

## **APPENDIX G**

### **Section 41**

Outfall 009 – February 20, 2010

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

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# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITB2186

Prepared by

MEC<sup>x</sup>, LP  
12269 East Vassar Drive  
Aurora, CO 80014

**I. INTRODUCTION**

Task Order Title: Boeing SSFL NPDES  
 Contract Task Order: 1261.100D.00  
 Sample Delivery Group: ITB2186  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 1  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
OUTFALL 009 (COMPOSITE)	ITB2186-02	G0B230475-001, F0B230454-001	Water	2/20/2010 7:36:00 AM	ASTM 5174-91, 245.1, 245.1 (DISS), 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD

**II. Sample Management**

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-West Sacramento marginally below the temperature limit; however, the samples were not noted to be frozen or damaged. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at TestAmerica-St. Louis and TestAmerica-West Sacramento. As the samples were couriered to TestAmerica-Irvine, no custody seals were required. 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 or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

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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: L. Calvin

Date Reviewed: April 1, 2010

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 (9/05)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed with the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
  - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
  - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs  $\leq 20\%$  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 detects between the EDL and the RL for all target compounds except 2,3,7,8-TCDD and total TCDD, and 2,3,7,8-TCDF and total TCDF. Several detects in the method blank did not meet ratio criteria and were reported as EMPCs; however, due to the extent of contamination present in the method blank, it was the reviewer's professional opinion that those results be utilized to qualify applicable

sample results. Isomers present in the sample between the EDLs and RLs were qualified as nondetected, "U," at the levels of contamination. The sample result for total HpCDD was also qualified as nondetected, "U," at the level of contamination, as all peaks comprising the total were present in the method blank at similar concentrations. Results for total HxCDD, HxCDF, and HpCDF were qualified as estimated, "J," as only a portion of the total was considered method blank contamination. In the reviewer's professional opinion, the method blank result for OCDD was insufficient to qualify the sample result.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. The EMPCs qualified as nondetected for method blank contamination were not further qualified as EMPCs. Any total results reported as EMPCs or including EMPCs were qualified as estimated, "J." Any detects reported below the EDL, or between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

## **B. EPA METHOD 245.1—Mercury**

Reviewed By: P. Meeks

Date Reviewed: March 30, 2010

The sample listed in Table 1 for these analyses 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 Method 245.1*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time, 28 days, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Mercury initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 85-115% for mercury. CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.

## C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: April 7, 2010

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0*, *ASTM Method D-5174*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- **Holding Times:** The aliquot for total uranium was prepared more than 3x beyond the 5-day holding time for unpreserved samples; therefore, nondetected uranium in the sample (see Blanks section) was rejected, "R." Aliquots for gross alpha and gross beta were prepared beyond the five-day analytical holding time for unpreserved samples; therefore, results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects. The tritium sample was analyzed within 180 days of collection. Aliquots for the remaining analytes were prepared within the five-day holding time for unpreserved aqueous samples.
- **Calibration:** The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha and radium-226 detector efficiencies were less than 20%; therefore, the results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects. The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The barium chemical yields exceeded the upper control limit for both radium-226 and radium-228, at 178% each. Although in order to reduce the potential low bias, the laboratory only used a 100% yield to calculate the sample results, it was the reviewer's professional opinion that the results be qualified as estimated, "J," for detects and, "UJ," for nondetects. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- **Blanks:** Total uranium was detected in the method blank at 0.315 pCi/L; therefore, total uranium detected in the sample was qualified as nondetected, at the reporting limit. This result was subsequently rejected due to an exceeded holding time. There were no other analytes detected in the method blanks or the KPA CCBs.
- **Blank Spikes and Laboratory Control Samples:** The recoveries and RPDs (radium-226, radium-228, strontium-90) were within laboratory-established control limits.
- **Laboratory Duplicates:** No laboratory duplicate analyses were performed on the sample in this SDG.

- **Matrix Spike/Matrix Spike Duplicate:** A matrix spike analysis was performed on the sample in this SDG for tritium. The recovery was within the laboratory-established control limits. Method accuracy for the remaining methods was evaluated based on the LCS results.
- **Sample Result Verification:** An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

The reviewer noted that the total uranium preparation log was not signed as reviewed.

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

# Validated Sample Result Forms ITB2186

## Analysis Method ASTM 5174-91

Sample Name OUTFALL 009 (COMPO Matrix Type: WATER Validation Level: IV

Lab Sample Name: ITB2186-02 Sample Date: 2/20/2010 7:36:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.472	0.693	0.21	pCi/L	Jb	R	B, H

## Analysis Method EPA 245.1

Sample Name OUTFALL 009 (COMPO Matrix Type: Water Validation Level: IV

Lab Sample Name: ITB2186-02 Sample Date: 2/20/2010 7:36:00 AM

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

## Analysis Method EPA 245.1-Diss

Sample Name OUTFALL 009 (COMPO Matrix Type: Water Validation Level: IV

Lab Sample Name: ITB2186-02 Sample Date: 2/20/2010 7:36:00 AM

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

## Analysis Method EPA 900.0 MOD

Sample Name OUTFALL 009 (COMPO Matrix Type: WATER Validation Level: IV

Lab Sample Name: ITB2186-02 Sample Date: 2/20/2010 7:36:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	0.74	3	1.3	pCi/L	U	UJ	C, H
Gross Beta	12587-47-2	1.67	4	1	pCi/L	Jb	J	H, DNQ

## Analysis Method EPA 901.1 MOD

Sample Name OUTFALL 009 (COMPO Matrix Type: WATER Validation Level: IV

Lab Sample Name: ITB2186-02 Sample Date: 2/20/2010 7:36:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	-10	20	20	pCi/L	U	U	
Potassium 40	13966-00-2	-100	0	200	pCi/L	U	U	

*Analysis Method*    *EPA 903.0 MOD*

**Sample Name**    OUTFALL 009 (COMPO    **Matrix Type:**    WATER    **Validation Level:**    IV

**Lab Sample Name:**    ITB2186-02    **Sample Date:**    2/20/2010 7:36:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Radium (226)	13982-63-3	0.116	1	0.065	pCi/L	Jb	J	C, *III, DNQ

*Analysis Method*    *EPA 904 MOD*

**Sample Name**    OUTFALL 009 (COMPO    **Matrix Type:**    WATER    **Validation Level:**    IV

**Lab Sample Name:**    ITB2186-02    **Sample Date:**    2/20/2010 7:36:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Radium 228	15262-20-1	0.3	1	0.59	pCi/L	U	UJ	*III

*Analysis Method*    *EPA 905 MOD*

**Sample Name**    OUTFALL 009 (COMPO    **Matrix Type:**    WATER    **Validation Level:**    IV

**Lab Sample Name:**    ITB2186-02    **Sample Date:**    2/20/2010 7:36:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Strontium 90	10098-97-2	0.4	3	0.53	pCi/L	U	U	

*Analysis Method*    *EPA 906.0 MOD*

**Sample Name**    OUTFALL 009 (COMPO    **Matrix Type:**    WATER    **Validation Level:**    IV

**Lab Sample Name:**    ITB2186-02    **Sample Date:**    2/20/2010 7:36:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Tritium	10028-17-8	82	500	140	pCi/L	U	U	

*Analysis Method EPA-5 1613B*

**Sample Name**      OUTFALL 009 (COMPO **Matrix Type:** WATER      **Validation Level:** IV  
**Lab Sample Name:**    ITB2186-02      **Sample Date:** 2/20/2010 7:36:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.000049	0.0000017	ug/L	J, B	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	3.5e-006	0.0000013	ug/L	J, Q, B	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000049	0.0000022	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000049	0.0000011	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000049	0.0000007	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	9.2e-007	0.0000009	ug/L	J, Q, B	U	B
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000049	0.0000006	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.000049	0.0000008	ug/L		U	
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000049	0.0000009	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000049	0.0000005	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000049	0.0000003	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000049	0.0000006	ug/L		U	
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000049	0.0000004	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.0000098	0.0000000	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.0000098	0.0000000	ug/L		U	
OCDD	3268-87-9	0.00014	0.000098	0.0000012	ug/L	B		
OCDF	39001-02-0	ND	6.7e-006	0.0000007	ug/L	J, Q, B	U	B
Total HpCDD	37871-00-4	ND	0.000049	0.0000017	ug/L	J, B	U	B
Total HpCDF	38998-75-3	7.7e-006	7.7e-006	0.0000013	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDD	34465-46-8	2.3e-006	2.3e-006	0.0000008	ug/L	J, Q, B	J	B, DNQ, *III
Total HxCDF	55684-94-1	1.5e-006	1.5e-006	0.0000006	ug/L	J, Q, B	J	B, DNQ, *III
Total PeCDD	36088-22-9	ND	0.000049	0.0000005	ug/L		U	
Total PeCDF	30402-15-4	ND	0.000049	0.0000000	ug/L		U	
Total TCDD	41903-57-5	ND	0.0000098	0.0000000	ug/L		U	
Total TCDF	55722-27-5	ND	0.0000098	0.0000000	ug/L		U	

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# **APPENDIX G**

## **Section 42**

Outfall 009 – February 20, 2010

Test America Analytical Laboratory Report

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## LABORATORY REPORT

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

Project: Routine Outfall 009

Sampled: 02/20/10  
Received: 02/20/10  
Issued: 03/19/10 16:37

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

*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(s) of Custody, 2 pages, are included and are an integral part of this report.*

*This entire report was reviewed and approved for release.*

### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 4°C, on ice and with chain of custody documentation.

**HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

**PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.

**QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.

**COMMENTS:** Results that fall between the MDL and RL are 'J' flagged.

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

**ADDITIONAL INFORMATION:** Complete final report.

#### LABORATORY ID

ITB2186-01  
ITB2186-02

#### CLIENT ID

OUTFALL 009 (GRAB)  
OUTFALL 009 (COMPOSITE)

#### MATRIX

Water  
Water

Reviewed By:



**TestAmerica Irvine**

Kathleen A. Robb For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10

Received: 02/20/10

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-01 (OUTFALL 009 (GRAB) - Water)</b>									
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	10C0035	1.3	4.8	ND	1	03/01/10	03/01/10	

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
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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MWH-Pasadena/Boeing  
 618 Michillinda Avenue, Suite 200  
 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10

Received: 02/20/10

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: ug/l									
Mercury	EPA 245.1	10B3105	0.10	0.20	ND	1	02/25/10	02/25/10	
<b>Antimony</b>	EPA 200.8	10B2838	0.30	2.0	<b>0.74</b>	1	02/23/10	02/26/10	J
Cadmium	EPA 200.8	10B2838	0.10	1.0	ND	1	02/23/10	02/26/10	
<b>Copper</b>	EPA 200.8	10B2838	0.50	2.0	<b>2.9</b>	1	02/23/10	02/26/10	
Lead	EPA 200.8	10B2838	0.20	1.0	ND	1	02/23/10	02/26/10	
Thallium	EPA 200.8	10B2838	0.20	1.0	ND	1	02/23/10	02/26/10	

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
 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 009

Report Number: ITB2186

Sampled: 02/20/10  
 Received: 02/20/10

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: ug/l									
Mercury	EPA 245.1-Diss	10B2963	0.10	0.20	ND	1	02/24/10	02/24/10	
<b>Antimony</b>	EPA 200.8-Diss	10B2705	0.30	2.0	<b>0.59</b>	1	02/22/10	02/23/10	J
Cadmium	EPA 200.8-Diss	10B2705	0.10	1.0	ND	1	02/22/10	02/23/10	
<b>Copper</b>	EPA 200.8-Diss	10B2705	0.50	2.0	<b>1.9</b>	1	02/22/10	02/23/10	J
Lead	EPA 200.8-Diss	10B2705	0.20	1.0	ND	1	02/22/10	02/23/10	C
Thallium	EPA 200.8-Diss	10B2705	0.20	1.0	ND	1	02/22/10	02/23/10	C

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

Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10  
 Received: 02/20/10

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: mg/l									
Chloride	EPA 300.0	10B2502	0.25	0.50	<b>12</b>	1	02/20/10	02/20/10	
Nitrate/Nitrite-N	EPA 300.0	10B2502	0.15	0.26	<b>0.29</b>	1	02/20/10	02/20/10	
Sulfate	EPA 300.0	10B2502	0.20	0.50	<b>20</b>	1	02/20/10	02/20/10	
Total Dissolved Solids	SM2540C	10B2723	1.0	10	<b>160</b>	1	02/23/10	02/23/10	
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	10B2593	0.90	4.0	ND	1	02/22/10	02/22/10	

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## ASTM 5174-91

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: pCi/L									
Total Uranium	ASTM 5174-91	67296	0.21	0.693	<b>0.472</b>	1	03/10/10	03/12/10	Jb

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## EPA 900.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: pCi/L									
Gross Alpha	EPA 900.0 MOD	62110	1.3	3	<b>0.74</b>	1	03/03/10	03/07/10	U
Gross Beta	EPA 900.0 MOD	62110	1	4	<b>1.67</b>	1	03/03/10	03/07/10	Jb

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## EPA 901.1 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
<b>Reporting Units: pCi/L</b>									
Cesium 137	EPA 901.1 MOD	55101	20	20	-10	1	02/24/10	03/12/10	U
Potassium 40	EPA 901.1 MOD	55101	200	NA	-100	1	02/24/10	03/12/10	U

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## EPA 903.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: pCi/L									
Radium (226)	EPA 903.0 MOD	55153	0.065	1	<b>0.116</b>	1	02/24/10	03/19/10	Jb

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## EPA 904 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: pCi/L									
<b>Radium 228</b>	EPA 904 MOD	55154	0.59	1	<b>0.3</b>	1	02/24/10	03/12/10	U

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Received: 02/20/10

## EPA 905 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: pCi/L									
Strontium 90	EPA 905 MOD	55155	0.53	3	0.4	1	02/24/10	03/05/10	U

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Sampled: 02/20/10

Received: 02/20/10

## EPA 906.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Water)</b>									
Reporting Units: pCi/L									
Tritium	EPA 906.0 MOD	61038	140	500	82	1	03/02/10	03/03/10	U

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Sampled: 02/20/10  
Received: 02/20/10

## EPA-5 1613B

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE)) - Water)</b>									
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	57116	0.0000017	0.000049	1.1e-005	0.98	02/26/10	03/01/10	J, B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	57116	0.0000013	0.000049	3.5e-006	0.98	02/26/10	03/01/10	J, Q, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	57116	0.0000022	0.000049	ND	0.98	02/26/10	03/01/10	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	57116	0.0000011	0.000049	ND	0.98	02/26/10	03/01/10	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	57116	0.0000072	0.000049	ND	0.98	02/26/10	03/01/10	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	57116	0.0000009	0.000049	9.2e-007	0.98	02/26/10	03/01/10	J, Q, B
1,2,3,6,7,8-HxCDF	EPA-5 1613B	57116	0.0000068	0.000049	ND	0.98	02/26/10	03/01/10	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	57116	0.0000088	0.000049	ND	0.98	02/26/10	03/01/10	
1,2,3,7,8,9-HxCDF	EPA-5 1613B	57116	0.0000009	0.000049	ND	0.98	02/26/10	03/01/10	
1,2,3,7,8-PeCDD	EPA-5 1613B	57116	0.0000056	0.000049	ND	0.98	02/26/10	03/01/10	
1,2,3,7,8-PeCDF	EPA-5 1613B	57116	0.0000036	0.000049	ND	0.98	02/26/10	03/01/10	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	57116	0.0000066	0.000049	ND	0.98	02/26/10	03/01/10	
2,3,4,7,8-PeCDF	EPA-5 1613B	57116	0.0000044	0.000049	ND	0.98	02/26/10	03/01/10	
2,3,7,8-TCDD	EPA-5 1613B	57116	0.00000030	0.000098	ND	0.98	02/26/10	03/01/10	
2,3,7,8-TCDF	EPA-5 1613B	57116	0.00000020	0.000098	ND	0.98	02/26/10	03/01/10	
OCDD	EPA-5 1613B	57116	0.0000012	0.000098	0.00014	0.98	02/26/10	03/01/10	B
OCDF	EPA-5 1613B	57116	0.0000077	0.000098	6.7e-006	0.98	02/26/10	03/01/10	J, Q, B
Total HpCDD	EPA-5 1613B	57116	0.0000017	0.000049	3.1e-005	0.98	02/26/10	03/01/10	J, B
Total HpCDF	EPA-5 1613B	57116	0.0000013	0.000049	7.7e-006	0.98	02/26/10	03/01/10	J, Q, B
Total HxCDD	EPA-5 1613B	57116	0.0000088	0.000049	2.3e-006	0.98	02/26/10	03/01/10	J, Q, B
Total HxCDF	EPA-5 1613B	57116	0.0000066	0.000049	1.5e-006	0.98	02/26/10	03/01/10	J, Q, B
Total PeCDD	EPA-5 1613B	57116	0.0000056	0.000049	ND	0.98	02/26/10	03/01/10	
Total PeCDF	EPA-5 1613B	57116	0.0000004	0.000049	ND	0.98	02/26/10	03/01/10	
Total TCDD	EPA-5 1613B	57116	0.00000030	0.000098	ND	0.98	02/26/10	03/01/10	
Total TCDF	EPA-5 1613B	57116	0.00000020	0.000098	ND	0.98	02/26/10	03/01/10	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%) 69 %  
 Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%) 68 %  
 Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%) 62 %  
 Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%) 61 %  
 Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%) 61 %  
 Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%) 67 %  
 Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%) 67 %  
 Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%) 64 %  
 Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%) 60 %  
 Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%) 60 %  
 Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%) 66 %  
 Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%) 57 %  
 Surrogate: 13C-2,3,7,8-TCDD (25-164%) 60 %  
 Surrogate: 13C-2,3,7,8-TCDF (24-169%) 61 %  
 Surrogate: 13C-OCDD (17-157%) 65 %  
 Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%) 90 %

### TestAmerica Irvine

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Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10

Received: 02/20/10

## 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 009 (COMPOSITE) (ITB2186-02) - Water</b>					
EPA 300.0	2	02/20/2010 07:36	02/20/2010 14:38	02/20/2010 15:00	02/20/2010 15:31
Filtration	1	02/20/2010 07:36	02/20/2010 14:38	02/20/2010 17:15	02/20/2010 17:15

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## METHOD BLANK/QC DATA

### HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C0035 Extracted: 03/01/10</b>											
<b>Blank Analyzed: 03/01/2010 (10C0035-BLK1)</b>											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
<b>LCS Analyzed: 03/01/2010 (10C0035-BS1)</b>											
Hexane Extractable Material (Oil & Grease)	20.3	5.0	1.4	mg/l	20.0		102	78-114			MNR1
<b>LCS Dup Analyzed: 03/01/2010 (10C0035-BSD1)</b>											
Hexane Extractable Material (Oil & Grease)	20.7	5.0	1.4	mg/l	20.0		104	78-114	2	11	

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## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10B2838 Extracted: 02/23/10</b>											
<b>Blank Analyzed: 02/25/2010 (10B2838-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 02/25/2010 (10B2838-BS1)</b>											
Antimony	83.6	2.0	0.30	ug/l	80.0		105	85-115			
Cadmium	82.5	1.0	0.10	ug/l	80.0		103	85-115			
Copper	85.9	2.0	0.50	ug/l	80.0		107	85-115			
Lead	82.4	1.0	0.20	ug/l	80.0		103	85-115			
Thallium	81.8	1.0	0.20	ug/l	80.0		102	85-115			
<b>Matrix Spike Analyzed: 02/25/2010 (10B2838-MS1) Source: ITB1988-01</b>											
Antimony	85.9	2.0	0.30	ug/l	80.0	0.392	107	70-130			
Cadmium	81.9	1.0	0.10	ug/l	80.0	ND	102	70-130			
Copper	97.9	2.0	0.50	ug/l	80.0	9.13	111	70-130			
Lead	78.6	1.0	0.20	ug/l	80.0	1.00	97	70-130			
Thallium	77.4	1.0	0.20	ug/l	80.0	ND	97	70-130			
<b>Matrix Spike Analyzed: 02/25/2010 (10B2838-MS2) Source: ITB2030-01</b>											
Antimony	85.0	2.0	0.30	ug/l	80.0	0.306	106	70-130			
Cadmium	81.1	1.0	0.10	ug/l	80.0	ND	101	70-130			
Copper	81.0	2.0	0.50	ug/l	80.0	2.67	98	70-130			
Lead	81.0	1.0	0.20	ug/l	80.0	ND	101	70-130			
Thallium	81.8	1.0	0.20	ug/l	80.0	ND	102	70-130			
<b>Matrix Spike Dup Analyzed: 02/25/2010 (10B2838-MSD1) Source: ITB1988-01</b>											
Antimony	86.9	2.0	0.30	ug/l	80.0	0.392	108	70-130	1	20	
Cadmium	82.2	1.0	0.10	ug/l	80.0	ND	103	70-130	0.4	20	
Copper	93.6	2.0	0.50	ug/l	80.0	9.13	106	70-130	4	20	
Lead	81.3	1.0	0.20	ug/l	80.0	1.00	100	70-130	3	20	
Thallium	80.1	1.0	0.20	ug/l	80.0	ND	100	70-130	3	20	

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## 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: 10B3105 Extracted: 02/25/10</b>											
<b>Blank Analyzed: 02/25/2010 (10B3105-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 02/25/2010 (10B3105-BS1)</b>											
Mercury	7.51	0.20	0.10	ug/l	8.00		94	85-115			
<b>Matrix Spike Analyzed: 02/25/2010 (10B3105-MS1)</b>											
						<b>Source: ITB2155-01</b>					
Mercury	7.44	0.20	0.10	ug/l	8.00	ND	93	70-130			
<b>Matrix Spike Dup Analyzed: 02/25/2010 (10B3105-MSD1)</b>											
						<b>Source: ITB2155-01</b>					
Mercury	7.64	0.20	0.10	ug/l	8.00	ND	96	70-130	3	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10B2705 Extracted: 02/22/10</b>											
<b>Blank Analyzed: 02/23/2010 (10B2705-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 02/23/2010 (10B2705-BS1)</b>											
Antimony	73.5	2.0	0.30	ug/l	80.0		92	85-115			
Cadmium	75.8	1.0	0.10	ug/l	80.0		95	85-115			
Copper	82.3	2.0	0.50	ug/l	80.0		103	85-115			
Lead	85.6	1.0	0.20	ug/l	80.0		107	85-115			
Thallium	88.6	1.0	0.20	ug/l	80.0		111	85-115			
<b>Matrix Spike Analyzed: 02/23/2010 (10B2705-MS1) Source: ITB1886-01</b>											
Antimony	76.6	2.0	0.30	ug/l	80.0	ND	96	70-130			
Cadmium	74.3	1.0	0.10	ug/l	80.0	ND	93	70-130			
Copper	80.3	2.0	0.50	ug/l	80.0	1.28	99	70-130			
Lead	79.4	1.0	0.20	ug/l	80.0	0.445	99	70-130			
Thallium	83.1	1.0	0.20	ug/l	80.0	ND	104	70-130			
<b>Matrix Spike Analyzed: 02/23/2010 (10B2705-MS2) Source: ITB1774-03</b>											
Antimony	73.8	2.0	0.30	ug/l	80.0	ND	92	70-130			
Cadmium	73.8	1.0	0.10	ug/l	80.0	ND	92	70-130			
Copper	84.9	2.0	0.50	ug/l	80.0	4.26	101	70-130			
Lead	82.7	1.0	0.20	ug/l	80.0	0.324	103	70-130			
Thallium	85.7	1.0	0.20	ug/l	80.0	ND	107	70-130			
<b>Matrix Spike Dup Analyzed: 02/23/2010 (10B2705-MSD1) Source: ITB1886-01</b>											
Antimony	76.0	2.0	0.30	ug/l	80.0	ND	95	70-130	0.7	20	
Cadmium	75.0	1.0	0.10	ug/l	80.0	ND	94	70-130	0.9	20	
Copper	82.6	2.0	0.50	ug/l	80.0	1.28	102	70-130	3	20	
Lead	80.4	1.0	0.20	ug/l	80.0	0.445	100	70-130	1	20	
Thallium	83.1	1.0	0.20	ug/l	80.0	ND	104	70-130	0.05	20	

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Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10  
 Received: 02/20/10

## 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: 10B2963 Extracted: 02/24/10</b>											
<b>Blank Analyzed: 02/24/2010 (10B2963-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 02/24/2010 (10B2963-BS1)</b>											
Mercury	8.36	0.20	0.10	ug/l	8.00		104	85-115			
<b>Matrix Spike Analyzed: 02/24/2010 (10B2963-MS1)</b>											
						<b>Source: ITB2365-01</b>					
Mercury	8.21	0.20	0.10	ug/l	8.00	ND	103	70-130			
<b>Matrix Spike Dup Analyzed: 02/24/2010 (10B2963-MSD1)</b>											
						<b>Source: ITB2365-01</b>					
Mercury	8.21	0.20	0.10	ug/l	8.00	ND	103	70-130	0.02	20	

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## 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: 10B2502 Extracted: 02/20/10</b>											
<b>Blank Analyzed: 02/20/2010 (10B2502-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: 02/20/2010 (10B2502-BS1)</b>											
Chloride	4.74	0.50	0.25	mg/l	5.00		95	90-110			
Sulfate	9.75	0.50	0.20	mg/l	10.0		98	90-110			
<b>Matrix Spike Analyzed: 02/20/2010 (10B2502-MS1)</b>											
						<b>Source: ITB2033-01</b>					
Chloride	215	10	5.0	mg/l	50.0	168	95	80-120			
Sulfate	673	10	4.0	mg/l	100	582	92	80-120			MHA
<b>Matrix Spike Dup Analyzed: 02/20/2010 (10B2502-MSD1)</b>											
						<b>Source: ITB2033-01</b>					
Chloride	217	10	5.0	mg/l	50.0	168	98	80-120	0.7	20	
Sulfate	676	10	4.0	mg/l	100	582	94	80-120	0.4	20	MHA
<b>Batch: 10B2593 Extracted: 02/22/10</b>											
<b>Blank Analyzed: 02/22/2010 (10B2593-BLK1)</b>											
Perchlorate	ND	4.0	0.90	ug/l							
<b>LCS Analyzed: 02/22/2010 (10B2593-BS1)</b>											
Perchlorate	23.6	4.0	0.90	ug/l	25.0		94	85-115			
<b>Matrix Spike Analyzed: 02/22/2010 (10B2593-MS1)</b>											
						<b>Source: ITB2054-01</b>					
Perchlorate	26.4	4.0	0.90	ug/l	25.0	2.12	97	80-120			

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 10B2593 Extracted: 02/22/10</u></b>											
<b>Matrix Spike Dup Analyzed: 02/22/2010 (10B2593-MSD1)</b>						<b>Source: ITB2054-01</b>					
Perchlorate	26.6	4.0	0.90	ug/l	25.0	2.12	98	80-120	0.7	20	
<b><u>Batch: 10B2723 Extracted: 02/23/10</u></b>											
<b>Blank Analyzed: 02/23/2010 (10B2723-BLK1)</b>											
Total Dissolved Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 02/23/2010 (10B2723-BS1)</b>											
Total Dissolved Solids	1000	10	1.0	mg/l	1000		100	90-110			
<b>Duplicate Analyzed: 02/23/2010 (10B2723-DUP1)</b>						<b>Source: ITB2031-02</b>					
Total Dissolved Solids	315	10	1.0	mg/l		313			0.6	10	

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## METHOD BLANK/QC DATA

### ASTM 5174-91

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 67296 Extracted: 03/10/10</b>											
<b>Matrix Spike Dup Analyzed: 03/12/2010 (F0B230452001D)</b>						<b>Source: F0B230452001</b>					
Total Uranium	26.9	0.7	0.2	pCi/L	27.7	0.677	95	62-150	4	20	
<b>Matrix Spike Analyzed: 03/12/2010 (F0B230452001S)</b>						<b>Source: F0B230452001</b>					
Total Uranium	28.1	0.7	0.2	pCi/L	27.7	0.677	99	62-150			
<b>Blank Analyzed: 03/12/2010 (F0C080000296B)</b>						<b>Source:</b>					
Total Uranium	0.315	0.693	0.21	pCi/L				-			Jb
<b>LCS Analyzed: 03/12/2010 (F0C080000296C)</b>						<b>Source:</b>					
Total Uranium	28.6	0.7	0.2	pCi/L	27.7		103	90-120			

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## METHOD BLANK/QC DATA

### EPA 900.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 62110 Extracted: 03/03/10</b>											
<b>Matrix Spike Analyzed: 03/07/2010 (F0B230452001S)</b>						<b>Source: F0B230452001</b>					
Gross Alpha	45.6	3	2	pCi/L	52	-0.12	88	35-150			
Gross Beta	84.5	4	1.2	pCi/L	71.6	3.5	113	54-150			
<b>Duplicate Analyzed: 03/07/2010 (F0B230452001X)</b>						<b>Source: F0B230452001</b>					
Gross Alpha	0.8	3	2.1	pCi/L		-0.12		-			U
Gross Beta	2.12	4	1.2	pCi/L		3.5		-			Jb
<b>Blank Analyzed: 03/08/2010 (F0C030000110B)</b>						<b>Source:</b>					
Gross Alpha	0.25	2	0.79	pCi/L				-			U
Gross Beta	-0.44	4	1.5	pCi/L				-			U
<b>LCS Analyzed: 03/08/2010 (F0C030000110C)</b>						<b>Source:</b>					
Gross Alpha	49.2	3	0.9	pCi/L	49.4		100	62-134			
Gross Beta	70	4	1.5	pCi/L	68		103	58-133			

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## METHOD BLANK/QC DATA

### EPA 901.1 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 55101 Extracted: 02/24/10</b>											
<b>Duplicate Analyzed: 03/12/2010 (F0B230452001X)</b>						<b>Source: F0B230452001</b>					
Cesium 137	-1.6	20	15	pCi/L		-1		-			U
Potassium 40	-20	NA	240	pCi/L		-30		-			U
<b>Blank Analyzed: 03/11/2010 (F0B240000101B)</b>						<b>Source:</b>					
Cesium 137	-4	20	19	pCi/L				-			U
Potassium 40	-10	NA	220	pCi/L				-			U
<b>LCS Analyzed: 03/12/2010 (F0B240000101C)</b>						<b>Source:</b>					
Americium 241	142000	NA	600	pCi/L	141000		101	87-110			
Cobalt 60	86900	NA	200	pCi/L	87900		99	89-110			
Cesium 137	52800	20	300	pCi/L	53100		99	90-110			

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## METHOD BLANK/QC DATA

### EPA 903.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 55153 Extracted: 02/24/10</b>											
<b>Blank Analyzed: 03/19/2010 (F0B240000153B)</b>						<b>Source:</b>					
Radium (226)	0.04	1	0.055	pCi/L				-			U
<b>LCS Analyzed: 03/19/2010 (F0B240000153C)</b>						<b>Source:</b>					
Radium (226)	11.8	1	0.06	pCi/L	11.3		105	68-136			
<b>LCS Dup Analyzed: 03/19/2010 (F0B240000153L)</b>						<b>Source:</b>					
Radium (226)	11.4	1	0.06	pCi/L	11.3		102	68-136	3	40	

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## METHOD BLANK/QC DATA

### EPA 904 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 55154 Extracted: 02/24/10</b>											
<b>Blank Analyzed: 03/12/2010 (F0B240000154B)</b>						<b>Source:</b>					
Radium 228	-0.02	1	0.57	pCi/L				-			U
<b>LCS Analyzed: 03/12/2010 (F0B240000154C)</b>						<b>Source:</b>					
Radium 228	5.73	1	0.54	pCi/L	6.38		90	60-142			
<b>LCS Dup Analyzed: 03/12/2010 (F0B240000154L)</b>						<b>Source:</b>					
Radium 228	6.46	1	0.58	pCi/L	6.38		101	60-142	12	40	

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## METHOD BLANK/QC DATA

### EPA 905 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 55155 Extracted: 02/24/10</b>											
<b>Blank Analyzed: 03/05/2010 (F0B240000155B)</b>											
Strontium 90	-0.03	3	0.46	pCi/L				-			U
<b>LCS Analyzed: 03/05/2010 (F0B240000155C)</b>											
Strontium 90	7.04	3	0.47	pCi/L	6.79		104	80-130			
<b>LCS Dup Analyzed: 03/05/2010 (F0B240000155L)</b>											
Strontium 90	7.2	3	0.46	pCi/L	6.79		106	80-130	2	40	

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## METHOD BLANK/QC DATA

### EPA 906.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 61038 Extracted: 03/02/10</b>											
<b>Duplicate Analyzed: 03/03/2010 (F0B230452001X)</b>						<b>Source: F0B230452001</b>					
Tritium	-46	500	140	pCi/L		-79		-			U
<b>Matrix Spike Analyzed: 03/03/2010 (F0B230454001S)</b>						<b>Source: ITB2186-02</b>					
Tritium	4210	500	140	pCi/L	4520	82	91	62-147			
<b>Blank Analyzed: 03/03/2010 (F0C020000038B)</b>						<b>Source:</b>					
Tritium	112	500	140	pCi/L				-			U
<b>LCS Analyzed: 03/03/2010 (F0C020000038C)</b>						<b>Source:</b>					
Tritium	4270	500	140	pCi/L	4520		94	85-112			

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## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
<b>Batch: 57116 Extracted: 02/26/10</b>										
<b>Blank Analyzed: 03/01/2010 (G0B260000116B)</b>					<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.000096	0.00005	0.000017	ug/L			-			J
1,2,3,4,6,7,8-HpCDF	0.000086	0.00005	0.000023	ug/L			-			J, Q
1,2,3,4,7,8,9-HpCDF	0.000082	0.00005	0.000038	ug/L			-			J
1,2,3,4,7,8-HxCDD	0.000049	0.00005	0.000007	ug/L			-			J
1,2,3,4,7,8-HxCDF	0.000047	0.00005	0.000011	ug/L			-			J
1,2,3,6,7,8-HxCDD	0.000043	0.00005	0.0000062	ug/L			-			J
1,2,3,6,7,8-HxCDF	0.000044	0.00005	0.0000097	ug/L			-			J
1,2,3,7,8,9-HxCDD	0.000055	0.00005	0.0000059	ug/L			-			J
1,2,3,7,8,9-HxCDF	0.000056	0.00005	0.000012	ug/L			-			J
1,2,3,7,8-PeCDD	0.000021	0.00005	0.000006	ug/L			-			J, Q
1,2,3,7,8-PeCDF	0.0000091	0.00005	0.0000031	ug/L			-			J, Q
2,3,4,6,7,8-HxCDF	0.000058	0.00005	0.0000097	ug/L			-			J
2,3,4,7,8-PeCDF	0.000033	0.00005	0.0000037	ug/L			-			J
2,3,7,8-TCDD	ND	0.00001	0.0000003	ug/L			-			
2,3,7,8-TCDF	ND	0.00001	0.0000094	ug/L			-			
OCDD	0.000028	0.0001	0.000015	ug/L			-			J, Q
OCDF	0.00002	0.0001	0.000013	ug/L			-			J
Total HpCDD	0.000012	0.00005	0.000017	ug/L			-			J, Q
Total HpCDF	0.000017	0.00005	0.000023	ug/L			-			J, Q
Total HxCDD	0.000015	0.00005	0.0000059	ug/L			-			J
Total HxCDF	0.000021	0.00005	0.0000097	ug/L			-			J
Total PeCDD	0.000021	0.00005	0.000006	ug/L			-			J, Q
Total PeCDF	0.000042	0.00005	0.0000037	ug/L			-			J, Q
Total TCDD	ND	0.00001	0.0000003	ug/L			-			
Total TCDF	ND	0.00001	0.0000094	ug/L			-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0018			ug/L	0.002		89	23-140		
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0018			ug/L	0.002		88	28-143		
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0016			ug/L	0.002		81	26-138		
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0016			ug/L	0.002		78	32-141		
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0017			ug/L	0.002		83	26-152		
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0017			ug/L	0.002		86	28-130		
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0016			ug/L	0.002		82	26-123		
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0017			ug/L	0.002		83	29-147		
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0016			ug/L	0.002		78	25-181		
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0016			ug/L	0.002		78	24-185		

