

## **APPENDIX G**

### **Section 10**

Outfall 010, December 07, 2007

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



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IQL0954

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: IQL0954  
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 010	IQL0954-01	7121003-01, 30064-001	Water	12/7/07 0817	245.1, 1613, 6020

## 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.

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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 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 $\mu\text{g/l}$ . As the detect in the sample also included the concentration of

1,2,3,4,6,7,8-HpCDD the result for total HpCDD was qualified as estimated, "J," in site sample Outfall 010. 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. 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 245.1 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: 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 not performed on the sample in this SDG. Evaluation of method accuracy was based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. 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.
- 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: IQL0954-01** *Outfall 010*

**EPA Method 1613**

Client Data		Sample Data		Laboratory Data	
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	30064-001
Project:	IQL0954	Sample Size:	1.00 L	QC Batch No.:	9773
Date Collected:	7-Dec-07			Date Analyzed DB-5:	15-Dec-07
Time Collected:	0817			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
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2,3,7,8-TCDD	ND	0.00000777			IS 13C-2,3,7,8-TCDD	95.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000769			13C-1,2,3,7,8-PeCDD	95.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000169			13C-1,2,3,4,7,8-HxCDD	85.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000187			13C-1,2,3,6,7,8-HxCDD	72.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000178			13C-1,2,3,4,6,7,8-HpCDD	79.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000332			J	13C-OCDD	64.7	17 - 157	
OCDD	0.0000199			J	13C-2,3,7,8-TCDF	91.4	24 - 169	
2,3,7,8-TCDF	ND	0.00000900			13C-1,2,3,7,8-PeCDF	98.1	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000981			13C-2,3,4,7,8-PeCDF	98.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000969			13C-1,2,3,4,7,8-HxCDF	84.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000744			13C-1,2,3,6,7,8-HxCDF	70.5	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000811			13C-2,3,4,6,7,8-HxCDF	74.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000875			13C-1,2,3,7,8,9-HxCDF	76.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000120			13C-1,2,3,4,6,7,8-HpCDF	70.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000155			13C-1,2,3,4,7,8,9-HpCDF	73.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000737			13C-OCDF	58.7	17 - 157	
OCDF	ND	0.00000360			CRS 37Cl-2,3,7,8-TCDD	142	35 - 197	

Totals		Footnotes	
Total TCDD	ND	0.00000147	a. Sample specific estimated detection limit.
Total PeCDD	ND	0.00000190	b. Estimated maximum possible concentration.
Total HxCDD	ND	0.00000255	c. Method detection limit.
Total HpCDD	0.00000679		d. Lower control limit - upper control limit.
Total TCDF	ND	0.00000900	
Total PeCDF	ND	0.00000975	
Total HxCDF	ND	0.00000890	
Total HpCDF	ND	0.00000173	

Analyst: *Level IV* Approved By: Martha M. Maier 17-Dec-2007 13:56

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - Water)										
Reporting Units: ug/l										
Antimony	J/DNQ U	EPA 200.8	7L10143	0.20	2.0	1.1	1	12/10/07	12/11/07	J
Cadmium	U	EPA 200.8	7L10143	0.11	1.0	ND	1	12/10/07	12/11/07	
Copper	J/DNQ	EPA 200.8	7L10143	0.75	2.0	6.9	1	12/10/07	12/11/07	
Lead	J/DNQ	EPA 200.8	7L10143	0.10	1.0	0.30	1	12/10/07	12/11/07	J
Thallium	U	EPA 200.8	7L10143	0.15	1.0	ND	1	12/10/07	12/11/07	

LEVEL V

TestAmerica Irvine

Joseph Doak  
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - Water) - cont.										
Reporting Units: ug/l										
Antimony										
	J/DNQ									
Cadmium	U	EPA 200.8-Diss	7L07145	0.20	2.0	1.1	1	12/07/07	12/07/07	J
Copper		EPA 200.8-Diss	7L07145	0.11	1.0	ND	1	12/07/07	12/07/07	
Lead	U	EPA 200.8-Diss	7L07145	0.75	2.0	4.3	1	12/07/07	12/07/07	
Thallium	U	EPA 200.8-Diss	7L07145	0.10	1.0	ND	1	12/07/07	12/07/07	
	U	EPA 200.8-Diss	7L07145	0.15	1.0	ND	1	12/07/07	12/07/07	

LEVEL IV

TestAmerica Irvine

Joseph Doak  
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Routine Outfall 010 Report Number: IQL0954	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: IQL0954-01 (Outfall 010 - 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	

LEVEL IV

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Project Manager

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## **APPENDIX G**

### **Section 11**

Outfall 010, 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 010

Sampled: 12/07/07  
Received: 12/07/07  
Issued: 12/18/07 13:00

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**

IQL0954-01

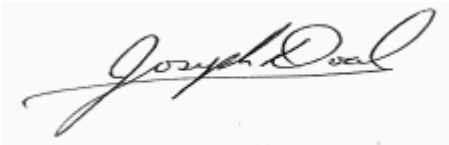
**CLIENT ID**

Outfall 010

**MATRIX**

Water

Reviewed By:



**TestAmerica Irvine**

Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - Water)</b>									
Reporting Units: ug/l									
<b>Antimony</b>	EPA 200.8	7L10143	0.20	2.0	<b>1.1</b>	1	12/10/07	12/11/07	J
Cadmium	EPA 200.8	7L10143	0.11	1.0	ND	1	12/10/07	12/11/07	
<b>Copper</b>	EPA 200.8	7L10143	0.75	2.0	<b>6.9</b>	1	12/10/07	12/11/07	
<b>Lead</b>	EPA 200.8	7L10143	0.10	1.0	<b>0.30</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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 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - Water) - cont.</b>									
<b>Reporting Units: ug/l</b>									
<b>Antimony</b>	EPA 200.8-Diss	7L07145	0.20	2.0	<b>1.1</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	
<b>Copper</b>	EPA 200.8-Diss	7L07145	0.75	2.0	<b>4.3</b>	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	EPA 200.8-Diss	7L07145	0.15	1.0	ND	1	12/07/07	12/07/07	

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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 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - Water) - cont.</b>									
Reporting Units: mg/l									
Chloride	EPA 300.0	7L07051	0.25	0.50	<b>29</b>	1	12/07/07	12/07/07	
Nitrate/Nitrite-N	EPA 300.0	7L07051	0.15	0.26	<b>2.3</b>	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	
Sulfate	EPA 300.0	7L07051	0.20	0.50	<b>22</b>	1	12/07/07	12/07/07	
Total Dissolved Solids	SM2540C	7L13066	10	10	<b>230</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	

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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 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - 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	

TestAmerica Irvine

Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - Water) - cont.</b>									
<b>Reporting Units: ug/L</b>									
2,3,7,8-TCDD	1613-Dioxin-HR Alta	9773	N/A	4.99	ND	1	12/13/07	12/15/07	
1,2,3,7,8-PeCDD	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,4,7,8-HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,6,7,8-HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,7,8,9-HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
<b>1,2,3,4,6,7,8-HpCDD</b>	1613-Dioxin-HR Alta	9773	N/A	25.0	<b>0.00000332</b>	1	12/13/07	12/15/07	Ja
<b>OCDD</b>	1613-Dioxin-HR Alta	9773	N/A	49.9	<b>0.0000199</b>	1	12/13/07	12/15/07	Ja
2,3,7,8-TCDF	1613-Dioxin-HR Alta	9773	N/A	4.99	ND	1	12/13/07	12/15/07	
1,2,3,7,8-PeCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
2,3,4,7,8-PeCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,4,7,8-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,6,7,8-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
2,3,4,6,7,8-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,7,8,9-HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,4,6,7,8-HpCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
1,2,3,4,7,8,9-HpCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
OCDF	1613-Dioxin-HR Alta	9773	N/A	49.9	ND	1	12/13/07	12/15/07	
Total TCDD	1613-Dioxin-HR Alta	9773	N/A	4.99	ND	1	12/13/07	12/15/07	
Total PeCDD	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
Total HxCDD	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
<b>Total HpCDD</b>	1613-Dioxin-HR Alta	9773	N/A	25.0	<b>0.00000679</b>	1	12/13/07	12/15/07	B
Total TCDF	1613-Dioxin-HR Alta	9773	N/A	4.99	ND	1	12/13/07	12/15/07	
Total PeCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
Total HxCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
Total HpCDF	1613-Dioxin-HR Alta	9773	N/A	25.0	ND	1	12/13/07	12/15/07	
<i>Surrogate: 13C-2,3,7,8-TCDD (25-164%)</i>					95.7 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)</i>					95.6 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)</i>					85.9 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)</i>					72 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)</i>					79.2 %				
<i>Surrogate: 13C-OCDD (17-157%)</i>					64.7 %				
<i>Surrogate: 13C-2,3,7,8-TCDF (24-169%)</i>					91.4 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)</i>					98.1 %				
<i>Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)</i>					98.1 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)</i>					84.2 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)</i>					70.5 %				
<i>Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)</i>					74.3 %				
<i>Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)</i>					76 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)</i>					70.2 %				
<i>Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)</i>					73.7 %				
<i>Surrogate: 13C-OCDF (17-157%)</i>					58.7 %				

