

APPENDIX G

Section 37

Outfall 011, February 16, 2009

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ISB1802

Prepared by

MEC^x, LP
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: ISB1802
 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 011	ISB1802-01	D9B190134-001, D9C050247-001, 31441-001, F9B180222-001, 981795-1	Water	02/16/09 1430	180.1, 200.7, 200.7 (Diss), 200.8, 200.8 (Diss) 245.1, 245.1 (Diss), 900.0, 901.1, 903.0, 904.0, 905.0, 906.0, 908.0, 1613B, SM2340B, SM2540D, SM5310B, 8315M

II. Sample Management

No anomalies were observed regarding sample management. The samples were received at all laboratories within the temperature limit of $4 \pm 2^{\circ}\text{C}$. According to the case narrative for this SDG, the samples were received intact at all laboratories. The COCs were appropriately signed and dated by field and/or laboratory personnel. As the sample was couriered to TestAmerica-Irvine and Truesdail, custody seals were not required. Custody seal were present and intact upon arrival at TestAmerica-Denver, TestAmerica-St. Louis, and Vista. If necessary, the client ID was added to the sample result summary by the reviewer.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: K. Shadowlight

Date Reviewed: March 26, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0)*, *USEPA Method 1613*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review (9/05)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.
 - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.
- Calibration: Calibration criteria were met.
 - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613 QC limits for all standards.
 - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits.
- Blanks: The method blank had no target compound detects above the EDL.

- Blank Spikes and Laboratory Control Samples: OPR recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects between the estimated detection limit (EDL) and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHOD 8315M—Hydrazines

Reviewed By: P. Meeks

Date Reviewed: March 27, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Method 8315M*, and the *National Functional Guidelines for Organic Data Review (10/99)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was derivitized within three days of collection and analyzed within 3 days of derivitization.
- Calibration: Calibration criteria were met. The initial calibration r^2 values were ≥ 0.995 except for hydrazine; therefore, nondetected hydrazine was qualified as estimated, "UJ." The ICV and QCS recoveries were within 85-115%.
- Blanks: The method blank had no target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs 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.
- 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. 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,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

C. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks, E. Wessling

Date Reviewed: March 26, 2009, April 8, 2009

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 2007, 200.8, and 245.1*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- Holding Times: The analytical holding times, 180 days 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 ≤ 0.1 amu and ≤ 0.9 amu at 10% peak height.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 . Initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals, with the exception of the CCV for antimony, cadmium and thallium bracketing the dissolved metals fraction and 85-115% for mercury. Antimony, cadmium and thallium were qualified as estimated nondetects for the calibration outliers. The zinc CRI recovery associated with the dissolved metals analyses was 63%; therefore, nondetected dissolved zinc in the sample was qualified as estimated, "UJ." The remaining CRI and CRA and check standards were recovered within the control limits of 70-130%.
- Blanks: Nickel was detected in the total method blank at 2.91 $\mu\text{g/L}$; therefore, total nickel detected in the sample was qualified as nondetected, "U," at the level of contamination. Zinc was reported in a CCB bracketing the dissolved metals analysis at -7.6 $\mu\text{g/L}$; therefore, nondetected dissolved zinc in the sample was qualified as estimated, "UJ." Selenium was reported in bracketing CCBs and ICBs at negative and positive levels which required qualification of the total and dissolved metals fraction. The reviewer also raised the reporting limit for selenium in the total fraction due to the wide variation of the CCB results, positive and negative, bracketing the total metals fraction. Antimony was qualified as an estimated nondetect, "UJ," in both fractions due to bracketing CCB contamination. There were no other applicable detects in the method blanks or CCBs.
- Interference Check Samples: Recoveries were within the method-established control limits. There were detects and negative results in the ICSA associated with the ICP analyses; however, the concentration of interferents in the site sample were insufficient to cause matrix interference. There were detects in the ICP-MS ICSA solution but the reviewer was unable to ascertain if the detects were due to matrix interference.
- Blank Spikes and Laboratory Control Samples: The recoveries were within the laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analysis was 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 associated sample internal standard intensities were within 60-125% of the internal standard intensities measured in the initial calibration.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summaries were verified against the raw data. The results for antimony in the dissolved metals fraction were revised to reflect the analysis date of 02/24/2009 since the associated ICB and method detection limit standards were omitted from the raw data and could not be evaluated to ascertain potential levels of contamination or variability at the detection limit. No transcription errors or calculation errors were noted. Detects

