20	0.050	ug/l	1.00	ND	97	70-130			
<b>Matrix Spike Dup Analyzed: 12/13/2007 (W7L0421-MSD1) Source: 7120467-04</b>											
Mercury, Dissolved	0.953	0.20	0.050	ug/l	1.00	ND	95	70-130	0	20	
Mercury, Total	0.953	0.20	0.050	ug/l	1.00	ND	95	70-130	0	20	
<b>Matrix Spike Dup Analyzed: 12/13/2007 (W7L0421-MSD2) Source: 7120467-07</b>											
Mercury, Dissolved	0.977	0.20	0.050	ug/l	1.00	ND	98	70-130	1	20	
Mercury, Total	0.977	0.20	0.050	ug/l	1.00	ND	98	70-130	1	20	

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## METHOD BLANK/QC DATA

### DIOXIN (EPA 1613)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 9773 Extracted: 12/13/07</b>											
<b>Blank Analyzed: 12/15/2007 (MB001)</b>											
					<b>Source:</b>						
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00139			ug/L	2000		70	50-150			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00157			ug/L	2000		79	50-150			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00161			ug/L	2000		81	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00146			ug/L	2000		73	50-150			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00162			ug/L	2000		81	50-150			
Surrogate: 13C-OCDF	0.00270			ug/L	4000		68	50-150			
Surrogate: 37Cl-2,3,7,8-TCDD	0.00106			ug/L	800		133	50-150			
<b>LCS Analyzed: 12/14/2007 (OPR001)</b>											
					<b>Source:</b>						
2,3,7,8-TCDD	9.56	5.00	N/A	ug/L	10		96	50-150		25	
1,2,3,7,8-PeCDD	46.7	25.0	N/A	ug/L	50		93	50-150		25	
1,2,3,4,7,8-HxCDD	46.8	25.0	N/A	ug/L	50		94	50-150		25	
1,2,3,6,7,8-HxCDD	47.4	25.0	N/A	ug/L	50		95	50-150		25	
1,2,3,7,8,9-HxCDD	48.9	25.0	N/A	ug/L	50		98	50-150		25	
1,2,3,4,6,7,8-HpCDD	48.1	25.0	N/A	ug/L	50		96	50-150		25	
OCDD	91.6	50.0	N/A	ug/L	100		92	50-150		25	
2,3,7,8-TCDF	9.44	5.00	N/A	ug/L	10		94	50-150		25	
1,2,3,7,8-PeCDF	46.3	25.0	N/A	ug/L	50		93	50-150		25	
2,3,4,7,8-PeCDF	47.2	25.0	N/A	ug/L	50		94	50-150		25	
1,2,3,4,7,8-HxCDF	46.1	25.0	N/A	ug/L	50		92	50-150		25	
1,2,3,6,7,8-HxCDF	47.5	25.0	N/A	ug/L	50		95	50-150		25	
2,3,4,6,7,8-HxCDF	48.6	25.0	N/A	ug/L	50		97	50-150		25	
1,2,3,7,8,9-HxCDF	48.2	25.0	N/A	ug/L	50		96	50-150		25	
1,2,3,4,6,7,8-HpCDF	46.0	25.0	N/A	ug/L	50		92	50-150		25	
1,2,3,4,7,8,9-HpCDF	46.3	25.0	N/A	ug/L	50		93	50-150		25	
OCDF	95.3	50.0	N/A	ug/L	100		95	50-150		25	
Surrogate: 13C-2,3,7,8-TCDD	91.4			ug/L	100		91	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDD	94.3			ug/L	100		94	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	84.5			ug/L	100		85	50-150			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	69.0			ug/L	100		69	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	83.7			ug/L	100		84	50-150			
Surrogate: 13C-OCDD	160			ug/L	200		80	50-150			
Surrogate: 13C-2,3,7,8-TCDF	89.8			ug/L	100		90	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDF	99.4			ug/L	100		99	50-150			
Surrogate: 13C-2,3,4,7,8-PeCDF	102			ug/L	100		102	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	80.5			ug/L	100		81	50-150			