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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: IQL0954-01 (Outfall 010 - Water) - cont.</b>									
Reporting Units: ug/L									
Surrogate: 37Cl-2,3,7,8-TCDD (35-197%)					142 %				

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NPDES - 260

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Arcadia, CA 91007  
Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IQL0954

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 010 (IQL0954-01) - Water</b> EPA 300.0	2	12/07/2007 08:17	12/07/2007 16:30	12/07/2007 18:00	12/07/2007 19:50

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**IQL0954** <Page 8 of 19>

**NPDES - 261**

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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)</b>											
						<b>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)</b>											
						<b>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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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IQL0954

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	Limit	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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618 Michillinda Avenue, Suite 200  
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Attention: Bronwyn Kelly

Project ID: Routine Outfall 010  
Report Number: IQL0954

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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Project ID: Routine Outfall 010  
 Report Number: IQL0954

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

## 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: 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)</b>											
						<b>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)</b>											
						<b>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)</b>											
						<b>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)</b>											
						<b>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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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	%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>					
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	0.00000171	25.0	N/A	ug/L				50-150		25	
Total TCDF	ND	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	0.00185			ug/L	2000		93	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00188			ug/L	2000		94	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00179			ug/L	2000		89	50-150			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00147			ug/L	2000		73	50-150			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00169			ug/L	2000		84	50-150			
Surrogate: 13C-OCDD	0.00298			ug/L	4000		75	50-150			
Surrogate: 13C-2,3,7,8-TCDF	0.00187			ug/L	2000		93	50-150			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00198			ug/L	2000		99	50-150			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00203			ug/L	2000		101	50-150			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00173			ug/L	2000		86	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 010

Report Number: IQL0954

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 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

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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
IQL0954-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.28	4.7	15
IQL0954-01	Antimony-200.8	Antimony	ug/l	1.10	2.0	6.00
IQL0954-01	Antimony-200.8, Diss	Antimony	ug/l	1.06	2.0	6.00
IQL0954-01	Cadmium-200.8	Cadmium	ug/l	0.086	1.0	4.00
IQL0954-01	Cadmium-200.8, Diss	Cadmium	ug/l	0.044	1.0	4.00
IQL0954-01	Chloride - 300.0	Chloride	mg/l	29	0.50	150
IQL0954-01	Copper-200.8	Copper	ug/l	6.94	2.0	14
IQL0954-01	Copper-200.8, Diss	Copper	ug/l	4.33	2.0	14
IQL0954-01	Lead-200.8	Lead	ug/l	0.30	1.0	5.20
IQL0954-01	Lead-200.8, Diss	Lead	ug/l	0.061	1.0	5.20
IQL0954-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	2.30	0.26	10.00
IQL0954-01	Sulfate-300.0	Sulfate	mg/l	22	0.50	250
IQL0954-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	226	10	850
IQL0954-01	Thallium-200.8	Thallium	ug/l	0.031	1.0	2.00
IQL0954-01	Thallium-200.8, Diss	Thallium	ug/l	0.036	1.0	2.00

TestAmerica Irvine

Joseph Doak  
 Project Manager

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IQL0954 <Page 17 of 19>

NPDES - 270

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

Project ID: Routine Outfall 010

Report Number: IQL0954

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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**IQL0954** <Page 18 of 19>

**NPDES - 271**



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

Project ID: Routine Outfall 010  
Report Number: IQL0954

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: IQL0954-01

#### 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: IQL0954-01

#### Weck Laboratories, Inc

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

Method Performed: EPA 245.1  
Samples: IQL0954-01

### TestAmerica Irvine

Joseph Doak  
Project Manager

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**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 010</b> Stormwater at Building 203		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	
Test America Contact: Joseph Doak Project Manager: Bronwyn Kelly Sampler: <i>P. Banner</i>		Sampling Date/Time 12/7/07 - 8:17		Preservative HNO <sub>3</sub>	
Sample Description	Sample Matrix	Container Type	# of Cont.	Bottle #	ANALYSIS REQUIRED
Outfall 010	W	1L Poly	1	1A	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl
Outfall 010 Dup	W	1L Poly	1	1B	TDS, TSS
Outfall 010	W	1L Amber	2	2A, 2B	Oil & Grease (EPA 413.1)
Outfall 010	W	1L Amber	2	3A, 3B	TCDD (and all congeners)
Outfall 010	W	500 ml Poly	2	4A, 4B	Cd, Cu, Pb, Hg, Tl
Outfall 010	W	500 ml Poly	2	5A, 5B	Total Dissolved Metals: Sb
Outfall 010	W	1L Poly	1	6	Field readings Temp = 52° pH = 9.78 Sample Collection Time = 8:17
					Comments
					Filter w/in 24hr of receipt at lab

Relinquished By: *P. Banner* Date/Time: 12/7/07 1630  
 Relinquished By: *P. Banner* Date/Time: 12/7/07 1630  
 Relinquished By: *P. Banner* Date/Time: 12/7/07 1630

Received By: *[Signature]* Date/Time: 12/7/07 16:30  
 Received By: *[Signature]* Date/Time: 12/7/07 16:30  
 Received By: *[Signature]* Date/Time: 12/7/07 16:30

Turn around Time: (check)  
 24 Hours  5 Days   
 48 Hours  10 Days   
 72 Hours  Normal   
 Sample Integrity: (Check) On Ice:  3.9(2.8)

(12/7/07)  
 (1750)

December 17, 2007

**Vista Project I.D.: 30064**

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

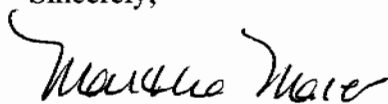
Dear Mr. Doak,

Enclosed are the results for the one aqueous sample received at Vista Analytical Laboratory on December 11, 2007 under your Project Name "IQL0954". 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: 12/11/2007**

Vista Lab. ID

Client Sample ID

30064-001

IQL0954-01

## 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:

Approved By: Martha M. Maier 17-Dec-2007 13:56

**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	IS 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	CRS 37Cl-2,3,7,8-TCDD	113	35 - 197	

Analyst: MAS

Approved By: Martha M. Maier 17-Dec-2007 13:56

Sample ID: **IQL0954-01**

EPA Method **1613**

Client Data		Sample Data		Laboratory Data	
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	30064-001
Project:	IQL0954	Sample Size:	1.00 L	QC Batch No.:	9773
Date Collected:	7-Dec-07			Date Analyzed DB-5:	15-Dec-07
Time Collected:	0817			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	0.00000777			IS 13C-2,3,7,8-TCDD	95.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000769			13C-1,2,3,7,8-PeCDD	95.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000169			13C-1,2,3,4,7,8-HxCDD	85.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000187			13C-1,2,3,6,7,8-HxCDD	72.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000178			13C-1,2,3,4,6,7,8-HpCDD	79.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000332			J	13C-OCDD	64.7	17 - 157	
OCDD	0.0000199			J	13C-2,3,7,8-TCDF	91.4	24 - 169	
2,3,7,8-TCDF	ND	0.00000900			13C-1,2,3,7,8-PeCDF	98.1	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000981			13C-2,3,4,7,8-PeCDF	98.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000969			13C-1,2,3,4,7,8-HxCDF	84.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000744			13C-1,2,3,6,7,8-HxCDF	70.5	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000811			13C-2,3,4,6,7,8-HxCDF	74.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000875			13C-1,2,3,7,8,9-HxCDF	76.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000120			13C-1,2,3,4,6,7,8-HpCDF	70.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000155			13C-1,2,3,4,7,8,9-HpCDF	73.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000737			13C-OCDF	58.7	17 - 157	
OCDF	ND	0.00000360			CRS 37Cl-2,3,7,8-TCDD	142	35 - 197	