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## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 57116 Extracted: 02/26/10</b>											
<b>Blank Analyzed: 03/01/2010 (G0B260000116B)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0017			ug/L	0.002		86	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0015			ug/L	0.002		74	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0015			ug/L	0.002		75	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0015			ug/L	0.002		74	24-169			
Surrogate: 13C-OCDD	0.0034			ug/L	0.004		85	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00073			ug/L	0.0008		91	35-197			
<b>LCS Analyzed: 03/01/2010 (G0B260000116C)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00102	0.00005	0.0000042	ug/L	0.001		102	70-140			B
1,2,3,4,6,7,8-HpCDF	0.00105	0.00005	0.0000065	ug/L	0.001		105	82-122			B
1,2,3,4,7,8,9-HpCDF	0.00112	0.00005	0.0000011	ug/L	0.001		112	78-138			B
1,2,3,4,7,8-HxCDD	0.00106	0.00005	0.00000088	ug/L	0.001		106	70-164			B
1,2,3,4,7,8-HxCDF	0.0011	0.00005	0.00000088	ug/L	0.001		110	72-134			B
1,2,3,6,7,8-HxCDD	0.000966	0.00005	0.00000075	ug/L	0.001		97	76-134			B
1,2,3,6,7,8-HxCDF	0.00108	0.00005	0.0000008	ug/L	0.001		108	84-130			B
1,2,3,7,8,9-HxCDD	0.00106	0.00005	0.00000072	ug/L	0.001		106	64-162			B
1,2,3,7,8,9-HxCDF	0.00104	0.00005	0.00000093	ug/L	0.001		104	78-130			B
1,2,3,7,8-PeCDD	0.000998	0.00005	0.0000002	ug/L	0.001		100	70-142			B
1,2,3,7,8-PeCDF	0.00106	0.00005	0.0000016	ug/L	0.001		106	80-134			B
2,3,4,6,7,8-HxCDF	0.00105	0.00005	0.00000078	ug/L	0.001		105	70-156			B
2,3,4,7,8-PeCDF	0.00113	0.00005	0.0000019	ug/L	0.001		113	68-160			B
2,3,7,8-TCDD	0.000194	0.00001	0.00000002	ug/L	0.0002		97	67-158			
2,3,7,8-TCDF	0.000198	0.00001	0.00000034	ug/L	0.0002		99	75-158			
OCDD	0.00203	0.0001	0.0000004	ug/L	0.002		102	78-144			B
OCDF	0.00196	0.0001	0.00000024	ug/L	0.002		98	63-170			B
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00191			ug/L	0.002		96	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00183			ug/L	0.002		92	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00174			ug/L	0.002		87	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00173			ug/L	0.002		87	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00168			ug/L	0.002		84	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00167			ug/L	0.002		84	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00166			ug/L	0.002		83	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0018			ug/L	0.002		90	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00175			ug/L	0.002		87	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0017			ug/L	0.002		85	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00179			ug/L	0.002		90	22-176			

#### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10  
 Received: 02/20/10

## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 57116 Extracted: 02/26/10</b>											
<b>LCS Analyzed: 03/01/2010 (G0B260000116C)</b>											
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00161			ug/L	0.002		80	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.00165			ug/L	0.002		82	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00166			ug/L	0.002		83	22-152			
Surrogate: 13C-OCDD	0.0038			ug/L	0.004		95	13-199			
Surrogate: 37Cl-2,3,7,8-TCDD	0.000771			ug/L	0.0008		96	31-191			

**TestAmerica Irvine**

Kathleen A. Robb For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10  
Received: 02/20/10

## DATA QUALIFIERS AND DEFINITIONS

- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- Jb** Result is greater than sample detection limit but less than stated reporting limit.
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** Result is less than the sample detection limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager

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**ITB2186 <Page 32 of 34>**

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

Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10  
Received: 02/20/10

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
Filtration	Water	N/A	N/A
Level 4	Water		
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

#### TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Method Performed: ASTM 5174-91  
Samples: ITB2186-02

Method Performed: EPA 900.0 MOD  
Samples: ITB2186-02

Method Performed: EPA 901.1 MOD  
Samples: ITB2186-02

Method Performed: EPA 903.0 MOD  
Samples: ITB2186-02

Method Performed: EPA 904 MOD  
Samples: ITB2186-02

Method Performed: EPA 905 MOD  
Samples: ITB2186-02

Method Performed: EPA 906.0 MOD  
Samples: ITB2186-02

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2186

Sampled: 02/20/10

Received: 02/20/10

## TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B

Samples: ITB2186-02

## TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
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.*

**ITB2186 <Page 34 of 34>**

2TB2186

Client Name/Address: <b>MWH-Arcadia</b> 618 Michillinda Ave, Suite 200 Arcadia, CA 91007  Test America Contact: Joseph Doak				Project: Boeing-SSFL NPDES <b>Routine Outfall 009</b> <b>GRAB</b> Stormwater at WS-13				ANALYSIS REQUIRED														
Project Manager: Bronwyn Kelly  Sampler: <i>S Dawson</i> <i>V Northrup</i>				Phone Number: (626) 568-6691  Fax Number: (626) 568-6515				Field readings:  Temp °F = <i>46.8</i>  pH = <i>7.3</i>  Time of readings = <i>0800 2/20/10</i>  Comments														
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)															
Outfall 009	W	1L Amber	2	<i>2/20/10 1500</i>	HCl	1A, 1B	X															
<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); opacity: 0.5;"> <p><i>SD</i></p> </div> <div style="position: absolute; bottom: 10%; right: 10%; border: 1px solid black; border-radius: 50%; padding: 5px;"> <p><i>1500</i> <i>2/20/10</i> <i>HP</i></p> </div>																						
These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.																						
Relinquished By: <i>[Signature]</i> Date/Time: <i>2-20-10 12:45</i>				Received By: <i>[Signature]</i> Date/Time: <i>2-20-10 12:45</i>				Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: _____ Normal: <input checked="" type="checkbox"/>														
Relinquished By: <i>[Signature]</i> Date/Time: <i>2-20-10 14:30</i>				Received By: <i>[Signature]</i> Date/Time: <i>2/20/10 1438</i>				Sample Integrity: (Check) Intact: _____ On Ice: <input checked="" type="checkbox"/> <i>410°C</i>														
Relinquished By: _____ Date/Time: _____				Received By: _____ Date/Time: _____				Data Requirements: (Check) No Level IV: <input checked="" type="checkbox"/> All Level IV: <input checked="" type="checkbox"/> NPDES Level IV: <input checked="" type="checkbox"/>														

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007  Test America Contact: Joseph Doak				Project: Boeing-SSFL NPDES <b>Routine Outfall 009 COMPOSITE</b> Stormwater at WS-13			ANALYSIS REQUIRED										Comments  high flow							
Project Manager: Bronwyn Kelly Sampler: <i>S. Adams on V. Washburn</i>				Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate	TDS	Gross Alpha (900.0), Gross Beta (900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	Chromic Toxicity	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl											
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #																		
Outfall 009	W	1L Poly	1	2/20/10 0736	HNO <sub>3</sub>	2A	X																	
Outfall 009 Dup	W	1L Poly	1	2/20/10 0736	HNO <sub>3</sub>	2B	X																	
Outfall 009	W	1L Amber	2		None	3A, 3B		X																
Outfall 009	W	500 mL Poly	2		None	4A, 4B			X															
Outfall 009	W	500 mL Poly	1		None	5			X															
Outfall 009	W	2.5 Gal Cube	1	SD	None	6A					X											Unfiltered and unpreserved analysis		
		500 ml Amber	1		None	6B																		
<del>Outfall 009</del>	<del>W</del>	<del>1 Gal Poly</del>	<del>1</del>	<del></del>	<del>None</del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del></del>	<del>Only test if first or second rain events of the year</del>	
Outfall 009	W	1L Poly	1	2/20/10 0736	None	8																	Filter w/in 24hrs of receipt at lab	

COC Page 2 of 2 are the composite samples for Outfall 009 for this storm event.

These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By <i>[Signature]</i>	Date/Time: 2/20/10 12:45	Received By <i>[Signature]</i>	Date/Time: 2-20-10 12:45	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ 48 Hour: _____ 5 Day: _____ Normal: <input checked="" type="checkbox"/>
Relinquished By <i>[Signature]</i>	Date/Time: 2/20/10 14:30	Received By <i>[Signature]</i>	Date/Time: 2/20/10 1438	Sample Integrity: (Check) Intact: _____ On Ice: <input checked="" type="checkbox"/>
Relinquished By	Date/Time:	Received By	Date/Time:	Data Requirements: (Check) No Level IV: <input checked="" type="checkbox"/> All Level IV: <input checked="" type="checkbox"/> NPDES Level IV: <input checked="" type="checkbox"/>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

## ANALYTICAL REPORT

PROJECT NO. ITB2186

MWH-Pasadena Boeing

Lot #: F0B230454

Joseph Doak

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

TESTAMERICA LABORATORIES, INC.

  
Kay Clay  
Project Manager

March 19, 2010

Case Narrative  
LOT NUMBER: F0B230454

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on February 23, 2010. This sample is associated with your MWH-Pasadena Boeing project.

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

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

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

**Observations/Nonconformances**

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

**Radium-226 by GFPC (EPA 903.0 MOD)**

The barium carrier recovery is outside the upper control limit (110%). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference for Radium 226 analysis.

The barium sulfate yield is outside upper control limits which may cause a potential low bias result. The yield was truncated at 100% to eliminate a biased result.

**Affected Samples:**

F0B230454 (1): ITB2186-02

**Radium-228 by GFPC (EPA 904 MOD)**

The barium carrier recovery is outside the upper control limit (110%). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference for Radium 228 analysis.

The barium sulfate yield is outside upper control limits which may cause a potential low bias result. The yield was truncated at 100% to eliminate a biased result.

**Affected Samples:**

F0B230454 (1): ITB2186-02

**METHODS SUMMARY**

F0B230454

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

**References:**

ASTM Annual Book Of ASTM Standards.

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

**SAMPLE SUMMARY**

F0B230454

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LV01J	001	ITB2186-02	02/20/10	07:36

**NOTE (S) :**

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

## TestAmerica Irvine

Client Sample ID: ITB2186-02

## Radiochemistry

Lab Sample ID: FOB230454-001  
 Work Order: LV01J  
 Matrix: WATER

Date Collected: 02/20/10 0736  
 Date Received: 02/23/10 0910

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	mdc	Prep Date	Analysis Date
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
				pCi/L		Batch # 0055101	Yld %
Cesium 137	-10	U	510	20	20	02/24/10	03/12/10
Potassium 40	-100	U	4100		200	02/24/10	03/12/10
<b>Gross Alpha/Beta EPA 900</b>							
				pCi/L		Batch # 0062110	Yld %
Gross Alpha	0.74	U	0.84	3.00	1.3	03/03/10	03/07/10
Gross Beta	1.67	J	0.76	4.00	1.0	03/03/10	03/07/10
<b>SR-90 BY GFPC EPA-905 MOD</b>							
				pCi/L		Batch # 0055155	Yld % 77
Strontium 90	0.40	U	0.33	3.00	0.53	02/24/10	03/05/10
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
				pCi/L		Batch # 0061038	Yld %
Tritium	82	U	90	500	140	03/02/10	03/03/10
<b>Total Uranium by KPA ASTM 5174-91</b>							
				pCi/L		Batch # 0067296	Yld %
Total Uranium	0.472	J	0.056	0.693	0.21	03/10/10	03/12/10
<b>Radium 226 by EPA 903.0 MOD</b>							
				pCi/L		Batch # 0055153	Yld % 100
Radium (226)	0.116	J	0.059	1.00	0.065	02/24/10	03/19/10
<b>Radium 228 by GFPC EPA 904 MOD</b>							
				pCi/L		Batch # 0055154	Yld % 97
Radium 228	0.30	U	0.36	1.00	0.59	02/24/10	03/12/10

## NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC.

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

U Result is less than the sample detection limit.

## METHOD BLANK REPORT

## Radiochemistry

Client Lot ID: FOB230454  
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
			pCi/L	Batch #	0055101	Yld %	FOB240000-101B
Cesium 137	-4	U	11	20	19	02/24/10	03/11/10
Potassium 40	-10	U	150		220	02/24/10	03/11/10
<b>Radium 228 by GFPC EPA 904 MOD</b>							
			pCi/L	Batch #	0055154	Yld %	95 FOB240000-154B
Radium 228	-0.02	U	0.33	1.00	0.57	02/24/10	03/12/10
<b>SR-90 BY GFPC EPA-905 MOD</b>							
			pCi/L	Batch #	0055155	Yld %	84 FOB240000-155B
Strontium 90	-0.03	U	0.26	3.00	0.46	02/24/10	03/05/10
<b>Radium 226 by EPA 903.0 MOD</b>							
			pCi/L	Batch #	0055153	Yld %	96 FOB240000-153B
Radium (226)	0.040	U	0.037	1.00	0.055	02/24/10	03/19/10
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
			pCi/L	Batch #	0061038	Yld %	FOC020000-038B
Tritium	112	U	95	500	140	03/02/10	03/03/10
<b>Gross Alpha/Beta EPA 900</b>							
			pCi/L	Batch #	0062110	Yld %	FOC030000-110B
Gross Alpha	0.25	U	0.45	2.00	0.79	03/03/10	03/08/10
Gross Beta	-0.44	U	0.86	4.00	1.5	03/03/10	03/08/10
<b>Total Uranium by KPA ASTM 5174-91</b>							
			pCi/L	Batch #	0067296	Yld %	FOC080000-296B
Total Uranium	0.315	J	0.039	0.693	0.21	03/10/10	03/12/10

## NOTE(S)

Data are incomplete without the case narrative.

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

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

U Result is less than the sample detection limit.

## Laboratory Control Sample Report

## Radiochemistry

Client Lot ID: FOB230454  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>			pCi/L	901.1 MOD			FOB240000-101C
Americium 241	141000	142000	11000	600		101	(87 - 110)
Cesium 137	53100	52800	3100	300		99	(90 - 110)
Cobalt 60	87900	86900	4900	200		99	(89 - 110)
	Batch #:	0055101			Analysis Date:	03/12/10	
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>			pCi/L	906.0 MOD			FOC020000-038C
Tritium	4520	4270	450	140		94	(85 - 112)
	Batch #:	0061038			Analysis Date:	03/03/10	
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD			FOC030000-110C
Gross Alpha	49.4	49.2	5.4	0.9		100	(62 - 134)
	Batch #:	0062110			Analysis Date:	03/08/10	
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD			FOC030000-110C
Gross Beta	68.0	70.0	5.9	1.5		103	(58 - 133)
	Batch #:	0062110			Analysis Date:	03/08/10	
<b>Total Uranium by KPA ASTM 5174-91</b>			pCi/L	5174-91			FOC080000-296C
Total Uranium	27.7	28.6	3.5	0.2		103	(90 - 120)
	Batch #:	0067296			Analysis Date:	03/12/10	
<b>Total Uranium by KPA ASTM 5174-91</b>			pCi/L	5174-91			FOC080000-296C
Total Uranium	5.54	5.62	0.58	0.21		101	(90 - 120)
	Batch #:	0067296			Analysis Date:	03/12/10	

## NOTE(S)

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

## Laboratory Control Sample/LCS Duplicate Report

## Radiochemistry

Client Lot ID: FOB230454

Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	% Yld	% Rec	Lab Sample ID	
						QC Control Limits	Precision
Radium 228 by GFPC EPA 904 MOD			pCi/L	904 MOD		FOB240000-154C	
Radium 228	6.38	5.73	0.72	101	90	(60 - 142)	
Spk 2	6.38	6.46	0.79	96	101	(60 - 142) 12 %RPD	
Batch #: 0055154			Analysis Date: 03/12/10				
SR-90 BY GFPC EPA-905 MOD			pCi/L	905 MOD		FOB240000-155C	
Strontium 90	6.79	7.04	0.80	84	104	(80 - 130)	
Spk 2	6.79	7.20	0.80	87	106	(80 - 130) 2 %RPD	
Batch #: 0055155			Analysis Date: 03/05/10				
Radium 226 by EPA 903.0 MOD			pCi/L	903.0 MOD		FOB240000-153C	
Radium (226)	11.3	11.8	1.0	104	105	(68 - 136)	
Spk 2	11.3	11.4	0.99	96	102	(68 - 136) 3 %RPD	
Batch #: 0055153			Analysis Date: 03/19/10				

NOTE(S)

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

## MATRIX SPIKE REPORT

## Radiochemistry

Client Lot Id: FOB230452  
 Matrix: WATER

Date Sampled: 02/20/10  
 Date Received: 02/23/10

Parameter	Spike Amount	Spike Result	Total Uncert. (2 $\sigma$ +/-)	Spike Yld.	Sample Result	Total Uncert. (2 $\sigma$ +/-)	QC Sample ID		QC Control Limits
							%YLD	%REC	
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			FOB230452-001		
Gross Beta	71.6	84.5	7.1		3.5	1.0		113	(54 - 150)
	Batch #:	0062110		Analysis Date:		03/07/10			
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			FOB230452-001		
Gross Alpha	52.0	45.6	6.4		-0.12	0.90		88	(35 - 150)
	Batch #:	0062110		Analysis Date:		03/07/10			
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD			FOB230454-001		
Tritium	4520	4210	450		82	90		91	(62 - 147)
	Batch #:	0061038		Analysis Date:		03/03/10			

## NOTE(S)

Data are incomplete without the case narrative.

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Radiochemistry

Client Lot ID: FOB230452  
 Matrix: WATER

Date Sampled: 02/20/10 1349  
 Date Received: 02/23/10 0910

Parameter	Spike Amount	SPIKE Result	Total Uncert. (2σ +/-)	Spike Yld	SAMPLE Result	Total Uncert. (2σ +/-)	QC Sample ID		QC Control Limits
							% Yld	%Rec	
Total Uranium by KPA ASTM 5			pCi/L	5174-91		FOB230452-001			
Total Uranium	27.7	28.1	3.4	0.677	J	0.074	99		(62 - 150)
Spk2	27.7	26.9	3.3	0.677	J	0.074	95		(62 - 150)
							Precision:	4	%RPD
Batch #:			0067296	Analysis date:		03/12/10			

NOTE (S)

Data are incomplete without the case narrative.

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

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

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: FOB230454  
 Matrix: WATER

Date Sampled: 02/20/10  
 Date Received: 02/23/10

Parameter	SAMPLE Result	Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result	Total Uncert. (2σ +/-)	% Yld	QC Sample ID	
							Precision	
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L	901.1 MOD		FOB230452-001		
Cesium 137	-1 U	11		-1.6 U	8.4		8	%RPD
Potassium 40	-30 U	270		-20 U	180		68	%RPD
Batch #:		0055101 (Sample)		0055101 (Duplicate)				
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD		FOB230452-001		
Tritium	-79 U	52		-46 U	64		53	%RPD
Batch #:		0061038 (Sample)		0061038 (Duplicate)				
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD		FOB230452-001		
Gross Alpha	-0.12 U	0.90		0.8 U	1.2		269	%RPD
Gross Beta	3.5 J	1.0		2.12 J	0.89		49	%RPD
Batch #:		0062110 (Sample)		0062110 (Duplicate)				

NOTE(S)

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

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

*CUR 196*

**SUBCONTRACT ORDER**  
**TestAmerica Irvine**  
**ITB2186**

**SENDING LABORATORY:**

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

**RECEIVING LABORATORY:**

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

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
<b>Sample ID: ITB2186-02 (OUTFALL 009 (COMPOSITE) - Wate</b>						
			<b>Sampled: 02/20/10 07:36</b>			
Gamma Spec-O	mg/kg	03/03/10	02/20/11 07:36	\$200.00	50%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER
Gross Alpha-O	pCi/L	03/03/10	08/19/10 07:36	\$90.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	03/03/10	08/19/10 07:36	\$90.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package	N/A	03/03/10	03/20/10 07:36	\$0.00	0%	
Radium 226-O	pCi/L	03/03/10	02/20/11 07:36	\$88.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!
Radium 228-O	pCi/L	03/03/10	02/20/11 07:36	\$84.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/03/10	02/20/11 07:36	\$140.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/03/10	02/20/11 07:36	\$80.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O	pCi/L	03/03/10	02/20/11 07:36	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
<b>Containers Supplied:</b>						
2.5 gal Poly (I)	500 mL Amber (J)					

*[Signature]*  
 Released By \_\_\_\_\_ Date/Time \_\_\_\_\_

*[Signature]*      *2/23/10 0910*  
 Received By \_\_\_\_\_ Date/Time \_\_\_\_\_

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

Received By \_\_\_\_\_ Date/Time \_\_\_\_\_

CHAIN OF CUSTODY FORM

Test America Version 6/29/09

2TBZ186

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007		Project: Boeing-SSFL NPDES Routine Outfall 009 GRAB Stormwater at WS-13		ANALYSIS REQUIRED		Field readings: Temp °F = 46.8 pH = 7.3 Time of readings = 0800 2/20/10
Test America Contact: Joseph Doak		Project Manager: Bronwyn Kelly		Oil & Grease (1664-TEM) X		Comments
Sampler: S. Dawson		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515				
Sample Description	Sample Matrix	Container Type	# of cont.	Sampling Date/Time	Preservative	Bottle #
Outfall 009	W	1L Amber	2	7:20 2/20/10	HCl	1A, 1B
<del>                     Received By: [Signature] Date/Time: 2/20/10 12:45                      Received By: [Signature] Date/Time: 2/20/10 14:30                      Received By: [Signature] Date/Time: 2/20/10 14:30                 </del>						
These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.						
Relinquished By: [Signature] Date/Time: 2/20/10 12:45		Received By: [Signature] Date/Time: 2/20/10 12:45		Turn-around time (Check)		10 Day: <input checked="" type="checkbox"/>
Relinquished By: [Signature] Date/Time: 2/20/10 14:30		Received By: [Signature] Date/Time: 2/20/10 14:30		24 Hour: <input type="checkbox"/> 48 Hour: <input type="checkbox"/> 72 Hour: <input type="checkbox"/> 5 Day: <input type="checkbox"/>		Normal: <input checked="" type="checkbox"/>
Relinquished By: [Signature] Date/Time: 2/20/10 14:30		Received By: [Signature] Date/Time: 2/20/10 14:30		Sample Integrity: (Check)		On Ice: <input checked="" type="checkbox"/> 410°C
Relinquished By: [Signature] Date/Time: 2/20/10 14:30		Received By: [Signature] Date/Time: 2/20/10 14:30		Data Requirements: (Check)		All Level IV: <input checked="" type="checkbox"/> NPDES Level IV: <input checked="" type="checkbox"/>

CHAIN OF CUSTODY FORM

Client Name/Address: MWH-Arcadia 618 Michilinda Ave, Suite 200 Arcadia, CA 91007 Test America Contact: Joseph Doak		Project: Boeing-SSFL NPDES Routine Outfall 009 COMPOSITE Stormwater at WS-13		ANALYSIS REQUIRED Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl TCDD (and all congeners) CF, SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate TDS Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, Cs-137 (901.0 or 901.1) Chronic Toxicity		Comments high flow							
Project Manager: Bronwyn Kelly Sampler: <i>S. Davis on 11/20/10</i>		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, Cs-137 (901.0 or 901.1)		Unfiltered and unpreserved analysis Only test if first or second rain events of the year Filter w/in 24hrs of receipt at lab							
Sample Description	Sample Matrix	Container Type	# of Cons.	Sampling Date/Time	Preservative	Boottle #	TCDD (and all congeners)	CF, SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate	TDS	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, Cs-137 (901.0 or 901.1)	Chronic Toxicity	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Comments
Outfall 009	W	1L Poly	1	2/20/10 0736	HNO <sub>3</sub>	2A	X						
Outfall 009 Dup	W	1L Poly	1	2/20/10 0736	HNO <sub>3</sub>	2B	X						
Outfall 009	W	1L Amber	2		None	3A, 3B	X						
Outfall 009	W	500 mL Poly	2		None	4A, 4B	X						
Outfall 009	W	500 mL Poly	1		None	5		X					
Outfall 009	W	2.5 Gal Cube	1		None	6A			X				
Outfall 009	W	500 mL Amber	1		None	6B							
Outfall 009	W	1L Poly	1	2/20/10 0736	None	8						X	

COC Page 2 of 2 are the composite samples for Outfall 009 for this storm event. These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Relinquished By <i>S. Davis</i>	Date/Time: 2/20/10 18:15	Received By <i>Joseph Doak</i>	Date/Time: 2/20/10 18:15
Relinquished By <i>S. Davis</i>	Date/Time: 2/20/10 18:15	Received By <i>Joseph Doak</i>	Date/Time: 2/20/10 18:15
Relinquished By	Date/Time:	Received By	Date/Time:

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

Sample Integrity: (Check)  
 Intact:  X On Ice:  NPDES Level IV:  X

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

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F0B230454  
454

**CONDITION UPON RECEIPT FORM**

Client: TA IRVINE

Quote No: 85044

COC/RFA No: ITB2185 / ITB2186

196

Initiated By: NVO Date: 2/23/10 Time: 0910

**Shipping Information**

Shipper: FedEx UPS DHL Courier Client Other: \_\_\_\_\_ Multiple Packages: Y N

Shipping # (s):*	Sample Temperature (s):**
1. <u>42892133 4069</u>	1. <u>2</u>
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____
6. _____	6. _____
7. _____	7. _____
8. _____	8. _____
9. _____	9. _____
10. _____	10. _____

\*Numbered shipping lines correspond to Numbered Sample Temp lines

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

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

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

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

**Notes:**

Log for 20 business days per workshare. See 02-23-10

**Corrective Action:**

Client Contact Name: \_\_\_\_\_ Informed by: \_\_\_\_\_  
 Sample(s) processed "as is"  
 Sample(s) on hold until: \_\_\_\_\_ If released, notify: \_\_\_\_\_  
 Project Management Review: AG Date: 02-25-10

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

ADMIN-0004, REVISED 10/21/08 \S\svr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev1.doc

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# **APPENDIX G**

## **Section 43**

Outfall 009 – February 27 & 28, 2010

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

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# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITB2835

Prepared by

MEC<sup>x</sup>, LP  
12269 East Vassar Drive  
Aurora, CO 80014

**I. INTRODUCTION**

Task Order Title: Boeing SSFL NPDES  
 Contract Task Order: 1261.100D.00  
 Sample Delivery Group: ITB2835  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 1  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009 (Composite)	ITB2835-02	G0C020510-001, FOC020462-001	Water	2/28/2010 5:23:00 AM	ASTM 5174-91, 200.8, 200.8 (Diss), 245.1, 245.1 (Diss), 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD

**II. Sample Management**

No anomalies were observed regarding sample management. A portion of the samples in several SDGs were received at ambient temperature at TestAmerica-St. Louis; however, the reviewer was unable to determine if the sample in ITB2835 was received at ambient temperature. Due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at TA-West Sacramento and TestAmerica-St. Louis. As the samples were couriered to TestAmerica-Irvine, custody seals were not required. 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 or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

---

### Qualification Code Reference Table

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

**Qualification Code Reference Table Cont.**

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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.

---

### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: April 2, 2010

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 (9/05)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed with the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
  - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
  - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs  $\leq 20\%$  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 a detect between the EDL and the RL for total PeCDD reported as an EMPC. The sample result for total PeCDD was also comprised of the same EMPC peak as the method blank total, and was therefore qualified as nondetected, "U," at the level of the EMPC.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. The EMPC qualified as nondetected for method blank contamination was not further qualified as an EMPC. Any isomers reported as EMPCs were qualified as estimated nondetects, "UJ," at the level of the EMPC. Any total results including EMPC peaks were qualified as estimated, "J." Any detects reported below the EDL, or between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

## **B. EPA METHODS 200.8 and 245.1—Metals and Mercury**

Reviewed By: P. Meeks

Date Reviewed: April 5, 2010

The sample listed in Table 1 for these analyses 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 200.8 and 245.1*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times, six months for ICP-MS 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  $\geq 0.995$ . The CCV recoveries bracketing the cadmium analyses were above the control limit; however, no qualifications were required as cadmium was not detected. All initial and all remaining continuing calibration recoveries were within 90-110% for the ICP-MS metals and 85-115% for mercury. CRDL/CRI recoveries were within the control limits of 70-130%.
- Blanks: Dissolved copper was detected in the method blank at 0.606  $\mu\text{g}/\text{L}$ ; therefore, dissolved copper detected in the sample was qualified as nondetected, "U," at the level of contamination. Method blanks and CCBs had no detects.
- Interference Check Samples: ICSA/B analyses were performed only for the dissolved analyses. Recoveries were within 80-120%. Cadmium and copper were detected in the ICSA, but the reviewer was unable to determine if the detects were due to low-level contamination of the ICSA solution. There were no target compounds present in the ICSA solution at concentrations indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: 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. Copper was not bracketed by an internal standard of lower mass; therefore, the copper result in the sample was qualified as estimated, "J," for detects and, "UJ," for nondetects.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

Copper was detected in the total fraction at a concentration greater than that in the dissolved fraction; however, due to method blank contamination, total copper was qualified as nondetected.

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

### C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: April 7, 2010

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174, and the National Functional Guidelines for Inorganic Data Review (10/04)*.

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

The gross alpha detector efficiency was less than 20%; therefore, the detect for gross alpha was qualified as estimated, "J." The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: Total uranium was detected in the method blank at 0.315 pCi/L; therefore, the detects total uranium was qualified as nondetected, "U," at the reporting limit. Tritium and radium-228 were also detected in the method blanks but neither were detected in the site sample. There were no other analytes detected in the method blanks or the KPA CCBs.
- Blank Spikes and Laboratory Control Samples: The recoveries and RPDs (radium-226, radium-228, strontium-90) were within laboratory-established control limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on the sample in this SDG for tritium, gross alpha/gross beta, cesium-137, and potassium-40. Either the RPDs were within the laboratory-established control limits or the analytes were nondetected in both the sample and the duplicate.
- Matrix Spike/Matrix Spike Duplicate: Matrix spike analyses were performed for gross alpha and gross beta. The recoveries were within the laboratory-established control limits. Method accuracy for the remaining analytes was evaluated based on the LCS results.
- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. According to the case narrative, total uranium was analyzed at a dilution due to matrix interference. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

The reviewer noted that the total uranium preparation log was not signed as reviewed.

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

# Validated Sample Result Forms ITB2835

## Analysis Method ASTM 5174-91

**Sample Name** Outfall 009 (Composite) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** ITB2835-02 **Sample Date:** 2/28/2010 5:23:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	ND	1.39	0.43	pCi/L	Jb	UJ	B, H

## Analysis Method EPA 200.8

**Sample Name** Outfall 009 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** ITB2835-02 **Sample Date:** 2/28/2010 5:23:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	1.3	2.0	0.30	ug/l	Ja	J	DNQ
Cadmium	7440-43-9	0.13	1.0	0.10	ug/l	Ja	J	DNQ
Copper	7440-50-8	6.8	2.0	0.50	ug/l	B	J	*III
Lead	7439-92-1	8.9	1.0	0.20	ug/l			
Thallium	7440-28-0	ND	1.0	0.20	ug/l		U	

## Analysis Method EPA 200.8-Diss

**Sample Name** Outfall 009 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** ITB2835-02 **Sample Date:** 2/28/2010 5:23:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	1.3	2.0	0.30	ug/l	Ja	J	DNQ
Cadmium	7440-43-9	ND	1.0	0.10	ug/l	C	U	
Copper	7440-50-8	ND	2.7	0.50	ug/l		UJ	B, *III
Lead	7439-92-1	0.92	1.0	0.20	ug/l	Ja	J	DNQ
Thallium	7440-28-0	ND	1.0	0.20	ug/l		U	

## Analysis Method EPA 245.1

**Sample Name** Outfall 009 (Composite) **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** ITB2835-02 **Sample Date:** 2/28/2010 5:23:00 AM

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

*Analysis Method*    *EPA 245.1-Diss*

**Sample Name**    Outfall 009 (Composite)    **Matrix Type:**    Water    **Validation Level:**    IV  
**Lab Sample Name:**    ITB2835-02    **Sample Date:**    2/28/2010 5:23:00 AM

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

*Analysis Method*    *EPA 900.0 MOD*

**Sample Name**    Outfall 009 (Composite)    **Matrix Type:**    WATER    **Validation Level:**    IV  
**Lab Sample Name:**    ITB2835-02    **Sample Date:**    2/28/2010 5:23:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Gross Alpha	12587-46-1	2.1	3	1.5	pCi/L	Jb	J	H, C, DNQ
Gross Beta	12587-47-2	1.5	4	1.1	pCi/L	Jb	J	H, DNQ

*Analysis Method*    *EPA 901.1 MOD*

**Sample Name**    Outfall 009 (Composite)    **Matrix Type:**    WATER    **Validation Level:**    IV  
**Lab Sample Name:**    ITB2835-02    **Sample Date:**    2/28/2010 5:23:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Cesium 137	10045-97-3	-1.6	20	12	pCi/L	U	U	
Potassium 40	13966-00-2	-80	0	220	pCi/L	U	U	

*Analysis Method*    *EPA 903.0 MOD*

**Sample Name**    Outfall 009 (Composite)    **Matrix Type:**    WATER    **Validation Level:**    IV  
**Lab Sample Name:**    ITB2835-02    **Sample Date:**    2/28/2010 5:23:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Radium (226)	13982-63-3	0.09	1	0.13	pCi/L	U	U	

*Analysis Method*    *EPA 904 MOD*

**Sample Name**    Outfall 009 (Composite)    **Matrix Type:**    WATER    **Validation Level:**    IV  
**Lab Sample Name:**    ITB2835-02    **Sample Date:**    2/28/2010 5:23:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Radium 228	15262-20-1	0.22	1	0.44	pCi/L	U	U	

*Analysis Method*    *EPA 905 MOD*

---

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

**Lab Sample Name:**    ITB2835-02    **Sample Date:** 2/28/2010 5:23:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Strontium 90	10098-97-2	0.24	3	0.39	pCi/L	U	U	

*Analysis Method*    *EPA 906.0 MOD*

---

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

**Lab Sample Name:**    ITB2835-02    **Sample Date:** 2/28/2010 5:23:00 AM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Tritium	10028-17-8	49	500	130	pCi/L	U	U	

*Analysis Method EPA-5 1613B*

**Sample Name** Outfall 009 (Composite) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** ITB2835-02 **Sample Date:** 2/28/2010 5:23:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.0001	0.000049	0.000014	ug/L			
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	1.8e-005	0.0000043	ug/L	J, Q	UJ	*III
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000049	0.0000065	ug/L		U	
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000049	0.0000067	ug/L		U	
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.000049	0.0000028	ug/L		U	
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000049	0.0000065	ug/L		U	
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000049	0.0000024	ug/L		U	
1,2,3,7,8,9-HxCDD	19408-74-3	ND	8.1e-006	0.0000053	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000049	0.0000027	ug/L		U	
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000049	0.0000049	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000049	0.0000026	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	2.1e-006	0.0000025	ug/L	J, Q	UJ	*III
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000049	0.0000032	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.0000097	0.0000018	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.0000097	0.0000017	ug/L		U	
OCDD	3268-87-9	0.00088	0.000097	0.000019	ug/L			
OCDF	39001-02-0	5.4e-005	0.000097	0.0000083	ug/L	J	J	DNQ
Total HpCDD	37871-00-4	0.00029	0.000049	0.000014	ug/L			
Total HpCDF	38998-75-3	4.6e-005	4.6e-005	0.0000052	ug/L	J, Q	J	DNQ, *III
Total HxCDD	34465-46-8	5.2e-005	5.2e-005	0.0000053	ug/L	J, Q	J	*III
Total HxCDF	55684-94-1	1.4e-005	1.4e-005	0.0000024	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.000049	0.0000049	ug/L	J, Ba	U	B
Total PeCDF	30402-15-4	ND	0.000049	0.0000021	ug/L		U	
Total TCDD	41903-57-5	ND	0.0000097	0.0000018	ug/L		U	
Total TCDF	55722-27-5	ND	0.0000097	0.0000015	ug/L		U	

# **APPENDIX G**

## **Section 44**

Outfall 009 – February 27 & 28, 2010

Test America Analytical Laboratory Report

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## LABORATORY REPORT

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

Project: Routine Outfall 009

Sampled: 02/27/10-02/28/10  
Received: 02/27/10  
Issued: 03/24/10 13:16

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

*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(s) of Custody, 2 pages, are included and are an integral part of this report.  
This entire report was reviewed and approved for release.*

### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 4°C, on ice and with chain of custody documentation.

**HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

**PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.

**QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.

**COMMENTS:** Results that fall between the MDL and RL are 'J' flagged.

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

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

Some analytes in this sample and the associated method blank have an ion abundance ratio that is outside of criteria. The analytes are considered as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio. Analytical results are reported with a "Q" flag.

Some analytes are reported at a concentration below the estimated detection limit (EDL). The data is reported as a positive detection because the peaks elute at the correct retention time for both characteristic ions and have a signal to noise ratio greater than the method required 2.5:1.

Complete final report.

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

**LABORATORY ID**

ITB2835-01

ITB2835-02

**CLIENT ID**

Outfall 009

Outfall 009 (Composite)

**MATRIX**

Water

Water

Reviewed By:



**TestAmerica Irvine**

Kathleen A. Robb For Heather Clark  
Project Manager

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**ITB2835 <Page 2 of 36>**

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-01 (Outfall 009 - Water)</b>					<b>Sampled: 02/27/10</b>				
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	10C1221	1.3	4.7	ND	1	03/10/10	03/10/10	

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1	10C0382	0.10	0.20	ND	1	03/03/10	03/03/10	
<b>Antimony</b>	EPA 200.8	10C0076	0.30	2.0	<b>1.3</b>	1	03/01/10	03/03/10	Ja
<b>Cadmium</b>	EPA 200.8	10C0076	0.10	1.0	<b>0.13</b>	1	03/01/10	03/03/10	Ja
<b>Copper</b>	EPA 200.8	10C0076	0.50	2.0	<b>6.8</b>	1	03/01/10	03/02/10	B
<b>Lead</b>	EPA 200.8	10C0076	0.20	1.0	<b>8.9</b>	1	03/01/10	03/02/10	
Thallium	EPA 200.8	10C0076	0.20	1.0	ND	1	03/01/10	03/02/10	

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1-Diss	10C0102	0.10	0.20	ND	1	03/01/10	03/01/10	
<b>Antimony</b>	EPA 200.8-Diss	10C0170	0.30	2.0	<b>1.3</b>	1	03/02/10	03/03/10	Ja
Cadmium	EPA 200.8-Diss	10C0170	0.10	1.0	ND	1	03/02/10	03/02/10	C
<b>Copper</b>	EPA 200.8-Diss	10C0170	0.50	2.0	<b>2.7</b>	1	03/02/10	03/02/10	
<b>Lead</b>	EPA 200.8-Diss	10C0170	0.20	1.0	<b>0.92</b>	1	03/02/10	03/02/10	Ja
Thallium	EPA 200.8-Diss	10C0170	0.20	1.0	ND	1	03/02/10	03/02/10	

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
Reporting Units: mg/l									
Chloride	EPA 300.0	10B3357	0.25	0.50	3.8	1	02/28/10	02/28/10	
Nitrate/Nitrite-N	EPA 300.0	10B3357	0.15	0.26	0.42	1	02/28/10	02/28/10	
Sulfate	EPA 300.0	10B3357	0.20	0.50	5.5	1	02/28/10	02/28/10	
Total Dissolved Solids	SM2540C	10C0449	1.0	10	79	1	03/04/10	03/04/10	
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
Reporting Units: ug/l									
Perchlorate	EPA 314.0	10C0163	0.90	4.0	ND	1	03/02/10	03/02/10	

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## EPA-5 1613B

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	64219	0.000014	0.000049	<b>0.0001</b>	0.97	03/05/10	03/09/10	
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	64219	0.0000043	0.000049	<b>1.8e-005</b>	0.97	03/05/10	03/09/10	J, Q
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	64219	0.0000065	0.000049	ND	0.97	03/05/10	03/09/10	
1,2,3,4,7,8-HxCDD	EPA-5 1613B	64219	0.0000067	0.000049	ND	0.97	03/05/10	03/09/10	
1,2,3,4,7,8-HxCDF	EPA-5 1613B	64219	0.0000028	0.000049	ND	0.97	03/05/10	03/09/10	
1,2,3,6,7,8-HxCDD	EPA-5 1613B	64219	0.0000065	0.000049	ND	0.97	03/05/10	03/09/10	
1,2,3,6,7,8-HxCDF	EPA-5 1613B	64219	0.0000024	0.000049	ND	0.97	03/05/10	03/09/10	
1,2,3,7,8,9-HxCDD	EPA-5 1613B	64219	0.0000053	0.000049	<b>8.1e-006</b>	0.97	03/05/10	03/09/10	J, Q
1,2,3,7,8,9-HxCDF	EPA-5 1613B	64219	0.0000027	0.000049	ND	0.97	03/05/10	03/09/10	
1,2,3,7,8-PeCDD	EPA-5 1613B	64219	0.0000049	0.000049	ND	0.97	03/05/10	03/09/10	
1,2,3,7,8-PeCDF	EPA-5 1613B	64219	0.0000026	0.000049	ND	0.97	03/05/10	03/09/10	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	64219	0.0000025	0.000049	<b>2.1e-006</b>	0.97	03/05/10	03/09/10	J, Q
2,3,4,7,8-PeCDF	EPA-5 1613B	64219	0.0000032	0.000049	ND	0.97	03/05/10	03/09/10	
2,3,7,8-TCDD	EPA-5 1613B	64219	0.0000018	0.0000097	ND	0.97	03/05/10	03/09/10	
2,3,7,8-TCDF	EPA-5 1613B	64219	0.0000017	0.0000097	ND	0.97	03/05/10	03/09/10	
OCDD	EPA-5 1613B	64219	0.000019	0.000097	<b>0.00088</b>	0.97	03/05/10	03/09/10	
OCDF	EPA-5 1613B	64219	0.0000083	0.000097	<b>5.4e-005</b>	0.97	03/05/10	03/09/10	J
Total HpCDD	EPA-5 1613B	64219	0.000014	0.000049	<b>0.00029</b>	0.97	03/05/10	03/09/10	
Total HpCDF	EPA-5 1613B	64219	0.0000052	0.000049	<b>4.6e-005</b>	0.97	03/05/10	03/09/10	J, Q
Total HxCDD	EPA-5 1613B	64219	0.0000053	0.000049	<b>5.2e-005</b>	0.97	03/05/10	03/09/10	J, Q
Total HxCDF	EPA-5 1613B	64219	0.0000024	0.000049	<b>1.4e-005</b>	0.97	03/05/10	03/09/10	J, Q
Total PeCDD	EPA-5 1613B	64219	0.0000049	0.000049	<b>1.2e-005</b>	0.97	03/05/10	03/09/10	J, Ba
Total PeCDF	EPA-5 1613B	64219	0.0000021	0.000049	ND	0.97	03/05/10	03/09/10	
Total TCDD	EPA-5 1613B	64219	0.0000018	0.0000097	ND	0.97	03/05/10	03/09/10	
Total TCDF	EPA-5 1613B	64219	0.0000015	0.0000097	ND	0.97	03/05/10	03/09/10	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	64 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	71 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	59 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	69 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	76 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	79 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	77 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	65 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	59 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	56 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	73 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	53 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	58 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	53 %
Surrogate: 13C-OCDD (17-157%)	62 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	89 %

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## ASTM 5174-91

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
Reporting Units: pCi/L									
<b>Total Uranium</b>	ASTM 5174-91	67296	0.43	1.39	<b>0.609</b>	1	03/10/10	03/12/10	Jb

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## EPA 900.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
Reporting Units: pCi/L									
Gross Alpha	EPA 900.0 MOD	68099	1.5	3	2.1	1	03/09/10	03/18/10	Jb
Gross Beta	EPA 900.0 MOD	68099	1.1	4	1.5	1	03/09/10	03/18/10	Jb

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## EPA 901.1 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
<b>Reporting Units: pCi/L</b>									
Cesium 137	EPA 901.1 MOD	61272	12	20	-1.6	1	03/02/10	03/17/10	U
Potassium 40	EPA 901.1 MOD	61272	220	NA	-80	1	03/02/10	03/17/10	U

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## EPA 903.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Radium (226)</b>	EPA 903.0 MOD	61258	0.13	1	<b>0.09</b>	1	03/02/10	03/18/10	U

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## EPA 904 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
Reporting Units: pCi/L									
<b>Radium 228</b>	EPA 904 MOD	61259	0.44	1	<b>0.22</b>	1	03/02/10	03/18/10	U

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## EPA 905 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Strontium 90</b>	EPA 905 MOD	61262	0.39	3	<b>0.24</b>	1	03/02/10	03/11/10	U

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## EPA 906.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)</b>					<b>Sampled: 02/28/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Tritium</b>	EPA 906.0 MOD	67136	130	500	<b>49</b>	1	03/08/10	03/09/10	U

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Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## 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 009 (Composite) (ITB2835-02) - Water</b>					
EPA 300.0	2	02/28/2010 05:23	02/27/2010 17:25	02/28/2010 17:45	02/28/2010 19:37
Filtration	1	02/28/2010 05:23	02/27/2010 17:25	02/28/2010 15:00	02/28/2010 15:00

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Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METHOD BLANK/QC DATA

### HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C1221 Extracted: 03/10/10</b>											
<b>Blank Analyzed: 03/10/2010 (10C1221-BLK1)</b>											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
<b>LCS Analyzed: 03/10/2010 (10C1221-BS1)</b>											
Hexane Extractable Material (Oil & Grease)	19.3	5.0	1.4	mg/l	20.0		96	78-114			MNR1
<b>LCS Dup Analyzed: 03/10/2010 (10C1221-BSD1)</b>											
Hexane Extractable Material (Oil & Grease)	19.6	5.0	1.4	mg/l	20.0		98	78-114	2	11	

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 Received: 02/27/10

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C0076 Extracted: 03/01/10</b>											
<b>Blank Analyzed: 03/02/2010-03/03/2010 (10C0076-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	0.606	2.0	0.50	ug/l							Ja
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 03/02/2010-03/03/2010 (10C0076-BS1)</b>											
Antimony	77.6	2.0	0.30	ug/l	80.0		97	85-115			
Cadmium	79.1	1.0	0.10	ug/l	80.0		99	85-115			
Copper	86.5	2.0	0.50	ug/l	80.0		108	85-115			
Lead	82.4	1.0	0.20	ug/l	80.0		103	85-115			
Thallium	84.7	1.0	0.20	ug/l	80.0		106	85-115			
<b>Matrix Spike Analyzed: 03/02/2010-03/03/2010 (10C0076-MS1)</b>						<b>Source: ITB2772-01</b>					
Antimony	77.9	2.0	0.30	ug/l	80.0	0.463	97	70-130			
Cadmium	75.8	1.0	0.10	ug/l	80.0	0.142	95	70-130			
Copper	85.5	2.0	0.50	ug/l	80.0	2.38	104	70-130			
Lead	81.1	1.0	0.20	ug/l	80.0	0.372	101	70-130			
Thallium	84.3	1.0	0.20	ug/l	80.0	ND	105	70-130			
<b>Matrix Spike Analyzed: 03/02/2010-03/03/2010 (10C0076-MS2)</b>						<b>Source: ITB2772-06</b>					
Antimony	79.4	2.0	0.30	ug/l	80.0	0.471	99	70-130			
Cadmium	76.6	1.0	0.10	ug/l	80.0	ND	96	70-130			
Copper	86.3	2.0	0.50	ug/l	80.0	2.90	104	70-130			
Lead	77.6	1.0	0.20	ug/l	80.0	0.300	97	70-130			
Thallium	81.3	1.0	0.20	ug/l	80.0	ND	102	70-130			
<b>Matrix Spike Dup Analyzed: 03/02/2010-03/03/2010 (10C0076-MSD1)</b>						<b>Source: ITB2772-01</b>					
Antimony	79.5	2.0	0.30	ug/l	80.0	0.463	99	70-130	2	20	
Cadmium	77.4	1.0	0.10	ug/l	80.0	0.142	97	70-130	2	20	
Copper	85.6	2.0	0.50	ug/l	80.0	2.38	104	70-130	0.2	20	
Lead	77.7	1.0	0.20	ug/l	80.0	0.372	97	70-130	4	20	
Thallium	80.9	1.0	0.20	ug/l	80.0	ND	101	70-130	4	20	

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## 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: 10C0382 Extracted: 03/03/10</b>											
<b>Blank Analyzed: 03/03/2010 (10C0382-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 03/03/2010 (10C0382-BS1)</b>											
Mercury	7.92	0.20	0.10	ug/l	8.00		99	85-115			
<b>Matrix Spike Analyzed: 03/03/2010 (10C0382-MS1)</b>											
						<b>Source: ITB2842-01</b>					
Mercury	7.64	0.20	0.10	ug/l	8.00	ND	96	70-130			
<b>Matrix Spike Dup Analyzed: 03/03/2010 (10C0382-MSD1)</b>											
						<b>Source: ITB2842-01</b>					
Mercury	7.71	0.20	0.10	ug/l	8.00	ND	96	70-130	0.9	20	

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 Received: 02/27/10

## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 10C0102 Extracted: 03/01/10</u></b>											
<b>Blank Analyzed: 03/01/2010 (10C0102-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 03/01/2010 (10C0102-BS1)</b>											
Mercury	8.33	0.20	0.10	ug/l	8.00		104	85-115			
<b>Matrix Spike Analyzed: 03/01/2010 (10C0102-MS1)</b>											
						<b>Source: ITB2742-01</b>					
Mercury	7.92	0.20	0.10	ug/l	8.00	ND	99	70-130			
<b>Matrix Spike Dup Analyzed: 03/01/2010 (10C0102-MSD1)</b>											
						<b>Source: ITB2742-01</b>					
Mercury	7.89	0.20	0.10	ug/l	8.00	ND	99	70-130	0.5	20	
<b><u>Batch: 10C0170 Extracted: 03/02/10</u></b>											
<b>Blank Analyzed: 03/02/2010-03/03/2010 (10C0170-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 03/02/2010-03/03/2010 (10C0170-BS1)</b>											
Antimony	78.7	2.0	0.30	ug/l	80.0		98	85-115			
Cadmium	78.9	1.0	0.10	ug/l	80.0		99	85-115			
Copper	81.1	2.0	0.50	ug/l	80.0		101	85-115			
Lead	79.7	1.0	0.20	ug/l	80.0		100	85-115			
Thallium	82.1	1.0	0.20	ug/l	80.0		103	85-115			

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C0170 Extracted: 03/02/10</b>											
<b>Matrix Spike Analyzed: 03/02/2010-03/03/2010 (10C0170-MS1)</b>						<b>Source: ITB2772-06</b>					
Antimony	80.3	2.0	0.30	ug/l	80.0	0.432	100	70-130			
Cadmium	92.3	1.0	0.10	ug/l	80.0	ND	115	70-130			
Copper	82.5	2.0	0.50	ug/l	80.0	1.33	101	70-130			
Lead	77.7	1.0	0.20	ug/l	80.0	ND	97	70-130			
Thallium	79.7	1.0	0.20	ug/l	80.0	ND	100	70-130			
<b>Matrix Spike Dup Analyzed: 03/02/2010-03/03/2010 (10C0170-MSD1)</b>						<b>Source: ITB2772-06</b>					
Antimony	80.3	2.0	0.30	ug/l	80.0	0.432	100	70-130	0.02	20	
Cadmium	93.8	1.0	0.10	ug/l	80.0	ND	117	70-130	2	20	
Copper	83.0	2.0	0.50	ug/l	80.0	1.33	102	70-130	0.7	20	
Lead	78.1	1.0	0.20	ug/l	80.0	ND	98	70-130	0.5	20	
Thallium	81.2	1.0	0.20	ug/l	80.0	ND	102	70-130	2	20	

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## 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: 10B3357 Extracted: 02/28/10</b>											
<b>Blank Analyzed: 02/28/2010 (10B3357-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: 02/28/2010 (10B3357-BS1)</b>											
Chloride	4.92	0.50	0.25	mg/l	5.00		98	90-110			
Sulfate	10.5	0.50	0.20	mg/l	10.0		105	90-110			
<b>Matrix Spike Analyzed: 02/28/2010 (10B3357-MS1) Source: ITB2835-02</b>											
Chloride	9.18	0.50	0.25	mg/l	5.00	3.82	107	80-120			
Sulfate	16.6	0.50	0.20	mg/l	10.0	5.52	110	80-120			
<b>Matrix Spike Analyzed: 03/01/2010 (10B3357-MS2) Source: ITB2836-02</b>											
Chloride	17.7	0.50	0.25	mg/l	5.00	11.6	121	80-120			MI
Sulfate	21.7	0.50	0.20	mg/l	10.0	11.0	107	80-120			
<b>Matrix Spike Dup Analyzed: 02/28/2010 (10B3357-MSD1) Source: ITB2835-02</b>											
Chloride	9.08	0.50	0.25	mg/l	5.00	3.82	105	80-120	1	20	
Sulfate	17.6	0.50	0.20	mg/l	10.0	5.52	120	80-120	6	20	
<b>Batch: 10C0163 Extracted: 03/02/10</b>											
<b>Blank Analyzed: 03/02/2010 (10C0163-BLK1)</b>											
Perchlorate	ND	4.0	0.90	ug/l							
<b>LCS Analyzed: 03/02/2010 (10C0163-BS1)</b>											
Perchlorate	26.2	4.0	0.90	ug/l	25.0		105	85-115			

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 10C0163 Extracted: 03/02/10</u></b>											
<b>Matrix Spike Analyzed: 03/02/2010 (10C0163-MS1)</b>						<b>Source: ITC0070-01</b>					
Perchlorate	34.0	4.0	0.90	ug/l	25.0	6.00	112	80-120			
<b>Matrix Spike Dup Analyzed: 03/02/2010 (10C0163-MSD1)</b>						<b>Source: ITC0070-01</b>					
Perchlorate	32.7	4.0	0.90	ug/l	25.0	6.00	107	80-120	4	20	
<b><u>Batch: 10C0449 Extracted: 03/04/10</u></b>											
<b>Blank Analyzed: 03/04/2010 (10C0449-BLK1)</b>											
Total Dissolved Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 03/04/2010 (10C0449-BS1)</b>											
Total Dissolved Solids	1000	10	1.0	mg/l	1000		100	90-110			
<b>Duplicate Analyzed: 03/04/2010 (10C0449-DUP1)</b>						<b>Source: ITB2775-01</b>					
Total Dissolved Solids	1480	20	2.0	mg/l		1500			1	10	

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## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 64219 Extracted: 03/05/10</b>											
<b>Blank Analyzed: 03/09/2010 (G0C050000219B)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	ND	0.00005	0.000016	ug/L				-			
1,2,3,4,6,7,8-HpCDF	ND	0.00005	0.0000034	ug/L				-			
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000055	ug/L				-			
1,2,3,4,7,8-HxCDD	ND	0.00005	0.0000048	ug/L				-			
1,2,3,4,7,8-HxCDF	ND	0.00005	0.0000025	ug/L				-			
1,2,3,6,7,8-HxCDD	ND	0.00005	0.0000048	ug/L				-			
1,2,3,6,7,8-HxCDF	ND	0.00005	0.0000022	ug/L				-			
1,2,3,7,8,9-HxCDD	ND	0.00005	0.0000039	ug/L				-			
1,2,3,7,8,9-HxCDF	ND	0.00005	0.0000022	ug/L				-			
1,2,3,7,8-PeCDD	ND	0.00005	0.000004	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000031	ug/L				-			
2,3,4,6,7,8-HxCDF	ND	0.00005	0.000002	ug/L				-			
2,3,4,7,8-PeCDF	ND	0.00005	0.0000036	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000022	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.0000016	ug/L				-			
OCDD	ND	0.0001	0.000017	ug/L				-			
OCDF	ND	0.0001	0.0000083	ug/L				-			
Total HpCDD	ND	0.00005	0.000016	ug/L				-			
Total HpCDF	ND	0.00005	0.0000034	ug/L				-			
Total HxCDD	ND	0.00005	0.0000039	ug/L				-			
Total HxCDF	ND	0.00005	0.000002	ug/L				-			
Total PeCDD	1e-005	0.00005	0.000004	ug/L				-			J, Q
Total PeCDF	ND	0.00005	0.0000022	ug/L				-			
Total TCDD	ND	0.00001	0.0000022	ug/L				-			
Total TCDF	ND	0.00001	0.0000016	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0012			ug/L	0.002		61	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0015			ug/L	0.002		73	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0011			ug/L	0.002		57	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0013			ug/L	0.002		67	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0013			ug/L	0.002		66	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0015			ug/L	0.002		76	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0014			ug/L	0.002		72	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0014			ug/L	0.002		69	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.001			ug/L	0.002		50	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00098			ug/L	0.002		49	24-185			

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 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 64219 Extracted: 03/05/10</b>											
<b>Blank Analyzed: 03/09/2010 (G0C050000219B)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0015			ug/L	0.002		73	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00095			ug/L	0.002		48	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.00094			ug/L	0.002		47	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.00081			ug/L	0.002		40	24-169			
Surrogate: 13C-OCDD	0.0021			ug/L	0.004		52	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00069			ug/L	0.0008		87	35-197			
<b>LCS Analyzed: 03/09/2010 (G0C050000219C)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.000991	0.00005	0.00002	ug/L	0.001		99	70-140			
1,2,3,4,6,7,8-HpCDF	0.000953	0.00005	0.0000068	ug/L	0.001		95	82-122			
1,2,3,4,7,8,9-HpCDF	0.000998	0.00005	0.0000096	ug/L	0.001		100	78-138			
1,2,3,4,7,8-HxCDD	0.00105	0.00005	0.0000063	ug/L	0.001		105	70-164			
1,2,3,4,7,8-HxCDF	0.000993	0.00005	0.0000042	ug/L	0.001		99	72-134			
1,2,3,6,7,8-HxCDD	0.00101	0.00005	0.0000059	ug/L	0.001		101	76-134			
1,2,3,6,7,8-HxCDF	0.00102	0.00005	0.0000036	ug/L	0.001		102	84-130			
1,2,3,7,8,9-HxCDD	0.000988	0.00005	0.0000048	ug/L	0.001		99	64-162			
1,2,3,7,8,9-HxCDF	0.00102	0.00005	0.0000036	ug/L	0.001		102	78-130			
1,2,3,7,8-PeCDD	0.000934	0.00005	0.0000075	ug/L	0.001		93	70-142			
1,2,3,7,8-PeCDF	0.00101	0.00005	0.0000034	ug/L	0.001		101	80-134			
2,3,4,6,7,8-HxCDF	0.000967	0.00005	0.0000033	ug/L	0.001		97	70-156			
2,3,4,7,8-PeCDF	0.00102	0.00005	0.0000037	ug/L	0.001		102	68-160			
2,3,7,8-TCDD	0.000183	0.00001	0.000002	ug/L	0.0002		91	67-158			
2,3,7,8-TCDF	0.000199	0.00001	0.0000017	ug/L	0.0002		100	75-158			
OCDD	0.00196	0.0001	0.000025	ug/L	0.002		98	78-144			
OCDF	0.00191	0.0001	0.000013	ug/L	0.002		95	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00141			ug/L	0.002		71	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00153			ug/L	0.002		76	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00133			ug/L	0.002		67	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00138			ug/L	0.002		69	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00148			ug/L	0.002		74	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00164			ug/L	0.002		82	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00155			ug/L	0.002		77	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00145			ug/L	0.002		72	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00123			ug/L	0.002		61	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00122			ug/L	0.002		61	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00165			ug/L	0.002		82	22-176			

#### TestAmerica Irvine

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 64219 Extracted: 03/05/10</b>											
<b>LCS Analyzed: 03/09/2010 (G0C050000219C)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00125			ug/L	0.002		63	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.00107			ug/L	0.002		53	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.000951			ug/L	0.002		48	22-152			
Surrogate: 13C-OCDD	0.00238			ug/L	0.004		59	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000717			ug/L	0.0008		90	31-191			
<b>LCS Dup Analyzed: 03/09/2010 (G0C050000219L)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00111	0.00005	0.000022	ug/L	0.001		111	70-140	11	50	
1,2,3,4,6,7,8-HpCDF	0.00104	0.00005	0.000087	ug/L	0.001		104	82-122	8.7	50	
1,2,3,4,7,8,9-HpCDF	0.00105	0.00005	0.000013	ug/L	0.001		105	78-138	4.8	50	
1,2,3,4,7,8-HxCDD	0.001	0.00005	0.0000071	ug/L	0.001		100	70-164	5	50	
1,2,3,4,7,8-HxCDF	0.00104	0.00005	0.0000064	ug/L	0.001		104	72-134	4.8	50	
1,2,3,6,7,8-HxCDD	0.00101	0.00005	0.0000068	ug/L	0.001		101	76-134	0.27	50	
1,2,3,6,7,8-HxCDF	0.00106	0.00005	0.0000055	ug/L	0.001		106	84-130	3.8	50	
1,2,3,7,8,9-HxCDD	0.00095	0.00005	0.0000055	ug/L	0.001		95	64-162	3.9	50	
1,2,3,7,8,9-HxCDF	0.00105	0.00005	0.0000058	ug/L	0.001		105	78-130	2.8	50	
1,2,3,7,8-PeCDD	0.000991	0.00005	0.0000075	ug/L	0.001		99	70-142	6	50	
1,2,3,7,8-PeCDF	0.00105	0.00005	0.0000058	ug/L	0.001		105	80-134	3.6	50	
2,3,4,6,7,8-HxCDF	0.001	0.00005	0.0000052	ug/L	0.001		100	70-156	3.6	50	
2,3,4,7,8-PeCDF	0.00105	0.00005	0.0000066	ug/L	0.001		105	68-160	3.2	50	
2,3,7,8-TCDD	0.000186	0.00001	0.0000023	ug/L	0.0002		93	67-158	1.7	50	
2,3,7,8-TCDF	0.000212	0.00001	0.000002	ug/L	0.0002		106	75-158	6.2	50	
OCDD	0.00229	0.0001	0.000041	ug/L	0.002		115	78-144	16	50	
OCDF	0.00217	0.0001	0.000021	ug/L	0.002		108	63-170	13	50	
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.001			ug/L	0.002		50	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00119			ug/L	0.002		59	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.001			ug/L	0.002		50	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00113			ug/L	0.002		56	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00117			ug/L	0.002		59	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00127			ug/L	0.002		64	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00122			ug/L	0.002		61	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00113			ug/L	0.002		57	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.000927			ug/L	0.002		46	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00872			ug/L	0.002		44	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00127			ug/L	0.002		64	22-176			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.000905			ug/L	0.002		45	13-328			

#### TestAmerica Irvine

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Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
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## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 64219 Extracted: 03/05/10</b>											
<b>LCS Dup Analyzed: 03/09/2010 (G0C050000219L)</b>											
Surrogate: 13C-2,3,7,8-TCDD	0.000855			ug/L	0.002		43	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.000762			ug/L	0.002		38	22-152			
Surrogate: 13C-OCDD	0.00168			ug/L	0.004		42	13-199			
Surrogate: 37C14-2,3,7,8-TCDD	0.000666			ug/L	0.0008		83	31-191			

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## METHOD BLANK/QC DATA

### ASTM 5174-91

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 67296 Extracted: 03/10/10</b>											
<b>Matrix Spike Dup Analyzed: 03/12/2010 (F0B230452001D)</b>						<b>Source: F0B230452001</b>					
Total Uranium	26.9	0.7	0.2	pCi/L	27.7	0.677	95	62-150	4	20	
<b>Matrix Spike Analyzed: 03/12/2010 (F0B230452001S)</b>						<b>Source: F0B230452001</b>					
Total Uranium	28.1	0.7	0.2	pCi/L	27.7	0.677	99	62-150			
<b>Blank Analyzed: 03/12/2010 (F0C080000296B)</b>						<b>Source:</b>					
Total Uranium	0.315	0.693	0.21	pCi/L				-			Jb
<b>LCS Analyzed: 03/12/2010 (F0C080000296C)</b>						<b>Source:</b>					
Total Uranium	28.6	0.7	0.2	pCi/L	27.7		103	90-120			

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## METHOD BLANK/QC DATA

### EPA 900.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 68099 Extracted: 03/09/10</b>											
<b>Matrix Spike Analyzed: 03/14/2010 (F0C020462001S)</b>						<b>Source: ITB2835-02</b>					
Gross Alpha	47.1	3	1.1	pCi/L	49.4	2.1	91	35-150			
Gross Beta	74.2	4	1	pCi/L	68	1.5	107	54-150			
<b>Duplicate Analyzed: 03/18/2010 (F0C020462001X)</b>						<b>Source: ITB2835-02</b>					
Gross Alpha	1.89	3	1.1	pCi/L		2.1		-			Jb
Gross Beta	1.52	4	0.94	pCi/L		1.5		-			Jb
<b>Blank Analyzed: 03/15/2010 (F0C090000099B)</b>						<b>Source:</b>					
Gross Alpha	0.66	2	0.85	pCi/L				-			U
Gross Beta	0.69	4	1	pCi/L				-			U
<b>LCS Analyzed: 03/15/2010 (F0C090000099C)</b>						<b>Source:</b>					
Gross Alpha	51.5	3	1	pCi/L	49.4		104	62-134			
Gross Beta	63.9	4	0.8	pCi/L	68		94	58-133			

**TestAmerica Irvine**

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## METHOD BLANK/QC DATA

### EPA 901.1 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 61272 Extracted: 03/02/10</b>											
<b>Blank Analyzed: 03/16/2010 (F0C020000272B)</b>						<b>Source:</b>					
Cesium 137	1.4	20	12	pCi/L				-			U
Potassium 40	-60	NA	220	pCi/L				-			U
<b>LCS Analyzed: 03/17/2010 (F0C020000272C)</b>						<b>Source:</b>					
Americium 241	146000	NA	600	pCi/L	141000		103	87-110			
Cobalt 60	85500	NA	200	pCi/L	87900		97	89-110			
Cesium 137	52300	20	300	pCi/L	53100		98	90-110			
<b>Duplicate Analyzed: 03/17/2010 (F0C020462001X)</b>						<b>Source: ITB2835-02</b>					
Cesium 137	1.6	20	16	pCi/L		-1.6		-			U
Potassium 40	-80	NA	200	pCi/L		-80		-			U

**TestAmerica Irvine**

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 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METHOD BLANK/QC DATA

### EPA 903.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 61258 Extracted: 03/02/10</b>											
<b>Blank Analyzed: 03/18/2010 (F0C020000258B)</b>											
Radium (226)	0.079	1	0.15	pCi/L				-			U
<b>LCS Analyzed: 03/18/2010 (F0C020000258C)</b>											
Radium (226)	12.4	1	0.1	pCi/L	11.3		110	68-136			
<b>LCS Dup Analyzed: 03/18/2010 (F0C020000258L)</b>											
Radium (226)	12	1	0.1	pCi/L	11.3		107	68-136	3	40	

**TestAmerica Irvine**

Kathleen A. Robb For Heather Clark  
 Project Manager

MWH-Pasadena/Boeing  
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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METHOD BLANK/QC DATA

### EPA 904 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 61259 Extracted: 03/02/10</b>											
<b>Blank Analyzed: 03/18/2010 (F0C020000259B)</b>											
Radium 228	0.47	1	0.3	pCi/L				-			Jb
<b>LCS Analyzed: 03/18/2010 (F0C020000259C)</b>											
Radium 228	6.04	1	0.42	pCi/L	6.37		95	60-142			
<b>LCS Dup Analyzed: 03/18/2010 (F0C020000259L)</b>											
Radium 228	6	1	0.33	pCi/L	6.37		94	60-142	0.5	40	

**TestAmerica Irvine**

Kathleen A. Robb For Heather Clark  
 Project Manager

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 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METHOD BLANK/QC DATA

### EPA 905 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 61262 Extracted: 03/02/10</b>											
<b>Blank Analyzed: 03/11/2010 (F0C020000262B)</b>											
Strontium 90	0.15	3	0.37	pCi/L				-			U
<b>LCS Analyzed: 03/11/2010 (F0C020000262C)</b>											
Strontium 90	6.99	3	0.33	pCi/L	6.79		103	80-130			
<b>LCS Dup Analyzed: 03/11/2010 (F0C020000262L)</b>											
Strontium 90	6.53	3	0.35	pCi/L	6.79		96	80-130	7	40	

**TestAmerica Irvine**

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 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
 Received: 02/27/10

## METHOD BLANK/QC DATA

### EPA 906.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 67136 Extracted: 03/08/10</b>											
<b>Duplicate Analyzed: 03/09/2010 (F0C020462001X)</b>						<b>Source: ITB2835-02</b>					
Tritium	86	500	130	pCi/L		49	-				U
<b>Matrix Spike Analyzed: 03/09/2010 (F0C020465001S)</b>						<b>Source: F0C020465001</b>					
Tritium	4260	500	130	pCi/L	4520	130	92	62-147			
<b>Blank Analyzed: 03/09/2010 (F0C080000136B)</b>						<b>Source:</b>					
Tritium	163	500	130	pCi/L							Jb
<b>LCS Analyzed: 03/09/2010 (F0C080000136C)</b>						<b>Source:</b>					
Tritium	4700	500	130	pCi/L	4520		104	85-112			

**TestAmerica Irvine**

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 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- Ba** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- J** Estimated result. Result is less than the reporting limit.
- Ja** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- Jb** Result is greater than sample detection limit but less than stated reporting limit.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Q** Estimated maximum possible concentration (EMPC).
- U** Result is less than the sample detection limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
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.*

**ITB2835 <Page 34 of 36>**

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
Filtration	Water	N/A	N/A
SM2540C	Water	X	

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

### Subcontracted Laboratories

#### TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Method Performed: ASTM 5174-91  
Samples: ITB2835-02

Method Performed: EPA 900.0 MOD  
Samples: ITB2835-02

Method Performed: EPA 901.1 MOD  
Samples: ITB2835-02

Method Performed: EPA 903.0 MOD  
Samples: ITB2835-02

Method Performed: EPA 904 MOD  
Samples: ITB2835-02

Method Performed: EPA 905 MOD  
Samples: ITB2835-02

Method Performed: EPA 906.0 MOD  
Samples: ITB2835-02

### TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITB2835

Sampled: 02/27/10-02/28/10  
Received: 02/27/10

## TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B  
Samples: ITB2835-02

## TestAmerica Irvine

Kathleen A. Robb For Heather Clark  
Project Manager







TestAmerica Laboratories, Inc.