reported below the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

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

D. EPA METHOD 608—Pesticides and PCBs

Reviewed By: K. Shadowlight

Date Reviewed: March 26, 2009

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^x 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: The original extraction and analytical holding times were met. The water sample was originally extracted within seven days of collection; however, as the detect for alpha BHC was suspected to be a lab contaminant, the sample was re-extracted at TestAmerica-Irvine and another extraction was performed at TestAmerica-Denver. The re-extraction performed at TestAmerica Denver was outside of the holding time period. The retained result (nondetect) for alpha-BHC was qualified as estimated, “UJ,” in sample Outfall 011 (see the Blanks section).
- Calibration: The initial calibration had average %RSDs of $\leq 10\%$ or $r^2 \geq 0.995$ for the pesticide analysis. The %Ds for all analytes except beta-BHC, chlordane, and toxaphene exceeded 15% in one or both of the low-level CCVs bracketing the pesticide analysis; therefore, the nondetects for these analytes were qualified as estimated, “UJ,” in the retained results of the sample in this SDG. As there were no confirmed detects for the retained results, the confirmation column %Ds were not evaluated. The ICV and remaining CCVs bracketing the sample analyses had %Ds within the QC limit of $\leq 15\%$.
- Blanks: The method blank associated with the retained results had no target compound detects above the MDL.

Alpha BHC was reported in sample Outfall 011; however, the laboratory suspected contamination related to one highly contaminated sample with percent level alpha-BHC. A second extraction of Outfall 011 yielded a nondetect result for alpha BHC, indicating that the laboratory was contamination free. The sample was sent to TestAmerica-Denver for confirmation analysis of alpha-BHC. The nondetect result yielded from the re-extraction in

batch 9B23113 from the TestAmerica-Denver analysis confirmed the suspicion that the original result was indeed laboratory contamination. As alpha-BHC was not detected above the MDL in the re-extraction and the sample was re-extracted within the holding time period, the original sample extraction in batch 9B20074 and the alpha-BHC result reported in batch 9064381 from TestAmerica-Denver were rejected, "R," in favor of the result from batch 9B23113. Several corrective action steps have been taken by TestAmerica-Irvine including replacing glassware throughout the organics department and implementing an acid wash procedure to prevent future contamination issues.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs for the blank spike/blank spike duplicate pairs were within laboratory-established QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed for the sample in this SDG. Method accuracy and precision was evaluated based on the blank spike/blank spike duplicate 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. The laboratory analyzed for pesticides and PCBs by EPA Method 608. 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 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.

E. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: March 25, 2009

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

- **Holding Times:** The tritium sample was analyzed within 180 days of collection. The aliquots for gross alpha, gross beta, cesium-137, potassium-40, and total uranium were prepared beyond the five-day holding time for unpreserved samples; therefore, the results for these analytes were qualified as estimated, "J," for detects and, "UJ," for nondetects. All remaining aliquots were prepared within the five-day 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, gross alpha detected in the sample was qualified as estimated, "J." The gross beta detector efficiency was greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The tritium detector efficiency for the sample was at least 20% and was considered acceptable. The strontium, radium-226, and radium-228 chemical yields 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:** There were no analytes detected in the method blanks.
- **Blank Spikes and Laboratory Control Samples:** The recoveries and the strontium-90, radium-226, and radium-228 RPDs 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 matrix spike or MS/MSD analyses were performed on the sample in this SDG. Method accuracy and precision, when applicable, were evaluated based on 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. Total uranium, normally reported in aqueous units, was converted to pCi/L using a conversion factor for naturally occurring uranium. Detects reported below the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDA.

The reviewer noted that the total uncertainty for potassium-40 was more than an order of magnitude larger than usually reported for site samples. The laboratory attributed this high uncertainty to a very low sample count and a slightly high background count.