Totals		Footnotes	
Total TCDD	ND	0.00000147	a. Sample specific estimated detection limit.
Total PeCDD	ND	0.00000190	b. Estimated maximum possible concentration.
Total HxCDD	ND	0.00000255	c. Method detection limit.
Total HpCDD	0.00000679		d. Lower control limit - upper control limit.
Total TCDF	ND	0.00000900	
Total PeCDF	ND	0.00000975	
Total HxCDF	ND	0.00000890	
Total HpCDF	ND	0.00000173	

Analyst:

Approved By:

Martha M. Maier

17-Dec-2007 13:56



## 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

IQL0954

30064 2.4C

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: IQL0954-01	Water		Sampled: 12/07/07 08:17	
1613-Dioxin-HR-Alta	ug/l	12/18/07	12/14/07 08:17	J flags, 17 congeners, no TEQ, ug/L, sub=Vista
EDD + Level 4	N/A	12/18/07	01/04/08 08:17	Boeing EDD, email to pm w/ PDF report
<i>Containers Supplied:</i>				
1 L Amber (C)	1 L Amber (D)			

Juan Lopez  
Released By

12/10/07 1700  
Date/Time

Feder  
Received By

12/10/07 1700  
Date/Time

Project 30064

Released By

Bethina Benedict  
Received By

12/10/07 0708  
Date/Time

**SAMPLE LOG-IN CHECKLIST**



Vista Project #: 30064 TAT \_\_\_\_\_

<b>Samples Arrival:</b>	Date/Time 12/11/07 0913	Initials: CBB	Location: WR-2 Shelf/Rack: N/A
<b>Logged In:</b>	Date/Time 12/11/07 12/12/07 0708	Initials: CBB	Location: WR-2 Shelf/Rack: B4
<b>Delivered By:</b>	<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
<b>Preservation:</b>	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
<b>Temp °C</b> 2.4	<b>Time:</b> 0930	<b>Thermometer ID:</b> IR-2	

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

Comments:

IQLO954-01 C  
↓  
01 D

SUBCONTRACT ORDER

TestAmerica - Irvine, CA

IQL0954

7121004

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

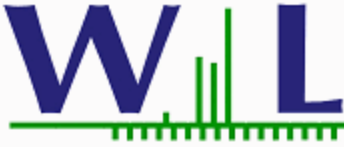
Analysis	Units	Due	Expires	Comments
Sample ID: IQL0954-01	Water		Sampled: 12/07/07 08:17	
Level 4 + EDD-OUT	N/A	12/18/07	01/04/08 08:17	Sub to Weck, transfer file EDD
Mercury - 245.1, Diss -OUT	mg/l	12/18/07	01/04/08 08:17	Weck, Boeing, J flags
Mercury - 245.1-OUT	mg/l	12/18/07	01/04/08 08:17	Weck, Boeing, permit, J flags, if result>ND, call TA
<i>Containers Supplied:</i> 125 mL Poly w/HNO3    125 mL Poly (M) (L)				

*Joseph Doak* 12/10/07 0835  
Released By Date/Time

*BTS Doan* 12/10/07 0940  
Released By Date/Time

*BTS Doan* 12/10/07 0835  
Received By Date/Time

*Juanne Gomez* 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 #:** 7121004

**Client Project:** IQL0954

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: 7121004  
Project ID: IQL0954

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
IQL0954-01	Client		7121004-01	Water	12/07/07 08:17





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: 7121004  
Project ID: IQL0954

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

**IQL0954-01 7121004-01 (Water)**

Date Sampled: 12/07/07 08:17

**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  
Phone 626.336.2139 Fax 626.336.2634

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

Report ID: 7121004  
Project ID: IQL0954

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: 7121004  
 Project ID: IQL0954

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

**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: 7121004  
Project ID: IQL0954

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.

## **APPENDIX G**

### **Section 12**

Outfall 010, December 19, 2007

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



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IQL2129

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: IQL2129  
 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 010	IQL2129-01	7122007-01, 30102-001	Water	12/19/07 0915	245.1, 1613, 6020

## 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.

---

### 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 16, 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 010. 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: Internal standard C13-OCDF was recovered just below the lower control limits in the site sample; therefore, the result for OCDF was qualified as estimated, "UJ," in site sample Outfall 010. The remaining 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 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. 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: ICESA/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 ICESA 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 not performed on the sample in this SDG. Evaluation of method accuracy was based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. The 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 antimony was detected at a slightly higher concentration in the dissolved metals sample fraction. The difference between the antimony results,  $0.03 \mu\text{g/L}$ , is within the sensitivity limits of the analytical instrument and, therefore, the reviewer considered the two results to be equivalent.

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

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

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

**Sample ID: IQL2129-01 Out-fall 010**

**EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Test America-Irvine, CA	Matrix:	Aqueous	Lab Sample:	30102-001		
Project:	IQL2129	Sample Size:	1.01 L	QC Batch No.:	9806		
Date Collected:	19-Dec-07			Date Analyzed DB-5:	27-Dec-07		
Time Collected:	0915			Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.00000112		IS 13C-2,3,7,8-TCDD	76.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000181		13C-1,2,3,7,8-PeCDD	59.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000273		13C-1,2,3,4,7,8-HxCDD	72.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000289		13C-1,2,3,6,7,8-HxCDD	68.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000274		13C-1,2,3,4,6,7,8-HpCDD	47.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000785		13C-OCDD	27.6	17 - 157	
OCDD	0.0000375			13C-2,3,7,8-TCDF	77.3	24 - 169	
2,3,7,8-TCDF	ND	0.00000136		13C-1,2,3,7,8-PeCDF	62.3	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000295		13C-2,3,4,7,8-PeCDF	65.2	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000276		13C-1,2,3,4,7,8-HxCDF	70.4	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000123		13C-1,2,3,6,7,8-HxCDF	73.6	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000121		13C-2,3,4,6,7,8-HxCDF	73.2	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000127		13C-1,2,3,7,8,9-HxCDF	57.8	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000230		13C-1,2,3,4,6,7,8-HpCDF	54.8	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000148		13C-1,2,3,4,7,8,9-HpCDF	26.4	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000333		13C-OCDF	14.3	17 - 157	H
OCDF	ND	0.0000159		CRS 37Cl-2,3,7,8-TCDD	84.3	35 - 197	
<b>Totals</b>							
Total TCDD	ND	0.00000112					
Total PeCDD	ND	0.00000181					
Total HxCDD	ND	0.00000279					
Total HpCDD	ND	0.00000785					
Total TCDF	ND	0.00000136					
Total PeCDF	ND	0.00000286					
Total HxCDF	ND	0.00000143					
Total HpCDF	ND	0.00000198					

**Footnotes**

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

Analyst: DMS *level IV*

Approved By: William J. Luksemburg 27-Dec-2007 13:18

# 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 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water)										
Reporting Units: ug/l										
Antimony	J/DNR	EPA 200.8	7L20116	0.20	2.0	0.68	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	3.4	1	12/20/07	12/20/07	
Lead	J/DNR	EPA 200.8	7L20116	0.10	1.0	0.25	1	12/20/07	12/20/07	J
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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 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8-Diss	7L20140	0.20	2.0	0.71	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	
Copper	EPA 200.8-Diss	7L20140	0.75	2.0	1.9	1	12/20/07	12/20/07	J
Lead	EPA 200.8-Diss	7L20140	0.10	1.0	ND	1	12/20/07	12/20/07	
Thallium	EPA 200.8-Diss	7L20140	0.15	1.0	ND	1	12/20/07	12/20/07	