## ANALYTICAL REPORT

PROJECT NO. ITB2835

MWH-Pasadena Boeing

Lot #: F0C020462

Joseph Doak

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

TESTAMERICA LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Kay Clay".

Kay Clay  
Project Manager

March 23, 2010

**Case Narrative**  
**LOT NUMBER: F0C020462**

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on March 2, 2010. This sample is associated with your MWH-Pasadena Boeing project.

The analytical results included in this report meet all applicable quality control procedure requirements, except as noted on the following page.

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

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

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

**Observations/Nonconformances**

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

**Total Uranium by Laser Ph Osphorimetry (ASTM 5174-91)**

The samples were analyzed at a dilution due to the presence of matrix interferences which caused low sample correlations (R squared). The reporting limit has been adjusted for the dilution.

**Affected Samples:**

F0C020462 (1): ITB2835-02

**METHODS SUMMARY**

FOC020462

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

**References:**

ASTM      Annual Book Of ASTM Standards.

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

**SAMPLE SUMMARY**

F0C020462

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LV7MQ	001	ITB2835-02	02/26/10	

**NOTE(S) :**

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

## TestAmerica Irvine

Client Sample ID: ITB2835-02

## Radiochemistry

Lab Sample ID: F0C020462-001  
 Work Order: LV7MQ  
 Matrix: WATER

Date Collected: 02/26/10 0000  
 Date Received: 03/02/10 0915

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	mdc	Prep Date	Analysis Date
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
Cesium 137	-1.6	U	6.8	20.0	12	03/02/10	03/17/10
Potassium 40	-80	U	440		220	03/02/10	03/17/10
<b>Gross Alpha/Beta EPA 900</b>							
Gross Alpha	2.1	J	1.2	3.0	1.5	03/09/10	03/18/10
Gross Beta	1.50	J	0.79	4.00	1.1	03/09/10	03/18/10
<b>SR-90 BY GFPC EPA-905 MOD</b>							
Strontium 90	0.24	U	0.24	3.00	0.39	03/02/10	03/11/10
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
Tritium	49	U	79	500	130	03/08/10	03/09/10
<b>Total Uranium by KPA ASTM 5174-91</b>							
Total Uranium	0.609	J	0.076	1.39	0.43	03/10/10	03/12/10
<b>Radium 226 by EPA 903.0 MOD</b>							
Radium (226)	0.090	U	0.087	1.00	0.13	03/02/10	03/18/10
<b>Radium 228 by GFPC EPA 904 MOD</b>							
Radium 228	0.22	U	0.27	1.00	0.44	03/02/10	03/18/10

## NOTE(S)

Data are incomplete without the case narrative.

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

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

U Result is less than the sample detection limit.

## METHOD BLANK REPORT

## Radiochemistry

Client Lot ID: FOC020462  
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
Radium 226 by EPA 903.0 MOD Radium (226)	0.079	U	0.096	1.00	0.15	Yld % 102 03/02/10	FOC020000-258B 03/18/10
Radium 228 by GFPC EPA 904 MOD Radium 228	0.47	J	0.22	1.00	0.30	Yld % 98 03/02/10	FOC020000-259B 03/18/10
SR-90 BY GFPC EPA-905 MOD Strontium 90	0.15	U	0.22	3.00	0.37	Yld % 76 03/02/10	FOC020000-262B 03/11/10
Gamma Cs-137 & Hits by EPA 901.1 MOD Cesium 137 Potassium 40	1.4 -60	U U	6.8 270	20.0	12 220	Yld % 03/02/10 03/02/10	FOC020000-272B 03/16/10 03/16/10
TRITIUM (Distill) by EPA 906.0 MOD Tritium	163	J	99	500	130	Yld % 03/08/10	FOC080000-136B 03/09/10
Gross Alpha/Beta EPA 900 Gross Alpha Gross Beta	0.66 0.69	U U	0.59 0.65	2.00 4.00	0.85 1.0	Yld % 03/09/10 03/09/10	FOC090000-099B 03/15/10 03/15/10
Total Uranium by KPA ASTM 5174-91 Total Uranium	0.315	J	0.039	0.693	0.21	Yld % 03/10/10	FOC080000-296B 03/12/10

## NOTE(S)

Data are incomplete without the case narrative.

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

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

U Result is less than the sample detection limit.

## Laboratory Control Sample Report

## Radiochemistry

Client Lot ID: F0C020462  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L	901.1 MOD			F0C020000-272C
Americium 241	141000	146000	11000	600		103	(87 - 110)
Cesium 137	53100	52300	3000	300		98	(90 - 110)
Cobalt 60	87900	85500	4800	200		97	(89 - 110)
	Batch #:	0061272				Analysis Date:	03/17/10
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD			F0C080000-136C
Tritium	4520	4700	480	130		104	(85 - 112)
	Batch #:	0067136				Analysis Date:	03/09/10
Total Uranium by KPA ASTM 5174-91			pCi/L	5174-91			F0C080000-296C
Total Uranium	27.7	28.6	3.5	0.2		103	(90 - 120)
	Batch #:	0067296				Analysis Date:	03/12/10
Total Uranium by KPA ASTM 5174-91			pCi/L	5174-91			F0C080000-296C
Total Uranium	5.54	5.62	0.58	0.21		101	(90 - 120)
	Batch #:	0067296				Analysis Date:	03/12/10
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			F0C090000-099C
Gross Beta	68.0	63.9	5.4	0.8		94	(58 - 133)
	Batch #:	0068099				Analysis Date:	03/15/10
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			F0C090000-099C
Gross Alpha	49.4	51.5	5.8	1.0		104	(62 - 134)
	Batch #:	0068099				Analysis Date:	03/15/10

## NOTE(S)

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

## Laboratory Control Sample/LCS Duplicate Report

## Radiochemistry

Client Lot ID: F0C020462  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	% Yld	% Rec	Lab Sample ID	
						QC Control Limits	Precision
Radium 226 by EPA	903.0 MOD	pCi/L	903.0 MOD			F0C020000-258C	
Radium (226)	11.3	12.4	1.2	104	110	(68 - 136)	
Spk 2	11.3	12.0	1.2	105	107	(68 - 136)	3 %RPD
	Batch #:	0061258		Analysis Date:	03/18/10		
Radium 228 by GFPC EPA	904 MOD	pCi/L	904 MOD			F0C020000-259C	
Radium 228	6.37	6.04	0.73	99	95	(60 - 142)	
Spk 2	6.37	6.00	0.71	103	94	(60 - 142)	0.5 %RPD
	Batch #:	0061259		Analysis Date:	03/18/10		
SR-90 BY GFPC EPA-	905 MOD	pCi/L	905 MOD			F0C020000-262C	
Strontium 90	6.79	6.99	0.80	77	103	(80 - 130)	
Spk 2	6.79	6.53	0.76	77	96	(80 - 130)	7 %RPD
	Batch #:	0061262		Analysis Date:	03/11/10		

## NOTE(S)

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

## MATRIX SPIKE REPORT

## Radiochemistry

Client Lot Id: F0C020462  
 Matrix: WATER

Date Sampled: 02/26/10  
 Date Received: 03/02/10

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2σ +/-)	QC Sample ID		QC Control Limits
							%YLD	%RRC	
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			F0C020462-001		
Gross Alpha	49.4	47.1	5.5	2.1	1.2		91		(35 - 150)
	Batch #:	0068099		Analysis Date:		03/14/10			
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			F0C020462-001		
Gross Beta	68.0	74.2	6.2	1.50	0.79		107		(54 - 150)
	Batch #:	0068099		Analysis Date:		03/14/10			
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD			F0C020465-001		
Tritium	4520	4260	450	130	92		92		(62 - 147)
	Batch #:	0067136		Analysis Date:		03/09/10			

## NOTE(S)

Data are incomplete without the case narrative.

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

## MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

## Radiochemistry

Client Lot ID: FOB230452  
 Matrix: WATER

Date Sampled: 02/20/10 1349

Date Received: 02/23/10 0910

Parameter	Spike Amount	SPIKE Result	Total Uncert. (2 $\sigma$ +/-)	Spike Yld	SAMPLE Result	Total Uncert. (2 $\sigma$ +/-)	QC Sample ID		QC Control Limits
							% Yld	%Rec	
Total Uranium by KPA ASTM 5			pCi/L	5174-91		FOB230452-001			
Total Uranium	27.7	28.1	3.4	0.677	J	0.074	99		(62 - 150)
Spk2	27.7	26.9	3.3	0.677	J	0.074	95		(62 - 150)
							Precision:	4	%RPD
Batch #:			0067296	Analysis date:		03/12/10			

## NOTE(S)

Data are incomplete without the case narrative.

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

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

## DUPLICATE EVALUATION REPORT

## Radiochemistry

Client Lot ID: FOC020462  
 Matrix: WATER

Date Sampled: 02/26/10  
 Date Received: 03/02/10

Parameter	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result	Total Uncert. (2σ +/-)	% Yld	QC Sample ID
								Precision
Gamma Cs-137 & Hits by EPA 901.1 MOD				pCi/L	901.1 MOD			FOC020462-001
Cesium 137	-1.6	U	6.8		1.6	U	8.4	5730 %RPD
Potassium 40	-80	U	440		-80	U	3300	2 %RPD
	Batch #:		0061272 (Sample)		0061272 (Duplicate)			
TRITIUM (Distill) by EPA 906.0 MOD				pCi/L	906.0 MOD			FOC020462-001
Tritium	49	U	79		86	U	84	55 %RPD
	Batch #:		0067136 (Sample)		0067136 (Duplicate)			
Gross Alpha/Beta EPA 900				pCi/L	900.0 MOD			FOC020462-001
Gross Alpha	2.1	J	1.2		1.89	J	0.97	9 %RPD
Gross Beta	1.50	J	0.79		1.52	J	0.70	1 %RPD
	Batch #:		0068099 (Sample)		0068099 (Duplicate)			

## NOTE(S)

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

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

U Result is less than the sample detection limit.

*CLM  
304*

**SUBCONTRACT ORDER**  
TestAmerica Irvine

**ITB2835**

*FOC020462*

**SENDING LABORATORY:**

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

**RECEIVING LABORATORY:**

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

**Analysis**      **Units**      **Due**      **Expires**      **Interlab Price Surch**      **Comments**

Sample ID: ITB2835-02 (Outfall 009 (Composite) - Water)

Sampled: 02/26/10 00:00

Analysis	Units	Due	Expires	Interlab Price Surch	Comments
Gamma Spec-O ✓	mg/kg	03/10/10	02/26/11 00:00	\$200.00 50%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER
Gross Alpha-O ✓	pCi/L	03/10/10	08/25/10 00:00	\$90.00 50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O ✓	pCi/L	03/10/10	08/25/10 00:00	\$90.00 50%	Out St Louis, Boeing permit, DO NOT FILTER!
Level 4 Data Package - Out	N/A	03/10/10	03/26/10 00:00	\$0.00 0%	
Radium 226-O ✓	pCi/L	03/10/10	02/26/11 00:00	\$88.00 0%	Out St Louis, Boeing permit, DO NOT FILTER!
Radium 228-O ✓	pCi/L	03/10/10	02/26/11 00:00	\$84.00 0%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O ✓	pCi/L	03/10/10	02/26/11 00:00	\$140.00 50%	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O ✓	pCi/L	03/10/10	02/26/11 00:00	\$80.00 50%	Out St Louis, Boeing permit, DO NOT FILTER!
Uranium, Combined-O ✓	pCi/L	03/10/10	02/26/11 00:00	\$100.00 50%	Out St Louis, Boeing permit, DO NOT FILTER!

**Containers Supplied:**

2.5 gal Poly (I)      500 mL Amber (J)

 \_\_\_\_\_  
Released By      Date/Time      *3/1/10 17:00*

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

*FedEx* \_\_\_\_\_  
Received By      Date/Time      *3/1/10 17:00*

*Amber Boer* \_\_\_\_\_  
Received By      Date/Time      *3/2/10 9:15*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F0C020457, 468

468  
462  
465  
466

## CONDITION UPON RECEIPT FORM

Client: TA Irvine

Quote No: 77635, 85044

COC/RFA No: Below

304

Initiated By: AB

Date: 3-2-10

Time: 9:15

### Shipping Information

Shipper:  FedEx  UPS  DHL  Courier  Client Other: \_\_\_\_\_ Multiple Packages:  Y  N

Shipping # (s):*			Sample Temperature (s):**		
1.	<u>4289 2133 5049</u>	6.	1.	<u>5</u>	6.
2.	<u>5043</u>	7.	2.	<u>ambient</u>	7.
3.	<u>5032</u>	8.	3.	<u>↓</u>	8.
4.	<u>5054</u>	9.	4.		9.
5.		10.	5.		10.

\*Numbered shipping lines correspond to Numbered Sample Temp lines

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

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

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

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

Notes: COC - ITB 2701 - TAT 3/9/10 per KC

2802827  
2837  
2835  
2829 3 did not receive COC w/ WS w/ COC  
2751  
2766

### Corrective Action:

Client Contact Name: \_\_\_\_\_ Informed by: \_\_\_\_\_  
 Sample(s) processed "as is"  
 Sample(s) on hold until: \_\_\_\_\_  
 Project Management Review: Jayna Pohl If released, notify: \_\_\_\_\_  
 Date: 3-4-10

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

ADMIN-0004, REVISED 10/21/08 \\slvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

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# **APPENDIX G**

## **Section 45**

Outfall 009 – March 6 & 7, 2010

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

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# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITC0793

Prepared by

MEC<sup>x</sup>, LP  
12269 East Vassar Drive  
Aurora, CO 80014

**I. INTRODUCTION**

Task Order Title: Boeing SSFL NPDES  
 Contract Task Order: 1261.100D.00  
 Sample Delivery Group: ITC0793  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 1  
 No. of Reanalyses/Dilutions: 0  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 009 (COMPOSITE )	ITC0793-02	G0C090500-001, FOC090518-001	Water	3/7/2010 9:17:00 AM	ASTM 5174-91, 245.1, 245.1 (Diss), 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD

**II. Sample Management**

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-St. Louis above the control limit at ambient temperature; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact upon receipt at TestAmerica-West Sacramento and TestAmerica-St. Louis. As the samples were couriered to TestAmerica-Irvine, custody seals were not required. If necessary, the client ID was added to the sample result summary by the reviewer.

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### Data Qualifier Reference Table

---

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

---

### Qualification Code Reference Table

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

**Qualification Code Reference Table Cont.**

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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.

---

### III. Method Analyses

#### A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin

Date Reviewed: April 9, 2010

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 (9/05)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed with the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
  - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
  - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs  $\leq 20\%$  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 detects between the EDL and the RL for all target compounds except 2,3,7,8-TCDD and total TCDD, and 1,2,3,7,8-PeCDD and total PeCDD. Most method blank results were reported as EMPCs; however, due to the extent of the method blank contamination, it was the reviewer's professional opinion that the EMPC results also be utilized to qualify sample results. The method blank concentration

for OCDD was insufficient to qualify the sample result. Sample results for all remaining isomers also present in the method blank, and for total HpCDF were qualified as nondetected, "U," at the levels of contamination. Results for total HxCDD and total HxCDF were qualified as estimated, "J," as only a portion of the total was considered method blank contamination. The laboratory flagged 2,3,4,6,7,8-HxCDF as method blank contamination in error, therefore, the result was not qualified.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of LCS results. The EMPCs qualified as nondetected for method blank contamination were not further qualified as EMPCs. Totals PeCDD, HpCDD, and PeCDF were comprised only of EMPC peaks, and were therefore qualified as estimated nondetects, "UJ," at the level of the EMPC. Any remaining totals also containing EMPC peaks were qualified as estimated, "J." Any detects reported below the EDL, or between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

## **B. EPA METHOD 245.1—Mercury**

Reviewed By: P. Meeks  
Date Reviewed: April 8, 2010

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 Method 245.1*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Mercury initial calibration  $r^2$  values were  $\geq 0.995$  and all initial and continuing calibration recoveries were within 85-115%. The CRI recoveries were above the control limit; however, mercury was not detected in the site sample.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG/. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.

## C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: April 13, 2010

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174, and the National Functional Guidelines for Inorganic Data Review (10/04)*.

- **Holding Times:** The tritium sample was analyzed within 180 days of collection. All remaining aliquots were prepared within the five-day analytical holding time for unpreserved samples.
- **Calibration:** The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

The gross alpha and radium-226 detector efficiencies were less than 20%; therefore, the results for these analytes were qualified as estimated, "UJ," for nondetects and, "J," for detects. The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- **Blanks:** Total Uranium was detected in the method blank at 0.315 pCi/L; therefore, total uranium detected in the sample was qualified as nondetected, "U," at the reporting limit. There were no other analytes detected in the method blanks or the KPA CCBs.
- **Blank Spikes and Laboratory Control Samples:** The recoveries and RPDs (radium-226, radium-228, strontium-90) were within laboratory-established control limits.
- **Laboratory Duplicates:** No laboratory duplicate analyses were performed on the sample in this SDG.
- **Matrix Spike/Matrix Spike Duplicate:** No MS/MSD or matrix spike analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- **Sample Result Verification:** An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and

coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

The reviewer noted that the total uranium preparation log was not signed as having been reviewed.

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

---

# Validated Sample Result Forms ITC0793

---

## *Analysis Method*    *ASTM 5174-91*

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

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	ND	0.693	0.21	pCi/L	Jb	U	B

## *Analysis Method*    *EPA 245.1*

**Sample Name**    Outfall 009 (COMPOSITE Matrix Type: Water    **Validation Level:** IV

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

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

## *Analysis Method*    *EPA 245.1-Diss*

**Sample Name**    Outfall 009 (COMPOSITE Matrix Type: Water    **Validation Level:** IV

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

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

## *Analysis Method*    *EPA 900.0 MOD*

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

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	0.6	3	1	pCi/L	U	UJ	C
Gross Beta	12587-47-2	1.38	4	1.5	pCi/L	U	U	

## *Analysis Method*    *EPA 901.1 MOD*

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

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	0	20	9	pCi/L	U	U	
Potassium 40	13966-00-2	-20	0	210	pCi/L	U	U	

*Analysis Method*    *EPA 903.0 MOD*

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

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium (226)	13982-63-3	0.064	1	0.056	pCi/L	Jb	J	C, DNQ

*Analysis Method*    *EPA 904 MOD*

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

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium 228	15262-20-1	0.43	1	0.44	pCi/L	U	U	

*Analysis Method*    *EPA 905 MOD*

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

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium 90	10098-97-2	0.01	3	0.46	pCi/L	U	U	

*Analysis Method*    *EPA 906.0 MOD*

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

**Lab Sample Name:**    ITC0793-02    **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	10028-17-8	100	500	150	pCi/L	U	U	

*Analysis Method EPA-5 1613B*

**Sample Name** Outfall 009 (COMPOSITE Matrix Type: WATER **Validation Level:** IV  
**Lab Sample Name:** ITC0793-02 **Sample Date:** 3/7/2010 9:17:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	ND	0.00005	0.0000007	ug/L	J, Ba	U	B
1,2,3,4,6,7,8-HpCDF	67562-39-4	ND	0.0000062	0.0000004	ug/L	J, Q, Ba	U	B
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.0000012	0.0000007	ug/L	J, Q, Ba	U	B
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.0000009	0.0000002	ug/L	J, Q, Ba	U	B
1,2,3,4,7,8-HxCDF	70648-26-9	ND	0.00005	0.0000000	ug/L	J, Ba	U	B
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.0000018	0.0000001	ug/L	J, Q, Ba	U	B
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000001	0.0000000	ug/L	J, Q, Ba	U	B
1,2,3,7,8,9-HxCDD	19408-74-3	ND	0.0000018	0.0000001	ug/L	J, Q, Ba	U	B
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.0000007	0.0000000	ug/L	J, Q, Ba	U	B
1,2,3,7,8-PeCDD	40321-76-4	ND	0.00005	0.0000005	ug/L		U	
1,2,3,7,8-PeCDF	57117-41-6	ND	0.00005	0.0000000	ug/L		U	
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.00005	0.0000000	ug/L	J, Ba	U	B
2,3,4,7,8-PeCDF	57117-31-4	ND	0.00005	0.0000000	ug/L		U	
2,3,7,8-TCDD	1746-01-6	ND	0.00001	0.0000000	ug/L		U	
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.0000000	ug/L		U	
OCDD	3268-87-9	0.00029	0.0001	0.0000011	ug/L	Ba		
OCDF	39001-02-0	ND	0.0001	0.0000005	ug/L	J, Ba	U	B
Total HpCDD	37871-00-4	ND	0.00005	0.0000007	ug/L	J, Ba	UJ	*III
Total HpCDF	38998-75-3	ND	0.000016	0.0000004	ug/L	J, Q, Ba	U	B
Total HxCDD	34465-46-8	0.00001	0.00001	0.0000001	ug/L	J, Q, Ba	J	B, DNQ, *III
Total HxCDF	55684-94-1	0.000009	0.0000097	0.0000000	ug/L	J, Q, Ba	J	B, DNQ, *III
Total PeCDD	36088-22-9	ND	0.0000018	0.0000005	ug/L	J, Q	UJ	*III
Total PeCDF	30402-15-4	ND	0.0000011	0.0000000	ug/L	J, Q, Ba	UJ	*III
Total TCDD	41903-57-5	ND	0.00001	0.0000000	ug/L		U	
Total TCDF	55722-27-5	ND	0.00001	0.0000000	ug/L		U	

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# **APPENDIX G**

## **Section 46**

Outfall 009 – March 6 & 7, 2010

Test America Analytical Laboratory Report

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## LABORATORY REPORT

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

Project: Routine Outfall 009

Sampled: 03/06/10-03/07/10  
Received: 03/08/10  
Issued: 04/06/10 16:53

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

*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(s) of Custody, 4 pages, are included and are an integral part of this report.  
This entire report was reviewed and approved for release.*

### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 4°C, on ice and with chain of custody documentation.

**HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

**PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.

**QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.

**COMMENTS:** Results that fall between the MDL and RL are 'J' flagged.

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

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

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

There are no other anomalies associated with this project.

**LABORATORY ID**  
ITC0793-01

**CLIENT ID**  
Outfall 009 (GRAB)

**MATRIX**  
Water

### TestAmerica Irvine

Debby Wilson For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
Received: 03/08/10

**LABORATORY ID**

ITC0793-02

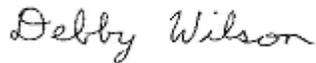
**CLIENT ID**

Outfall 009 (COMPOSITE)

**MATRIX**

Water

Reviewed By:



**TestAmerica Irvine**

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Project Manager

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Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
Received: 03/08/10

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-01 (Outfall 009 (GRAB) - Water)</b>					<b>Sampled: 03/06/10</b>				
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	10C1956	1.4	4.9	ND	1	03/16/10	03/16/10	

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Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1	10C2010	0.10	0.20	ND	1	03/16/10	03/16/10	
<b>Antimony</b>	EPA 200.8	10C1320	0.30	2.0	<b>0.79</b>	1	03/10/10	03/11/10	J
Cadmium	EPA 200.8	10C1320	0.10	1.0	ND	1	03/10/10	03/12/10	
<b>Copper</b>	EPA 200.8	10C1320	0.50	2.0	<b>3.2</b>	1	03/10/10	03/11/10	
<b>Lead</b>	EPA 200.8	10C1320	0.20	1.0	<b>1.1</b>	1	03/10/10	03/11/10	
Thallium	EPA 200.8	10C1320	0.20	1.0	ND	1	03/10/10	03/12/10	

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Report Number: ITC0793

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 Received: 03/08/10

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1-Diss	10C2011	0.10	0.20	ND	1	03/16/10	03/16/10	
<b>Antimony</b>	EPA 200.8-Diss	10C1740	0.30	2.0	<b>0.79</b>	1	03/14/10	03/16/10	J
Cadmium	EPA 200.8-Diss	10C1740	0.10	1.0	ND	1	03/14/10	03/16/10	
<b>Copper</b>	EPA 200.8-Diss	10C1740	0.50	2.0	<b>2.8</b>	1	03/14/10	03/16/10	B
Lead	EPA 200.8-Diss	10C1740	0.20	1.0	ND	1	03/14/10	03/16/10	
Thallium	EPA 200.8-Diss	10C1740	0.20	1.0	ND	1	03/14/10	03/16/10	

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Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
Reporting Units: mg/l									
Chloride	EPA 300.0	10C0921	0.25	0.50	<b>7.8</b>	1	03/08/10	03/08/10	
Nitrate/Nitrite-N	EPA 300.0	10C0921	0.15	0.26	<b>0.26</b>	1	03/08/10	03/08/10	
Sulfate	EPA 300.0	10C0921	0.20	0.50	<b>12</b>	1	03/08/10	03/08/10	
Total Dissolved Solids	SM2540C	10C1348	1.0	10	<b>120</b>	1	03/11/10	03/11/10	

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Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
Received: 03/08/10

## EPA-5 1613B

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	70198	0.0000007	0.00005	<b>0.000025</b>	0.99	03/11/10	03/15/10	J, Ba
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	70198	0.0000049	0.00005	<b>0.000062</b>	0.99	03/11/10	03/15/10	J, Q, Ba
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	70198	0.0000072	0.00005	<b>0.000012</b>	0.99	03/11/10	03/15/10	J, Q, Ba
1,2,3,4,7,8-HxCDD	EPA-5 1613B	70198	0.0000021	0.00005	<b>0.0000099</b>	0.99	03/11/10	03/15/10	J, Q, Ba
1,2,3,4,7,8-HxCDF	EPA-5 1613B	70198	0.0000002	0.00005	<b>0.000014</b>	0.99	03/11/10	03/15/10	J, Ba
1,2,3,6,7,8-HxCDD	EPA-5 1613B	70198	0.0000019	0.00005	<b>0.000018</b>	0.99	03/11/10	03/15/10	J, Q, Ba
1,2,3,6,7,8-HxCDF	EPA-5 1613B	70198	0.0000002	0.00005	<b>0.000001</b>	0.99	03/11/10	03/15/10	J, Q, Ba
1,2,3,7,8,9-HxCDD	EPA-5 1613B	70198	0.0000018	0.00005	<b>0.000018</b>	0.99	03/11/10	03/15/10	J, Q, Ba
1,2,3,7,8,9-HxCDF	EPA-5 1613B	70198	0.0000003	0.00005	<b>0.0000076</b>	0.99	03/11/10	03/15/10	J, Q, Ba
1,2,3,7,8-PeCDD	EPA-5 1613B	70198	0.0000057	0.00005	ND	0.99	03/11/10	03/15/10	
1,2,3,7,8-PeCDF	EPA-5 1613B	70198	0.0000004	0.00005	ND	0.99	03/11/10	03/15/10	
2,3,4,6,7,8-HxCDF	EPA-5 1613B	70198	0.0000002	0.00005	<b>0.000013</b>	0.99	03/11/10	03/15/10	J, Ba
2,3,4,7,8-PeCDF	EPA-5 1613B	70198	0.0000004	0.00005	ND	0.99	03/11/10	03/15/10	
2,3,7,8-TCDD	EPA-5 1613B	70198	0.0000003	0.00001	ND	0.99	03/11/10	03/15/10	
2,3,7,8-TCDF	EPA-5 1613B	70198	0.0000003	0.00001	ND	0.99	03/11/10	03/15/10	
OCDD	EPA-5 1613B	70198	0.0000011	0.0001	<b>0.00029</b>	0.99	03/11/10	03/15/10	Ba
OCDF	EPA-5 1613B	70198	0.0000055	0.0001	<b>0.000017</b>	0.99	03/11/10	03/15/10	J, Ba
Total HpCDD	EPA-5 1613B	70198	0.0000007	0.00005	<b>0.000061</b>	0.99	03/11/10	03/15/10	J, Ba
Total HpCDF	EPA-5 1613B	70198	0.0000049	0.00005	<b>0.000016</b>	0.99	03/11/10	03/15/10	J, Q, Ba
Total HxCDD	EPA-5 1613B	70198	0.0000018	0.00005	<b>0.00001</b>	0.99	03/11/10	03/15/10	J, Q, Ba
Total HxCDF	EPA-5 1613B	70198	0.0000002	0.00005	<b>0.0000097</b>	0.99	03/11/10	03/15/10	J, Q, Ba
Total PeCDD	EPA-5 1613B	70198	0.0000057	0.00005	<b>0.000018</b>	0.99	03/11/10	03/15/10	J, Q
Total PeCDF	EPA-5 1613B	70198	0.0000003	0.00005	<b>0.000011</b>	0.99	03/11/10	03/15/10	J, Q, Ba
Total TCDD	EPA-5 1613B	70198	0.0000003	0.00001	ND	0.99	03/11/10	03/15/10	
Total TCDF	EPA-5 1613B	70198	0.0000003	0.00001	ND	0.99	03/11/10	03/15/10	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)	66 %
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)	64 %
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)	60 %
Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)	70 %
Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)	67 %
Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)	62 %
Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)	62 %
Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)	60 %
Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)	55 %
Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)	48 %
Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)	64 %
Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)	48 %
Surrogate: 13C-2,3,7,8-TCDD (25-164%)	56 %
Surrogate: 13C-2,3,7,8-TCDF (24-169%)	52 %
Surrogate: 13C-OCDD (17-157%)	65 %
Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)	91 %

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Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
Received: 03/08/10

## ASTM 5174-91

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
Reporting Units: pCi/L									
<b>Total Uranium</b>	ASTM 5174-91	67296	0.21	0.693	<b>0.485</b>	1	03/10/10	03/12/10	Jb

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Received: 03/08/10

## EPA 900.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
Reporting Units: pCi/L									
Gross Alpha	EPA 900.0 MOD	70220	1	3	<b>0.6</b>	1	03/11/10	03/14/10	U
Gross Beta	EPA 900.0 MOD	70220	1.5	4	<b>1.38</b>	1	03/11/10	03/14/10	U

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Received: 03/08/10

## EPA 901.1 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
<b>Reporting Units: pCi/L</b>									
Cesium 137	EPA 901.1 MOD	69127	9	20	ND	1	03/10/10	03/20/10	U
Potassium 40	EPA 901.1 MOD	69127	210	NA	-20	1	03/10/10	03/20/10	U

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Received: 03/08/10

## EPA 903.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Radium (226)</b>	EPA 903.0 MOD	69101	0.056	1	<b>0.064</b>	1	03/10/10	04/02/10	Jb

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Received: 03/08/10

## EPA 904 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
Reporting Units: pCi/L									
<b>Radium 228</b>	EPA 904 MOD	69102	0.44	1	<b>0.43</b>	1	03/10/10	03/19/10	U

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## EPA 905 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Strontium 90</b>	EPA 905 MOD	69104	0.46	3	<b>0.01</b>	1	03/10/10	03/20/10	U

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## EPA 906.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)</b>					<b>Sampled: 03/07/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Tritium</b>	EPA 906.0 MOD	77060	150	500	<b>100</b>	1	03/18/10	03/24/10	U

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Sampled: 03/06/10-03/07/10  
Received: 03/08/10

## 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 009 (COMPOSITE) (ITC0793-02) - Water</b>					
EPA 300.0	2	03/07/2010 09:17	03/08/2010 03:45	03/08/2010 14:00	03/08/2010 14:36

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**ITC0793 <Page 15 of 35>**

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Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METHOD BLANK/QC DATA

### HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C1956 Extracted: 03/16/10</b>											
<b>Blank Analyzed: 03/16/2010 (10C1956-BLK1)</b>											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
<b>LCS Analyzed: 03/16/2010 (10C1956-BS1)</b>											
Hexane Extractable Material (Oil & Grease)	19.7	5.0	1.4	mg/l	20.0		98	78-114			MNR1
<b>LCS Dup Analyzed: 03/16/2010 (10C1956-BSD1)</b>											
Hexane Extractable Material (Oil & Grease)	19.4	5.0	1.4	mg/l	20.0		97	78-114	2	11	

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Received: 03/08/10

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C1320 Extracted: 03/10/10</b>											
<b>Blank Analyzed: 03/11/2010-03/12/2010 (10C1320-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 03/11/2010-03/12/2010 (10C1320-BS1)</b>											
Antimony	76.5	2.0	0.30	ug/l	80.0		96	85-115			
Cadmium	79.4	1.0	0.10	ug/l	80.0		99	85-115			
Copper	78.4	2.0	0.50	ug/l	80.0		98	85-115			
Lead	80.3	1.0	0.20	ug/l	80.0		100	85-115			
Thallium	79.7	1.0	0.20	ug/l	80.0		100	85-115			
<b>Matrix Spike Analyzed: 03/11/2010-03/12/2010 (10C1320-MS1) Source: ITC0790-03</b>											
Antimony	78.5	2.0	0.30	ug/l	80.0	0.353	98	70-130			
Cadmium	81.1	1.0	0.10	ug/l	80.0	ND	101	70-130			
Copper	79.6	2.0	0.50	ug/l	80.0	1.76	97	70-130			
Lead	75.7	1.0	0.20	ug/l	80.0	0.316	94	70-130			
Thallium	75.5	1.0	0.20	ug/l	80.0	ND	94	70-130			
<b>Matrix Spike Analyzed: 03/11/2010-03/12/2010 (10C1320-MS2) Source: ITC0791-03</b>											
Antimony	78.9	2.0	0.30	ug/l	80.0	0.397	98	70-130			
Cadmium	81.3	1.0	0.10	ug/l	80.0	ND	102	70-130			
Copper	79.8	2.0	0.50	ug/l	80.0	1.36	98	70-130			
Lead	75.1	1.0	0.20	ug/l	80.0	0.231	94	70-130			
Thallium	76.2	1.0	0.20	ug/l	80.0	ND	95	70-130			
<b>Matrix Spike Dup Analyzed: 03/11/2010-03/12/2010 (10C1320-MSD1) Source: ITC0790-03</b>											
Antimony	79.1	2.0	0.30	ug/l	80.0	0.353	98	70-130	0.7	20	
Cadmium	78.2	1.0	0.10	ug/l	80.0	ND	98	70-130	4	20	
Copper	79.1	2.0	0.50	ug/l	80.0	1.76	97	70-130	0.6	20	
Lead	73.6	1.0	0.20	ug/l	80.0	0.316	92	70-130	3	20	
Thallium	73.8	1.0	0.20	ug/l	80.0	ND	92	70-130	2	20	