- 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. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: March 27, 2009

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *EPA Method 180.1, Standard Methods SM2540D and SM5310B*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- Holding Times: Analytical holding times, 48 hours from collection for turbidity, 7 days for TSS, and 28 days for TOC, were met.
- Calibration: Calibration criteria were met. Initial calibration r^2 values were ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110%. Balance calibration logs were reviewed and found to be acceptable.
- Blanks: Method blanks and CCBs had no applicable detects.
- 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.
- 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. Turbidity was analyzed at a 10 \times dilution in order to report the analyte within the linear range of the calibration. Any detects reported below the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

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

Sample ID: ISB1802-01 <i>Out-fall 01</i>		EPA Method 1613						
Client Data		Sample Data						
Name: Test America-Irvine, CA	Matrix: Aqueous	Lab Sample: 31441-001	Date Received: 18-Feb-09					
Project: ISB1802	Sample Size: 1.04 L	QC Batch No.: 1907	Date Extracted: 21-Feb-09					
Date Collected: 16-Feb-09		Date Analyzed DB-5: 24-Feb-09	Date Analyzed DB-225: NA					
Time Collected: 1430								
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND <i>u</i>	0.000000601			IS 13C-2,3,7,8-TCDD	85.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000126			13C-1,2,3,7,8-PeCDD	75.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000181			13C-1,2,3,4,7,8-HxCDD	82.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000171			13C-1,2,3,6,7,8-HxCDD	81.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000169			13C-1,2,3,4,6,7,8-HpCDD	72.9	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000974				13C-OCDD	62.0	17 - 157	
OCDD	0.000805				13C-2,3,7,8-TCDF	91.3	24 - 169	
2,3,7,8-TCDF	ND <i>u</i>	0.000000723			13C-1,2,3,7,8-PeCDF	77.9	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000692			13C-2,3,4,7,8-PeCDF	74.4	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000715			13C-1,2,3,4,7,8-HxCDF	86.2	26 - 152	
1,2,3,4,7,8-HxCDF	0.00000151			J	13C-1,2,3,6,7,8-HxCDF	78.9	26 - 123	
1,2,3,6,7,8-HxCDF	0.00000143			J	13C-2,3,4,6,7,8-HxCDF	81.2	28 - 136	
2,3,4,6,7,8-HxCDF	0.00000171			J	13C-1,2,3,7,8,9-HxCDF	79.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND <i>u</i>	0.00000151			13C-1,2,3,4,6,7,8-HpCDF	78.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000291				13C-1,2,3,4,7,8,9-HpCDF	75.3	26 - 138	
1,2,3,4,7,8,9-HpCDF	0.00000329			J	13C-OCDF	60.1	17 - 157	
OCDF	0.000120				CRS 37C1-2,3,7,8-TCDD	88.7	35 - 197	
Totals					Footnotes			
Total TCDD	ND <i>u</i>	0.000000601			a. Sample specific estimated detection limit.			
Total PeCDD	ND <i>u</i>	0.00000126			b. Estimated maximum possible concentration.			
Total HxCDD	0.0000164				c. Method detection limit.			
Total HpCDD	0.000218				d. Lower control limit - upper control limit.			
Total TCDF	ND <i>u</i>	0.000000723						
Total PeCDF	0.00000555							
Total HxCDF	0.0000288							
Total HpCDF	0.0000778							

LEVEL IV

Analyst: JMH

Approved By: Martha M. Maier 07-Mar-2009 08:32

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

REPORT

Attention: Joseph Doak
Sample: Water / 1 Sample
Project Name: ISB1802
P.O. Number: 2294280
Method Number: 8315 (Modified)
Investigation: Hydrazines

Laboratory No: 981795
Report Date: February 20, 2009
Sampling Date: February 16, 2009
Receiving Date: February 17, 2009
Extraction Date: February 18, 2009
Analysis Date: February 19, 2009
Units: µg/L
Reported By: JS

Analytical Results

Sample ID	Sample Descript	Sample Amount (mL)	Dilution Factor	Monomethyl Hydrazine	u-Dimethyl Hydrazine	Hydrazine	Qualifier Codes
708023-MB	Method Blank	100	1	ND ✖	ND ✖	ND ✖	None
981795 Outfall 011	ISB1802-01	100	1	ND U	ND U	ND U/JC	None
MDL				1.70	1.42	0.60	
PQL				5.0	5.0	1.00	
Sample Reporting Limits				5.0	5.0	1.00	

LEVEL IV

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

Linda Saetern, Project Manager
Analytical Services, Truesdail Laboratories, Inc.