**TestAmerica Irvine**

Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 006  
 Report Number: IQL0947

Sampled: 12/07/07  
 Received: 12/07/07

## METHOD BLANK/QC DATA

### DIOXIN (EPA 1613)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 9773 Extracted: 12/13/07</b>											
<b>LCS Analyzed: 12/14/2007 (OPR001)</b>											
Surrogate: 13C-1,2,3,6,7,8-HxCDF	65.1			ug/L	100		65	50-150			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	73.5			ug/L	100		74	50-150			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	77.7			ug/L	100		78	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	73.0			ug/L	100		73	50-150			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	83.7			ug/L	100		84	50-150			
Surrogate: 13C-OCDF	148			ug/L	200		74	50-150			
Surrogate: 37Cl-2,3,7,8-TCDD	45.4			ug/L	40		113	50-150			

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 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## 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
IQL0947-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.47	4.7	15
IQL0947-01	Antimony-200.8	Antimony	ug/l	0.43	2.0	6.00
IQL0947-01	Antimony-200.8, Diss	Antimony	ug/l	0.45	2.0	6.00
IQL0947-01	Cadmium-200.8	Cadmium	ug/l	0.13	1.0	4.00
IQL0947-01	Cadmium-200.8, Diss	Cadmium	ug/l	0.095	1.0	4.00
<b>IQL0947-01</b>	<b>Chloride - 300.0</b>	<b>Chloride</b>	<b>mg/l</b>	<b>174</b>	<b>10</b>	<b>150</b>
IQL0947-01	Copper-200.8	Copper	ug/l	0.97	2.0	14
IQL0947-01	Copper-200.8, Diss	Copper	ug/l	0.59	2.0	14
IQL0947-01	Lead-200.8	Lead	ug/l	0.36	1.0	5.20
IQL0947-01	Lead-200.8, Diss	Lead	ug/l	0.046	1.0	5.20
IQL0947-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.13	0.26	10.00
IQL0947-01	Sulfate-300.0	Sulfate	mg/l	56	0.50	250
IQL0947-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	619	10	850
IQL0947-01	Thallium-200.8	Thallium	ug/l	0.023	1.0	2.00
IQL0947-01	Thallium-200.8, Diss	Thallium	ug/l	0.35	1.0	2.00

TestAmerica Irvine

Joseph Doak  
Project Manager

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IQL0947 <Page 17 of 19>

NPDES - 90

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

Project ID: Routine Outfall 006

Report Number: IQL0947

Sampled: 12/07/07

Received: 12/07/07

## DATA QUALIFIERS AND DEFINITIONS

- B** Compound was also detected in the method blank
- 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.
- Ja** The amount detected is below the Lower Calibration Limit of the instrument
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- 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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**IQL0947 <Page 18 of 19>**

**NPDES - 91**

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

Project ID: Routine Outfall 006  
Report Number: IQL0947

Sampled: 12/07/07  
Received: 12/07/07

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	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](http://www.testamericainc.com)*

### Subcontracted Laboratories

#### Alta Analytical Perspectives

2714 Exchange Drive - Wilmington, NC 28405

Method Performed: 1613-Dioxin-HR Alta  
Samples: IQL0947-01

#### Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Gross Beta  
Samples: IQL0947-01

#### 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: IQL0947-01

#### Weck Laboratories, Inc

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

Method Performed: EPA 245.1  
Samples: IQL0947-01

### TestAmerica Irvine

Joseph Doak  
Project Manager

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# CHAIN OF CUSTODY FORM

IQ10947

TR  
12/17/07  
1740

Client Name/Address:  
**MWH-Arcadia**  
 618 Michilinda Avenue, Suite 200  
 Arcadia, CA 91007

Test America Contact: Joseph Doak  
 Project Manager: Bronwyn Kelly  
 Sampler: **R BAWAGA**