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## 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: 10C2010 Extracted: 03/16/10</b>											
<b>Blank Analyzed: 03/16/2010 (10C2010-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 03/16/2010 (10C2010-BS1)</b>											
Mercury	8.36	0.20	0.10	ug/l	8.00		105	85-115			
<b>Matrix Spike Analyzed: 03/16/2010 (10C2010-MS1)</b>											
						<b>Source: ITC1476-01</b>					
Mercury	8.41	0.20	0.10	ug/l	8.00	ND	105	70-130			
<b>Matrix Spike Dup Analyzed: 03/16/2010 (10C2010-MSD1)</b>											
						<b>Source: ITC1476-01</b>					
Mercury	8.38	0.20	0.10	ug/l	8.00	ND	105	70-130	0.5	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C1740 Extracted: 03/14/10</b>											
<b>Blank Analyzed: 03/16/2010 (10C1740-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	0.692	2.0	0.50	ug/l							J
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 03/16/2010 (10C1740-BS1)</b>											
Antimony	84.4	2.0	0.30	ug/l	80.0		105	85-115			
Cadmium	81.0	1.0	0.10	ug/l	80.0		101	85-115			
Copper	82.0	2.0	0.50	ug/l	80.0		103	85-115			
Lead	83.1	1.0	0.20	ug/l	80.0		104	85-115			
Thallium	82.8	1.0	0.20	ug/l	80.0		103	85-115			
<b>Matrix Spike Analyzed: 03/16/2010 (10C1740-MS1) Source: ITC1128-01</b>											
Antimony	85.2	2.0	0.30	ug/l	80.0	ND	107	70-130			
Cadmium	77.6	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	76.4	2.0	0.50	ug/l	80.0	1.11	94	70-130			
Lead	78.0	1.0	0.20	ug/l	80.0	ND	97	70-130			
Thallium	78.4	1.0	0.20	ug/l	80.0	ND	98	70-130			
<b>Matrix Spike Analyzed: 03/16/2010 (10C1740-MS2) Source: ITC1128-02</b>											
Antimony	85.1	2.0	0.30	ug/l	80.0	ND	106	70-130			
Cadmium	77.7	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	77.2	2.0	0.50	ug/l	80.0	2.21	94	70-130			
Lead	76.7	1.0	0.20	ug/l	80.0	ND	96	70-130			
Thallium	76.9	1.0	0.20	ug/l	80.0	ND	96	70-130			
<b>Matrix Spike Dup Analyzed: 03/16/2010 (10C1740-MSD1) Source: ITC1128-01</b>											
Antimony	86.0	2.0	0.30	ug/l	80.0	ND	108	70-130	0.9	20	
Cadmium	79.0	1.0	0.10	ug/l	80.0	ND	99	70-130	2	20	
Copper	77.6	2.0	0.50	ug/l	80.0	1.11	96	70-130	2	20	
Lead	78.3	1.0	0.20	ug/l	80.0	ND	98	70-130	0.4	20	
Thallium	77.9	1.0	0.20	ug/l	80.0	ND	97	70-130	0.6	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C2011 Extracted: 03/16/10</b>											
<b>Blank Analyzed: 03/16/2010 (10C2011-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 03/16/2010 (10C2011-BS1)</b>											
Mercury	8.65	0.20	0.10	ug/l	8.00		108	85-115			
<b>Matrix Spike Analyzed: 03/16/2010 (10C2011-MS1)</b>											
						<b>Source: ITC1128-01</b>					
Mercury	8.49	0.20	0.10	ug/l	8.00	ND	106	70-130			
<b>Matrix Spike Dup Analyzed: 03/16/2010 (10C2011-MSD1)</b>											
						<b>Source: ITC1128-01</b>					
Mercury	8.36	0.20	0.10	ug/l	8.00	ND	104	70-130	2	20	

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## 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: 10C0921 Extracted: 03/08/10</b>											
<b>Blank Analyzed: 03/08/2010 (10C0921-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: 03/08/2010 (10C0921-BS1)</b>											
Chloride	4.95	0.50	0.25	mg/l	5.00		99	90-110			
Sulfate	10.3	0.50	0.20	mg/l	10.0		103	90-110			
<b>Matrix Spike Analyzed: 03/08/2010 (10C0921-MS1) Source: ITC0793-02</b>											
Chloride	12.9	0.50	0.25	mg/l	5.00	7.84	102	80-120			
Sulfate	22.1	0.50	0.20	mg/l	10.0	11.7	103	80-120			
<b>Matrix Spike Analyzed: 03/08/2010 (10C0921-MS2) Source: ITC0878-02</b>											
Chloride	11.8	0.50	0.25	mg/l	5.00	6.58	104	80-120			
Sulfate	31.2	0.50	0.20	mg/l	10.0	20.3	109	80-120			
<b>Matrix Spike Dup Analyzed: 03/08/2010 (10C0921-MSD1) Source: ITC0793-02</b>											
Chloride	12.9	0.50	0.25	mg/l	5.00	7.84	101	80-120	0.07	20	
Sulfate	22.0	0.50	0.20	mg/l	10.0	11.7	103	80-120	0.1	20	
<b>Batch: 10C1348 Extracted: 03/11/10</b>											
<b>Blank Analyzed: 03/11/2010 (10C1348-BLK1)</b>											
Total Dissolved Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 03/11/2010 (10C1348-BS1)</b>											
Total Dissolved Solids	998	10	1.0	mg/l	1000		100	90-110			

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10C1348 Extracted: 03/11/10</b>										
<b>Duplicate Analyzed: 03/11/2010 (10C1348-DUP1)</b>										
Total Dissolved Solids	293	10	1.0	mg/l		290		1	10	

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## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: 70198 Extracted: 03/11/10</b>											
<b>Blank Analyzed: 03/15/2010 (G0C110000198B)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.000033	0.00005	0.0000074	ug/L				-			J, Q
1,2,3,4,6,7,8-HpCDF	0.000024	0.00005	0.0000082	ug/L				-			J, Q
1,2,3,4,7,8,9-HpCDF	0.000016	0.00005	0.000001	ug/L				-			J
1,2,3,4,7,8-HxCDD	0.000011	0.00005	0.0000071	ug/L				-			J, Q
1,2,3,4,7,8-HxCDF	0.000018	0.00005	0.0000021	ug/L				-			J
1,2,3,6,7,8-HxCDD	0.000015	0.00005	0.0000065	ug/L				-			J
1,2,3,6,7,8-HxCDF	0.000001	0.00005	0.0000002	ug/L				-			J, Q
1,2,3,7,8,9-HxCDD	0.000012	0.00005	0.0000061	ug/L				-			J, Q
1,2,3,7,8,9-HxCDF	0.000015	0.00005	0.0000022	ug/L				-			J, Q
1,2,3,7,8-PeCDD	ND	0.00005	0.0000032	ug/L				-			
1,2,3,7,8-PeCDF	0.000012	0.00005	0.0000004	ug/L				-			J
2,3,4,6,7,8-HxCDF	0.000016	0.00005	0.0000019	ug/L				-			J
2,3,4,7,8-PeCDF	0.000008	0.00005	0.0000004	ug/L				-			J, Q
2,3,7,8-TCDD	ND	0.00001	0.0000003	ug/L				-			
2,3,7,8-TCDF	0.0000086	0.00001	0.0000004	ug/L				-			J
OCDD	0.000017	0.0001	0.0000084	ug/L				-			J
OCDF	0.000061	0.0001	0.0000067	ug/L				-			J
Total HpCDD	0.000006	0.00005	0.0000074	ug/L				-			J, Q
Total HpCDF	0.000004	0.00005	0.0000082	ug/L				-			J, Q
Total HxCDD	0.000039	0.00005	0.0000061	ug/L				-			J, Q
Total HxCDF	0.000063	0.00005	0.0000019	ug/L				-			J, Q
Total PeCDD	ND	0.00005	0.0000032	ug/L				-			
Total PeCDF	0.000024	0.00005	0.0000004	ug/L				-			J, Q
Total TCDD	ND	0.00001	0.0000003	ug/L				-			
Total TCDF	0.0000086	0.00001	0.0000004	ug/L				-			J
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0015			ug/L	0.00200		73	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0014			ug/L	0.00200		69	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0014			ug/L	0.00200		69	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0015			ug/L	0.00200		74	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0014			ug/L	0.00200		70	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0014			ug/L	0.00200		71	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0013			ug/L	0.00200		67	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0013			ug/L	0.00200		66	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0012			ug/L	0.00200		61	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.001			ug/L	0.00200		52	24-185			

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## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 70198 Extracted: 03/11/10</b>											
<b>Blank Analyzed: 03/15/2010 (G0C110000198B)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0014			ug/L	0.00200		70	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0011			ug/L	0.00200		53	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0011			ug/L	0.00200		57	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.001			ug/L	0.00200		52	24-169			
Surrogate: 13C-OCDD	0.0029			ug/L	0.00400		74	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00074			ug/L	0.000800		92	35-197			
<b>LCS Analyzed: 03/15/2010 (G0C110000198C)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00106	0.00005	0.0000016	ug/L	0.00100		106	70-140			Ba
1,2,3,4,6,7,8-HpCDF	0.00106	0.00005	0.0000021	ug/L	0.00100		106	82-122			Ba
1,2,3,4,7,8,9-HpCDF	0.0011	0.00005	0.0000029	ug/L	0.00100		110	78-138			Ba
1,2,3,4,7,8-HxCDD	0.00104	0.00005	0.0000032	ug/L	0.00100		104	70-164			Ba
1,2,3,4,7,8-HxCDF	0.00108	0.00005	0.0000001	ug/L	0.00100		108	72-134			Ba
1,2,3,6,7,8-HxCDD	0.000997	0.00005	0.0000003	ug/L	0.00100		100	76-134			Ba
1,2,3,6,7,8-HxCDF	0.00109	0.00005	0.0000001	ug/L	0.00100		109	84-130			Ba
1,2,3,7,8,9-HxCDD	0.000993	0.00005	0.00000028	ug/L	0.00100		99	64-162			Ba
1,2,3,7,8,9-HxCDF	0.00108	0.00005	0.0000001	ug/L	0.00100		108	78-130			Ba
1,2,3,7,8-PeCDD	0.000957	0.00005	0.0000021	ug/L	0.00100		96	70-142			
1,2,3,7,8-PeCDF	0.00106	0.00005	0.0000011	ug/L	0.00100		106	80-134			Ba
2,3,4,6,7,8-HxCDF	0.00109	0.00005	0.0000001	ug/L	0.00100		109	70-156			Ba
2,3,4,7,8-PeCDF	0.00108	0.00005	0.0000012	ug/L	0.00100		108	68-160			Ba
2,3,7,8-TCDD	0.000201	0.00001	0.00000002	ug/L	0.000200		100	67-158			
2,3,7,8-TCDF	0.000195	0.00001	0.00000002	ug/L	0.000200		98	75-158			Ba
OCDD	0.00204	0.0001	0.0000015	ug/L	0.00200		102	78-144			Ba
OCDF	0.00194	0.0001	0.00000081	ug/L	0.00200		97	63-170			Ba
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00181			ug/L	0.00200		91	26-166			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00175			ug/L	0.00200		88	21-158			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0017			ug/L	0.00200		85	20-186			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00195			ug/L	0.00200		98	21-193			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00182			ug/L	0.00200		91	19-202			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00167			ug/L	0.00200		84	25-163			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00164			ug/L	0.00200		82	21-159			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00169			ug/L	0.00200		85	17-205			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00151			ug/L	0.00200		76	21-227			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00129			ug/L	0.00200		65	21-192			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00174			ug/L	0.00200		87	22-176			

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## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 70198 Extracted: 03/11/10</b>											
<b>LCS Analyzed: 03/15/2010 (G0C110000198C)</b>											
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00132			ug/L	0.00200		66	13-328			
Surrogate: 13C-2,3,7,8-TCDD	0.00145			ug/L	0.00200		73	20-175			
Surrogate: 13C-2,3,7,8-TCDF	0.00137			ug/L	0.00200		68	22-152			
Surrogate: 13C-OCDD	0.00375			ug/L	0.00400		94	13-199			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000741			ug/L	0.000800		93	31-191			
<b>Blank Analyzed: 03/16/2010 (G0C1100098RE1)</b>											
2,3,7,8-TCDF	ND	0.00001	0.0000026	ug/L				-			
Surrogate: 13C-2,3,7,8-TCDF	0.0012			ug/L	0.00200		58	24-169			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.0007			ug/L	0.000800		87	35-197			

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## METHOD BLANK/QC DATA

### ASTM 5174-91

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 67296 Extracted: 03/10/10</b>											
<b>Matrix Spike Dup Analyzed: 03/12/2010 (F0B230452001D)</b>						<b>Source: F0B230452001</b>					
Total Uranium	26.9	0.7	0.2	pCi/L	27.7	0.677	95	62-150	4	20	
<b>Matrix Spike Analyzed: 03/12/2010 (F0B230452001S)</b>						<b>Source: F0B230452001</b>					
Total Uranium	28.1	0.7	0.2	pCi/L	27.7	0.677	99	62-150			
<b>Blank Analyzed: 03/12/2010 (F0C080000296B)</b>						<b>Source:</b>					
Total Uranium	0.315	0.693	0.21	pCi/L				-			Jb
<b>LCS Analyzed: 03/12/2010 (F0C080000296C)</b>						<b>Source:</b>					
Total Uranium	5.62	0.69	0.21	pCi/L	5.54		101	90-120			

**TestAmerica Irvine**

Debby Wilson For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009  
 Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METHOD BLANK/QC DATA

### EPA 900.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 70220 Extracted: 03/11/10</b>											
<b>Matrix Spike Analyzed: 03/14/2010 (F0C090509001S)</b>						<b>Source: F0C090509001</b>					
Gross Alpha	47.4	3	2.6	pCi/L	59.9	0.3	79	35-150			
Gross Beta	87	4	2.2	pCi/L	82.4	3.9	101	54-150			
<b>Duplicate Analyzed: 03/14/2010 (F0C090509001X)</b>						<b>Source: F0C090509001</b>					
Gross Alpha	1.9	3	2.1	pCi/L		0.3		-			U
Gross Beta	4.8	4	2.1	pCi/L		3.9		-			U
<b>Blank Analyzed: 03/14/2010 (F0C110000220B)</b>						<b>Source:</b>					
Gross Alpha	-0.16	3	0.79	pCi/L				-			U
Gross Beta	0.37	4	1.5	pCi/L				-			U
<b>LCS Analyzed: 03/14/2010 (F0C110000220C)</b>						<b>Source:</b>					
Gross Alpha	31.9	3	0.8	pCi/L	49.4		64	62-134			
Gross Beta	53	4	1.5	pCi/L	67.9		78	58-133			

**TestAmerica Irvine**

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 Project Manager

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METHOD BLANK/QC DATA

### EPA 901.1 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 69127 Extracted: 03/10/10</b>											
<b>Duplicate Analyzed: 03/20/2010 (F0C090509001X)</b>						<b>Source: F0C090509001</b>					
Cesium 137	-0.3	20	13	pCi/L		4.5		-			U
Potassium 40	-50	NA	220	pCi/L		-50		-			U
<b>Blank Analyzed: 03/21/2010 (F0C100000127B)</b>						<b>Source:</b>					
Cesium 137	1.9	20	14	pCi/L				-			U
Potassium 40	12	NA	210	pCi/L				-			U
<b>LCS Analyzed: 03/21/2010 (F0C100000127C)</b>						<b>Source:</b>					
Americium 241	131000	NA	500	pCi/L	141000		93	87-110			
Cobalt 60	79200	NA	200	pCi/L	87800		90	89-110			
Cesium 137	48400	20	200	pCi/L	53100		91	90-110			

**TestAmerica Irvine**

Debby Wilson For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METHOD BLANK/QC DATA

### EPA 903.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 69101 Extracted: 03/10/10</b>											
<b>Blank Analyzed: 04/02/2010 (F0C100000101B)</b>						<b>Source:</b>					
Radium (226)	0.025	1	0.051	pCi/L				-			U
<b>LCS Analyzed: 04/02/2010 (F0C100000101C)</b>						<b>Source:</b>					
Radium (226)	10.6	1	0.05	pCi/L	11.3		94	68-136			
<b>LCS Dup Analyzed: 04/02/2010 (F0C100000101L)</b>						<b>Source:</b>					
Radium (226)	10.1	1	0.05	pCi/L	11.3		89	68-136	6	40	

**TestAmerica Irvine**

Debby Wilson For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METHOD BLANK/QC DATA

### EPA 904 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 69102 Extracted: 03/10/10</b>											
<b>Blank Analyzed: 03/19/2010 (F0C100000102B)</b>											
Radium 228	0.19	1	0.39	pCi/L				-			U
<b>LCS Analyzed: 03/19/2010 (F0C100000102C)</b>											
Radium 228	7.41	1	0.36	pCi/L	6.37		116	60-142			
<b>LCS Dup Analyzed: 03/19/2010 (F0C100000102L)</b>											
Radium 228	7.87	1	0.42	pCi/L	6.37		124	60-142	6	40	

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 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METHOD BLANK/QC DATA

### EPA 905 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 69104 Extracted: 03/10/10</b>											
<b>Blank Analyzed: 03/20/2010 (F0C100000104B)</b>											
Strontium 90	0.01	3	0.43	pCi/L				-			U
<b>LCS Analyzed: 03/20/2010 (F0C100000104C)</b>											
Strontium 90	6.64	3	0.4	pCi/L	6.79		98	80-130			
<b>LCS Dup Analyzed: 03/20/2010 (F0C100000104L)</b>											
Strontium 90	6.75	3	0.39	pCi/L	6.79		99	80-130	2	40	

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 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
 Received: 03/08/10

## METHOD BLANK/QC DATA

### EPA 906.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 77060 Extracted: 03/18/10</b>											
<b>Duplicate Analyzed: 03/23/2010 (F0C090509001X)</b>						<b>Source: F0C090509001</b>					
Tritium	-26	500	150	pCi/L		34	-				U
<b>Matrix Spike Analyzed: 03/24/2010 (F0C090512001S)</b>						<b>Source: F0C090512001</b>					
Tritium	4170	500	150	pCi/L	4510	-17	93	62-147			
<b>Blank Analyzed: 03/23/2010 (F0C180000060B)</b>						<b>Source:</b>					
Tritium	83	500	150	pCi/L							U
<b>LCS Analyzed: 03/23/2010 (F0C180000060C)</b>						<b>Source:</b>					
Tritium	4450	500	150	pCi/L	4510		99	85-112			

**TestAmerica Irvine**

Debby Wilson For Heather Clark  
 Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
Received: 03/08/10

## DATA QUALIFIERS AND DEFINITIONS

<b>B</b>	Analyte was detected in the associated Method Blank.
<b>Ba</b>	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
<b>J</b>	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.
<b>Jb</b>	Result is greater than sample detection limit but less than stated reporting limit.
<b>MNR1</b>	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
<b>Q</b>	Estimated maximum possible concentration (EMPC).
<b>U</b>	Result is less than the sample detection limit.
<b>ND</b>	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
<b>RPD</b>	Relative Percent Difference

### TestAmerica Irvine

Debby Wilson For Heather Clark  
Project Manager

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**ITC0793 <Page 33 of 35>**

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
Received: 03/08/10

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 1664A	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
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

#### TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Method Performed: ASTM 5174-91  
Samples: ITC0793-02

Method Performed: EPA 900.0 MOD  
Samples: ITC0793-02

Method Performed: EPA 901.1 MOD  
Samples: ITC0793-02

Method Performed: EPA 903.0 MOD  
Samples: ITC0793-02

Method Performed: EPA 904 MOD  
Samples: ITC0793-02

Method Performed: EPA 905 MOD  
Samples: ITC0793-02

Method Performed: EPA 906.0 MOD  
Samples: ITC0793-02

#### TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B  
Samples: ITC0793-02

### TestAmerica Irvine

Debby Wilson For Heather Clark  
Project Manager

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

Project ID: Routine Outfall 009

Report Number: ITC0793

Sampled: 03/06/10-03/07/10  
Received: 03/08/10

**TestAmerica Irvine**

Debby Wilson For Heather Clark  
Project Manager

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**ITC0793 <Page 35 of 35>**

CHAIN OF CUSTODY FORM

Client Name/Address: MWH-Arcadia 618 Michillinda Ave, Suite 200 Arcadia, CA 91007		Project: Boeing-SSFL NPDES Routine Outfall 009 GRAB Stormwater at WS-13		ANALYSIS REQUIRED		Field readings: Temp °F = 51.2 pH = 7.0 Time of readings = 3/6/10 1440
Test America Contact: Joseph Doak		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515				
Project Manager: Bronwyn Kelly Sampler: S Dawson		Sampling Date/Time 3/6/10 1440		Preservative HCI		
Sample Description Outfall 009		Container Type 1L Amber		Bottle # 1A, 1B		
Sample Matrix W		# of Cont. 2		Oil & Grease (1664-HEM) X		
These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.						
Relinquished By [Signature]		Date/Time 3/6/10		Received By [Signature]		Date/Time 3/7/10
Relinquished By [Signature]		Date/Time 3/6/10		Received By [Signature]		Date/Time 3/7/10
Relinquished By [Signature]		Date/Time 3/6/10		Received By [Signature]		Date/Time 3/7/10
Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> 48 Hour: _____ 5 Day: _____ Normal: _____						
Sample Integrity: (Check) Inact: _____ On Ice: <input checked="" type="checkbox"/>						
Data Requirements: (Check) No Level IV: _____ All Level IV: _____ NPDES Level IV: <input checked="" type="checkbox"/>						









TestAmerica Laboratories, Inc.

## ANALYTICAL REPORT

PROJECT NO. ITC0793

MWH-Pasadena Boeing

Lot #: F0C090518

Kathleen Robb

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

TESTAMERICA LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Lynn", is positioned above the printed name and title.

Lynn Fussner  
Project Manager

April 5, 2010

Case Narrative  
LOT NUMBER: F0C090518

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on March 9, 2010. This sample is associated with your MWH-Pasadena Boeing project.

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

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

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

**Observations/Nonconformances**

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

**Radium-226 by GFPC (EPA 903.0 MOD)**

There was insufficient sample volume to perform MS/MSD analysis. A LCS/LCSD was performed to demonstrate accuracy and replicate precision.

**Affected Samples:**

F0C090518 (1): ITC0793-02

**Radium-228 by GFPC (EPA 904 MOD)**

There was insufficient sample volume to perform MS/MSD analysis. A LCS/LCSD was performed to demonstrate accuracy and replicate precision.

**Affected Samples:**

F0C090518 (1): ITC0793-02

**METHODS SUMMARY**

FOC090518

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

**References:**

ASTM      Annual Book Of ASTM Standards.

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

**SAMPLE SUMMARY**

F0C090518

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LWFXM	001	ITC0793-02	03/07/10	09:17

**NOTE(S) :**

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

## TestAmerica Irvine

Client Sample ID: ITC0793-02

## Radiochemistry

Lab Sample ID: FOC090518-001  
 Work Order: LWF XM  
 Matrix: WATER

Date Collected: 03/07/10 0917  
 Date Received: 03/09/10 0915

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	mdc	Prep Date	Analysis Date
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
				pCi/L		Batch # 0069127	Yld %
Cesium 137	0.0	U	4.7	20.0	9.0	03/10/10	03/20/10
Potassium 40	-20	U	130		210	03/10/10	03/20/10
<b>Gross Alpha/Beta EPA 900</b>							
				pCi/L		Batch # 0070220	Yld %
Gross Alpha	0.60	U	0.65	3.00	1.0	03/11/10	03/14/10
Gross Beta	1.38	U	0.98	4.00	1.5	03/11/10	03/14/10
<b>SR-90 BY GFPC EPA-905 MOD</b>							
				pCi/L		Batch # 0069104	Yld % 84
Strontium 90	0.01	U	0.26	3.00	0.46	03/10/10	03/20/10
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
				pCi/L		Batch # 0077060	Yld %
Tritium	100	U	97	500	150	03/18/10	03/24/10
<b>Total Uranium by KPA ASTM 5174-91</b>							
				pCi/L		Batch # 0067296	Yld %
Total Uranium	0.485	J	0.059	0.693	0.21	03/10/10	03/12/10
<b>Radium 226 by EPA 903.0 MOD</b>							
				pCi/L		Batch # 0069101	Yld % 94
Radium (226)	0.064	J	0.042	1.00	0.056	03/10/10	04/02/10
<b>Radium 228 by GFPC EPA 904 MOD</b>							
				pCi/L		Batch # 0069102	Yld % 89
Radium 228	0.43	U	0.29	1.00	0.44	03/10/10	03/19/10

## NOTE (S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC.

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

U Result is less than the sample detection limit.

## METHOD BLANK REPORT

## Radiochemistry

Client Lot ID: FOC090518  
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
<b>Total Uranium by KPA ASTM 5174-91</b>							
Total Uranium	0.315	J	0.039	0.693	0.21	03/10/10	FOC080000-296B
<b>Radium 226 by EPA 903.0 MOD</b>							
Radium (226)	0.025	U	0.031	1.00	0.051	03/10/10	FOC100000-101B
<b>Radium 228 by GFPC EPA 904 MOD</b>							
Radium 228	0.19	U	0.24	1.00	0.39	03/10/10	FOC100000-102B
<b>SR-90 BY GFPC EPA-905 MOD</b>							
Strontium 90	0.01	U	0.24	3.00	0.43	03/10/10	FOC100000-104B
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
Cesium 137	1.9	U	7.6	20.0	14	03/10/10	FOC100000-127B
Potassium 40	12	U	93		210	03/10/10	FOC100000-127B
<b>Gross Alpha/Beta EPA 900</b>							
Gross Alpha	-0.16	U	0.35	3.00	0.79	03/11/10	FOC110000-220B
Gross Beta	0.37	U	0.91	4.00	1.5	03/11/10	FOC110000-220B
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
Tritium	83	U	94	500	150	03/18/10	FOC180000-060B

## NOTE (S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only

Bold results are greater than the MDC.

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

U Result is less than the sample detection limit.

## Laboratory Control Sample Report

## Radiochemistry

Client Lot ID: FOC090518  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
<b>Total Uranium by KPA ASTM 5174-91</b>			pCi/L	5174-91			FOC080000-296C
Total Uranium	27.7	28.6	3.5	0.2		103	(90 - 120)
	Batch #:	0067296		Analysis Date:	03/12/10		
<b>Total Uranium by KPA ASTM 5174-91</b>			pCi/L	5174-91			FOC080000-296C
Total Uranium	5.54	5.62	0.58	0.21		101	(90 - 120)
	Batch #:	0067296		Analysis Date:	03/12/10		
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>			pCi/L	901.1 MOD			FOC100000-127C
Americium 241	141000	131000	10000	500		93	(87 - 110)
Cesium 137	53100	48400	2800	200		91	(90 - 110)
Cobalt 60	87800	79200	4400	200		90	(89 - 110)
	Batch #:	0069127		Analysis Date:	03/21/10		
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD			FOC110000-220C
Gross Alpha	49.4	31.9	3.8	0.8		64	(62 - 134)
	Batch #:	0070220		Analysis Date:	03/14/10		
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD			FOC110000-220C
Gross Beta	67.9	53.0	4.7	1.5		78	(58 - 133)
	Batch #:	0070220		Analysis Date:	03/14/10		
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>			pCi/L	906.0 MOD			FOC180000-060C
Tritium	4510	4450	470	150		99	(85 - 112)
	Batch #:	0077060		Analysis Date:	03/23/10		

## NOTE (S)

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

## Laboratory Control Sample/LCS Duplicate Report

## Radiochemistry

Client Lot ID: F0C090518  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	% Yld	% Rec	Lab Sample ID	
						QC Control Limits	Precision
Radium 226 by EPA 903.0 MOD			pCi/L	903.0 MOD			F0C100000-101C
Radium (226)	11.3	10.6	0.92	106	94	(68 - 136)	
Spk 2	11.3	10.1	0.87	101	89	(68 - 136)	6 %RPD
	Batch #:	0069101		Analysis Date:	04/02/10		
Radium 228 by GFPC EPA 904 MOD			pCi/L	904 MOD			F0C100000-102C
Radium 228	6.37	7.41	0.83	99	116	(60 - 142)	
Spk 2	6.37	7.87	0.90	85	124	(60 - 142)	6 %RPD
	Batch #:	0069102		Analysis Date:	03/19/10		
SR-90 BY GFPC EPA-905 MOD			pCi/L	905 MOD			F0C100000-104C
Strontium 90	6.79	6.64	0.80	87	98	(80 - 130)	
Spk 2	6.79	6.75	0.80	90	99	(80 - 130)	2 %RPD
	Batch #:	0069104		Analysis Date:	03/20/10		

## NOTE(S)

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

## MATRIX SPIKE REPORT

## Radiochemistry

Client Lot Id: FOC090512  
 Matrix: WATER

Date Sampled: 03/07/10  
 Date Received: 03/09/10

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2σ +/-)	QC Sample ID		QC Control Limits
							%YLD	%REC	
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L		906.0 MOD		FOC090512-001		
Tritium	4510	4170	440		-17	74		93	(62 - 147)
	Batch #: 0077060			Analysis Date: 03/24/10					
Gross Alpha/Beta EPA 900			pCi/L		900.0 MOD		FOC090509-001		
Gross Alpha	59.9	47.4	6.6		0.3	1.1		79	(35 - 150)
	Batch #: 0070220			Analysis Date: 03/14/10					
Gross Alpha/Beta EPA 900			pCi/L		900.0 MOD		FOC090509-001		
Gross Beta	82.4	87.0	7.4		3.9	1.4		101	(54 - 150)
	Batch #: 0070220			Analysis Date: 03/14/10					

**NOTE (S)**

Data are incomplete without the case narrative.

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

Radiochemistry

Client Lot ID: FOB230452  
 Matrix: WATER

Date Sampled: 02/20/10 1349  
 Date Received: 02/23/10 0910

Parameter	Spike Amount	SPIKE Result	Total Uncert. (2 σ+/-)	Spike Yld	SAMPLE Result	Total Uncert. (2 σ+/-)	QC Sample ID		QC Control Limits
							% Yld	%Rec	
Total Uranium by KPA ASTM 5			pCi/L	5174-91		FOB230452-001			
Total Uranium	27.7	28.1	3.4		0.677 J	0.074	99		(62 - 150)
Spk2	27.7	26.9	3.3		0.677 J	0.074	95		(62 - 150)
							Precision:	4	%RPD
Batch #:			0067296	Analysis date:		03/12/10			

NOTE (S)

Data are incomplete without the case narrative.

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

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

## DUPLICATE EVALUATION REPORT

## Radiochemistry

Client Lot ID: FOC090518  
 Matrix: WATER

Date Sampled: 03/07/10  
 Date Received: 03/09/10

Parameter	SAMPLE Result	Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result	Total Uncert. (2 σ+/-)	% Yld	QC Sample ID	
							Precision	
Gamma Cs-137 & Hits by EPA 901.1 MOD			pCi/L	901.1 MOD		FOC090509-001		
Cesium 137	4.5 U	9.4		-0.3 U	7.3		232	%RPD
Potassium 40	-50 U	360		-50 U	200		8	%RPD
	Batch #:	0069127 (Sample)		0069127 (Duplicate)				
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD		FOC090509-001		
Gross Alpha	0.3 U	1.1		1.9 U	1.5		143	%RPD
Gross Beta	3.9 J	1.4		4.8	1.5		22	%RPD
	Batch #:	0070220 (Sample)		0070220 (Duplicate)				
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD		FOC090509-001		
Tritium	34 U	87		-26 U	72		1480	%RPD
	Batch #:	0077060 (Sample)		0077060 (Duplicate)				

## NOTE (S)

Data are incomplete without the case narrative.

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

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

U Result is less than the sample detection limit.

F0C090518

*cut 342*  
**SUBCONTRACT ORDER**  
 TestAmerica Irvine  
**ITC0793**

**SENDING LABORATORY:**

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

**RECEIVING LABORATORY:**

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

Analysis	Units	Due	Expires	Interlab	Price Surch	Comments
Sample ID: ITC0793-02 (Outfall 009 (COMPOSITE) - Water)      Sampled: 03/07/10 09:17						
EDD + Level 4	N/A	03/17/10	04/04/10 09:17	\$0.00	0%	Excel EDD email to pm, Include Std logs for Lvl IV
Gamma Spec-O	mg/kg	03/17/10	03/07/11 09:17	\$200.00	50%	Out St Louis, K-40 and CS-137 only, DO NOT FILTER
Gross Alpha-O	pCi/L	03/17/10	09/03/10 09:17	\$90.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Gross Beta-O	pCi/L	03/17/10	09/03/10 09:17	\$90.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Radium 228-O	pCi/L	03/17/10	03/07/11 09:17	\$88.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!
Radium 228-O	pCi/L	03/17/10	03/07/11 09:17	\$84.00	0%	Out St Louis, Boeing permit, DO NOT FILTER!
Strontium 90-O	pCi/L	03/17/10	03/07/11 09:17	\$140.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!
Tritium-O	pCi/L	03/17/10	03/07/11 09:17	\$80.00	50%	Out St Louis, Boeing permit, DO NOT FILTER!