*Analysis not validated

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This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Annual Outfall 011 Report Number: ISB1802	Sampled: 02/16/09 Received: 02/16/09
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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B	[CALC]	N/A	0.33	39	1	02/17/09	02/17/09	
Barium	EPA 200.7	9B17091	0.0060	0.010	0.068	1	02/17/09	02/17/09	
Boron J/DNQ	EPA 200.7	9B17091	0.020	0.050	0.033	1	02/17/09	02/17/09	J
Calcium	EPA 200.7	9B17091	0.050	0.10	8.8	1	02/17/09	02/17/09	
Iron	EPA 200.7	9B17091	0.015	0.040	11	1	02/17/09	02/17/09	
Magnesium	EPA 200.7	9B17091	0.012	0.020	4.1	1	02/17/09	02/17/09	

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

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09

Received: 02/16/09

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/l									
* Arsenic	EPA 200.7	9B17091	7.0	10	7.9	1	02/17/09	02/17/09	J
Antimony	EPA 200.8	9B17103	0.20	2.0	0.65	1	02/17/09	02/18/09	J
* Beryllium	EPA 200.7	9B17091	0.90	2.0	ND	1	02/17/09	02/17/09	
* Chromium	EPA 200.7	9B17091	2.0	5.0	25	1	02/17/09	02/17/09	B
* Cobalt	EPA 200.7	9B17091	2.0	10	3.0	1	02/17/09	02/17/09	J
* Manganese	EPA 200.7	9B17091	7.0	20	150	1	02/17/09	02/17/09	
* Nickel	EPA 200.7	9B17091	2.0	10	14	1	02/17/09	02/17/09	B
Cadmium	EPA 200.8	9B17103	0.11	1.0	0.18	1	02/17/09	02/18/09	J
* Vanadium	EPA 200.7	9B17091	3.0	10	25	1	02/17/09	02/17/09	
* Zinc	EPA 200.7	9B17091	6.0	20	60	1	02/17/09	02/17/09	
Copper	EPA 200.8	9B17103	0.75	2.0	6.5	1	02/17/09	02/18/09	
Lead	EPA 200.8	9B17103	0.30	1.0	7.1	1	02/17/09	02/18/09	
Selenium	EPA 200.8	9B17103	0.30	2.0	ND	1	02/17/09	02/18/09	
Silver	EPA 200.8	9B17103	0.30	1.0	ND	1	02/17/09	02/18/09	
Thallium	EPA 200.8	9B17103	0.20	1.0	ND	1	02/17/09	02/18/09	

* Analysis not validated

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

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
Received: 02/16/09

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/l									
* Arsenic	EPA 200.7-Diss	9B20105	7.0	10	ND	1	02/20/09	02/23/09	
Antimony	EPA 200.8-Diss	9B20106	0.20	2.0	0.58	1	02/20/09	02/23/09	J
* Beryllium	EPA 200.7-Diss	9B20105	0.90	2.0	ND	1	02/20/09	02/23/09	
* Chromium	EPA 200.7-Diss	9B20105	2.0	5.0	ND	1	02/20/09	02/23/09	
* Cobalt	EPA 200.7-Diss	9B20105	2.0	10	ND	1	02/20/09	02/23/09	
* Manganese	EPA 200.7-Diss	9B20105	7.0	20	23	1	02/20/09	02/23/09	
* Nickel	EPA 200.7-Diss	9B20105	2.0	10	ND	1	02/20/09	02/23/09	
Cadmium	EPA 200.8-Diss	9B20106	0.11	1.0	ND	1	02/20/09	02/23/09	C
* Vanadium	EPA 200.7-Diss	9B20105	3.0	10	ND	1	02/20/09	02/23/09	
* Zinc	EPA 200.7-Diss	9B20105	6.0	20	ND	1	02/20/09	02/23/09	
Copper	EPA 200.8-Diss	9B20106	0.75	2.0	1.7	1	02/20/09	02/23/09	J
Lead	EPA 200.8-Diss	9B20106	0.30	1.0	ND	1	02/20/09	02/23/09	
Selenium	EPA 200.8-Diss	9B20106	0.30	2.0	0.48	1	02/20/09	02/23/09	J
Silver	EPA 200.8-Diss	9B20106	0.30	1.0	ND	1	02/20/09	02/23/09	
Thallium	EPA 200.8-Diss	9B20106	0.20	1.0	ND	1	02/20/09	02/23/09	C