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IQL2129 <Page 3 of 19>

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

Project ID: Routine Outfall 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water) - cont.									
Reporting Units: ng/l									
Mercury, Dissolved	EPA 245.1	W7L0889	0.050	0.20	ND	1	12/26/07	12/27/07	U
Mercury, Total	EPA 245.1	W7L0889	0.050	0.20	ND	1	12/26/07	12/27/07	U

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## **APPENDIX G**

### **Section 13**

Outfall 010, 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 010

Sampled: 12/19/07  
Received: 12/19/07  
Issued: 12/31/07 09:30

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**

IQL2129-01

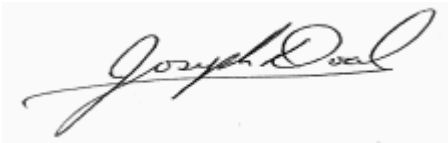
**CLIENT ID**

Outfall 010

**MATRIX**

Water

Reviewed By:



**TestAmerica Irvine**

Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water)</b>									
Reporting Units: ug/l									
<b>Antimony</b>	EPA 200.8	7L20116	0.20	2.0	<b>0.68</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	
<b>Copper</b>	EPA 200.8	7L20116	0.75	2.0	<b>3.4</b>	1	12/20/07	12/20/07	
<b>Lead</b>	EPA 200.8	7L20116	0.10	1.0	<b>0.25</b>	1	12/20/07	12/20/07	J
Thallium	EPA 200.8	7L20116	0.15	1.0	ND	1	12/20/07	12/20/07	

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 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water) - cont.</b>									
<b>Reporting Units: ug/l</b>									
<b>Antimony</b>	EPA 200.8-Diss	7L20140	0.20	2.0	<b>0.71</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>1.9</b>	1	12/20/07	12/20/07	J
Lead	EPA 200.8-Diss	7L20140	0.10	1.0	ND	1	12/20/07	12/20/07	
Thallium	EPA 200.8-Diss	7L20140	0.15	1.0	ND	1	12/20/07	12/20/07	

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 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water) - cont.</b>									
Reporting Units: mg/l									
Chloride	EPA 300.0	7L19051	5.0	10	<b>62</b>	20	12/19/07	12/19/07	
Nitrate/Nitrite-N	EPA 300.0	7L19051	0.15	0.26	<b>2.6</b>	1	12/19/07	12/19/07	
Oil & Grease	EPA 413.1	7L21125	1.1	4.7	ND	1	12/22/07	12/26/07	
Sulfate	EPA 300.0	7L19051	0.20	0.50	<b>33</b>	1	12/19/07	12/19/07	
<b>Total Dissolved Solids</b>	SM2540C	7L21099	10	10	<b>340</b>	1	12/21/07	12/21/07	
Total Suspended Solids	EPA 160.2	7L20129	10	10	ND	1	12/20/07	12/20/07	

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

Project ID: Routine Outfall 010  
Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water) - cont.</b>									
<b>Reporting Units: ug/l</b>									
Mercury, Dissolved	EPA 245.1	W7L0889	0.050	0.20	ND	1	12/26/07	12/27/07	
Mercury, Total	EPA 245.1	W7L0889	0.050	0.20	ND	1	12/26/07	12/27/07	

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NPDES - 311



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

Project ID: Routine Outfall 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water) - cont.</b>									
<b>Reporting Units: ug/L</b>									
2,3,7,8-TCDD	1613-Dioxin-HR Alta	9806	N/A	4.97	ND	1	12/23/07	12/27/07	
1,2,3,7,8-PeCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,4,7,8-HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,6,7,8-HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,7,8,9-HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,4,6,7,8-HpCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
<b>OCDD</b>	1613-Dioxin-HR Alta	9806	N/A	49.7	<b>0.0000375</b>	1	12/23/07	12/27/07	J
2,3,7,8-TCDF	1613-Dioxin-HR Alta	9806	N/A	4.97	ND	1	12/23/07	12/27/07	
1,2,3,7,8-PeCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
2,3,4,7,8-PeCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,4,7,8-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,6,7,8-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
2,3,4,6,7,8-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,7,8,9-HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,4,6,7,8-HpCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
1,2,3,4,7,8,9-HpCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
OCDF	1613-Dioxin-HR Alta	9806	N/A	49.7	ND	1	12/23/07	12/27/07	
Total TCDD	1613-Dioxin-HR Alta	9806	N/A	4.97	ND	1	12/23/07	12/27/07	
Total PeCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
Total HxCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
Total HpCDD	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
Total TCDF	1613-Dioxin-HR Alta	9806	N/A	4.97	ND	1	12/23/07	12/27/07	
Total PeCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
Total HxCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
Total HpCDF	1613-Dioxin-HR Alta	9806	N/A	24.8	ND	1	12/23/07	12/27/07	
<i>Surrogate: 13C-2,3,7,8-TCDD (25-164%)</i>					76.1 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)</i>					59 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)</i>					72.4 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)</i>					68.2 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)</i>					47.6 %				
<i>Surrogate: 13C-OCDD (17-157%)</i>					27.6 %				
<i>Surrogate: 13C-2,3,7,8-TCDF (24-169%)</i>					77.3 %				
<i>Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)</i>					62.3 %				
<i>Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)</i>					65.2 %				
<i>Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)</i>					70.4 %				
<i>Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)</i>					73.6 %				
<i>Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)</i>					73.2 %				
<i>Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)</i>					57.8 %				
<i>Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)</i>					54.8 %				
<i>Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)</i>					26.4 %				
<i>Surrogate: 13C-OCDF (17-157%)</i>					14.3 %				

H

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 Project Manager

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

Project ID: Routine Outfall 010

Report Number: IQL2129

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: IQL2129-01 (Outfall 010 - Water) - cont.</b>									
Reporting Units: ug/L									
Surrogate: 37Cl-2,3,7,8-TCDD (35-197%)					84.3 %				

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NPDES - 313

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

Project ID: Routine Outfall 010

Report Number: IQL2129

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 010 (IQL2129-01) - Water</b> EPA 300.0	2	12/19/2007 09:15	12/19/2007 19:10	12/19/2007 20:00	12/19/2007 22:05

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**NPDES - 314**

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

Project ID: Routine Outfall 010

Report Number: IQL2129

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

Project ID: Routine Outfall 010

Report Number: IQL2129

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

## 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: 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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Attention: Bronwyn Kelly

Project ID: Routine Outfall 010  
Report Number: IQL2129

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

## 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: 7L19051 Extracted: 12/19/07</b>											
<b>Blank Analyzed: 12/19/2007 (7L19051-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 (7L19051-BS1)</b>											
Chloride	4.91	0.50	0.25	mg/l	5.00		98	90-110			
Sulfate	10.1	0.50	0.20	mg/l	10.0		101	90-110			
<b>Matrix Spike Analyzed: 12/19/2007 (7L19051-MS1)</b>											
						<b>Source: IQL1974-01</b>					
Chloride	73.5	10	5.0	mg/l	50.0	28.9	89	80-120			
Sulfate	515	10	4.0	mg/l	100	448	66	80-120			MHA
<b>Matrix Spike Dup Analyzed: 12/19/2007 (7L19051-MSD1)</b>											
						<b>Source: IQL1974-01</b>					
Chloride	73.6	10	5.0	mg/l	50.0	28.9	89	80-120	0	20	
Sulfate	515	10	4.0	mg/l	100	448	67	80-120	0	20	MHA
<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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Received: 12/19/07

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	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		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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Received: 12/19/07

## 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: 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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## METHOD BLANK/QC DATA

### DIOXIN (EPA 1613)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%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>					
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			

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: IQL2129

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	

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 010  
 Report Number: IQL2129