Project:  
 Boeing-SSFL NPDES  
**Routine Outfall 006**  
 Stormwater at FSDf-2

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

Sample Description	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	ANALYSIS REQUIRED							Field readings: Temp = <b>53°</b> pH = <b>7.40</b> Sample Collection Time = <b>8:40</b> Comments	
						Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (end all congeners)	Oil & Grease (EPA 413.1)	Cl, SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N	TDS, TSS	Gross Beta, SR-90 (905)	Total Combined Radium 226 & 228, Tritium		Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl
Outfall 006	W	1L Poly	1	HNO <sub>3</sub>	1A	X								
Outfall 006 Dup	W	1L Poly	1	HNO <sub>3</sub>	1B	X								
Outfall 006	W	1L Amber	2	None	2A, 2B		X							
Outfall 006	W	1L Amber	2	HCl	3A, 3B		X							
Outfall 006	W	500ml Poly	2	None	4A, 4B			X						
Outfall 006	W	500ml Poly	2	None	5A, 5B				X					
Outfall 006	W	2.5 Gal Cube 500 ml Amber	1	None	6A, 6B					X				<ul style="list-style-type: none"> <li>If gross beta exceeds: run total combined Ra226 &amp; Ra228, Sr90, and gamma spectroscopy</li> <li>If total combined Ra226 &amp; Ra228 exceeds: run tritium.</li> </ul>
Outfall 006	W	1L Poly	1	None	7					X				Filter w/in 24hr of receipt at lab

Relinquished By: *Kim B...* Date/Time: **12-18-07**

Received By: *[Signature]* Date/Time: **12/17/07**

Relinquished By: *[Signature]* Date/Time: **12/17/07**

Received By: *[Signature]* Date/Time: **12/17/07**

Relinquished By: *[Signature]* Date/Time: **12/17/07**

Received By: *[Signature]* Date/Time: **12/17/07**

Turn around Time: (check)  
 24 Hours  5 Days   
 48 Hours  10 Days   
 72 Hours  Normal   
 Sample Integrity: (check)  
 Intact  On Ice:  **39**



December 17, 2007

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

Reference: Test America Project No. IQL0947  
Eberline Services NELAP Cert #01120CA (exp. 01/31/08)  
Eberline Services Report R712070-8673

Dear Mr. Doak:

Enclosed are results from the analysis of one water sample received at Eberline Services on December 11, 2007. The sample was analyzed according to the accompanying Test America Subcontract Order Form. The requested analysis was gross beta (EPA900.0). The sample was not filtered prior to analysis. Quality control samples consisted of an LCS, blank analysis, duplicate analysis, and matrix spike. 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/*

Enclosure: *Report*  
*Subcontract Form*  
*Receipt checklist*

Eberline Services

ANALYSIS RESULTS

SDG <u>8673</u>	Client <u>TA IRVINE</u>
Work Order <u>R712070-01</u>	Contract <u>PROJECT# IQL0947</u>
Received Date <u>12/11/07</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>
IQL0947-01	8673-001	12/07/07	12/15/07	Gross Beta	33.0 ± 3.0	pCi/L	3.4

Certified by <u>Melissa Martin</u>
Report Date <u>12/17/07</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8673</u>	Client <u>TA IRVINE</u>
Work Order <u>R712070-01</u>	Contract <u>PROJECT# IQL0947</u>
Received Date <u>12/11/07</u>	Matrix <u>WATER</u>

Lab

Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>						
8673-002	Gross Beta	9.84 ± 0.82	pCi/Smpl	9.43	0.88	104% recovery
<u>BLANK</u>						
8673-003	Gross Beta	0.076 ± 0.33	pCi/Smpl	NA	0.57	<MDA

DUPLICATES

Sample ID	Nuclide	Results ± 2σ	MDA
8673-004	Gross Beta	33.3 ± 2.7	2.3

ORIGINALS

Sample ID	Results ± 2σ	MDA	RPD (Tot)	Eval
8673-001	33.0 ± 3.0	3.4	1	46 satis.