*Containers Supplied:*

2.5 gal Poly (H)      500 mL Amber (I)

*Margaret Summ.*      3/8/10 17:00  
 Released By      Date/Time

*FedEx*      3/8/10 17:00  
 Received By      Date/Time

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

*[Signature]*      3.9.10 0915  
 Received By      Date/Time



Lot #(s): FOC090509 523  
518; 526  
516  
518  
526

**CONDITION UPON RECEIPT FORM**

Client: JA Malone  
 Quote No: 85044-7-7635  
 COC/RFA No: helden

342

Initiated By: JV Date: 3.9.10 Time: 0915

**Shipping Information**

Shipper:  FedEx UPS DHL Courier Client Other: \_\_\_\_\_ Multiple Packages:  Y  N  
 Shipping # (s):\*  
 1. 4287 2133 6598 6. \_\_\_\_\_ 1. ambient  
 2. 6570 7. \_\_\_\_\_ 2. ↓  
 3. 6587 8. \_\_\_\_\_ 3. ↓  
 4. \_\_\_\_\_ 9. \_\_\_\_\_ 4. \_\_\_\_\_  
 5. \_\_\_\_\_ 10. \_\_\_\_\_ 5. \_\_\_\_\_ 10. \_\_\_\_\_

\*Numbered shipping lines correspond to Numbered Sample Temp lines

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

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

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

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

Notes: ITC 0630  
755  
754  
464  
792  
793  
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791

**Corrective Action:**

Client Contact Name: \_\_\_\_\_  
 Sample(s) processed "as is"  
 Sample(s) on hold until: \_\_\_\_\_  
 Project Management Review: Jaymah Pohl

Informed by: \_\_\_\_\_  
 If released, notify: \_\_\_\_\_  
 Date: 3-13-10

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

ADMIN-0004, REVISED 10/21/08 \\slsvr01\QA\FORMS\ST-LOUIS\ADMIN\atmin004 rev11.doc

# **APPENDIX G**

## **Section 47**

Outfall 009 – January 18 & 19, 2010

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

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# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITA1480

Prepared by

MEC<sup>x</sup>, LP  
12269 East Vassar Drive  
Aurora, CO 80014

## I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES  
Contract Task Order: 1261.100D.00  
Sample Delivery Group: ITA1480  
Project Manager: B. Kelly  
Matrix: Water  
QC Level: IV  
No. of Samples: 1  
No. of Reanalyses/Dilutions: 0  
Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 010 (Comp)	ITA1480-02	F0A220437-001, G0A210563-001	WATER	1/19/2010 2:30:00 PM	ASTM 5174-91, 245.1, 245.1-Diss, 1613B, 900.0 MOD, 901.1 MOD, 903.0 MOD, 904 MOD, 905 MOD, 906.0 MOD

## II. Sample Management

No anomalies were observed regarding sample management. The sample receipt temperature was noted by TestAmerica-St Louis as "ambient"; however, due to the nonvolatile nature of the analytes, no qualifications were required. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. No custody seals were present on the sample coolers sent to TestAmerica-St. Louis. Custody seals were present upon receipt at TestAmerica-West Sacramento. As the samples were delivered to the remaining laboratories by courier, no custody seals were necessary. 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 or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

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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: L. Calvin

Date Reviewed: February 25, 2010

The samples listed in Table 1 for this analysis were 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 (9/05)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed with the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
  - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
  - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs  $\leq 20\%$  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 detects between the EDL and the RL for more than half of all compounds, including all of the HxCDD isomers and total HxCDD, 1,2,3,6,7,8-HpCDD and total HpCDD, OCDD, total HxCDF and all of the HxCDF isomers except 1,2,3,4,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF and total HpCDF, and OCDF. Any sample detects for

individual target compound isomers present at concentrations less than five times the method blank concentrations were qualified as nondetected, "U," at the RL. Several detects in the method blank did not meet ratio criteria and were reported as EMPCs; however, due to the extent of contamination present in the method blank, it was the reviewer's professional opinion that those results be utilized to qualify applicable sample results. Results for totals that included peaks meeting ratio criteria that were not present in the method blank were qualified as estimated, "J," as only a portion of the total was considered method blank contamination. The concentrations of 1,2,3,4,6,7,8-HpCDD and 1,2,3,4,6,7,8-HpCDF in the method blank were insufficient to qualify the sample results or associated totals.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample detects. The laboratory calculated and reported compound-specific detection limits. Several detects for individual isomers were reported as EMPCs. As ratio criteria were not met, the results were qualified as estimated nondetects, "UJ," at the reported concentration levels. Any reported totals that included EMPCs were qualified as estimated, "J." Any detects between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

## B. EPA METHOD 245.1—Mercury

Reviewed By: P. Meeks

Date Reviewed: March 1, 2010

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 Method 245.1* and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Mercury initial calibration  $r^2$  values were  $\geq 0.995$  and the initial and continuing calibration recoveries were within 85-115%. The CRI recoveries were within the control limits of 70-130%.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: Not applicable to this analysis.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

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

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

### C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: March 1, 2010

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174, and the National Functional Guidelines for Inorganic Data Review (10/04)*.

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

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

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: Tritium was detected in the method blank at 250 pci/L; therefore, tritium detected in the sample was qualified as nondetected, "U," at the reporting limit. There were no other analytes detected in the method blanks.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established control limits.

- **Laboratory Duplicates:** No laboratory duplicate analyses were performed on the sample in this SDG.
- **Matrix Spike/Matrix Spike Duplicate:** No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- **Sample Result Verification:** An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.
- **Field QC Samples:** Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - **Field Blanks and Equipment Rinsates:** This SDG had no identified field blank or equipment rinsate samples.
  - **Field Duplicates:** There were no field duplicate samples identified for this SDG.

# Validated Sample Result Forms: ITA1480

## Analysis Method ASTM 5174-91

Sample Name Outfall 010 (Comp) Matrix Type: WATER Validation Level: IV

Lab Sample Name: ITA1480-02 Sample Date: 1/19/2010 2:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Uranium	7440-61-1	0.213	1	0.31	ug/L	U	UJ	H

## Analysis Method EPA 245.1

Sample Name Outfall 010 (Comp) Matrix Type: Water Validation Level: IV

Lab Sample Name: ITA1480-02 Sample Date: 1/19/2010 2:30:00 PM

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

## Analysis Method EPA 245.1-Diss

Sample Name Outfall 010 (Comp) Matrix Type: Water Validation Level: IV

Lab Sample Name: ITA1480-02 Sample Date: 1/19/2010 2:30:00 PM

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

## Analysis Method EPA 900.0 MOD

Sample Name Outfall 010 (Comp) Matrix Type: WATER Validation Level: IV

Lab Sample Name: ITA1480-02 Sample Date: 1/19/2010 2:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	1.2	3	1.9	pCi/L	U	UJ	H, C
Gross Beta	12587-47-2	3.61	4	1.2	pCi/L	Jb	J	H, DNQ

## Analysis Method EPA 901.1 MOD

Sample Name Outfall 010 (Comp) Matrix Type: WATER Validation Level: IV

Lab Sample Name: ITA1480-02 Sample Date: 1/19/2010 2:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	2.3	20	18	pCi/L	U	U	
Potassium 40	13966-00-2	-50	0	290	pCi/L	U	U	

*Analysis Method*    *EPA 903.0 MOD*

**Sample Name**    Outfall 010 (Comp)    **Matrix Type:** WATER    **Validation Level:** IV

**Lab Sample Name:**    ITA1480-02    **Sample Date:** 1/19/2010 2:30:00 PM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Radium (226)	13982-63-3	0.03	1	0.23	pCi/L	U	U	

*Analysis Method*    *EPA 904 MOD*

**Sample Name**    Outfall 010 (Comp)    **Matrix Type:** WATER    **Validation Level:** IV

**Lab Sample Name:**    ITA1480-02    **Sample Date:** 1/19/2010 2:30:00 PM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Radium 228	15262-20-1	-0.37	1	1.1	pCi/L	U	U	

*Analysis Method*    *EPA 905 MOD*

**Sample Name**    Outfall 010 (Comp)    **Matrix Type:** WATER    **Validation Level:** IV

**Lab Sample Name:**    ITA1480-02    **Sample Date:** 1/19/2010 2:30:00 PM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Strontium-90	10098-97-2	0.13	3	0.4	pCi/L	U	U	

*Analysis Method*    *EPA 906.0 MOD*

**Sample Name**    Outfall 010 (Comp)    **Matrix Type:** WATER    **Validation Level:** IV

**Lab Sample Name:**    ITA1480-02    **Sample Date:** 1/19/2010 2:30:00 PM

<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Tritium	10028-17-8	410	500	140	pCi/L	Jb	U	B

*Analysis Method EPA-5 1613B*

**Sample Name** Outfall 010 (Comp) **Matrix Type:** WATER **Validation Level:** IV  
**Lab Sample Name:** ITA1480-02 **Sample Date:** 1/19/2010 2:30:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.000079	0.000048	0.000008	ug/L	B		
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.000038	0.000048	0.000005	ug/L	J, B	J	DNQ
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.000025	0.000048	0.000008	ug/L	J	J	DNQ
1,2,3,4,7,8-HxCDD	39227-28-6	ND	0.000048	0.000006	ug/L	J, B	U	B
1,2,3,4,7,8-HxCDF	70648-26-9	0.000023	0.000048	0.000006	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDD	57653-85-7	ND	0.000048	0.000005	ug/L	J, B	U	B
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.000048	0.000005	ug/L	J, B	U	B
1,2,3,7,8,9-HxCDD	19408-74-3	0.000016	0.000048	0.000004	ug/L	J, B	J	DNQ
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000048	0.000005	ug/L	J, B	U	B
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000016	0.000007	ug/L	J, Q	UJ	*III
1,2,3,7,8-PeCDF	57117-41-6	ND	0.000013	0.000004	ug/L	J, Q	UJ	*III
2,3,4,6,7,8-HxCDF	60851-34-5	ND	0.000048	0.000004	ug/L	J, B	U	B
2,3,4,7,8-PeCDF	57117-31-4	ND	0.000014	0.000004	ug/L	J, Q	UJ	*III
2,3,7,8-TCDD	1746-01-6	ND	0.0000028	0.000003	ug/L	J, Q	UJ	*III
2,3,7,8-TCDF	51207-31-9	ND	0.0000096	0.000003	ug/L		U	
OCDD	3268-87-9	0.00074	0.000096	0.000015	ug/L	B		
OCDF	39001-02-0	0.00012	0.000096	0.000009	ug/L	B		
Total HpCDD	37871-00-4	0.00017	0.000048	0.000008	ug/L	B		
Total HpCDF	38998-75-3	0.000094	0.000048	0.000005	ug/L	J, B		
Total HxCDD	34465-46-8	0.000053	0.000048	0.000004	ug/L	J, B	J	B, DNQ
Total HxCDF	55684-94-1	0.00008	0.000048	0.000004	ug/L	J, B	J	B, DNQ
Total PeCDD	36088-22-9	ND	0.000021	0.000007	ug/L	J, Q	UJ	*III
Total PeCDF	30402-15-4	0.000029	0.000029	0.000003	ug/L	J, Q	J	*III, DNQ
Total TCDD	41903-57-5	ND	0.0000028	0.000003	ug/L	J, Q	UJ	*III
Total TCDF	55722-27-5	ND	0.0000096	0.000003	ug/L		U	

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# **APPENDIX G**

## **Section 48**

Outfall 010 – January 18 & 19, 2010

Test America Analytical Laboratory Report

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## LABORATORY REPORT

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

Project: Routine Outfall 010

Sampled: 01/18/10-01/19/10  
Received: 01/19/10  
Revised: 04/02/10 15:45

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

*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(s) of Custody, 15 pages, are included and are an integral part of this report.*

*This entire report was reviewed and approved for release.*

### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 3°C, on ice and with chain of custody documentation.

**HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

**PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.

**QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.

**COMMENTS:** Results that fall between the MDL and RL are 'J' flagged.

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

**ADDITIONAL INFORMATION:** Final revised report to provide corrected units and .pdf file for Radchem.

#### LABORATORY ID

ITA1480-01  
ITA1480-02

#### CLIENT ID

Outfall 010 (Grab)  
Outfall 010 (Comp)

#### MATRIX

Water  
Water

Reviewed By:



**TestAmerica Irvine**

Kathleen A. Robb For 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: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## HEXANE EXTRACTABLE MATERIAL

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-01 (Outfall 010 (Grab) - Water)</b>					<b>Sampled: 01/18/10</b>				
<b>Reporting Units: mg/l</b>									
Hexane Extractable Material (Oil & Grease)	EPA 1664A	10A2388	1.3	4.7	ND	1	01/26/10	01/26/10	

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Project Manager

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Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
 Received: 01/19/10

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1	10A1830	0.10	0.20	ND	1	01/20/10	01/20/10	
<b>Antimony</b>	EPA 200.8	10A1800	0.30	2.0	<b>0.43</b>	1	01/20/10	01/25/10	Ja
Cadmium	EPA 200.8	10A1800	0.10	1.0	ND	1	01/20/10	01/25/10	
<b>Copper</b>	EPA 200.8	10A1800	0.50	2.0	<b>4.0</b>	1	01/20/10	01/25/10	
<b>Lead</b>	EPA 200.8	10A1800	0.20	1.0	<b>1.7</b>	1	01/20/10	01/25/10	
Thallium	EPA 200.8	10A1800	0.20	1.0	ND	1	01/20/10	01/25/10	

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
 Received: 01/19/10

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
<b>Reporting Units: ug/l</b>									
Mercury	EPA 245.1-Diss	10A2023	0.10	0.20	ND	1	01/21/10	01/21/10	C
<b>Antimony</b>	EPA 200.8-Diss	10A1999	0.30	2.0	<b>0.41</b>	1	01/21/10	01/25/10	Ja
Cadmium	EPA 200.8-Diss	10A1999	0.10	1.0	ND	1	01/21/10	01/25/10	
<b>Copper</b>	EPA 200.8-Diss	10A1999	0.50	2.0	<b>1.9</b>	1	01/21/10	01/25/10	Ja
Lead	EPA 200.8-Diss	10A1999	0.20	1.0	ND	1	01/21/10	01/25/10	C
Thallium	EPA 200.8-Diss	10A1999	0.20	1.0	ND	1	01/21/10	01/25/10	C

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Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
Reporting Units: mg/l									
Chloride	EPA 300.0	10A1808	0.25	0.50	<b>6.8</b>	1	01/20/10	01/20/10	
Nitrate/Nitrite-N	EPA 300.0	10A1808	0.15	0.26	<b>0.71</b>	1	01/20/10	01/20/10	
Sulfate	EPA 300.0	10A1808	0.20	0.50	<b>5.2</b>	1	01/20/10	01/20/10	
Total Dissolved Solids	SM2540C	10A1916	1.0	10	<b>100</b>	1	01/21/10	01/21/10	

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Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## ASTM 5174-91

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
Reporting Units: pCi/L									
<b>Total Uranium</b>	ASTM 5174-91	35029	0.21	0.693	<b>0.148</b>	1	02/04/10	02/08/10	U

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## EPA 900.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
Reporting Units: pCi/L									
Gross Alpha	EPA 900.0 MOD	25415	1.9	3	1.2	1	01/25/10	01/29/10	U
Gross Beta	EPA 900.0 MOD	25415	1.2	4	3.61	1	01/25/10	01/29/10	Jb

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## EPA 901.1 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
Reporting Units: pCi/L									
Cesium 137	EPA 901.1 MOD	23036	18	20	2.3	1	01/23/10	01/26/10	U
Potassium 40	EPA 901.1 MOD	23036	290	NA	-50	1	01/23/10	01/26/10	U

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Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## EPA 903.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
Reporting Units: pCi/L									
<b>Radium (226)</b>	EPA 903.0 MOD	22145	0.23	1	<b>0.03</b>	1	01/22/10	02/08/10	U

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## EPA 904 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
<b>Reporting Units: pCi/L</b>									
Radium 228	EPA 904 MOD	22148	1.1	1	-0.37	1	01/22/10	02/08/10	U

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## EPA 905 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Strontium 90</b>	EPA 905 MOD	22149	0.4	3	<b>0.13</b>	1	01/22/10	02/01/10	U

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## EPA 906.0 MOD

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
<b>Reporting Units: pCi/L</b>									
<b>Tritium</b>	EPA 906.0 MOD	28080	140	500	<b>410</b>	1	01/28/10	01/29/10	Jb

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## EPA-5 1613B

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>					<b>Sampled: 01/19/10</b>				
Reporting Units: ug/L									
1,2,3,4,6,7,8-HpCDD	EPA-5 1613B	26267	0.0000088	0.000048	<b>0.000079</b>	0.96	01/26/10	02/02/10	B
1,2,3,4,6,7,8-HpCDF	EPA-5 1613B	26267	0.0000057	0.000048	<b>0.000038</b>	0.96	01/26/10	02/02/10	J, B
1,2,3,4,7,8,9-HpCDF	EPA-5 1613B	26267	0.0000088	0.000048	<b>0.000025</b>	0.96	01/26/10	02/02/10	J
1,2,3,4,7,8-HxCDD	EPA-5 1613B	26267	0.0000062	0.000048	<b>0.00002</b>	0.96	01/26/10	02/02/10	J, B
1,2,3,4,7,8-HxCDF	EPA-5 1613B	26267	0.0000062	0.000048	<b>0.000023</b>	0.96	01/26/10	02/02/10	J
1,2,3,6,7,8-HxCDD	EPA-5 1613B	26267	0.0000058	0.000048	<b>0.000018</b>	0.96	01/26/10	02/02/10	J, B
1,2,3,6,7,8-HxCDF	EPA-5 1613B	26267	0.0000053	0.000048	<b>0.000018</b>	0.96	01/26/10	02/02/10	J, B
1,2,3,7,8,9-HxCDD	EPA-5 1613B	26267	0.0000048	0.000048	<b>0.000016</b>	0.96	01/26/10	02/02/10	J, B
1,2,3,7,8,9-HxCDF	EPA-5 1613B	26267	0.0000055	0.000048	<b>0.000018</b>	0.96	01/26/10	02/02/10	J, B
1,2,3,7,8-PeCDD	EPA-5 1613B	26267	0.0000079	0.000048	<b>0.000016</b>	0.96	01/26/10	02/02/10	J, Q
1,2,3,7,8-PeCDF	EPA-5 1613B	26267	0.0000041	0.000048	<b>0.000013</b>	0.96	01/26/10	02/02/10	J, Q
2,3,4,6,7,8-HxCDF	EPA-5 1613B	26267	0.0000047	0.000048	<b>0.000021</b>	0.96	01/26/10	02/02/10	J, B
2,3,4,7,8-PeCDF	EPA-5 1613B	26267	0.0000048	0.000048	<b>0.000014</b>	0.96	01/26/10	02/02/10	J, Q
2,3,7,8-TCDD	EPA-5 1613B	26267	0.000003	0.0000096	<b>0.000028</b>	0.96	01/26/10	02/02/10	J, Q
2,3,7,8-TCDF	EPA-5 1613B	26267	0.0000033	0.0000096	ND	0.96	01/26/10	02/02/10	
OCDD	EPA-5 1613B	26267	0.000015	0.000096	<b>0.00074</b>	0.96	01/26/10	02/02/10	B
OCDF	EPA-5 1613B	26267	0.0000096	0.000096	<b>0.00012</b>	0.96	01/26/10	02/02/10	B
Total HpCDD	EPA-5 1613B	26267	0.0000088	0.000048	<b>0.00017</b>	0.96	01/26/10	02/02/10	B
Total HpCDF	EPA-5 1613B	26267	0.0000057	0.000048	<b>0.000094</b>	0.96	01/26/10	02/02/10	J, B
Total HxCDD	EPA-5 1613B	26267	0.0000048	0.000048	<b>0.000053</b>	0.96	01/26/10	02/02/10	J, B
Total HxCDF	EPA-5 1613B	26267	0.0000047	0.000048	<b>0.00008</b>	0.96	01/26/10	02/02/10	J, B
Total PeCDD	EPA-5 1613B	26267	0.0000079	0.000048	<b>0.000021</b>	0.96	01/26/10	02/02/10	J, Q
Total PeCDF	EPA-5 1613B	26267	0.0000037	0.000048	<b>0.000029</b>	0.96	01/26/10	02/02/10	J, Q
Total TCDD	EPA-5 1613B	26267	0.000003	0.0000096	<b>0.000028</b>	0.96	01/26/10	02/02/10	J, Q
Total TCDF	EPA-5 1613B	26267	0.0000033	0.0000096	ND	0.96	01/26/10	02/02/10	

Surrogate: 13C-1,2,3,4,6,7,8-HpCDD (23-140%)

72 %

Surrogate: 13C-1,2,3,4,6,7,8-HpCDF (28-143%)

83 %

Surrogate: 13C-1,2,3,4,7,8,9-HpCDF (26-138%)

74 %

Surrogate: 13C-1,2,3,4,7,8-HxCDD (32-141%)

71 %

Surrogate: 13C-1,2,3,4,7,8-HxCDF (26-152%)

66 %

Surrogate: 13C-1,2,3,6,7,8-HxCDD (28-130%)

71 %

Surrogate: 13C-1,2,3,6,7,8-HxCDF (26-123%)

67 %

Surrogate: 13C-1,2,3,7,8,9-HxCDF (29-147%)

70 %

Surrogate: 13C-1,2,3,7,8-PeCDD (25-181%)

61 %

Surrogate: 13C-1,2,3,7,8-PeCDF (24-185%)

61 %

Surrogate: 13C-2,3,4,6,7,8-HxCDF (28-136%)

77 %

Surrogate: 13C-2,3,4,7,8-PeCDF (21-178%)

62 %

Surrogate: 13C-2,3,7,8-TCDD (25-164%)

61 %

Surrogate: 13C-2,3,7,8-TCDF (24-169%)

45 %

Surrogate: 13C-OCDD (17-157%)

70 %

Surrogate: 37Cl4-2,3,7,8-TCDD (35-197%)

104 %

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Kathleen A. Robb For Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## 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 (Comp) (ITA1480-02) - Water</b>					
EPA 300.0	2	01/19/2010 14:30	01/19/2010 19:00	01/20/2010 17:15	01/20/2010 18:27
Filtration	1	01/19/2010 14:30	01/19/2010 19:00	01/20/2010 16:50	01/20/2010 16:53

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## METHOD BLANK/QC DATA

### HEXANE EXTRACTABLE MATERIAL

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10A2388 Extracted: 01/26/10</b>											
<b>Blank Analyzed: 01/26/2010 (10A2388-BLK1)</b>											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
<b>LCS Analyzed: 01/26/2010 (10A2388-BS1)</b>											
Hexane Extractable Material (Oil & Grease)	20.3	5.0	1.4	mg/l	20.0		102	78-114			
<b>LCS Dup Analyzed: 01/26/2010 (10A2388-BSD1)</b>											
Hexane Extractable Material (Oil & Grease)	20.7	5.0	1.4	mg/l	20.0		104	78-114	2	11	
<b>Matrix Spike Analyzed: 01/26/2010 (10A2388-MS1)</b>											
Hexane Extractable Material (Oil & Grease)	23.5	4.8	1.3	mg/l	19.1	3.33	106	78-114			
						<b>Source: ITA2111-01</b>					

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## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10A1800 Extracted: 01/20/10</b>											
<b>Blank Analyzed: 01/25/2010 (10A1800-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 01/25/2010 (10A1800-BS1)</b>											
Antimony	73.9	2.0	0.30	ug/l	80.0		92	85-115			
Cadmium	74.1	1.0	0.10	ug/l	80.0		93	85-115			
Copper	73.8	2.0	0.50	ug/l	80.0		92	85-115			
Lead	74.3	1.0	0.20	ug/l	80.0		93	85-115			
Thallium	73.9	1.0	0.20	ug/l	80.0		92	85-115			
<b>Matrix Spike Analyzed: 01/25/2010 (10A1800-MS1) Source: ITA1401-01</b>											
Antimony	81.2	2.0	0.30	ug/l	80.0	2.44	98	70-130			
Cadmium	77.9	1.0	0.10	ug/l	80.0	ND	97	70-130			
Copper	86.3	2.0	0.50	ug/l	80.0	6.94	99	70-130			
Lead	118	1.0	0.20	ug/l	80.0	39.4	98	70-130			
Thallium	78.6	1.0	0.20	ug/l	80.0	0.228	98	70-130			
<b>Matrix Spike Analyzed: 01/25/2010 (10A1800-MS2) Source: ITA1478-01</b>											
Antimony	73.2	4.0	0.60	ug/l	80.0	0.938	90	70-130			
Cadmium	80.5	2.0	0.20	ug/l	80.0	0.628	100	70-130			
Copper	101	4.0	1.0	ug/l	80.0	19.2	102	70-130			
Lead	130	2.0	0.40	ug/l	80.0	47.6	103	70-130			
Thallium	81.9	2.0	0.40	ug/l	80.0	0.594	102	70-130			
<b>Matrix Spike Dup Analyzed: 01/25/2010 (10A1800-MSD1) Source: ITA1401-01</b>											
Antimony	81.3	2.0	0.30	ug/l	80.0	2.44	99	70-130	0.2	20	
Cadmium	79.0	1.0	0.10	ug/l	80.0	ND	99	70-130	1	20	
Copper	87.7	2.0	0.50	ug/l	80.0	6.94	101	70-130	2	20	
Lead	120	1.0	0.20	ug/l	80.0	39.4	101	70-130	2	20	
Thallium	81.2	1.0	0.20	ug/l	80.0	0.228	101	70-130	3	20	

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## 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: 10A1830 Extracted: 01/20/10</b>											
<b>Blank Analyzed: 01/20/2010 (10A1830-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 01/20/2010 (10A1830-BS1)</b>											
Mercury	8.22	0.20	0.10	ug/l	8.00		103	85-115			
<b>Matrix Spike Analyzed: 01/20/2010 (10A1830-MS1)</b>											
						<b>Source: ITA1359-01</b>					
Mercury	8.18	0.20	0.10	ug/l	8.00	ND	102	70-130			
<b>Matrix Spike Dup Analyzed: 01/20/2010 (10A1830-MSD1)</b>											
						<b>Source: ITA1359-01</b>					
Mercury	8.18	0.20	0.10	ug/l	8.00	ND	102	70-130	0.08	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10A1999 Extracted: 01/21/10</b>											
<b>Blank Analyzed: 01/25/2010 (10A1999-BLK1)</b>											
Antimony	ND	2.0	0.30	ug/l							
Cadmium	ND	1.0	0.10	ug/l							
Copper	ND	2.0	0.50	ug/l							
Lead	ND	1.0	0.20	ug/l							
Thallium	ND	1.0	0.20	ug/l							
<b>LCS Analyzed: 01/25/2010 (10A1999-BS1)</b>											
Antimony	80.9	2.0	0.30	ug/l	80.0		101	85-115			
Cadmium	79.9	1.0	0.10	ug/l	80.0		100	85-115			
Copper	84.4	2.0	0.50	ug/l	80.0		106	85-115			
Lead	88.1	1.0	0.20	ug/l	80.0		110	85-115			
Thallium	86.6	1.0	0.20	ug/l	80.0		108	85-115			
<b>Matrix Spike Analyzed: 01/25/2010 (10A1999-MS1) Source: ITA1358-02</b>											
Antimony	79.8	2.0	0.30	ug/l	80.0	ND	100	70-130			
Cadmium	78.2	1.0	0.10	ug/l	80.0	0.217	98	70-130			
Copper	86.7	2.0	0.50	ug/l	80.0	4.63	103	70-130			
Lead	91.4	1.0	0.20	ug/l	80.0	5.21	108	70-130			
Thallium	85.9	1.0	0.20	ug/l	80.0	0.290	107	70-130			
<b>Matrix Spike Dup Analyzed: 01/25/2010 (10A1999-MSD1) Source: ITA1358-02</b>											
Antimony	80.7	2.0	0.30	ug/l	80.0	ND	101	70-130	1	20	
Cadmium	79.1	1.0	0.10	ug/l	80.0	0.217	99	70-130	1	20	
Copper	85.7	2.0	0.50	ug/l	80.0	4.63	101	70-130	1	20	
Lead	91.0	1.0	0.20	ug/l	80.0	5.21	107	70-130	0.5	20	
Thallium	86.1	1.0	0.20	ug/l	80.0	0.290	107	70-130	0.3	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10A2023 Extracted: 01/21/10</b>											
<b>Blank Analyzed: 01/21/2010 (10A2023-BLK1)</b>											
Mercury	ND	0.20	0.10	ug/l							
<b>LCS Analyzed: 01/21/2010 (10A2023-BS1)</b>											
Mercury	8.84	0.20	0.10	ug/l	8.00		110	85-115			
<b>Matrix Spike Analyzed: 01/21/2010 (10A2023-MS1)</b>											
						<b>Source: ITA1481-02</b>					
Mercury	8.85	0.20	0.10	ug/l	8.00	ND	111	70-130			
<b>Matrix Spike Dup Analyzed: 01/21/2010 (10A2023-MSD1)</b>											
						<b>Source: ITA1481-02</b>					
Mercury	8.92	0.20	0.10	ug/l	8.00	ND	111	70-130	0.8	20	

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## 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: 10A1808 Extracted: 01/20/10</b>											
<b>Blank Analyzed: 01/20/2010 (10A1808-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: 01/20/2010 (10A1808-BS1)</b>											
Chloride	4.93	0.50	0.25	mg/l	5.00		99	90-110			
Sulfate	9.94	0.50	0.20	mg/l	10.0		99	90-110			
<b>Matrix Spike Analyzed: 01/20/2010 (10A1808-MS1)</b>											
						<b>Source: ITA1585-01</b>					
Chloride	95.2	5.0	2.5	mg/l	50.0	45.0	100	80-120			
Sulfate	179	5.0	2.0	mg/l	100	78.1	101	80-120			
<b>Matrix Spike Analyzed: 01/20/2010 (10A1808-MS2)</b>											
						<b>Source: ITA1659-01</b>					
Chloride	42.2	2.5	1.2	mg/l	5.00	38.4	77	80-120			MHA
Sulfate	70.0	2.5	1.0	mg/l	10.0	62.1	79	80-120			MHA
<b>Matrix Spike Dup Analyzed: 01/20/2010 (10A1808-MSD1)</b>											
						<b>Source: ITA1585-01</b>					
Chloride	96.7	5.0	2.5	mg/l	50.0	45.0	103	80-120	2		20
Sulfate	181	5.0	2.0	mg/l	100	78.1	103	80-120	1		20
<b>Batch: 10A1916 Extracted: 01/21/10</b>											
<b>Blank Analyzed: 01/21/2010 (10A1916-BLK1)</b>											
Total Dissolved Solids	ND	10	1.0	mg/l							
<b>LCS Analyzed: 01/21/2010 (10A1916-BS1)</b>											
Total Dissolved Solids	990	10	1.0	mg/l	1000		99	90-110			

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## 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: 10A1916 Extracted: 01/21/10</b>											
<b>Duplicate Analyzed: 01/21/2010 (10A1916-DUP1)</b>											
<b>Source: ITA1658-01</b>											
Total Dissolved Solids	489	10	1.0	mg/l		494			1	10	

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## METHOD BLANK/QC DATA

### ASTM 5174-91

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 35029 Extracted: 02/04/10</b>											
<b>Matrix Spike Dup Analyzed: 02/08/2010 (F0A200486001D)</b>						<b>Source: F0A200486001</b>					
Total Uranium	29.2	0.7	0.2	pCi/L	27.7	-0.0334	105	62-150	2	20	
<b>Matrix Spike Analyzed: 02/08/2010 (F0A200486001S)</b>						<b>Source: F0A200486001</b>					
Total Uranium	28.8	0.7	0.2	pCi/L	27.7	-0.0334	104	62-150			
<b>Blank Analyzed: 02/08/2010 (F0B040000029B)</b>						<b>Source:</b>					
Total Uranium	-0.0623	0.693	0.21	pCi/L				-			U
<b>LCS Analyzed: 02/08/2010 (F0B040000029C)</b>						<b>Source:</b>					
Total Uranium	29.2	0.7	0.2	pCi/L	27.7		105	90-120			

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## METHOD BLANK/QC DATA

### EPA 900.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 25415 Extracted: 01/25/10</b>											
<b>Matrix Spike Analyzed: 01/29/2010 (F0A200486001S)</b>						<b>Source: F0A200486001</b>					
Gross Alpha	6.9	3	1	pCi/L	49.4	0.98	12	35-150			a
Gross Beta	10	4	1.6	pCi/L	68.1	0.83	14	54-150			a
<b>Duplicate Analyzed: 01/29/2010 (F0A200486001X)</b>						<b>Source: F0A200486001</b>					
Gross Alpha	0.71	3	1.4	pCi/L		0.98		-			Jb
Gross Beta	1.6	4	1.6	pCi/L		0.83		-			Jb
<b>Blank Analyzed: 01/29/2010 (F0A250000415B)</b>						<b>Source:</b>					
Gross Alpha	-0.03	3	0.71	pCi/L				-			U
Gross Beta	-0.26	4	1.5	pCi/L				-			U
<b>LCS Analyzed: 01/29/2010 (F0A250000415C)</b>						<b>Source:</b>					
Gross Alpha	45.4	3	0.9	pCi/L	49.4		92	62-134			
Gross Beta	73.4	4	1.6	pCi/L	68.1		108	58-133			

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## METHOD BLANK/QC DATA

### EPA 901.1 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 23036 Extracted: 01/23/10</b>											
<b>Duplicate Analyzed: 01/26/2010 (F0A210532001X)</b>						<b>Source: F0A210532001</b>					
Cesium 137	-1.4	20	18	pCi/L		-2.3		-			U
Potassium 40	-60	NA	250	pCi/L		-30		-			U
<b>Blank Analyzed: 01/26/2010 (F0A230000036B)</b>						<b>Source:</b>					
Cesium 137	-0.4	20	12	pCi/L				-			U
Potassium 40	-70	NA	210	pCi/L				-			U
<b>LCS Analyzed: 01/26/2010 (F0A230000036C)</b>						<b>Source:</b>					
Americium 241	132000	NA	500	pCi/L	141000		93	87-110			
Cobalt 60	79000	NA	200	pCi/L	87900		90	89-110			
Cesium 137	48200	20	200	pCi/L	53100		91	90-110			

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## METHOD BLANK/QC DATA

### EPA 903.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 22145 Extracted: 01/22/10</b>											
<b>Blank Analyzed: 02/08/2010 (F0A220000145B)</b>						<b>Source:</b>					
Radium (226)	0.111	1	0.13	pCi/L				-			U
<b>LCS Analyzed: 02/08/2010 (F0A220000145C)</b>						<b>Source:</b>					
Radium (226)	10.7	1	0.1	pCi/L	11.3		95	68-136			
<b>LCS Dup Analyzed: 02/08/2010 (F0A220000145L)</b>						<b>Source:</b>					
Radium (226)	11.2	1	0.2	pCi/L	11.3		100	68-136	5	40	

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## METHOD BLANK/QC DATA

### EPA 904 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 22148 Extracted: 01/22/10</b>											
<b>Blank Analyzed: 02/08/2010 (F0A220000148B)</b>											
Radium 228	0.22	1	0.59	pCi/L				-			U
<b>LCS Analyzed: 02/08/2010 (F0A220000148C)</b>											
Radium 228	8.22	1	0.61	pCi/L	6.45		127	60-142			
<b>LCS Dup Analyzed: 02/08/2010 (F0A220000148L)</b>											
Radium 228	7.58	1	0.57	pCi/L	6.45		118	60-142	8	40	

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## METHOD BLANK/QC DATA

### EPA 905 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 22149 Extracted: 01/22/10</b>											
<b>Blank Analyzed: 02/01/2010 (F0A220000149B)</b>											
Strontium 90	-0.01	3	0.38	pCi/L				-			U
<b>LCS Analyzed: 02/01/2010 (F0A220000149C)</b>											
Strontium 90	6.74	3	0.39	pCi/L	6.81		99	80-130			
<b>LCS Dup Analyzed: 02/01/2010 (F0A220000149L)</b>											
Strontium 90	6.99	3	0.38	pCi/L	6.81		103	80-130	4	40	

**TestAmerica Irvine**

Kathleen A. Robb For 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: ITA1480

Sampled: 01/18/10-01/19/10  
 Received: 01/19/10

## METHOD BLANK/QC DATA

### EPA 906.0 MOD

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 28080 Extracted: 01/28/10</b>											
<b>Duplicate Analyzed: 01/29/2010 (F0A200486001X)</b>						<b>Source: F0A200486001</b>					
Tritium	-49	500	140	pCi/L		99	-				U
<b>Matrix Spike Analyzed: 01/29/2010 (F0A200494001S)</b>						<b>Source: F0A200494001</b>					
Tritium	4350	500	140	pCi/L	4540	64	94	62-147			
<b>Blank Analyzed: 01/28/2010 (F0A280000080B)</b>						<b>Source:</b>					
Tritium	250	500	140	pCi/L							Jb
<b>LCS Analyzed: 01/28/2010 (F0A280000080C)</b>						<b>Source:</b>					
Tritium	4680	500	140	pCi/L	4540		103	85-112			

**TestAmerica Irvine**

Kathleen A. Robb For 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: ITA1480