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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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
IQL2129-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	4.7	15
IQL2129-01	Antimony-200.8	Antimony	ug/l	0.68	2.0	6.00
IQL2129-01	Antimony-200.8, Diss	Antimony	ug/l	0.71	2.0	6.00
IQL2129-01	Cadmium-200.8	Cadmium	ug/l	0.050	1.0	4.00
IQL2129-01	Cadmium-200.8, Diss	Cadmium	ug/l	0.029	1.0	4.00
IQL2129-01	Chloride - 300.0	Chloride	mg/l	62	10	150
IQL2129-01	Copper-200.8	Copper	ug/l	3.39	2.0	14
IQL2129-01	Copper-200.8, Diss	Copper	ug/l	1.89	2.0	14
IQL2129-01	Lead-200.8	Lead	ug/l	0.25	1.0	5.20
IQL2129-01	Lead-200.8, Diss	Lead	ug/l	0.031	1.0	5.20
IQL2129-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	2.63	0.26	10.00
IQL2129-01	Sulfate-300.0	Sulfate	mg/l	33	0.50	250
IQL2129-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	345	10	850
IQL2129-01	Thallium-200.8	Thallium	ug/l	0.0086	1.0	2.00
IQL2129-01	Thallium-200.8, Diss	Thallium	ug/l	0	1.0	2.00

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.*

IQL2129 <Page 17 of 19>

NPDES - 323

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

Project ID: Routine Outfall 010  
Report Number: IQL2129

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

## DATA QUALIFIERS AND DEFINITIONS

- H** The signal-tonoise ratio is greater than 10:1
- J** The amount detected is below the Lower CalibrationLimit of the instrument
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- 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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**IQL2129** <Page 18 of 19>

**NPDES - 324**

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

Project ID: Routine Outfall 010  
Report Number: IQL2129

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: IQL2129-01

#### 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: IQL2129-01

#### Weck Laboratories, Inc

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

Method Performed: EPA 245.1  
Samples: IQL2129-01

### 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.*

10L3137

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

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

Test America Contact: Joseph Doak  
 Project Manager: Bronwyn Kelly  
 Phone Number: (626) 568-6691  
 Fax Number: (626) 568-6515

Sampler: **J. MARISCAL R. BARRERO**

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #
Outfall 010	W	1L Poly	1	12-19-07 0915	HNO <sub>3</sub>	1A
Outfall 010 Dup	W	1L Poly	1	↓	HNO <sub>3</sub>	1B
Outfall 010	W	1L Amber	2		None	2A, 2B
Outfall 010	W	1L Amber	2		HCl	3A, 3B
Outfall 010	W	500 ml Poly	2		None	4A, 4B
Outfall 010	W	500 ml Poly	2		None	5A, 5B
Outfall 010	W	1L Poly	1		12-19-07 - 0915	None

ANALYSIS REQUIRED		Field readings.
Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	X	Temp = <b>54.5°</b>
TCDD (end all congeners)	X	pH = <b>7.53</b>
Oil & Grease (EPA 413.1)	X	Sample Collection Time = <b>0915</b>
Cr, SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N	X	Comments
TDS, TSS	X	
Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	X	
Filter w/in 24hr of receipt at lab	X	

APR 12 11 11 AM '08

Relinquished By: *[Signature]* Date/Time: 12-19-07 1620  
 Relinquished By: *[Signature]* Date/Time: 12-19-07 1910  
 Relinquished By: *[Signature]* Date/Time: 12-19-07 1910

Received By: *[Signature]* Date/Time: 12/19/07 1620  
 Received By: *[Signature]* Date/Time: 12/19/07 1910

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

Sample Integrity: (Check) Intact  On ice:   
 2.6°/1.6°C

December 27, 2007

**Vista Project I.D.: 30102**

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 "IQL2129". 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

30102-001

IQL2129-01

## SECTION II

**Method Blank**

**EPA Method 1613**

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>	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	
Totals				Footnotes			
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:

William J. Luksemburg

27-Dec-2007 13:18

**OPR Results**

**EPA Method 1613**

Matrix:	Aqueous	QC Batch No.:	9806	Lab Sample:	0-OPR001		
Sample Size:	1.00 L	Date Extracted:	23-Dec-07	Date Analyzed DB-5:	24-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	10.3	6.7 - 15.8	<b>IS</b> 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	<b>CRS</b> 37Cl-2,3,7,8-TCDD	99.1	35 - 197	

Analyst: MAS

Approved By:

William J. Luksemburg

27-Dec-2007 13:12

**Sample ID: IQL2129-01**

**EPA Method 1613**

Client Data

Name: Test America-Irvine, CA  
 Project: IQL2129  
 Date Collected: 19-Dec-07  
 Time Collected: 0915

Sample Data

Matrix: Aqueous  
 Sample Size: 1.01 L

Laboratory Data

Lab Sample: 30102-001 Date Received: 21-Dec-07  
 QC Batch No.: 9806 Date Extracted: 23-Dec-07  
 Date Analyzed DB-5: 27-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	0.00000112			<u>IS</u> 13C-2,3,7,8-TCDD	76.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000181			13C-1,2,3,7,8-PeCDD	59.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000273			13C-1,2,3,4,7,8-HxCDD	72.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000289			13C-1,2,3,6,7,8-HxCDD	68.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000274			13C-1,2,3,4,6,7,8-HpCDD	47.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000785			13C-OCDD	27.6	17 - 157	
OCDD	0.0000375			J	13C-2,3,7,8-TCDF	77.3	24 - 169	
2,3,7,8-TCDF	ND	0.00000136			13C-1,2,3,7,8-PeCDF	62.3	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000295			13C-2,3,4,7,8-PeCDF	65.2	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000276			13C-1,2,3,4,7,8-HxCDF	70.4	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000123			13C-1,2,3,6,7,8-HxCDF	73.6	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000121			13C-2,3,4,6,7,8-HxCDF	73.2	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000127			13C-1,2,3,7,8,9-HxCDF	57.8	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000230			13C-1,2,3,4,6,7,8-HpCDF	54.8	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000148			13C-1,2,3,4,7,8,9-HpCDF	26.4	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000333			13C-OCDF	14.3	17 - 157	H
OCDF	ND	0.0000159			<u>CRS</u> 37Cl-2,3,7,8-TCDD	84.3	35 - 197	

<b>Totals</b>				<b>Footnotes</b>	
Total TCDD	ND	0.00000112		a. Sample specific estimated detection limit.	
Total PeCDD	ND	0.00000181		b. Estimated maximum possible concentration.	
Total HxCDD	ND	0.00000279		c. Method detection limit.	
Total HpCDD	ND	0.00000785		d. Lower control limit - upper control limit.	
Total TCDF	ND	0.00000136			
Total PeCDF	ND	0.00000286			
Total HxCDF	ND	0.00000143			
Total HpCDF	ND	0.00000198			

Analyst: DMS

Approved By:

William J. Luksemburg

27-Dec-2007 13:18

## 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

IQL2129

30102 0.3°C

SENDING LABORATORY:

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

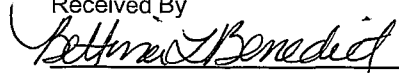
RECEIVING LABORATORY:

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

Analysis	Units	Due	Expires	Comments
<b>Sample ID: IQL2129-01</b>	<b>Water</b>		<b>Sampled: 12/19/07 09:15</b>	
1613-Dioxin-HR-Alta	ug/l	12/28/07	12/26/07 09:15	J flags, 17 congeners, no TEQ, ug/L, sub=Vista
EDD + Level 4	N/A	12/28/07	01/16/08 09:15	Excel EDD email to pm, Include Std logs for Lvl IV
<i>Containers Supplied:</i>				
1 L Amber (C)	1 L Amber (D)			

 12/20/07 17:00

Released By \_\_\_\_\_  
Date/Time \_\_\_\_\_

Fedex 12/20/07 1700  
Received By  12/21/07 1027  
Date/Time \_\_\_\_\_

Released By \_\_\_\_\_  
Date/Time \_\_\_\_\_

SAMPLE LOG-IN CHECKLIST



Vista Project #: 30102 TAT 7

Samples Arrival:	Date/Time 12/21/07 0947	Initials: WRB	Location: WR-2
			Shelf/Rack: N/A
Logged In:	Date/Time 12/21/07 1100	Initials: WRB	Location: WR2
			Shelf/Rack: C3
Delivered By:	<u>FedEx</u>	UPS	Cal
			DHL
			Hand Delivered
			Other
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
			None
Temp °C	0.3	Time: 0952	Thermometer ID: IR-1