SPIKED SAMPLE

Sample ID	Nuclide	Results ± 2σ	MDA
8673-005	Gross Beta	96.2 ± 4.6	3.4

ORIGINAL SAMPLE

Sample ID	Results ± 2σ	MDA	Added	%Recv
8673-001	33.0 ± 3.0	3.4	62.9	100

Certified by Melissa Maman  
 Report Date 12/17/07  
 Page 2

**SUBCONTRACT ORDER**

TestAmerica - Irvine, CA

**IQL0947**

**SENDING LABORATORY:**

TestAmerica - Irvine, CA  
 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

# 6536 *Fun*

Analysis	Units	Due	Expires	Comments
<b>Sample ID: IQL0947-01</b>			<b>Sampled: 12/07/07 08:40</b>	
EDD + Level 4	N/A	12/18/07	01/04/08 08:40	Excel EDD email to pm, Include Std logs for Lvl IV DONT FILTER, 900.0, RESULT > 50 pCi/L, run Rad 226&228 HOLD for G A&B results; EPA 903.1&904.0, NO FILTER HOLD for Ra 226&228 results, EPA 905.0, DONT FILTER HOLD for Ra 226&228 results, EPA 906.0, DONT FILTER
Gross Beta-O	pCi/L	12/18/07	06/04/08 08:40	
Radium, Combined-O	pCi/L	12/18/07	12/06/08 08:40	
Strontium 90-O	pCi/L	12/18/07	12/06/08 08:40	
Tritium-O	pCi/L	12/18/07	12/06/08 08:40	
<i>Containers Supplied:</i>				
2.5 gal Poly (K)	500 mL Amber (L)			

*Joseph Doak*  
 Released By \_\_\_\_\_ Date/Time 12/10/07  
 Released By FedEx \_\_\_\_\_ Date/Time \_\_\_\_\_

FedEx  
 Received By \_\_\_\_\_ Date/Time 12/10/07  
 Received By *Fun* \_\_\_\_\_ Date/Time 12/11/07 15:00



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: TEST AMERICA City IRVINE State CA

Date/Time received: 12/11/07 10:00 CoC No. 1QL0947

Container I.D. No. 66 CREST Requested TAT (Days) \_\_\_\_\_ P.C. Received Yes [ ] No [ ]

### INSPECTION

1. Custody seals on shipping container intact? Yes [ ] No [ ] N/A [X]

2. Custody seals on shipping container dated & signed? Yes [ ] No [ ] N/A [X]

3. Custody seals on sample containers intact? Yes [ ] No [ ] N/A [X]

4. Custody seals on sample containers dated & signed? Yes [ ] No [ ] N/A [X]

5. Packing material is \_\_\_\_\_ Wet [ ] Dry [X]

6. Number of samples in shipping container 1 Sample Matrix W

7. Number of containers per sample 2 (Or see CoC \_\_\_\_\_)

8. Samples are in correct container Yes [X] No [ ]

9. Paperwork agrees with samples? Yes [X] No [ ]

10. Samples have Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [X]

11. Samples are in good condition [X] Leaking [ ] Broken Container [ ] Missing [ ]

12. Samples are Preserved [ ] Not preserved [X] pH \_\_\_\_\_ Preservative \_\_\_\_\_

13. Describe any anomalies: \_\_\_\_\_

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date \_\_\_\_\_

15. Inspected by [Signature] Date 12/11/07 Time 11:15

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wide	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wide
<u>1QL0947-01</u>	<u>&lt;60</u>						

Ion Chamber Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Alpha Meter Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Beta/Gamma Meter Ser. No. 100482 Calibration date 09 MAY 07

December 17, 2007

**Vista Project I.D.: 30063**

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 December 11, 2007 under your Project Name "IQL0947". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush 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](mailto: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 NELAP 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: 12/11/2007**