* Analysis Not Validated

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

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
Received: 02/16/09

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/l									
Arsenic <i>J/DNS</i>	EPA 200.7	9B17091	7.0	10	7.9	1	02/17/09	02/17/09	J
Antimony *	EPA 200.8	9B17103	0.20	2.0	0.65	1	02/17/09	02/18/09	J
Beryllium U	EPA 200.7	9B17091	0.90	2.0	ND	1	02/17/09	02/17/09	
Chromium	EPA 200.7	9B17091	2.0	5.0	25	1	02/17/09	02/17/09	B
Cobalt <i>J/DNS</i>	EPA 200.7	9B17091	2.0	10	3.0	1	02/17/09	02/17/09	J
Manganese	EPA 200.7	9B17091	7.0	20	150	1	02/17/09	02/17/09	
Nickel <i>U/B</i>	EPA 200.7	9B17091	2.0	10	14	1	02/17/09	02/17/09	B
Cadmium *	EPA 200.8	9B17103	0.11	1.0	0.18	1	02/17/09	02/18/09	J
Vanadium	EPA 200.7	9B17091	3.0	10	25	1	02/17/09	02/17/09	
Zinc	EPA 200.7	9B17091	6.0	20	60	1	02/17/09	02/17/09	
Copper *	EPA 200.8	9B17103	0.75	2.0	6.5	1	02/17/09	02/18/09	
Lead	EPA 200.8	9B17103	0.30	1.0	7.1	1	02/17/09	02/18/09	
Selenium	EPA 200.8	9B17103	0.30	2.0	ND	1	02/17/09	02/18/09	
Silver	EPA 200.8	9B17103	0.30	1.0	ND	1	02/17/09	02/18/09	
Thallium	EPA 200.8	9B17103	0.20	1.0	ND	1	02/17/09	02/18/09	

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

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
Received: 02/16/09

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: mg/l									
Hardness as CaCO ₃	SM2340B-Diss	[CALC]	N/A	0.33	25	1	02/20/09	02/23/09	
Barium J/DWQ	EPA 200.7-Diss	9B20105	0.0060	0.010	0.0082	1	02/20/09	02/23/09	J
Boron U	EPA 200.7-Diss	9B20105	0.020	0.050	ND	1	02/20/09	02/24/09	
Calcium	EPA 200.7-Diss	9B20105	0.050	0.10	7.0	1	02/20/09	02/23/09	
Iron	EPA 200.7-Diss	9B20105	0.015	0.040	0.34	1	02/20/09	02/23/09	
Magnesium	EPA 200.7-Diss	9B20105	0.012	0.020	1.7	1	02/20/09	02/23/09	

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
Received: 02/16/09

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/l									
Arsenic U	EPA 200.7-Diss	9B20105	7.0	10	ND	1	02/20/09	02/23/09	
Antimony *	EPA 200.8-Diss	9B20106	0.20	2.0	0.58	1	02/20/09	02/25/09	J
Beryllium U	EPA 200.7-Diss	9B20105	0.90	2.0	ND	1	02/20/09	02/23/09	
Chromium	EPA 200.7-Diss	9B20105	2.0	5.0	ND	1	02/20/09	02/23/09	
Cobalt ↓	EPA 200.7-Diss	9B20105	2.0	10	ND	1	02/20/09	02/23/09	
Manganese	EPA 200.7-Diss	9B20105	7.0	20	23	1	02/20/09	02/23/09	
Nickel U	EPA 200.7-Diss	9B20105	2.0	10	ND	1	02/20/09	02/23/09	
Cadmium *	EPA 200.8-Diss	9B20106	0.11	1.0	ND	1	02/20/09	02/23/09	C
Vanadium U	EPA 200.7-Diss	9B20105	3.0	10	ND	1	02/20/09	02/23/09	
Zinc ^{II, III, B}	EPA 200.7-Diss	9B20105	6.0	20	ND	1	02/20/09	02/23/09	
Copper *	EPA 200.8-Diss	9B20106	0.75	2.0	1.7	1	02/20/09	02/23/09	J
Lead ↓	EPA 200.8-Diss	9B20106	0.30	1.0	ND	1	02/20/09	02/23/09	
Selenium ↓	EPA 200.8-Diss	9B20106	0.30	2.0	0.48	1	02/20/09	02/23/09	J
Silver ↓	EPA 200.8-Diss	9B20106	0.30	1.0	ND	1	02/20/09	02/23/09	
Thallium ↓	EPA 200.8-Diss	9B20106	0.20	1.0	ND	1	02/20/09	02/23/09	C