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

Comments:

SUBCONTRACT ORDER

TestAmerica Irvine

IQL2129

7122067

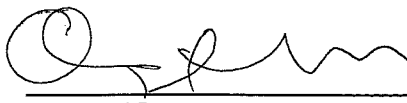
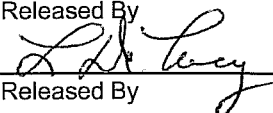
SENDING LABORATORY:

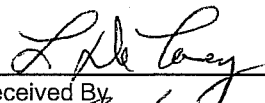

TestAmerica Irvine  
17461 Derian Avenue. Suite 100  
Irvine, CA 92614  
Phone: (949) 261-1022  
Fax: (949) 260-3297  
Project Manager: Joseph Doak

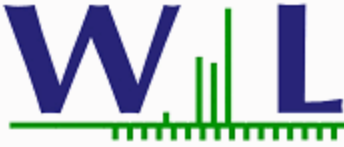
RECEIVING LABORATORY:

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: IQL2129-01	Water			Sampled: 12/19/07 09:15
Mercury - 245.1, Diss -OUT	mg/l	12/28/07	01/16/08 09:15	
Mercury - 245.1-OUT	mg/l	12/28/07	01/16/08 09:15	
<i>Containers Supplied:</i>				
125 mL Poly w/HNO3	125 mL Poly (M)			
(L)				

 12/20/07 0700  
 Released By \_\_\_\_\_ Date/Time  
 12/20/07  
 Released By \_\_\_\_\_ Date/Time

 12/20/07 0700 4.5C  
 Received By \_\_\_\_\_ Date/Time  
 12/20/07 1020  
 Received By \_\_\_\_\_ Date/Time



### CERTIFICATE OF ANALYSIS

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

**Report Date:** 12/28/07 15:27  
**Received Date:** 12/20/07 10:00  
**Turn Around:** 5 days

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

**Work Order #:** 7122007  
**Client Project:** IQL2129

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





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: 7122007  
Project ID: IQL2129

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:27

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sampled by:	Sample Comments	Laboratory	Matrix	Date Sampled
IQL2129-01	Client		7122007-01	Water	12/19/07 09:15



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: 7122007  
Project ID: IQL2129

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:27

**IQL2129-01 7122007-01 (Water)**

Date Sampled: 12/19/07 09:15

**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	W7L0889	12/26/07	12/27/07	jlp
Mercury, Total	ND	0.050	ug/l	0.20	1	EPA 245.1	W7L0889	12/26/07	12/27/07	jlp



Weck Laboratories, Inc.  
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Industry, CA 91745  
Phone 626.336.2139 Fax 626.336.2634

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

Report ID: 7122007  
Project ID: IQL2129

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:27

# 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: 7122007  
 Project ID: IQL2129

Date Received: 12/20/07 10:00  
 Date Reported: 12/28/07 15:27

**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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

**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.  
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Industry, CA 91745  
Phone 626.336.2139 Fax 626.336.2634

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

Report ID: 7122007  
Project ID: IQL2129

Date Received: 12/20/07 10:00  
Date Reported: 12/28/07 15:27

### 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.

## **APPENDIX G**

### **Section 14**

Outfall 010 - BMP Effectiveness, December 18-19, 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: BMP Effectiveness  
Monitoring Program

Sampled: 12/18/07-12/19/07  
Received: 12/19/07  
Revised: 01/31/08 15:22

NELAP #01108CA California ELAP#1197 CSDLAC #10256

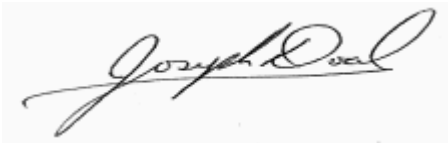
*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. 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

LABORATORY ID	CLIENT ID	MATRIX
IQL2159-01	010 EFF-1	Water
IQL2159-02	010 EFF-2	Water
IQL2159-03	010 EFF-3	Water
IQL2159-04	010 EFF-4	Water
IQL2159-05	010 EFF-5	Water
IQL2159-06	010 EFF-6	Water
IQL2159-07	010 EFF-7	Water
IQL2159-08	010 EFF-8	Water
IQL2159-09	010 EFF-9	Water
IQL2159-10	010 EFF-10	Water
IQL2159-11	010 EFF-11	Water
IQL2159-12	010 EFF-12	Water
IQL2159-13	010 EFF-13	Water
IQL2159-14	010 EFF-14	Water
IQL2159-15	010 EFF-15	Water
IQL2159-16	010 EFF-16	Water
IQL2159-17	010 EFF-17	Water
IQL2159-18	010 EFF-18	Water
IQL2159-19	010 EFF-19	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: BMP Effectiveness  
 Monitoring Program  
 Report Number: IQL2159

Sampled: 12/18/07-12/19/07  
 Received: 12/19/07

## INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2159-01 (010 EFF-1 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-01 (010 EFF-1 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	24	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-02 (010 EFF-2 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	1.0	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-02 (010 EFF-2 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	36	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-03 (010 EFF-3 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-03 (010 EFF-3 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-04 (010 EFF-4 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-04 (010 EFF-4 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-05 (010 EFF-5 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28073	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-05 (010 EFF-5 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	

### 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: BMP Effectiveness  
 Monitoring Program  
 Report Number: IQL2159

Sampled: 12/18/07-12/19/07  
 Received: 12/19/07

## INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2159-06 (010 EFF-6 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.98	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-06 (010 EFF-6 - Water)</b>				<b>Sampled: 12/18/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-07 (010 EFF-7 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	1.0	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-07 (010 EFF-7 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-08 (010 EFF-8 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-08 (010 EFF-8 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-09 (010 EFF-9 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-09 (010 EFF-9 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-10 (010 EFF-10 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-10 (010 EFF-10 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	

### 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: BMP Effectiveness  
 Monitoring Program  
 Report Number: IQL2159

Sampled: 12/18/07-12/19/07  
 Received: 12/19/07

## INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2159-11 (010 EFF-11 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-11 (010 EFF-11 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-12 (010 EFF-12 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-12 (010 EFF-12 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-13 (010 EFF-13 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-13 (010 EFF-13 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-14 (010 EFF-14 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	1.0	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-14 (010 EFF-14 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-15 (010 EFF-15 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-15 (010 EFF-15 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28102	10	ND	1	12/28/2007	12/28/2007	

### 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: BMP Effectiveness  
 Monitoring Program  
 Report Number: IQL2159

Sampled: 12/18/07-12/19/07  
 Received: 12/19/07

## INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL2159-16 (010 EFF-16 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28071	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-16 (010 EFF-16 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28103	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-17 (010 EFF-17 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28073	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-17 (010 EFF-17 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28103	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-18 (010 EFF-18 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28073	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-18 (010 EFF-18 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28103	10	ND	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-19 (010 EFF-19 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: g/cc								
Density	Displacement	7L28073	NA	0.99	1	12/28/2007	12/28/2007	
<b>Sample ID: IQL2159-19 (010 EFF-19 - Water)</b>				<b>Sampled: 12/19/07</b>				
Reporting Units: mg/l								
Sediment	ASTM D3977	7L28103	10	ND	1	12/28/2007	12/28/2007	

TestAmerica Irvine

Joseph Doak  
 Project Manager

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 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: BMP Effectiveness  
 Monitoring Program  
 Report Number: IQL2159

Sampled: 12/18/07-12/19/07  
 Received: 12/19/07

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L28071 Extracted: 12/28/07</b>										
<b>Duplicate Analyzed: 12/28/2007 (7L28071-DUP1)</b>										
Density	0.987	NA	g/cc		0.985			0	20	
<b>Source: IQL2158-12</b>										
<b>Batch: 7L28073 Extracted: 12/28/07</b>										
<b>Duplicate Analyzed: 12/28/2007 (7L28073-DUP1)</b>										
Density	0.991	NA	g/cc		0.988			0	20	
<b>Source: IQL2159-05</b>										