Sampled: 01/18/10-01/19/10  
 Received: 01/19/10

## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 26267 Extracted: 01/26/10</b>											
<b>Blank Analyzed: 02/02/2010 (G0A260000267B)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	7.9e-006	0.00005	0.0000056	ug/L				-			J
1,2,3,4,6,7,8-HpCDF	6.9e-006	0.00005	0.0000044	ug/L				-			J
1,2,3,4,7,8,9-HpCDF	ND	0.00005	0.0000071	ug/L				-			
1,2,3,4,7,8-HxCDD	4.6e-006	0.00005	0.0000048	ug/L				-			J
1,2,3,4,7,8-HxCDF	ND	0.00005	0.0000039	ug/L				-			
1,2,3,6,7,8-HxCDD	6.5e-006	0.00005	0.0000041	ug/L				-			J
1,2,3,6,7,8-HxCDF	5.7e-006	0.00005	0.0000034	ug/L				-			J
1,2,3,7,8,9-HxCDD	2.7e-006	0.00005	0.0000033	ug/L				-			J, Q
1,2,3,7,8,9-HxCDF	2.2e-006	0.00005	0.0000036	ug/L				-			J, Q
1,2,3,7,8-PeCDD	ND	0.00005	0.0000067	ug/L				-			
1,2,3,7,8-PeCDF	ND	0.00005	0.0000038	ug/L				-			
2,3,4,6,7,8-HxCDF	6e-006	0.00005	0.0000031	ug/L				-			J, Q
2,3,4,7,8-PeCDF	ND	0.00005	0.0000042	ug/L				-			
2,3,7,8-TCDD	ND	0.00001	0.0000027	ug/L				-			
2,3,7,8-TCDF	ND	0.00001	0.000002	ug/L				-			
OCDD	2e-005	0.0001	0.0000089	ug/L				-			J, Q
OCDF	1.6e-005	0.0001	0.0000089	ug/L				-			J
Total HpCDD	7.9e-006	0.00005	0.0000056	ug/L				-			J
Total HpCDF	6.9e-006	0.00005	0.0000044	ug/L				-			J
Total HxCDD	1.4e-005	0.00005	0.0000035	ug/L				-			J, Q
Total HxCDF	1.4e-005	0.00005	0.0000031	ug/L				-			J, Q
Total PeCDD	ND	0.00005	0.0000067	ug/L				-			
Total PeCDF	ND	0.00005	0.0000026	ug/L				-			
Total TCDD	ND	0.00001	0.0000027	ug/L				-			
Total TCDF	ND	0.00001	0.000002	ug/L				-			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.0018			ug/L	0.002		91	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.0021			ug/L	0.002		104	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.0019			ug/L	0.002		93	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.0017			ug/L	0.002		83	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.0015			ug/L	0.002		77	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.0018			ug/L	0.002		88	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.0017			ug/L	0.002		85	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.0017			ug/L	0.002		85	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.0013			ug/L	0.002		65	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.0013			ug/L	0.002		66	24-185			

#### TestAmerica Irvine

Kathleen A. Robb For 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: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 26267 Extracted: 01/26/10</b>											
<b>Blank Analyzed: 02/02/2010 (G0A260000267B)</b>						<b>Source:</b>					
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.0019			ug/L	0.002		93	28-136			
Surrogate: 13C-2,3,4,7,8-PeCDF	0.0014			ug/L	0.002		69	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.0012			ug/L	0.002		61	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.0012			ug/L	0.002		60	24-169			
Surrogate: 13C-OCDD	0.0036			ug/L	0.004		89	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.00077			ug/L	0.0008		96	35-197			
<b>LCS Analyzed: 02/02/2010 (G0A260000267C)</b>						<b>Source:</b>					
1,2,3,4,6,7,8-HpCDD	0.00102	0.00005	0.0000092	ug/L	0.001		102	70-140			
1,2,3,4,6,7,8-HpCDF	0.00108	0.00005	0.0000073	ug/L	0.001		108	82-122			
1,2,3,4,7,8,9-HpCDF	0.00111	0.00005	0.0000012	ug/L	0.001		111	78-138			
1,2,3,4,7,8-HxCDD	0.00103	0.00005	0.0000078	ug/L	0.001		103	70-164			
1,2,3,4,7,8-HxCDF	0.00114	0.00005	0.0000051	ug/L	0.001		114	72-134			
1,2,3,6,7,8-HxCDD	0.000964	0.00005	0.0000063	ug/L	0.001		96	76-134			
1,2,3,6,7,8-HxCDF	0.00102	0.00005	0.0000045	ug/L	0.001		102	84-130			
1,2,3,7,8,9-HxCDD	0.000912	0.00005	0.0000055	ug/L	0.001		91	64-162			
1,2,3,7,8,9-HxCDF	0.00102	0.00005	0.0000046	ug/L	0.001		102	78-130			
1,2,3,7,8-PeCDD	0.000999	0.00005	0.0000085	ug/L	0.001		100	70-142			
1,2,3,7,8-PeCDF	0.00104	0.00005	0.0000054	ug/L	0.001		104	80-134			
2,3,4,6,7,8-HxCDF	0.00104	0.00005	0.0000004	ug/L	0.001		104	70-156			
2,3,4,7,8-PeCDF	0.00106	0.00005	0.0000006	ug/L	0.001		106	68-160			
2,3,7,8-TCDD	0.000175	0.00001	0.0000038	ug/L	0.0002		88	67-158			
2,3,7,8-TCDF	0.0002	0.00001	0.0000027	ug/L	0.0002		100	75-158			
OCDD	0.002	0.0001	0.0000021	ug/L	0.002		100	78-144			
OCDF	0.00214	0.0001	0.000001	ug/L	0.002		107	63-170			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDD	0.00169			ug/L	0.002		84	23-140			
Surrogate: 13C-1,2,3,4,6,7,8-HpCDF	0.00191			ug/L	0.002		96	28-143			
Surrogate: 13C-1,2,3,4,7,8,9-HpCDF	0.00165			ug/L	0.002		83	26-138			
Surrogate: 13C-1,2,3,4,7,8-HxCDD	0.00133			ug/L	0.002		66	32-141			
Surrogate: 13C-1,2,3,4,7,8-HxCDF	0.00139			ug/L	0.002		69	26-152			
Surrogate: 13C-1,2,3,6,7,8-HxCDD	0.00175			ug/L	0.002		88	28-130			
Surrogate: 13C-1,2,3,6,7,8-HxCDF	0.00162			ug/L	0.002		81	26-123			
Surrogate: 13C-1,2,3,7,8,9-HxCDF	0.00161			ug/L	0.002		80	29-147			
Surrogate: 13C-1,2,3,7,8-PeCDD	0.00124			ug/L	0.002		62	25-181			
Surrogate: 13C-1,2,3,7,8-PeCDF	0.00123			ug/L	0.002		62	24-185			
Surrogate: 13C-2,3,4,6,7,8-HxCDF	0.00171			ug/L	0.002		86	28-136			

#### TestAmerica Irvine

Kathleen A. Robb For Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## METHOD BLANK/QC DATA

### EPA-5 1613B

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 26267 Extracted: 01/26/10</b>											
<b>LCS Analyzed: 02/02/2010 (G0A260000267C)</b>											
Surrogate: 13C-2,3,4,7,8-PeCDF	0.00127			ug/L	0.002		63	21-178			
Surrogate: 13C-2,3,7,8-TCDD	0.00116			ug/L	0.002		58	25-164			
Surrogate: 13C-2,3,7,8-TCDF	0.00112			ug/L	0.002		56	24-169			
Surrogate: 13C-OCDD	0.00318			ug/L	0.004		80	17-157			
Surrogate: 37Cl4-2,3,7,8-TCDD	0.000752			ug/L	0.0008		94	35-197			

### TestAmerica Irvine

Kathleen A. Robb For Joseph Doak  
Project Manager

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618 Michillinda Avenue, Suite 200  
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Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITA1480-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	0	4.7	15

## Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
ITA1480-02	Antimony-200.8	Antimony	ug/l	0.43	2.0	6
ITA1480-02	Cadmium-200.8	Cadmium	ug/l	0.072	1.0	4
ITA1480-02	Chloride - 300.0	Chloride	mg/l	6.81	0.50	150
ITA1480-02	Copper-200.8	Copper	ug/l	4.01	2.0	14
ITA1480-02	Lead-200.8	Lead	ug/l	1.71	1.0	5.2
ITA1480-02	Nitrogen, NO3+NO2 -N EPA 300.0	Nitrate/Nitrite-N	mg/l	0.71	0.26	10
ITA1480-02	Sulfate-300.0	Sulfate	mg/l	5.16	0.50	250
ITA1480-02	TDS - SM2540C	Total Dissolved Solids	mg/l	100	10	850
ITA1480-02	Thallium-200.8	Thallium	ug/l	0.0060	1.0	2

### TestAmerica Irvine

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Project Manager

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Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## DATA QUALIFIERS AND DEFINITIONS

- a** Spiked analyte outside of stated QC limits.
- B** Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- J** Estimated result. Result is less than the reporting limit.
- Ja** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- Jb** Result is greater than sample detection limit but less than stated reporting limit.
- 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).
- Q** Estimated maximum possible concentration (EMPC).
- U** Result is less than the sample detection limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

### TestAmerica Irvine

Kathleen A. Robb For Joseph Doak  
Project Manager

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**ITA1480 <Page 33 of 35>**

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

Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## Certification Summary

### TestAmerica Irvine

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

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

### Subcontracted Laboratories

#### TestAmerica St. Louis

13715 Rider Trail North - Earth City, MO 63045

Method Performed: ASTM 5174-91  
Samples: ITA1480-02

Method Performed: EPA 900.0 MOD  
Samples: ITA1480-02

Method Performed: EPA 901.1 MOD  
Samples: ITA1480-02

Method Performed: EPA 903.0 MOD  
Samples: ITA1480-02

Method Performed: EPA 904 MOD  
Samples: ITA1480-02

Method Performed: EPA 905 MOD  
Samples: ITA1480-02

Method Performed: EPA 906.0 MOD  
Samples: ITA1480-02

### TestAmerica Irvine

Kathleen A. Robb For Joseph Doak  
Project Manager

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

Project ID: Routine Outfall 010

Report Number: ITA1480

Sampled: 01/18/10-01/19/10  
Received: 01/19/10

## TestAmerica West Sacramento

880 Riverside Parkway - West Sacramento, CA 95605

Method Performed: EPA-5 1613B  
Samples: ITA1480-02

## TestAmerica Irvine

Kathleen A. Robb For Joseph Doak  
Project Manager









TestAmerica Laboratories, Inc.

## ANALYTICAL REPORT

REVISED

PROJECT NO. ITA1480

MWH-Pasadena Boeing

Lot #: F0A220437

Joseph Doak

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

TESTAMERICA LABORATORIES, INC.



Kay Clay  
Project Manager

March 17, 2010

Case Narrative  
LOT NUMBER: F0A220437  
Revised 03-17-10

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on January 22, 2010. This sample is associated with your MWH-Pasadena Boeing project.

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

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

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

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

**Report revised to report the KPA uranium results in pCi/L.**

**Observations/Nonconformances**

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

**Gross Alpha/Beta (EPA 900.0 MOD)**

The gross alpha and beta matrix spike are outside lower control limits due to possible matrix interference. Method performance is demonstrated by acceptable LCS recovery

**Affected Samples:**

F0A220437 (1): ITA1480-02

**METHODS SUMMARY**

FOA220437

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

**References:**

ASTM      Annual Book Of ASTM Standards.

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

**SAMPLE SUMMARY**

F0A220437

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LTLAM	001	ITA1480-02	01/19/10	14:30

**NOTE (S) :**

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

## TestAmerica Irvine

Client Sample ID: ITA1480-02

## Radiochemistry

Lab Sample ID: FOA220437-001  
 Work Order: LTLAM  
 Matrix: WATER

Date Collected: 01/19/10 1430  
 Date Received: 01/22/10 0930

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	mdc	Prep Date	Analysis Date
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
				pCi/L		Batch # 0023036	Yld %
Cesium 137	2.3	U	9.9	20.0	18	01/23/10	01/26/10
Potassium 40	-50	U	380		290	01/23/10	01/26/10
<b>Gross Alpha/Beta EPA 900</b>							
				pCi/L		Batch # 0025415	Yld %
Gross Alpha	1.2	U	1.2	3.0	1.9	01/25/10	01/29/10
Gross Beta	3.61	J	0.97	4.00	1.2	01/25/10	01/29/10
<b>SR-90 BY GFPC EPA-905 MOD</b>							
				pCi/L		Batch # 0022149	Yld % 72
Strontium 90	0.13	U	0.24	3.00	0.40	01/22/10	02/01/10
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
				pCi/L		Batch # 0028080	Yld %
Tritium	410	J	140	500	140	01/28/10	01/29/10
<b>Total Uranium by KPA ASTM 5174-91</b>							
				pCi/L		Batch # 0035029	Yld %
Total Uranium	0.148	U	0.017	0.693	0.21	02/04/10	02/08/10
<b>Radium 226 by EPA 903.0 MOD</b>							
				pCi/L		Batch # 0022145	Yld % 59
Radium (226)	0.03	U	0.12	1.00	0.23	01/22/10	02/08/10
<b>Radium 228 by GFPC EPA 904 MOD</b>							
				pCi/L		Batch # 0022148	Yld % 54
Radium 228	-0.37	U	0.61	1.00	1.1	01/22/10	02/08/10

## NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC.

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

U Result is less than the sample detection limit.

## METHOD BLANK REPORT

## Radiochemistry

Client Lot ID: FOA220437  
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
<b>Total Uranium by KPA ASTM 5174-91</b>							
Total Uranium	-0.0623	U	0.0075	0.693	0.21	02/04/10	FOB040000-029B
<b>Radium 226 by EPA 903.0 MOD</b>							
Radium (226)	0.111	U	0.094	1.00	0.13	01/22/10	FOA220000-145B
<b>Radium 228 by GFPC EPA 904 MOD</b>							
Radium 228	0.22	U	0.35	1.00	0.59	01/22/10	FOA220000-148B
<b>SR-90 BY GFPC EPA-905 MOD</b>							
Strontium 90	-0.01	U	0.22	3.00	0.38	01/22/10	FOA220000-149B
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>							
Cesium 137	-0.4	U	6.7	20.0	12	01/23/10	FOA230000-036B
Potassium 40	-70	U	240		210	01/23/10	FOA230000-036B
<b>Gross Alpha/Beta EPA 900</b>							
Gross Alpha	-0.03	U	0.34	3.00	0.71	01/25/10	FOA250000-415B
Gross Beta	-0.26	U	0.86	4.00	1.5	01/25/10	FOA250000-415B
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>							
Tritium	250	J	120	500	140	01/28/10	FOA280000-080B

## NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only

Bold results are greater than the MDC.

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

## Laboratory Control Sample Report

## Radiochemistry

Client Lot ID: F0A220437  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
<b>Gamma Cs-137 &amp; Hits by EPA 901.1 MOD</b>			pCi/L	901.1 MOD			F0A230000-036C
Americium 241	141000	132000	10000	500		93	(87 - 110)
Cesium 137	53100	48200	2800	200		91	(90 - 110)
Cobalt 60	87900	79000	4400	200		90	(89 - 110)
	Batch #:	0023036				Analysis Date:	01/26/10
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD			F0A250000-415C
Gross Beta	68.1	73.4	6.2	1.6		108	(58 - 133)
	Batch #:	0025415				Analysis Date:	01/29/10
<b>Gross Alpha/Beta EPA 900</b>			pCi/L	900.0 MOD			F0A250000-415C
Gross Alpha	49.4	45.4	5.0	0.9		92	(62 - 134)
	Batch #:	0025415				Analysis Date:	01/29/10
<b>TRITIUM (Distill) by EPA 906.0 MOD</b>			pCi/L	906.0 MOD			F0A280000-080C
Tritium	4540	4680	480	140		103	(85 - 112)
	Batch #:	0028080				Analysis Date:	01/28/10
<b>Total Uranium by KPA ASTM 5174-91</b>			pCi/L	5174-91			F0B040000-029C
Total Uranium	27.7	29.2	3.5	0.2		105	(90 - 120)
	Batch #:	0035029				Analysis Date:	02/08/10
<b>Total Uranium by KPA ASTM 5174-91</b>			pCi/L	5174-91			F0B040000-029C
Total Uranium	5.54	5.67	0.59	0.21		102	(90 - 120)
	Batch #:	0035029				Analysis Date:	02/08/10

## NOTE(S)

MDC is determined by instrument performance only

## Laboratory Control Sample/LCS Duplicate Report

## Radiochemistry

Client Lot ID: FOA220437  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	% Yld	% Rec	Lab Sample ID	
						QC Control Limits	Precision
<b>Radium 226 by EPA</b>	<b>903.0 MOD</b>		<b>pCi/L</b>	<b>903.0 MOD</b>			<b>FOA220000-145C</b>
Radium (226)	11.3	10.7	1.1	108	95	(68 - 136)	
Spk 2	11.3	11.2	1.1	110	100	(68 - 136)	5 %RPD
	Batch #:	0022145		Analysis Date:	02/08/10		
<b>Radium 228 by GFPC EPA</b>	<b>904 MOD</b>		<b>pCi/L</b>	<b>904 MOD</b>			<b>FOA220000-148C</b>
Radium 228	6.45	8.22	0.95	93	127	(60 - 142)	
Spk 2	6.45	7.58	0.88	99	118	(60 - 142)	8 %RPD
	Batch #:	0022148		Analysis Date:	02/08/10		
<b>SR-90 BY GFPC EPA-905 MOD</b>			<b>pCi/L</b>	<b>905 MOD</b>			<b>FOA220000-149C</b>
Strontium 90	6.81	6.74	0.79	77	99	(80 - 130)	
Spk 2	6.81	6.99	0.81	80	103	(80 - 130)	4 %RPD
	Batch #:	0022149		Analysis Date:	02/01/10		

NOTE(S)

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

## MATRIX SPIKE REPORT

## Radiochemistry

Client Lot Id: FOA200486  
 Matrix: WATER

Date Sampled: 01/18/10  
 Date Received: 01/20/10

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2σ +/-)	QC Sample ID		QC Control Limits
							%YLD	%REC	
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			FOA200486-001		
Gross Beta	68.1	10.0	1.6		0.83	0.99	14	a	(54 - 150)
	Batch #: 0025415			Analysis Date: 01/29/10					
Gross Alpha/Beta EPA 900			pCi/L	900.0 MOD			FOA200486-001		
Gross Alpha	49.4	6.9	1.6		0.98	0.70	12	a	(35 - 150)
	Batch #: 0025415			Analysis Date: 01/29/10					
TRITIUM (Distill) by EPA 906.0 MOD			pCi/L	906.0 MOD			FOA200494-001		
Tritium	4540	4350	460		64	88	94		(62 - 147)
	Batch #: 0028080			Analysis Date: 01/29/10					

## NOTE(S)

Data are incomplete without the case narrative.

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

## MATRIX SPIKE/MATRIX SPIKE DUPLICATE REPORT

## Radiochemistry

Client Lot ID: FOA200486  
 Matrix: WATER

Date Sampled: 01/18/10 0730  
 Date Received: 01/20/10 0915

Parameter	Spike Amount	SPIKE Result	Total Uncert. (2 $\sigma$ +/-)	Spike Yld	SAMPLE Result	Total Uncert. (2 $\sigma$ +/-)	QC Sample ID		QC Control Limits
							% Yld	%Rec	
Total Uranium by KPA ASTM 5			pCi/L	5174-91			FOA200486-001		
Total Uranium	27.7	28.8	3.4		-0.0334 U	0.0040		104	(62 - 150)
Spk2	27.7	29.2	3.5		-0.0334 U	0.0040		105	(62 - 150)
						Precision:	2	%RPD	
Batch #:		0035029	Analysis date:		02/08/10				

## NOTE(S)

Data are incomplete without the case narrative.

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

## DUPLICATE EVALUATION REPORT

## Radiochemistry

Client Lot ID: FOA220437  
 Matrix: WATER

Date Sampled: 01/18/10  
 Date Received: 01/20/10

Parameter	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result	Total Uncert. (2 σ +/-)	% Yld	QC Sample ID	
								Precision	
Gross Alpha/Beta EPA 900				pCi/L	900.0 MOD			FOA200486-001	
Gross Alpha	0.98	J	0.70		0.71	J	0.85	32	%RPD
Gross Beta	0.83	U	0.99		1.6	J	1.0	62	%RPD
	Batch #:		0025415 (Sample)		0025415 (Duplicate)				
TRITIUM (Distill) by EPA 906.0 MOD				pCi/L	906.0 MOD			FOA200486-001	
Tritium	99	U	94		-49	U	64	586	%RPD
	Batch #:		0028080 (Sample)		0028080 (Duplicate)				
Gamma Cs-137 & Hits by EPA 901.1 MOD				pCi/L	901.1 MOD			FOA210532-001	
Cesium 137	-2.3	U	9.2		-1.4	U	9.8	47	%RPD
Potassium 40	-30	U	240		-60	U	440	69	%RPD
	Batch #:		0023036 (Sample)		0023036 (Duplicate)				

## NOTE(S)

Data are incomplete without the case narrative.

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

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

CUR 141

**SUBCONTRACT ORDER**  
TestAmerica Irvine

ITA1480

FOA220437

**SENDING LABORATORY:**

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

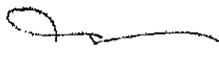
**RECEIVING LABORATORY:**

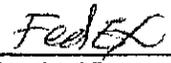
TestAmerica St. Louis  
13715 Rider Trail North  
Earth City, MO 63045  
Phone: (314) 298-8566  
Fax: (314) 298-8757  
Project Location: CA - CALIFORNIA  
Receipt Temperature: \_\_\_\_\_ °C      Ice: Y / N

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
<b>Sample ID: ITA1480-02 (Outfall 010 (Comp) - Water)</b>						
			Sampled: 01/19/10 14:30			
Gamma Spec-O	mg/kg	01/28/10	01/19/11 14:30	\$250.00	0%	Out St Louis, K-40 and CS-137 only, ✓ DO NOT FILTER! ✓
Gross Alpha-O	pCi/L	01/28/10	07/18/10 14:30	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER! ✓
Gross Beta-O	pCi/L	01/28/10	07/18/10 14:30	\$100.00	50%	Out St Louis, Boeing permit, DO NOT FILTER! ✓
Radium, Combined-O	pCi/L	01/28/10	01/19/11 14:30	\$238.00	50%	Out St Louis, Boeing permit, DO NOT FILTER! ✓
Strontium 90-O	pCi/L	01/28/10	01/19/11 14:30	\$155.00	50%	Out St Louis, Boeing permit, DO NOT FILTER! ✓
Tritium-O	pCi/L	01/28/10	01/19/11 14:30	\$80.00	50%	Out St Louis, Boeing permit, DO NOT FILTER! ✓
Uranium, Combined-O	pCi/L	01/28/10	01/19/11 14:30	\$120.00	0%	Out St Louis, Boeing permit, DO NOT FILTER! ✓

*Containers Supplied:*

2.5 gal Poly (H)      500 mL Amber (I)

  
Released By \_\_\_\_\_ Date/Time 1/20/10 17:00

  
Received By Nicholas Owens Date/Time 1/20/10 19:24



Lot #(s): ITA 1480  
ITA 1481

FOA 220437  
438

**CONDITION UPON RECEIPT FORM**

Client: TA IRVINE

Quote No: 85044

COC/RFA No: ITA (1480) 1481

Initiated By: NVD

Date: <sup>141</sup> 1-22-10

Time: 0930

**Shipping Information**

Shipper:  FedEx  UPS  DHL  Courier  Client Other: \_\_\_\_\_ Multiple Packages:  Y  N

Shipping # (s):*		Sample Temperature (s):**	
1. <u>4289 2132 9070</u>	6. _____	1. <u>AMBIENT</u>	6. _____
2. _____	7. _____	2. _____	7. _____
3. _____	8. _____	3. _____	8. _____
4. _____	9. _____	4. _____	9. _____
5. _____	10. _____	5. _____	10. _____

\*Numbered shipping lines correspond to Numbered Sample Temp lines

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

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

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

<sup>1</sup> For DOB-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

**Notes:**

**Corrective Action:**

Client Contact Name: \_\_\_\_\_

Informed by: \_\_\_\_\_

Sample(s) processed "as is"

Sample(s) on hold until: \_\_\_\_\_

If released, notify: \_\_\_\_\_

Project Management Review: Jayna Pohl

Date: 1-25-10

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

ADMIN-0004, REVISED 10/21/08 \\Slsrv01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

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# **APPENDIX G**

## **Section 49**

Outfall 010 – BMP Effectiveness January 18 & 19, 2010

Test America Analytical Laboratory Report

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## LABORATORY REPORT

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

Project: BMP Effectiveness  
Monitoring Program

Sampled: 01/18/10  
Received: 01/22/10  
Issued: 02/02/10 06:20

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

*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.*

### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 4°C, on ice and with chain of custody documentation.

**HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

**PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.

**QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.

**COMMENTS:** Results that fall between the MDL and RL are 'J' flagged.

**SUBCONTRACTED:** No analyses were subcontracted to an outside laboratory.

#### LABORATORY ID

ITA1966-01

ITA1966-02

#### CLIENT ID

010 EFF-1 Grab

010 EFF-2 Composite

#### MATRIX

Water

Water

Reviewed By:



**TestAmerica Irvine**

Debby Wilson For 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: ITA1966

Sampled: 01/18/10  
 Received: 01/22/10

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: ITA1966-01 (010 EFF-1 Grab - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	10A2463	N/A	NA	1.0	1	01/26/10	01/26/10	
<b>Sample ID: ITA1966-02 (010 EFF-2 Composite - Water)</b>									
Reporting Units: g/cc									
Density	Displacement	10A2463	N/A	NA	1.0	1	01/26/10	01/26/10	
<b>Sample ID: ITA1966-01 (010 EFF-1 Grab - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	10A2469	10	10	ND	1	01/26/10	01/26/10	
<b>Sample ID: ITA1966-02 (010 EFF-2 Composite - Water)</b>									
Reporting Units: mg/l									
Sediment	ASTM D3977	10A2469	10	10	63	1	01/26/10	01/26/10	

### TestAmerica Irvine

Debby Wilson For 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: ITA1966

Sampled: 01/18/10  
Received: 01/22/10

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 10A2463 Extracted: 01/26/10</b>										
<b>Duplicate Analyzed: 01/26/2010 (10A2463-DUP1)</b>										
Density	0.997	NA	N/A	g/cc		Source: ITA1969-01 0.997		0	20	

TestAmerica Irvine

Debby Wilson For 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: ITA1966

Sampled: 01/18/10  
Received: 01/22/10

## 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**

Debby Wilson For Joseph Doak  
Project Manager

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**ITA1966 <Page 4 of 5>**

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

Project ID: BMP Effectiveness  
Monitoring Program  
Report Number: ITA1966

Sampled: 01/18/10  
Received: 01/22/10

## 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

Debby Wilson For 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.*

# CHAIN OF CUSTODY FORM

Test America Version 06/29/09

3:741966

Client Name/Address: MWH-Pasadena 618 Michillinda Ave., Ste 200 Arcadia, CA 91007		Project: Boeing BMP Effectiveness Monitoring Program		ANALYSIS REQUIRED									
Test America contact: Joseph Doak		Project Manager: Bronwyn Kelly Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Comments									
Sampler: Shelby Dawson		Suspended Sediment Concentration (SSC, ASTM-D3977-1997)		Turn around Time: (check)									
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	24 Hours	48 Hours	72 Hours	Perchlorate Only 72 Hours	Metals Only 72 Hours	Sample Integrity: (Check)	On Ice:
010 EFF-1	W	Poly-1 L	1	1/18/10 1100	None	1	X						X
010 EFF-2	W	Poly cube 1 gal	1	1/18/10 2146	None	2	X						X
							09:50 01/23/10 AP						
Relinquished By: <i>Shelby Dawson</i>		Date/Time: 1-22-10 16:00		Received By: <i>Matt Cunniff</i>		Date/Time: 1-22-10 16:00							
Relinquished By: <i>Shelby Dawson</i>		Date/Time: 1-22-10 18:45		Received By: <i>Shelby Dawson</i>		Date/Time: 1-24-10 18:45							
Relinquished By:		Date/Time:		Received By:		Date/Time:							

# **APPENDIX G**

## **Section 50**

Outfall 010 – February 5 & 6, 2010

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

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# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ITB0784/ITB0886

Prepared by

MEC<sup>x</sup>, LP  
12269 East Vassar Drive  
Aurora, CO 80014

**I. INTRODUCTION**

Task Order Title: Boeing SSFL NPDES  
 Contract Task Order: 1261.100D.00  
 Sample Delivery Group: ITB0784/ITB0886  
 Project Manager: B. Kelly  
 Matrix: Water  
 QC Level: IV  
 No. of Samples: 3  
 No. of Reanalyses/Dilutions: 1  
 Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

<i>Client ID</i>	<i>Laboratory ID</i>	<i>Sub-Laboratory ID</i>	<i>Matrix</i>	<i>Collected</i>	<i>Method</i>
Outfall 010	ITB0784-01		Water	2/5/10 1:40 PM	1664A, 218.6, 624
Outfall 010	ITB0886-01	G0B100429-001	Water	2/6/10 11:15 AM	ASTM 5174-91, 180.1, 200.7, 200.7 (Diss), 200.8, 200.8 (Diss), 245.1, 245.1-Diss, 300.0, 314.0, 525.2, 1613B, 608, 625, 900.0 MOD, 901.1 MOD, 903.0 MOD, 905 MOD, 906.0 MOD, SM 2540D, SM 4500-F-C, SM2340B, SM2340B-Diss, SM2540C, SM4500CN-E
Outfall 010	ITB0886-01RE1		Water	2/6/10 11:15 AM	904 MOD, 1613B
Trip Blanks	ITB0784-02		Water	2/5/10 1:40 PM	624

**II. Sample Management**

No anomalies were observed regarding sample management. The sample was received below the temperature limits at TestAmerica-West Sacramento; however, the sample was not noted to be frozen or damaged. The samples in this SDG were received at the remaining laboratories within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

---

### Data Qualifier Reference Table

---

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

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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: L. Calvin

Date Reviewed: March 23, 2010

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 (9/05)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
  - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed with the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
  - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
  - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs  $\leq 20\%$  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 detects between the EDL and the RL for 1,2,3,4,6,7,8-HpCDD and total HpCDD, OCDD, 1,2,3,4,6,7,8-HpCDF and total HpCDF, and OCDF. Most detects in the method blank did not meet ratio criteria and were reported as EMPCs, and it was reviewer's professional opinion that in this case, none of the method blank detects were sufficient to qualify the associated sample results.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The laboratory performed and reported a confirmation analysis for 2,3,7,8-TCDF. The initial result was not confirmed, as the peak in the confirmation analysis did not meet signal to noise criteria; therefore, the initial result was rejected, “R,” in favor of the confirmation result, and the total TCDF result changed to nondetected, “U.”
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating a representative number of reportable sample results. Any isomers reported as EMPCs, and any associated total containing no other peaks than the reported isomers were qualified as estimated and nondetected, “UJ,” at the level of the EMPC. Any remaining total results reported as EMPCs or including EMPCs were qualified as estimated, “J.” Any detects reported below the EDL, or between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Nondetects are valid to the EDL.

## **B. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury**

Reviewed By: P. Meeks

Date Reviewed: March 18, 2010

The sample listed in Table 1 for these analyses 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 200.7, 200.8, 245.1*, and *SM2340B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: Analytical holding times, six months for ICP and ICP-MS 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 and ICP-MS metals and 85-115% for mercury.

Total selenium was not recovered in the 10 ppb CRDL but was recovered acceptably in the 20 ppb CRDL. As the sensitivity of the instrument near the MDL (8ppb) was not verified, the reviewer raised the MDL and reporting limit for total selenium to the concentration shown to have acceptable recovery, 20 ppb. The 5ppb CRDL recovery for nickel was 66%, the total arsenic 10 ppb recovery was 56%, and the total cadmium 2ppb CRDL recovery was 50%; therefore, nondetected nickel in both fractions, total arsenic, and total cadmium were qualified as estimated, "UJ." The remaining CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Antimony and cadmium were reported in the total method blank at -0.36 and -0.16  $\mu\text{g/L}$ ; therefore, nondetected total antimony and cadmium were qualified as estimated, "UJ." Boron and iron were detected in the dissolved method blank at 45.3 and 21.9  $\mu\text{g/L}$ ; therefore, dissolved boron and iron were qualified as nondetected, "U," at the levels of contamination. Method blanks and CCBs had no other applicable detects.
- Interference Check Samples: Recoveries were within the method- (6010B) or laboratory- (6020) established control limits. ICSA/ICSAB analyses were performed for the 200.8 dissolved analytes only. Total and dissolved boron, total and dissolved silver, and dissolved arsenic were reported in the ICSAs -34, -75, -6.8, -7.1, and -13.9  $\mu\text{g/L}$ , respectively and dissolved selenium was detected at 17.9  $\mu\text{g/L}$ ; however, the concentration of the interfering analytes were not sufficient to cause matrix interference in the site sample. Copper and cadmium were detected in the 200.8 ICSA; however the reviewer was unable to determine if these detects were due to level contamination of the standard. There were no other target compounds present in the ICSA solution at concentrations indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: A matrix spike analysis was performed on the 200.7 total analytes. Aluminum was recovered above the control limit at 130%; therefore, total aluminum detected was qualified as estimated, "J." The remaining recoveries were within method-established QC limits. Method accuracy for the remaining analytes was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.

- **Internal Standards Performance:** All sample internal standard intensities were within 60-125% of the internal standard intensities measured in the initial calibration blank. Copper was not bracketed by an internal standard of lower mass; therefore, copper detected in the sample was qualified as estimated, "J."
- **Sample Result Verification:** Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

The reviewer noted that antimony was detected marginally above the MDL in the dissolved fraction, but was not detected in the total fraction.

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

### C. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks

Date Reviewed: March 18, 2010

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-20, Rev. 0)*, *EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- **Holding Times:** The analytical holding time, 28 days, was met.
- **Calibration:** Calibration criteria were met. The initial calibration  $r^2$  value was  $\geq 0.995$  and all initial and continuing calibration recoveries were within 90-110%. IPC recoveries were within the method-established control limit of 80-120%. The IPC-MA recovery was within 85-115%
- **Blanks:** Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was within the method-established QC limits of 85-115%.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the 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.

#### D. EPA METHOD 608—Pesticides and PCBs

Reviewed By: P. Meeks

Date Reviewed: March 21, 2010

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0)*, *EPA Method 608*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Extraction and analytical holding times were met. The water samples were extracted within seven days of collection and analyzed within 40 days of extraction.
- Calibration: The %RSD exceeded the control limit for heptachlor on both channels, endrin ketone on channel A and endosulfan II on channel B; therefore, the results for these analytes were qualified as estimated, "UJ." The remaining initial calibrations had average %RSDs of  $\leq 10\%$  and  $r^2$  values  $\geq 0.995$ . CCV %Ds exceeded 15% for dieldrin, DDT, DDD, heptachlor, endrin, DDE, and endosulfan I; therefore, the nondetected results for these compounds were qualified as estimated, "UJ." The %D on channel B for Aroclor-1016 exceeded 15%; therefore, the nondetect result for Aroclor-1016, Aroclor-1221, Aroclor-1232, and Aroclor-1242 were qualified as estimated, "UJ." The remaining ICV and CCVs bracketing the sample analyses had %Ds within the QC limit of  $\leq 15\%$ .