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
Received: 02/16/09

MCAWW 245.1

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/L									
Mercury U	MCAWW 245.1	9050174	0.027	0.2	ND	1	02/19/09	02/19/09	

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
Received: 02/16/09

MCAWW 245.1-DISS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/L									
Mercury U	MCAWW 245.1-DISS	9050182	0.027	0.2	ND	1	02/19/09	02/19/09	

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
 Received: 02/16/09

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/l									
4,4'-DDD	EPA 608	9B20074	0.0019	0.0047	ND	0.943	02/20/09	02/22/09	
4,4'-DDE	EPA 608	9B20074	0.0028	0.0047	ND	0.943	02/20/09	02/22/09	
4,4'-DDT	EPA 608	9B20074	0.0038	0.0094	ND	0.943	02/20/09	02/22/09	
Aldrin	EPA 608	9B20074	0.0014	0.0047	ND	0.943	02/20/09	02/22/09	
alpha-BHC	EPA 608	9B20074	0.0024	0.0094	0.012	0.943	02/20/09	02/22/09	N2
beta-BHC	EPA 608	9B20074	0.0038	0.0094	ND	0.943	02/20/09	02/22/09	
delta-BHC	EPA 608	9B20074	0.0033	0.0047	ND	0.943	02/20/09	02/22/09	
Dieldrin	EPA 608	9B20074	0.0019	0.0047	ND	0.943	02/20/09	02/22/09	
Endosulfan I	EPA 608	9B20074	0.0019	0.0047	ND	0.943	02/20/09	02/22/09	
Endosulfan II	EPA 608	9B20074	0.0028	0.0047	ND	0.943	02/20/09	02/22/09	
Endosulfan sulfate	EPA 608	9B20074	0.0028	0.0094	ND	0.943	02/20/09	02/22/09	
Endrin	EPA 608	9B20074	0.0019	0.0047	ND	0.943	02/20/09	02/22/09	
Endrin aldehyde	EPA 608	9B20074	0.0019	0.0094	ND	0.943	02/20/09	02/22/09	C
Endrin ketone	EPA 608	9B20074	0.0028	0.0094	ND	0.943	02/20/09	02/22/09	
gamma-BHC (Lindane)	EPA 608	9B20074	0.0028	0.019	ND	0.943	02/20/09	02/22/09	
Heptachlor	EPA 608	9B20074	0.0028	0.0094	ND	0.943	02/20/09	02/22/09	
Heptachlor epoxide	EPA 608	9B20074	0.0024	0.0047	ND	0.943	02/20/09	02/22/09	
Methoxychlor	EPA 608	9B20074	0.0033	0.0047	ND	0.943	02/20/09	02/22/09	
Chlordane	EPA 608	9B20074	0.038	0.094	ND	0.943	02/20/09	02/22/09	
Toxaphene	EPA 608	9B20074	0.24	0.47	ND	0.943	02/20/09	02/22/09	
Surrogate: Decachlorobiphenyl (45-120%)					77 %				
Surrogate: Decachlorobiphenyl (45-120%)					77 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					68 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					68 %				