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: BMP Effectiveness  
Monitoring Program  
Report Number: IQL2159

Sampled: 12/18/07-12/19/07  
Received: 12/19/07

## DATA QUALIFIERS AND DEFINITIONS

**ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.  
**RPD** Relative Percent Difference

**TestAmerica Irvine**

Joseph Doak  
Project Manager

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**IQL2159 <Page 7 of 8>**  
**NPDES - 352**

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

Project ID: BMP Effectiveness  
Monitoring Program  
Report Number: IQL2159

Sampled: 12/18/07-12/19/07  
Received: 12/19/07

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
ASTM D3977	Water		
Displacement	Water		

*Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at [www.testamericainc.com](http://www.testamericainc.com)*

### TestAmerica Irvine

Joseph Doak  
Project Manager

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12/21/07

# CHAIN OF CUSTODY FORM

Test America Version 04/28/06

Client Name/Address:			Project: Boeing BMP Effectiveness Monitoring Program			ANALYSIS REQUIRED		Field readings:
MWH-Arcadia 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007			Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			Suspended Sediment Concentration (SSC, ASTM, D3977-1997)		Temp = <i>4.1</i> pH = <i>7.53</i> Sample Collection Time = <i>18:02</i>
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Comments	
010 EFF-1	W	500 mL Poly	1	12-18-07 18:00	None	1		
010 EFF-2	W	500 mL Poly	1	12-18-07 19:00	None	2		
010 EFF-3	W	500 mL Poly	1	12-18-07 20:00	None	3		
010 EFF-4	W	500 mL Poly	1	12-18-07 21:00	None	4		
010 EFF-5	W	500 mL Poly	1	12-18-07 22:00	None	5		
010 EFF-6	W	500 mL Poly	1	12-18-07 23:00	None	6		
010 EFF-7	W	500 mL Poly	1	12-19-07 00:00	None	7		
010 EFF-8	W	500 mL Poly	1	12-19-07 01:00	None	8		
010 EFF-9	W	500 mL Poly	1	12-19-07 02:00	None	9		
010 EFF-10	W	500 mL Poly	1	12-19-07 03:00	None	10		
010 EFF-11	W	500 mL Poly	1	12-19-07 04:00	None	11		
010 EFF-12	W	500 mL Poly	1	12-19-07 05:00	None	12		
010 EFF-13	W	500 mL Poly	1	12-19-07 06:00	None	13		
010 EFF-14	W	500 mL Poly	1	12-19-07 07:00	None	14		
010 EFF-15	W	500 mL Poly	1	12-19-07 08:00	None	15		
010 EFF-16	W	500 mL Poly	1	12-19-07 09:00	None	16		
010 EFF-17	W	500 mL Poly	1	12-19-07 10:00	None	17		
010 EFF-18	W	500 mL Poly	1	12-19-07 11:00	None	18		
010 EFF-19	W	500 mL Poly	1	12-19-07 12:00	None	19		
<del>010 EFF-20</del>	<del>W</del>	<del>500 mL Poly</del>	<del>1</del>	<del>12-19-07 13:00</del>	<del>None</del>	<del>20</del>	<del></del>	
010 EFF-21	W	500 mL Poly	1		None	21		
010 EFF-22	W	500 mL Poly	1		None	22		
010 EFF-23	W	500 mL Poly	1		None	23		
010 EFF-24	W	500 mL Poly	1		None	24		
Relinquished By				Date/Time:	Received By		Date/Time:	Turn around Time: (check)
<i>R. Banno</i>				<i>12/19/07 1620</i>	<i>BDS Beer</i>		<i>12/19/07 1620</i>	24 Hours <input checked="" type="checkbox"/> 5 Days <input type="checkbox"/>
Relinquished By				Date/Time:	Received By		Date/Time:	48 Hours <input type="checkbox"/> 10 Days <input type="checkbox"/>
<i>BDS Beer</i>				<i>12/19/07 1905</i>	<i>Fransy Aguyon</i>		<i>12/19/07 1905</i>	72 Hours <input type="checkbox"/> Normal <input type="checkbox"/>
Relinquished By				Date/Time:	Received By		Date/Time:	Sample Integrity: (Check)
								Intact <input checked="" type="checkbox"/> On Ice: <input type="checkbox"/>
								<i>2.691.6°C</i>

## **APPENDIX G**

### **Section 15**

Outfall 014, December 21, 2007

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



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IQL2416

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: IQL2416  
 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 014	IQL2416-01	97220-1, 7122636-01, 30107-01	Water	12/21/07 0830	180.1, 300.0, 405.1, 1613, 1664, 6020, 8315M, 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  $\pm$ 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 Vista and Weck. If necessary, the client ID was added to the sample result summary by the reviewer.

---

### Data Qualifier Reference Table

---

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

---

### Qualification Code Reference Table

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



**Qualification Code Reference Table Cont.**

---

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

---

### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight

Date Reviewed: January 25, 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: The method blank had no target compound detects above the EDL.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance

criteria listed in Table 6 of Method 1613.

- **Field QC Samples:** Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - **Field Blanks and Equipment Rinsates:** This SDG had no identified field blank or equipment rinsate samples.
  - **Field Duplicates:** There were no field duplicate samples identified for this SDG.
- **Internal Standards Performance:** The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- **Compound Identification:** Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- **Compound Quantification and Reported Detection Limits:** Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the estimated detection limit (EDL).

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

Reviewed By: P. Meeks

Date Reviewed: January 25, 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 6010B*, 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:** As the sample was not analyzed by ICP-MS, the tuning criteria are not applicable.
- **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 metals and 85-115% for mercury. Selenium was recovered at 150% in the 10 ppb check standard associated with the dissolved selenium analysis; therefore, selenium detected in the dissolved fraction was qualified as an estimated detect, "J."

- Blanks: Selenium was detected in the closing CCB (9.9 µg/L) associated with the total selenium analysis; therefore, selenium detected in the total selenium fraction was qualified as an estimated nondetect, "UJ." There were no other applicable detects in the method blanks or CCBs.
- Interference Check Samples: ICSA/B analyses were not analyzed on the same day as the site sample analyses. Recoveries were within the method-established control limits.
- 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 for all the dissolved analytes, except mercury. All recoveries and RPDs were within the laboratory-established control limits. Method accuracy for mercury was evaluated based on the LCS result.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: As the sample was not analyzed by ICP-MS, the internal standards criteria are not applicable.
- 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.

Selenium was detected in the dissolved fraction but was qualified as an estimated nondetect due to contamination noted in a bracketing CCB.

- 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 24, 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 180.1, 300.0, 405.1, 1664, 6020, 8315M, SM2540C* and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The hydrazine aliquot was derivitized beyond the three day holding time; therefore, nondetected hydrazines in the samples were qualified as estimated nondetects, "UJ." The hydrazine aliquot was analyzed within three days of derivitization. All remaining holding times, 28 days for chloride and oil and grease, seven days for TDS, and 48 hours for BOD and turbidity, 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 RPDs were within the laboratory-established control limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for the hydrazines. All recoveries were within the laboratory-established control limits. Method accuracy and/or precision for the remaining analytes were 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 40x dilution. Reported nondetects are valid to the reporting limit.
- 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:** IQL2416-01 Outfall 014 **EPA Method 1613**

Client Data		Laboratory Data	
Name: Test America-Irvine, CA	Lab Sample: 30107-001	Date Received: 27-Dec-07	
Project: IQL2416	QC Batch No.: 9823	Date Extracted: 28-Dec-07	
Date Collected: 21-Dec-07	Date Analyzed DB-5: 30-Dec-07	Date Analyzed DB-225: NA	
Time Collected: 0830			