- Blanks: The method blanks had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits. The reviewer noted that the pesticide LCS results were calculated using an incorrect sample volume. All results were acceptable when calculated using the correct volume.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.
- 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.
- Compound Identification: Compound identification was verified. Review of the sample chromatograms and retention times indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified from the raw data. The reporting limits were supported by the lower level of the initial calibration. Any results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

## E. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: March 24, 2010

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, ASTM Method D-5174*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- Holding Times: The aliquots for total uranium and radium-228 were reanalyzed more than 3x beyond the holding time for unpreserved samples; therefore, total uranium and detected in the sample was qualified as estimated, "J," and nondetected radium-228 was rejected, "R." Aliquots for gross alpha and gross beta were prepared beyond the five-day analytical holding time for unpreserved samples; therefore, the results for these

analytes were qualified as estimated, "J." The tritium sample was analyzed within 180 days of collection. Aliquots for gamma spectroscopy, radium-226, and strontium-90 were prepared within the five-day holding time for unpreserved aqueous samples.

- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability. The gross alpha and radium-226 detector efficiencies were less than 20%; therefore, the gross alpha and radium-226 results were qualified as estimated, "J," for detects and, "UJ," for nondetects. The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were at least 40% and were considered acceptable. The gamma spectroscopy analytes were determined at the maximum photopeak energy. The kinetic phosphorescence analyzer (KPA) was calibrated immediately prior to the sample analysis. All KPA calibration check standard recoveries were within 90-110% and were deemed acceptable.

- Blanks: Tritium was detected in the method blank, but not at a concentration sufficient to qualify the site sample. There were no other analytes detected in the method blanks or the KPA CCBs.
- Blank Spikes and Laboratory Control Samples: The recoveries and the radium-228 RPD were within laboratory-established control limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.
- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDA and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

The reviewer noted that the total uranium preparation log was not signed as reviewed.

- 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.

## F. EPA METHOD 525.2—Semivolatile Organic Compounds (SVOCs)

Reviewed By: P. Meeks

Date Reviewed: March 20, 2010

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 Semivolatile Organics (DVP-3, Rev. 0)*, *EPA Method 525.2*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within 24 hours of collection and analyzed within 30 days of extraction.
- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.
- Calibration: Calibration criteria were met. The initial calibration average RRFs were  $\geq 0.05$  and %RSDs  $\leq 35\%$ . The continuing calibration RRFs were  $\geq 0.05$  and recoveries were within the method QC limits of 70-130%.
- Blanks: The method blank had no applicable target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: The recoveries and RPDs were within laboratory-established QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy and precision were evaluated based on the LCS/D results.
- 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 internal standard area counts and retention times were within the method control limits established by the continuing calibration standards of  $\pm 30\%$ .

- **Compound Identification:** Compound identification was verified. The laboratory analyzed for chlorpyrifos and diazinon by Method 525.2. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- **Compound Quantification and Reported Detection Limits:** Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Reported nondetects are valid to the reporting limit.
- **Tentatively Identified Compounds:** TICs were not reported by the laboratory for this analysis.
- **System Performance:** Review of the raw data indicated no problems with system performance.

### **G. EPA METHOD 625—Semivolatile Organic Compounds (SVOCs)**

Reviewed By: P. Meeks

Date Reviewed: March 20, 2010

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 Semivolatile Organics (DVP-3, Rev. 0)*, *EPA Method 625*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- **Holding Times:** Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.
- **GC/MS Tuning:** The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.
- **Calibration:** Calibration criteria were met. The  $r^2$  value for pentachlorophenol was less than the control limit; therefore, the nondetected result for pentachlorophenol was qualified as estimated, "UJ." Initial calibration average RRFs were  $\geq 0.05$  and the %RSDs  $\leq 35\%$  and the remaining  $r^2$  values were  $\geq 0.995$ . The second source ICV had %Ds above 20% for benzyl alcohol, hexachlorocyclopentadiene, 2,4-dinitrophenol, n-nitrosodiphenylamine, pentachlorophenol, and benzidine; therefore, the nondetected results for these compound were qualified as estimated, "UJ." The ICV RRFs were  $\geq 0.05$  and the remaining %Ds  $\leq 20\%$ . The continuing calibration associated with the sample analysis had %Ds above 20% for benzyl alcohol and 2,4-dinitrophenol; therefore, the nondetected results for these compounds were qualified as estimated, "UJ." The continuing calibration RRFs were  $\geq 0.05$  and the remaining %Ds  $\leq 20\%$ .
- **Blanks:** Method blanks had no target compound detects above the MDL.
- **Blank Spikes and Laboratory Control Samples:** Both recoveries for hexachlorocyclopentadiene exceeded the control limit; however, the compound was not

detected in the site sample. The RPDs for benzidine and benzoic acid exceeded the control limit; therefore, the nondetected results for these compounds were qualified as estimated, "UJ." The remaining recoveries and RPDs were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy and precision were evaluated based on LCS/LCSD results.
- 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 internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and  $\pm 30$  seconds for retention times.
- Compound Identification: Compound identification was verified. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.
- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.
- System Performance: Review of the raw data indicated no problems with system performance.

## H. EPA METHOD 8260B—Volatile Organic Compounds (VOCs)

Reviewed By: P. Meeks

Date Reviewed: March 20, 2010

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0)*, *EPA Method 8260B*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Analytical holding times were met. The preserved water samples were analyzed within 14 days of collection and the unpreserved samples were analyzed within seven day of collection.
- GC/MS Tuning: The BFB tunes met the method abundance criteria. Samples were analyzed within 12 hours of the BFB injection time.
- Calibration: Calibration criteria were met. The  $r^2$  value for bromoform was  $<0.995$ ; therefore, the nondetected results for bromoform were qualified as estimated, "UJ." The initial and continuing calibration RRFs for acrolein were  $<0.05$ ; therefore, the nondetected results for acrolein were rejected, "R." The remaining initial and continuing calibration RRFs were  $\geq 0.05$  and %RSDs  $\leq 35\%$  and remaining  $r^2$  values were  $\geq 0.995$ . The continuing calibration %Ds exceeded 20% for acrolein, carbon tetrachloride and 2-chloroethyl vinyl ether; therefore, the nondetected results for these compounds were qualified as estimated, "UJ," unless otherwise rejected. The continuing calibration RRFs were  $\geq 0.05$  and the remaining %Ds  $\leq 20\%$ .
- Blanks: Method blanks had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries and the RPDs for 2-chloroethylvinyl ether, acrolein, and acrylonitrile were within laboratory-established QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the samples in this SDG. Method accuracy was evaluated based on LCS results.
- 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:
  - Trip Blanks: Trip Blanks was the trip blank associated with the site sample in this SDG. There were no detects above the MDL in the trip blank.

- 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 internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and  $\pm 30$  seconds for retention times.
- Compound Identification: Compound identification was verified. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any results reported between the MDL and the reporting limit were qualified as estimated, "J." Reported nondetects are valid to the reporting limit.
- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.
- System Performance: Review of the raw data indicated no problems with system performance.

## I. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: March 18, 2010

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Methods 180.1, 218.6, 300.0, 1664, SM2540C, SM2540D, SM4500CN-E, SM4500F-C*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: All analytical holding times 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%. Balance calibration check logs were acceptable. The nitrate reporting limit check standard was recovered at 63%; therefore, nitrate/nitrite detected in the sample was qualified as estimated, "J." All remaining reporting limit check standard recoveries were within 70-130%.
- Blanks: Method blanks and CCBs had no applicable detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits. A nitrate/nitrite recovery was not listed in the summary by the

laboratory; however, the reviewer determined that the nitrate/nitrite LCS recovery was acceptable.

- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: A matrix spike analysis was performed for chloride, nitrate/nitrite, and sulfate. Chloride and sulfate recoveries were within laboratory-established QC limits. A nitrate/nitrite recovery was not listed in the summary by the laboratory; however, the reviewer determined that the nitrate/nitrite spike recovery was acceptable. Method accuracy for the remaining analytes was evaluated based on LCS results.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
  - Field Duplicates: There were no field duplicate samples identified for this SDG.

# Validated Sample Result Forms ITB0784/ITB0886

## Analysis Method ASTM 5174-91

<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Total Uranium	7440-61-1	0.422	0.693	0.21	pCi/L	J	J	H, DNQ

## Analysis Method EPA 1664A

<b>Sample Name</b>	Outfall 010	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0784-01	<b>Sample Date:</b>	2/5/2010 1:40:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Hexane Extractable Material (Oil & Grease)	HEM	ND	4.8	1.4	mg/l		U	

## Analysis Method EPA 200.7

<b>Sample Name</b>	Outfall 010	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Arsenic	7440-38-2	ND	10	7.0	ug/l		UJ	C
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U	
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U	
Selenium	7782-49-2	ND	20	20	ug/l		U	\$
Silver	7440-22-4	ND	10	6.0	ug/l		U	
Zinc	7440-66-6	8.7	20	6.0	ug/l	J	J	DNQ

<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Aluminum	7429-90-5	770	50	40	ug/l		J	Q
Boron	7440-42-8	0.047	0.050	0.020	mg/l	Ja	J	DNQ
Calcium	7440-70-2	30	0.10	0.050	mg/l	MHA		
Iron	7439-89-6	0.74	0.040	0.015	mg/l			
Magnesium	7439-95-4	3.7	0.020	0.012	mg/l			
Nickel	7440-02-0	ND	10	2.0	ug/l		UJ	R
Vanadium	7440-62-2	4.6	10	3.0	ug/l	Ja	J	DNQ

*Analysis Method EPA 200.7-Diss*

<b>Sample Name</b>		Outfall 010		<b>Matrix Type:</b>		Water		<b>Validation Level:</b>		IV	
<b>Lab Sample Name:</b>		ITB0886-01		<b>Sample Date:</b>		2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>			
Arsenic	7440-38-2	ND	10	7.0	ug/l		U				
Beryllium	7440-41-7	ND	2.0	0.90	ug/l		U				
Chromium	7440-47-3	ND	5.0	2.0	ug/l		U				
Selenium	7782-49-2	ND	10	8.0	ug/l		U				
Silver	7440-22-4	ND	10	6.0	ug/l		U				
Zinc	7440-66-6	13	20	6.0	ug/l	J	J	DNQ			

<b>Sample Name</b>		Outfall 010Comp		<b>Matrix Type:</b>		Water		<b>Validation Level:</b>		IV	
<b>Lab Sample Name:</b>		ITB0886-01		<b>Sample Date:</b>		2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>			
Aluminum	7429-90-5	81	50	40	ug/l						
Boron	7440-42-8	ND	0.056	0.020	mg/l	B	U	B			
Calcium	7440-70-2	24	0.10	0.050	mg/l						
Iron	7439-89-6	ND	0.081	0.015	mg/l	B	U	B			
Magnesium	7439-95-4	2.8	0.020	0.012	mg/l						
Nickel	7440-02-0	ND	10	2.0	ug/l		UJ	R			
Vanadium	7440-62-2	ND	10	3.0	ug/l		U				

*Analysis Method EPA 200.8*

<b>Sample Name</b>		Outfall 010Comp		<b>Matrix Type:</b>		Water		<b>Validation Level:</b>		IV	
<b>Lab Sample Name:</b>		ITB0886-01		<b>Sample Date:</b>		2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>			
Antimony	7440-36-0	ND	2.0	0.30	ug/l		UJ	B			
Cadmium	7440-43-9	ND	1.0	0.10	ug/l		UJ	B, R			
Copper	7440-50-8	4.4	2.0	0.50	ug/l		J	*III			
Lead	7439-92-1	1.9	1.0	0.20	ug/l						
Thallium	7440-28-0	ND	1.0	0.20	ug/l	C	U				

*Analysis Method EPA 200.8-Diss*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Antimony	7440-36-0	0.57	2.0	0.30	ug/l	Ja	J	DNQ
Cadmium	7440-43-9	ND	1.0	0.10	ug/l		U	
Copper	7440-50-8	1.4	2.0	0.50	ug/l	Ja	J	DNQ, *III
Lead	7439-92-1	ND	1.0	0.20	ug/l		U	
Thallium	7440-28-0	ND	1.0	0.20	ug/l		U	

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*Analysis Method EPA 218.6*

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<b>Sample Name</b>	Outfall 010	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0784-01	<b>Sample Date:</b>	2/5/2010 1:40:00 PM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Chromium VI	18540-29-9	ND	0.0010	0.00025	mg/l		U	

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*Analysis Method EPA 245.1*

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<b>Sample Name</b>	Outfall 010	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.00020	0.00010	mg/l		U	

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*Analysis Method EPA 245.1-Diss*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Mercury	7439-97-6	ND	0.00020	0.00010	mg/l		U	

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*Analysis Method EPA 300.0*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Chloride	16887-00-6	7.3	0.50	0.25	mg/l			
Nitrate/Nitrite-N	NA	0.59	0.26	0.15	mg/l			
Sulfate	14808-79-8	7.4	0.50	0.20	mg/l			

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*Analysis Method*    *EPA 314.0*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Perchlorate	14797-73-0	ND	4.0	0.90	ug/l		U	

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*Analysis Method*    *EPA 525.2*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Chlorpyrifos	2921-88-2	ND	1.0		ug/l		U	
Diazinon	333-41-5	ND	0.25		ug/l		U	

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*Analysis Method*    *EPA 608*

**Sample Name**    Outfall 010Comp                    **Matrix Type:** Water                    **Validation Level:** IV  
**Lab Sample Name:**    ITB0886-01                    **Sample Date:** 2/6/2010 11:15:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
4,4'-DDD	72-54-8	ND	0.0047	0.0019	ug/l	C	UJ	C
4,4'-DDE	72-55-9	ND	0.0047	0.0028	ug/l		UJ	C
4,4'-DDT	50-29-3	ND	0.0094	0.0038	ug/l		UJ	C
Aldrin	309-00-2	ND	0.0047	0.0014	ug/l		U	
alpha-BHC	319-84-6	ND	0.0047	0.0024	ug/l		U	
Aroclor 1016	12674-11-2	ND	0.47	0.24	ug/l		UJ	C
Aroclor 1221	11104-28-2	ND	0.47	0.24	ug/l		UJ	C
Aroclor 1232	11141-16-5	ND	0.47	0.24	ug/l		UJ	C
Aroclor 1242	53469-21-9	ND	0.47	0.24	ug/l		UJ	C
Aroclor 1248	12672-29-6	ND	0.47	0.24	ug/l		U	
Aroclor 1254	11097-69-1	ND	0.47	0.24	ug/l		U	
Aroclor 1260	11096-82-5	ND	0.47	0.24	ug/l		U	
beta-BHC	319-85-7	ND	0.0094	0.0038	ug/l		U	
Chlordane	57-74-9	ND	0.094	0.038	ug/l		U	
delta-BHC	319-86-8	ND	0.0047	0.0033	ug/l		U	
Dieldrin	60-57-1	ND	0.0047	0.0019	ug/l		UJ	C
Endosulfan I	959-98-8	ND	0.0047	0.0019	ug/l		UJ	C
Endosulfan II	33213-65-9	ND	0.0047	0.0028	ug/l		UJ	C
Endosulfan sulfate	1031-07-8	ND	0.0094	0.0028	ug/l		U	
Endrin	72-20-8	ND	0.0047	0.0019	ug/l	C	UJ	C
Endrin aldehyde	7421-93-4	ND	0.0094	0.0019	ug/l		U	
Endrin ketone	53494-70-5	ND	0.0094	0.0028	ug/l		UJ	C
gamma-BHC (Lindane)	58-89-9	ND	0.019	0.0028	ug/l		U	
Heptachlor	76-44-8	ND	0.0094	0.0028	ug/l	C	UJ	C
Heptachlor epoxide	1024-57-3	ND	0.0047	0.0024	ug/l		U	
Methoxychlor	72-43-5	ND	0.0047	0.0033	ug/l		U	
Toxaphene	8001-35-2	ND	0.47	0.24	ug/l		U	

## Analysis Method EPA 624

**Sample Name** Outfall 010 **Matrix Type:** Water **Validation Level:** IV  
**Lab Sample Name:** ITB0784-01 **Sample Date:** 2/5/2010 1:40:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	ND	0.50	0.30	ug/l		U	
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.50	0.30	ug/l		U	
1,1,2-Trichloroethane	79-00-5	ND	0.50	0.30	ug/l		U	
1,1-Dichloroethane	75-34-3	ND	0.50	0.40	ug/l		U	
1,1-Dichloroethene	75-35-4	ND	0.50	0.42	ug/l		U	
1,2-Dichlorobenzene	95-50-1	ND	0.50	0.32	ug/l		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/l		U	
1,2-Dichloropropane	78-87-5	ND	0.50	0.35	ug/l		U	
1,3-Dichlorobenzene	541-73-1	ND	0.50	0.35	ug/l		U	
1,4-Dichlorobenzene	106-46-7	ND	0.50	0.37	ug/l		U	
2-Chloroethyl vinyl ether	110-75-8	ND	5.0	1.8	ug/l		UJ	C
Acrolein	107-02-8	ND	5.0	4.0	ug/l		R	R
Acrylonitrile	107-13-1	ND	2.0	1.2	ug/l		U	
Benzene	71-43-2	ND	0.50	0.28	ug/l		U	
Bromodichloromethane	75-27-4	ND	0.50	0.30	ug/l		U	
Bromoform	75-25-2	ND	0.50	0.40	ug/l		UJ	C
Bromomethane	74-83-9	ND	1.0	0.42	ug/l		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/l	C, L	UJ	C
Chlorobenzene	108-90-7	ND	0.50	0.36	ug/l		U	
Chloroethane	75-00-3	ND	1.0	0.40	ug/l		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/l		U	
Chloromethane	74-87-3	ND	0.50	0.40	ug/l		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/l		U	
cis-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/l		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/l		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/l		U	
Methylene chloride	75-09-2	ND	1.0	0.95	ug/l		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/l		U	
Toluene	108-88-3	ND	0.50	0.36	ug/l		U	
trans-1,2-Dichloroethene	156-60-5	ND	0.50	0.30	ug/l		U	
trans-1,3-Dichloropropene	10061-02-6	ND	0.50	0.32	ug/l		U	
Trichloroethene	79-01-6	ND	0.50	0.26	ug/l		U	
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/l		U	
Trichlorotrifluoroethane (Freon 113)	76-13-1	ND	5.0	0.50	ug/l		U	
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/l		U	

*Analysis Method*    *EPA 624*

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Xylenes, Total	1330-20-7	ND	1.5	0.90	ug/l	U
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## Analysis Method EPA 624

**Sample Name** Trip Blanks      **Matrix Type:** Water      **Validation Level:** IV  
**Lab Sample Name:** ITB0784-02      **Sample Date:** 2/5/2010 1:40:00 PM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	71-55-6	ND	0.50	0.30	ug/l		U	
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.50	0.30	ug/l		U	
1,1,2-Trichloroethane	79-00-5	ND	0.50	0.30	ug/l		U	
1,1-Dichloroethane	75-34-3	ND	0.50	0.40	ug/l		U	
1,1-Dichloroethene	75-35-4	ND	0.50	0.42	ug/l		U	
1,2-Dichlorobenzene	95-50-1	ND	0.50	0.32	ug/l		U	
1,2-Dichloroethane	107-06-2	ND	0.50	0.28	ug/l		U	
1,2-Dichloropropane	78-87-5	ND	0.50	0.35	ug/l		U	
1,3-Dichlorobenzene	541-73-1	ND	0.50	0.35	ug/l		U	
1,4-Dichlorobenzene	106-46-7	ND	0.50	0.37	ug/l		U	
2-Chloroethyl vinyl ether	110-75-8	ND	5.0	1.8	ug/l		UJ	C
Acrolein	107-02-8	ND	5.0	4.0	ug/l		R	R
Acrylonitrile	107-13-1	ND	2.0	1.2	ug/l		U	
Benzene	71-43-2	ND	0.50	0.28	ug/l		U	
Bromodichloromethane	75-27-4	ND	0.50	0.30	ug/l		U	
Bromoform	75-25-2	ND	0.50	0.40	ug/l		UJ	C
Bromomethane	74-83-9	ND	1.0	0.42	ug/l		U	
Carbon tetrachloride	56-23-5	ND	0.50	0.28	ug/l	C, L	UJ	C
Chlorobenzene	108-90-7	ND	0.50	0.36	ug/l		U	
Chloroethane	75-00-3	ND	1.0	0.40	ug/l		U	
Chloroform	67-66-3	ND	0.50	0.33	ug/l		U	
Chloromethane	74-87-3	ND	0.50	0.40	ug/l		U	
cis-1,2-Dichloroethene	156-59-2	ND	0.50	0.32	ug/l		U	
cis-1,3-Dichloropropene	10061-01-5	ND	0.50	0.22	ug/l		U	
Dibromochloromethane	124-48-1	ND	0.50	0.40	ug/l		U	
Ethylbenzene	100-41-4	ND	0.50	0.25	ug/l		U	
Methylene chloride	75-09-2	ND	1.0	0.95	ug/l		U	
Tetrachloroethene	127-18-4	ND	0.50	0.32	ug/l		U	
Toluene	108-88-3	ND	0.50	0.36	ug/l		U	
trans-1,2-Dichloroethene	156-60-5	ND	0.50	0.30	ug/l		U	
trans-1,3-Dichloropropene	10061-02-6	ND	0.50	0.32	ug/l		U	
Trichloroethene	79-01-6	ND	0.50	0.26	ug/l		U	
Trichlorofluoromethane	75-69-4	ND	0.50	0.34	ug/l		U	
Trichlorotrifluoroethane (Freon 113)	76-13-1	ND	5.0	0.50	ug/l		U	
Vinyl chloride	75-01-4	ND	0.50	0.40	ug/l		U	

*Analysis Method*    *EPA 624*

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Xylenes, Total	1330-20-7	ND	1.5	0.90	ug/l	U
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Analysis Method EPA 625

Sample Name Outfall 010Comp Matrix Type: Water Validation Level: IV  
 Lab Sample Name: ITB0886-01 Sample Date: 2/6/2010 11:15:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	120-82-1	ND	9.4	2.4	ug/l		U	
1,2-Dichlorobenzene	95-50-1	ND	9.4	2.8	ug/l		U	
1,2-Diphenylhydrazine/Azobenzene	103-33-3	ND	19	2.4	ug/l		U	
1,3-Dichlorobenzene	541-73-1	ND	9.4	2.8	ug/l		U	
1,4-Dichlorobenzene	106-46-7	ND	9.4	2.4	ug/l		U	
2,4,5-Trichlorophenol	95-95-4	ND	19	2.8	ug/l		U	
2,4,6-Trichlorophenol	88-06-2	ND	19	4.2	ug/l		U	
2,4-Dichlorophenol	120-83-2	ND	9.4	3.3	ug/l		U	
2,4-Dimethylphenol	105-67-9	ND	19	3.3	ug/l		U	
2,4-Dinitrophenol	51-28-5	ND	19	7.5	ug/l		UJ	C
2,4-Dinitrotoluene	121-14-2	ND	9.4	3.3	ug/l		U	
2,6-Dinitrotoluene	606-20-2	ND	9.4	1.9	ug/l		U	
2-Chloronaphthalene	91-58-7	ND	9.4	2.8	ug/l		U	
2-Chlorophenol	95-57-8	ND	9.4	2.8	ug/l		U	
2-Methylnaphthalene	91-57-6	ND	9.4	1.9	ug/l		U	
2-Methylphenol	95-48-7	ND	9.4	2.8	ug/l		U	
2-Nitroaniline	88-74-4	ND	19	1.9	ug/l		U	
2-Nitrophenol	88-75-5	ND	9.4	3.3	ug/l		U	
3,3'-Dichlorobenzidine	91-94-1	ND	19	7.1	ug/l		U	
3-Nitroaniline	99-09-2	ND	19	2.8	ug/l		U	
4,6-Dinitro-2-methylphenol	534-52-1	ND	19	3.8	ug/l		U	
4-Bromophenyl phenyl ether	101-55-3	ND	9.4	2.8	ug/l		U	
4-Chloro-3-methylphenol	59-50-7	ND	19	2.4	ug/l		U	
4-Chloroaniline	106-47-8	ND	9.4	1.9	ug/l		U	
4-Chlorophenyl phenyl ether	7005-72-3	ND	9.4	2.4	ug/l		U	
4-Methylphenol	106-44-5	ND	9.4	2.8	ug/l		U	
4-Nitroaniline	100-01-6	ND	19	3.8	ug/l		U	
4-Nitrophenol	100-02-7	ND	19	5.2	ug/l		U	
Acenaphthene	83-32-9	ND	9.4	2.8	ug/l		U	
Acenaphthylene	208-96-8	ND	9.4	2.8	ug/l		U	
Aniline	62-53-3	ND	9.4	3.3	ug/l		U	
Anthracene	120-12-7	ND	9.4	2.4	ug/l		U	
Benzidine	92-87-5	ND	19	9.4	ug/l		UJ	C, *III
Benzo(a)anthracene	56-55-3	ND	9.4	2.4	ug/l		U	
Benzo(a)pyrene	50-32-8	ND	9.4	2.8	ug/l		U	

*Analysis Method*      *EPA 625*

Benzo(b)fluoranthene	205-99-2	ND	9.4	1.9	ug/l		<b>U</b>	
Benzo(g,h,i)perylene	191-24-2	ND	9.4	3.8	ug/l		<b>U</b>	
Benzo(k)fluoranthene	207-08-9	ND	9.4	2.4	ug/l		<b>U</b>	
Benzoic acid	65-85-0	ND	19	9.4	ug/l		<b>UJ</b>	<b>*III</b>
Benzyl alcohol	100-51-6	ND	19	3.3	ug/l	C	<b>UJ</b>	<b>C</b>
Bis(2-chloroethoxy)methane	111-91-1	ND	9.4	2.8	ug/l		<b>U</b>	
Bis(2-chloroethyl)ether	111-44-4	ND	9.4	2.8	ug/l		<b>U</b>	
Bis(2-chloroisopropyl)ether	108-60-1	ND	9.4	2.4	ug/l		<b>U</b>	
Bis(2-ethylhexyl)phthalate	117-81-7	ND	47	3.8	ug/l		<b>U</b>	
Butyl benzyl phthalate	85-68-7	ND	19	3.8	ug/l		<b>U</b>	
Chrysene	218-01-9	ND	9.4	2.4	ug/l		<b>U</b>	
Dibenz(a,h)anthracene	53-70-3	ND	19	2.8	ug/l		<b>U</b>	
Dibenzofuran	132-64-9	ND	9.4	3.8	ug/l		<b>U</b>	
Diethyl phthalate	84-66-2	ND	9.4	3.3	ug/l		<b>U</b>	
Dimethyl phthalate	131-11-3	ND	9.4	2.4	ug/l		<b>U</b>	
Di-n-butyl phthalate	84-74-2	ND	19	2.8	ug/l		<b>U</b>	
Di-n-octyl phthalate	117-84-0	ND	19	3.3	ug/l		<b>U</b>	
Fluoranthene	206-44-0	ND	9.4	2.8	ug/l		<b>U</b>	
Fluorene	86-73-7	ND	9.4	2.8	ug/l		<b>U</b>	
Hexachlorobenzene	118-74-1	ND	9.4	2.8	ug/l		<b>U</b>	
Hexachlorobutadiene	87-68-3	ND	9.4	3.8	ug/l		<b>U</b>	
Hexachlorocyclopentadiene	77-47-4	ND	19	4.7	ug/l	C, L	<b>UJ</b>	<b>C</b>
Hexachloroethane	67-72-1	ND	9.4	3.3	ug/l		<b>U</b>	
Indeno(1,2,3-cd)pyrene	193-39-5	ND	19	3.3	ug/l		<b>U</b>	
Isophorone	78-59-1	ND	9.4	2.8	ug/l		<b>U</b>	
Naphthalene	91-20-3	ND	9.4	2.8	ug/l		<b>U</b>	
Nitrobenzene	98-95-3	ND	19	2.8	ug/l		<b>U</b>	
N-Nitrosodimethylamine	62-75-9	ND	19	2.4	ug/l		<b>U</b>	
N-Nitroso-di-n-propylamine	621-64-7	ND	9.4	3.3	ug/l		<b>U</b>	
N-Nitrosodiphenylamine	86-30-6	ND	9.4	1.9	ug/l		<b>UJ</b>	<b>C</b>
Pentachlorophenol	87-86-5	ND	19	3.3	ug/l		<b>UJ</b>	<b>C</b>
Phenanthrene	85-01-8	ND	9.4	3.3	ug/l		<b>U</b>	
Phenol	108-95-2	ND	9.4	1.9	ug/l		<b>U</b>	
Pyrene	129-00-0	ND	9.4	3.8	ug/l		<b>U</b>	

*Analysis Method*    *EPA 900.0 MOD*

**Sample Name**    Outfall 010Comp                    **Matrix Type:** WATER                    **Validation Level:** IV  
**Lab Sample Name:**    ITB0886-01                    **Sample Date:** 2/6/2010 11:15:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha	12587-46-1	2.7	3	1.4	pCi/L	Jb	J	H, C, DNQ
Gross Beta	12587-47-2	5.8	4	1	pCi/L		J	H

*Analysis Method*    *EPA 901.1 MOD*

**Sample Name**    Outfall 010Comp                    **Matrix Type:** WATER                    **Validation Level:** IV  
**Lab Sample Name:**    ITB0886-01                    **Sample Date:** 2/6/2010 11:15:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium 137	10045-97-3	4.3	20	11	pCi/L	U	U	
Potassium 40	13966-00-2	-60	0	250	pCi/L	U	U	

*Analysis Method*    *EPA 903.0 MOD*

**Sample Name**    Outfall 010Comp                    **Matrix Type:** WATER                    **Validation Level:** IV  
**Lab Sample Name:**    ITB0886-01                    **Sample Date:** 2/6/2010 11:15:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium (226)	13982-63-3	0.2	1	0.25	pCi/L	U	UJ	C

*Analysis Method*    *EPA 904 MOD*

**Sample Name**    Outfall 010Comp                    **Matrix Type:** WATER                    **Validation Level:** IV  
**Lab Sample Name:**    ITB0886-01RE1                    **Sample Date:** 2/6/2010 11:15:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium 228	15262-20-1	0.04	1	0.41	pCi/L	U	R	H

*Analysis Method*    *EPA 905 MOD*

**Sample Name**    Outfall 010Comp                    **Matrix Type:** WATER                    **Validation Level:** IV  
**Lab Sample Name:**    ITB0886-01                    **Sample Date:** 2/6/2010 11:15:00 AM

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium 90	10098-97-2	0.08	3	0.4	pCi/L	U	U	

*Analysis Method EPA 906.0 MOD*

<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Tritium	10028-17-8	1060	500	90	pCi/L			

*Analysis Method EPA-5 1613B*

<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	WATER	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.00014	0.00005	0.0000018	ug/L	Ba		
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.000038	0.00005	0.0000008	ug/L	J, Ba	J	DNQ
1,2,3,4,7,8,9-HpCDF	55673-89-7	ND	0.000008	0.0000015	ug/L	J, Q	UJ	*III
1,2,3,4,7,8-HxCDD	39227-28-6	0.000004	0.00005	0.0000004	ug/L	J	J	DNQ
1,2,3,4,7,8-HxCDF	70648-26-9	0.000005	0.00005	0.0000004	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDD	57653-85-7	0.000006	0.00005	0.0000003	ug/L	J	J	DNQ
1,2,3,6,7,8-HxCDF	57117-44-9	ND	0.0000036	0.0000004	ug/L	J, Q	UJ	*III
1,2,3,7,8,9-HxCDD	19408-74-3	0.000004	0.00005	0.0000003	ug/L	J	J	DNQ
1,2,3,7,8,9-HxCDF	72918-21-9	ND	0.000003	0.0000005	ug/L	J, Q	UJ	*III
1,2,3,7,8-PeCDD	40321-76-4	ND	0.000003	0.0000006	ug/L	J, Q	UJ	*III
1,2,3,7,8-PeCDF	57117-41-6	0.000003	0.00005	0.0000004	ug/L	J	J	DNQ
2,3,4,6,7,8-HxCDF	60851-34-5	0.000003	0.00005	0.0000004	ug/L	J	J	DNQ
2,3,4,7,8-PeCDF	57117-31-4	0.000003	0.00005	0.0000005	ug/L	J	J	DNQ
2,3,7,8-TCDD	1746-01-6	ND	0.0000011	0.0000004	ug/L	J, Q	UJ	*III
2,3,7,8-TCDF	51207-31-9	ND	0.00001	0.000002	ug/L		U	
2,3,7,8-TCDF	51207-31-9	0.000001	0.00001	0.0000003	ug/L	J	R	D
OCDD	3268-87-9	0.0014	0.0001	0.0000029	ug/L	Ba		
OCDF	39001-02-0	0.00038	0.0001	0.0000019	ug/L	Ba		
Total HpCDD	37871-00-4	0.00026	0.00005	0.0000018	ug/L	Ba		
Total HpCDF	38998-75-3	0.00023	0.00005	0.0000008	ug/L	J, Q, Ba	J	*III
Total HxCDD	34465-46-8	0.000025	0.00005	0.0000003	ug/L	J	J	DNQ, *III
Total HxCDF	55684-94-1	0.000035	0.000035	0.0000004	ug/L	J, Q	J	DNQ, *III
Total PeCDD	36088-22-9	ND	0.000003	0.0000006	ug/L	J, Q	UJ	*III
Total PeCDF	30402-15-4	0.000006	0.00005	0.0000004	ug/L	J	J	DNQ
Total TCDD	41903-57-5	ND	0.0000011	0.0000004	ug/L	J, Q	UJ	*III
Total TCDF	55722-27-5	ND	0.00001	0.0000003	ug/L	J	U	\$

*Analysis Method SM 2540D*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Total Suspended Solids	TSS	73	10	1.0	mg/l			

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*Analysis Method SM 4500-F-C*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Fluoride	16984-48-8	0.20	0.10	0.020	mg/l	B		

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*Analysis Method SM2340B*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Hardness as CaCO3		89	0.33	0.17	mg/l			

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*Analysis Method SM2340B-Diss*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Hardness as CaCO3		72	0.33	0.17	mg/l			

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*Analysis Method SM2540C*

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<b>Sample Name</b>	Outfall 010Comp	<b>Matrix Type:</b>	Water	<b>Validation Level:</b>	IV			
<b>Lab Sample Name:</b>	ITB0886-01	<b>Sample Date:</b>	2/6/2010 11:15:00 AM					
<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Total Dissolved Solids	NA	160	10	1.0	mg/l			

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*Analysis Method*    *SM4500CN-E*

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**Sample Name**    Outfall 010Comp                    **Matrix Type:** Water                    **Validation Level:** IV

**Lab Sample Name:**    ITB0886-01                    **Sample Date:** 2/6/2010 11:15:00 AM

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<b>Analyte</b>	<b>CAS No</b>	<b>Result Value</b>	<b>RL</b>	<b>MDL</b>	<b>Result Units</b>	<b>Lab Qualifier</b>	<b>Validation Qualifier</b>	<b>Validation Notes</b>
Total Cyanide	57-12-5	ND	0.0050	0.0022	mg/l		<b>U</b>	

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