Vista Lab. ID

Client Sample ID

30063-001

IQL0947-01

## SECTION II

**Method Blank**

**EPA Method 1613**

Matrix:	Aqueous	QC Batch No.:	9773	Lab Sample:	0-MB001			
Sample Size:	1.00 L	Date Extracted:	13-Dec-07	Date Analyzed DB-5:	15-Dec-07			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000598			IS 13C-2,3,7,8-TCDD	92.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000678			13C-1,2,3,7,8-PeCDD	93.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000160			13C-1,2,3,4,7,8-HxCDD	89.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000165			13C-1,2,3,6,7,8-HxCDD	73.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000162			13C-1,2,3,4,6,7,8-HpCDD	84.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000123			13C-OCDD	74.5	17 - 157	
OCDD	ND	0.00000720			13C-2,3,7,8-TCDF	93.3	24 - 169	
2,3,7,8-TCDF	ND	0.00000107			13C-1,2,3,7,8-PeCDF	99.2	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000710			13C-2,3,4,7,8-PeCDF	101	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000728			13C-1,2,3,4,7,8-HxCDF	86.3	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000663			13C-1,2,3,6,7,8-HxCDF	69.5	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000536			13C-2,3,4,6,7,8-HxCDF	78.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000574			13C-1,2,3,7,8,9-HxCDF	80.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000750			13C-1,2,3,4,6,7,8-HpCDF	73.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000630			13C-1,2,3,4,7,8,9-HpCDF	81.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000754			13C-OCDF	67.5	17 - 157	
OCDF	ND	0.00000263			CRS 37Cl-2,3,7,8-TCDD	133	35 - 197	
<b>Totals</b>								
Total TCDD	ND	0.00000120			a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.00000138			b. Estimated maximum possible concentration.			
Total HxCDD	ND	0.00000163			c. Method detection limit.			
Total HpCDD	0.00000171				d. Lower control limit - upper control limit.			
Total TCDF	ND	0.00000107						
Total PeCDF	ND	0.000000719						
Total HxCDF	ND	0.000000772						
Total HpCDF	ND	0.000000686						

Analyst: MAS

Approved By:

Martha M. Maier

17-Dec-2007 12:19

**OPR Results**

**EPA Method 1613**

Matrix:	Aqueous	QC Batch No.:	9773	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	13-Dec-07	Date Analyzed DB-5:	14-Dec-07		
				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	9.56	6.7 - 15.8	<b>IS</b> 13C-2,3,7,8-TCDD	91.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	46.7	35 - 71	13C-1,2,3,7,8-PeCDD	94.3	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	46.8	35 - 82	13C-1,2,3,4,7,8-HxCDD	84.5	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	47.4	38 - 67	13C-1,2,3,6,7,8-HxCDD	69.0	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	48.9	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	83.7	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	48.1	35 - 70	13C-OCDD	79.9	17 - 157	
OCDD	100	91.6	78 - 144	13C-2,3,7,8-TCDF	89.8	24 - 169	
2,3,7,8-TCDF	10.0	9.44	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	99.4	24 - 185	
1,2,3,7,8-PeCDF	50.0	46.3	40 - 67	13C-2,3,4,7,8-PeCDF	102	21 - 178	
2,3,4,7,8-PeCDF	50.0	47.2	34 - 80	13C-1,2,3,4,7,8-HxCDF	80.5	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	46.1	36 - 67	13C-1,2,3,6,7,8-HxCDF	65.1	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	47.5	42 - 65	13C-2,3,4,6,7,8-HxCDF	73.5	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	48.6	35 - 78	13C-1,2,3,7,8,9-HxCDF	77.7	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	48.2	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	73.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	46.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	83.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	46.3	39 - 69	13C-OCDF	74.0	17 - 157	
OCDF	100	95.3	63 - 170	<b>CRS</b> 37Cl-2,3,7,8-TCDD	113	35 - 197	

Analyst: MAS

Approved By:

Martha M. Maier

17-Dec-2007 12:19

**Sample ID: IQL0947-01**

**EPA Method 1613**

<u>Client Data</u>		<u>Sample Data</u>		<u>Laboratory Data</u>	
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	30063-001
Project:	IQL0947	Sample Size:	0.990 L	QC Batch No.:	9773
Date Collected:	7-Dec-07			Date Analyzed DB-5:	15-Dec-07
Time Collected:	0840			Date Analyzed DB-225:	NA
				Date Received:	11-Dec-07
				Date Extracted:	13-Dec-07

Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000780			IS 13C-2,3,7,8-TCDD	97.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000733			13C-1,2,3,7,8-PeCDD	94.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000111			13C-1,2,3,4,7,8-HxCDD	83.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000118			13C-1,2,3,6,7,8-HxCDD	69.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000114			13C-1,2,3,4,6,7,8-HpCDD	78.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000300			13C-OCDD	66.0	17 - 157	
OCDD	0.0000127			J	13C-2,3,7,8-TCDF	93.9	24 - 169	
2,3,7,8-TCDF	ND	0.00000113			13C-1,2,3,7,8-PeCDF	99.2	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000857			13C-2,3,4,7,8-PeCDF	99.7	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000855			13C-1,2,3,4,7,8-HxCDF	85.5	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000529			13C-1,2,3,6,7,8-HxCDF	69.5	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000583			13C-2,3,4,6,7,8-HxCDF	73.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000684			13C-1,2,3,7,8,9-HxCDF	76.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000858			13C-1,2,3,4,6,7,8-HpCDF	68.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000999			13C-1,2,3,4,7,8,9-HpCDF	75.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000121			13C-OCDF	58.9	17 - 157	
OCDF	ND	0.00000322			CRS 37Cl-2,3,7,8-TCDD	133	35 - 197	

<b>Totals</b>		<b>Footnotes</b>	
Total TCDD	ND	a. Sample specific estimated detection limit.	
Total PeCDD	ND	b. Estimated maximum possible concentration.	
Total HxCDD	ND	c. Method detection limit.	
Total HpCDD	0.00000271	d. Lower control limit - upper control limit.	
Total TCDF	ND		
Total PeCDF	ND		
Total HxCDF	ND		
Total HpCDF	ND		

Analyst:   
 Approved By: Martha M. Maier   
 17-Dec-2007 12:19

## APPENDIX

## DATA QUALIFIERS & ABBREVIATIONS

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

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

## CERTIFICATIONS

<b>Accrediting Authority</b>	<b>Certificate Number</b>
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, CA

IQL0947

30063 24°C

SENDING LABORATORY:

TestAmerica - Irvine, CA  
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: IQL0947-01	Water		Sampled: 12/07/07 08:40	
1613-Dioxin-HR-Alta	ug/l	12/18/07	12/14/07 08:40	J flags, 17 congeners, no TEQ, ug/L, sub=Vista
<i>Containers Supplied:</i>				
1 L Amber (C)	1 L Amber (D)			

Joseph Doak      12/10/07 1700

Released By      Date/Time

FedEx      12/10/07 1700

Received By      Date/Time

Robert Benedict      12/12/07 0705

Received By      Date/Time

SAMPLE LOG-IN CHECKLIST



Vista Project #: 30063 TAT \_\_\_\_\_

Samples Arrival:	Date/Time 12/11/07 0913	Initials: CBB	Location: WR-2
			Shelf/Rack: N/A
Logged In:	Date/Time 12/11/07 <del>12/12/07</del> 0705	Initials: CBB	Location: WR-2
			Shelf/Rack: B4
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	2.4	Time: 0930	Thermometer ID: IR-2

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill	Trk # 7992 3627 5910	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample Container Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC Anomaly/Sample Acceptance Form completed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> None
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	Retain
		<input checked="" type="checkbox"/> Return	Dispose

Comments:

IQL0947-01 D  
 ↓  
 OIC

SUBCONTRACT ORDER

TestAmerica - Irvine, CA

IQL0947

7121003

SENDING LABORATORY:

TestAmerica - Irvine, CA  
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: IQL0947-01	Water		Sampled: 12/07/07 08:40	
Level 4 + EDD-OUT	N/A	12/18/07	01/04/08 08:40	Sub to Weck, transfer file EDD
Mercury - 245.1, Diss -OUT	mg/l	12/18/07	01/04/08 08:40	Weck, Boeing, J flags
Mercury - 245.1-OUT	mg/l	12/18/07	01/04/08 08:40	Weck, Boeing, permit, J flags, if result>ND, call TA
Containers Supplied:				
125 mL Poly w/HNO3	125 mL Poly (O)			
(N)				

*Juan Flores* 12/10/07 0835  
Released By Date/Time

*B.S. Green* 12/10/07 0940  
Released By Date/Time

*B.S. Green* 12/10/07 0835  
Received By Date/Time

*Jamie Green* 12/10/07 0940  
Received By Date/Time



### CERTIFICATE OF ANALYSIS

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

**Report Date:** 12/17/07 13:27  
**Received Date:** 12/10/07 09:40  
**Turn Around:** 6 days

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

**Work Order #:** 7121003  
**Client Project:** IQL0947

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 12/10/07 09:40 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





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: 7121003  
Project ID: IQL0947

Date Received: 12/10/07 09:40  
Date Reported: 12/17/07 13:27

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IQL0947-01	Client		7121003-01	Water	12/07/07 08:40



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: 7121003  
Project ID: IQL0947

Date Received: 12/10/07 09:40  
Date Reported: 12/17/07 13:27

**IQL0947-01 7121003-01 (Water)**

Date Sampled: 12/07/07 08:40

**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	W7L0421	12/12/07	12/13/07	jlp
Mercury, Total	ND	0.050	ug/l	0.20	1	EPA 245.1	W7L0421	12/12/07	12/13/07	jlp



Weck Laboratories, Inc.  
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Industry, CA 91745  
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TestAmerica, Inc. - Irvine  
17461 Derian Ave, Suite 100  
Irvine CA, 92614

Report ID: 7121003  
Project ID: IQL0947

Date Received: 12/10/07 09:40  
Date Reported: 12/17/07 13:27

# 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: 7121003  
 Project ID: IQL0947

Date Received: 12/10/07 09:40  
 Date Reported: 12/17/07 13:27

**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 W7L0421 - EPA 245.1**

**Blank (W7L0421-BLK1)**

Analyzed: 12/13/07

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

**LCS (W7L0421-BS1)**

Analyzed: 12/13/07

Mercury, Dissolved	0.905	0.20	ug/l	1.00		90	85-115			
Mercury, Total	0.905	0.20	ug/l	1.00		90	85-115			

**Matrix Spike (W7L0421-MS1)**

Source: 7120467-04

Analyzed: 12/13/07

Mercury, Dissolved	0.950	0.20	ug/l	1.00	ND	95	70-130			
Mercury, Total	0.950	0.20	ug/l	1.00	ND	95	70-130			

**Matrix Spike (W7L0421-MS2)**

Source: 7120467-07

Analyzed: 12/13/07

Mercury, Dissolved	0.970	0.20	ug/l	1.00	ND	97	70-130			
Mercury, Total	0.970	0.20	ug/l	1.00	ND	97	70-130			

**Matrix Spike Dup (W7L0421-MSD1)**

Source: 7120467-04

Analyzed: 12/13/07

Mercury, Dissolved	0.953	0.20	ug/l	1.00	ND	95	70-130	0.3	20	
Mercury, Total	0.953	0.20	ug/l	1.00	ND	95	70-130	0.3	20	

**Matrix Spike Dup (W7L0421-MSD2)**

Source: 7120467-07

Analyzed: 12/13/07

Mercury, Dissolved	0.977	0.20	ug/l	1.00	ND	98	70-130	0.7	20	
Mercury, Total	0.977	0.20	ug/l	1.00	ND	98	70-130	0.7	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: 7121003  
Project ID: IQL0947

Date Received: 12/10/07 09:40  
Date Reported: 12/17/07 13:27

### 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.