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	0.00000877			13C-2,3,7,8-TCDD	85.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000132			13C-1,2,3,7,8-PeCDD	82.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000220			13C-1,2,3,4,7,8-HxCDD	74.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000218			13C-1,2,3,6,7,8-HxCDD	65.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000218			13C-1,2,3,4,6,7,8-HpCDD	61.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000108			J	13C-OCDD	58.6	17 - 157	
OCDD	0.000107				13C-2,3,7,8-TCDF	89.2	24 - 169	
2,3,7,8-TCDF	ND	0.00000134			13C-1,2,3,7,8-PeCDF	91.1	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000144			13C-2,3,4,7,8-PeCDF	93.4	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000142			13C-1,2,3,4,7,8-HxCDF	72.6	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000615			13C-1,2,3,6,7,8-HxCDF	61.1	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000669			13C-2,3,4,6,7,8-HxCDF	66.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000723			13C-1,2,3,7,8,9-HxCDF	63.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000114			13C-1,2,3,4,6,7,8-HpCDF	54.5	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000208			13C-1,2,3,4,7,8,9-HpCDF	53.4	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000107			13C-OCDF	48.5	17 - 157	
OCDF	ND	0.00000492			CRS 37Cl-2,3,7,8-TCDD	106	35 - 197	

Totals	Footnotes								
Total TCDD	ND								a. Sample specific estimated detection limit.
Total PeCDD	ND	0.00000877							b. Estimated maximum possible concentration.
Total HxCDD	ND	0.00000376							c. Method detection limit.
Total HpCDD	0.0000269								d. Lower control limit - upper control limit.
Total TCDF	ND								
Total PeCDF	ND								
Total HxCDF	ND								
Total HpCDF	ND								

Analyst: MAS *Level IV* Approved By: William J. Luksemburg 31-Dec-2007 07:46

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Routine Outfall 014  
APTF Test Stand  
Report Number: IQL2416

Sampled: 12/21/07  
Received: 12/21/07

## 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: IQL2416-01 (Outfall 014 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	U	EPA 245.1	W8A0020	0.050	0.20	ND	1	01/02/08	01/03/08
Mercury, Total	U	EPA 245.1	W8A0020	0.050	0.20	ND	1	01/02/08	01/03/08

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 014 APTF Test Stand Report Number: IQL2416	Sampled: 12/21/07 Received: 12/21/07
-----------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------	-----------------------------------------

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL2416-01 (Outfall 014 - Water) - cont.									
Reporting Units: mg/l									
Boron	EPA 200.7	7L27139	0.020	0.050	ND	1	12/27/07	12/29/07	
Cadmium	EPA 200.7	7L27139	0.0020	0.0050	ND	1	12/27/07	12/29/07	
Copper	EPA 200.7	7L27139	0.0030	0.010	<b>0.0044</b>	1	12/27/07	12/29/07	J
Lead	EPA 200.7	7L27139	0.0030	0.0050	ND	1	12/27/07	12/29/07	
Selenium	EPA 200.7	7L27139	0.0080	0.010	<b>0.017</b>	1	12/27/07	01/01/08	
Zinc	EPA 200.7	7L27139	0.0060	0.020	<b>0.0086</b>	1	12/27/07	12/29/07	J

LEVEL IV

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

Project ID: Routine Outfall 014  
APTF Test Stand  
Report Number: IQL2416

Sampled: 12/21/07  
Received: 12/21/07

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL2416-01 (Outfall 014 - Water) - cont.									
Reporting Units: mg/l									
Boron	EPA 200.7-Diss	7L21138	0.020	0.050	ND	1	12/21/07	12/28/07	
Cadmium	EPA 200.7-Diss	7L21138	0.0020	0.0050	ND	1	12/21/07	12/28/07	
Copper	EPA 200.7-Diss	7L21138	0.0030	0.010	ND	1	12/21/07	12/28/07	
Lead	EPA 200.7-Diss	7L21138	0.0030	0.0050	ND	1	12/21/07	12/28/07	
Selenium	EPA 200.7-Diss	7L21138	0.0080	0.010	<b>0.018</b>	1	12/21/07	12/28/07	
Zinc	EPA 200.7-Diss	7L21138	0.0060	0.020	ND	1	12/21/07	12/28/07	

LEVEL IV

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

Project ID: Routine Outfall 014  
APTF Test Stand  
Report Number: IQL2416

Sampled: 12/21/07  
Received: 12/21/07

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL2416-01 (Outfall 014 - Water) - cont.									
Reporting Units: NTU									
Turbidity	EPA 180.1	7L22048	0.040	1.0	5.2	1	12/22/07	12/22/07	

LEVEL IV

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

Project ID: Routine Outfall 014  
APTF Test Stand  
Report Number: IQL2416

Sampled: 12/21/07  
Received: 12/21/07

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL2416-01 (Outfall 014 - Water) - cont.									
Reporting Units: mg/l									
Hexane Extractable Material (Oil & Grease)	U EPA 1664	7L28075	1.3	4.8	ND	1	12/28/07	12/28/07	
Ammonia-N (Distilled)	* EPA 350.2	7L27114	0.30	0.50	ND	1	12/27/07	12/27/07	
Biochemical Oxygen Demand	EPA 405.1	7L21126	0.59	2.0	11	1	12/21/07	12/26/07	
Chloride	EPA 300.0	7L21048	10	20	810	40	12/21/07	12/22/07	
Fluoride *	EPA 340.2	7L28085	0.014	0.10	1.2	1	12/28/07	12/28/07	
Nitrate-N *	EPA 300.0	7L21048	0.060	0.11	0.098	1	12/21/07	12/22/07	J
Nitrite-N *	EPA 300.0	7L21048	0.090	0.15	ND	1	12/21/07	12/22/07	
Nitrate/Nitrite-N *	EPA 300.0	7L21048	0.15	0.26	ND	1	12/21/07	12/22/07	
Sulfate *	EPA 300.0	7L21048	8.0	20	240	40	12/21/07	12/22/07	
Total Dissolved Solids	SM2540C	7L27069	10	10	2000	1	12/26/07	12/26/07	
Total Suspended Solids *	EPA 160.2	7L26123	10	10	ND	1	12/26/07	12/26/07	

\* Analysis not validated

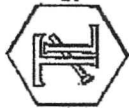
LEVEL LV

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.

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**Client:** TestAmerica Analytical-Irvine  
17461 Derian Avenue, Suite 100  
Irvine, CA 92614-5817

**Attention:** Joseph Doak  
**Sample:** Water / 1 Sample  
**Project Name:** IQL2416  
**P.O. Number:** IQL2416  
**Method Number:** 8315 (Modified)  
**Investigation:** Hydrazines

**REPORT**

**Laboratory No:** 972201  
**Report Date:** January 7, 2008  
**Sampling Date:** December 21, 2007  
**Receiving Date:** December 26, 2007  
**Extraction Date:** December 26, 2007  
**Analysis Date:** December 27, 2007  
**Units:** µg/L  
**Reported By:** JS

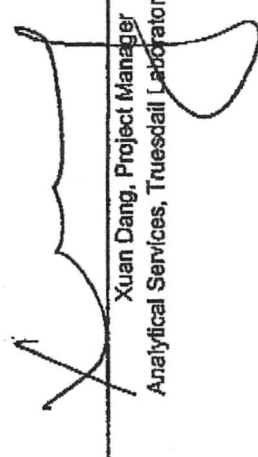
**Analytical Results**

Sample ID	Sample Description	Sample Amount (mL)	Dilution Factor	Monomethyl		u-Dimethyl		Hydrazine	Qualifier Codes
				Hydrazine	Hydrazine	Hydrazine	Hydrazine		
707140-MB	Method Blank	100	1	ND *	ND *	ND *	ND *	ND *	None
972201	IQL2416-01	100	1	ND UJ/H	ND UJ/H	ND UJ/H	ND UJ/H	ND UJ/H	None
MDL				0.56	0.32	0.15			
PQL				5.0	5.0	1.00			
<b>Sample Reporting Limits</b>				5.0	5.0	1.00			

\* Analysis not validated

LEVEL IV

Note: Results based on detector #1 (UV=365nm) data.

  
Xuan Dang, Project Manager  
Analytical Services, Truesdail Laboratories, Inc.

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