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
 Received: 02/16/09

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01RE1 (Outfall 011 - Water) - cont.									
Reporting Units: ug/l									
4,4'-DDD	EPA 608	9B23113	0.0019	0.0047	ND	0.943	02/23/09	02/25/09	
4,4'-DDE	EPA 608	9B23113	0.0028	0.0047	ND	0.943	02/23/09	02/25/09	
4,4'-DDT	EPA 608	9B23113	0.0038	0.0094	ND	0.943	02/23/09	02/25/09	
Aldrin	EPA 608	9B23113	0.0014	0.0047	ND	0.943	02/23/09	02/25/09	
alpha-BHC	EPA 608	9B23113	0.0024	0.0094	ND	0.943	02/23/09	02/25/09	
beta-BHC	EPA 608	9B23113	0.0038	0.0094	ND	0.943	02/23/09	02/25/09	
delta-BHC	EPA 608	9B23113	0.0033	0.0047	ND	0.943	02/23/09	02/25/09	
Dieldrin	EPA 608	9B23113	0.0019	0.0047	ND	0.943	02/23/09	02/25/09	
Endosulfan I	EPA 608	9B23113	0.0019	0.0047	ND	0.943	02/23/09	02/25/09	
Endosulfan II	EPA 608	9B23113	0.0028	0.0047	ND	0.943	02/23/09	02/25/09	
Endosulfan sulfate	EPA 608	9B23113	0.0028	0.0094	ND	0.943	02/23/09	02/25/09	
Endrin	EPA 608	9B23113	0.0019	0.0047	ND	0.943	02/23/09	02/25/09	
Endrin aldehyde	EPA 608	9B23113	0.0019	0.0094	ND	0.943	02/23/09	02/25/09	
Endrin ketone	EPA 608	9B23113	0.0028	0.0094	ND	0.943	02/23/09	02/25/09	
gamma-BHC (Lindane)	EPA 608	9B23113	0.0028	0.019	ND	0.943	02/23/09	02/25/09	
Heptachlor	EPA 608	9B23113	0.0028	0.0094	ND	0.943	02/23/09	02/25/09	
Heptachlor epoxide	EPA 608	9B23113	0.0024	0.0047	ND	0.943	02/23/09	02/25/09	
Methoxychlor	EPA 608	9B23113	0.0033	0.0047	ND	0.943	02/23/09	02/25/09	
Chlordane	EPA 608	9B23113	0.038	0.094	ND	0.943	02/23/09	02/25/09	
Toxaphene	EPA 608	9B23113	0.24	0.47	ND	0.943	02/23/09	02/25/09	
Surrogate: Decachlorobiphenyl (45-120%)					82 %				
Surrogate: Decachlorobiphenyl (45-120%)					82 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					78 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					78 %				

LEVEL IV

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

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09

Received: 02/16/09

CFR136A 608

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/L									
alpha-BHC	R/D CFR136A 608	9064381	0.0053	0.05	ND	1	03/05/09	03/10/09	HTV
Surrogate: Decachlorobiphenyl (32-144%)					59 %				
Surrogate: Tetrachloro-m-xylene (52-117%)					88 %				

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NPDES - 2655

TestAmerica Irvine

Client Sample ID: ISB1802-01

Radiochemistry

Outfall 011

Lab Sample ID: F9B180222-001
 Work Order: K7DJM
 Matrix: WATER

Date Collected: 02/16/09 1430
 Date Received: 02/18/09 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	mdc	Prep Date	Analysis Date
Gamma Cs-137 & Hits by EPA 901.1 MOD				pCi/L		Batch # 9058211	Yld %
Cesium 137 <i>VS/H</i>	0.0	U	9.4	20.0	18	02/27/09	03/15/09
Potassium 40 <i>↓ ↓</i>	-100	U	3300		300	02/27/09	03/15/09
Gross Alpha/Beta EPA 900				pCi/L		Batch # 9050133	Yld %
Gross Alpha <i>J/H,C</i>	4.7		1.4	3.0	1.1	02/24/09	03/03/09
Gross Beta <i>↓ ↓</i>	5.5		1.1	4.0	1.2	02/24/09	03/03/09
TRITIUM (Distill) by EPA 906.0 MOD				pCi/L		Batch # 9066052	Yld %
Tritium <i>U</i>	-40	U	170	500	310	03/07/09	03/13/09
SR-90 BY GFPC EPA-905 MOD				pCi/L		Batch # 9049442	Yld % 57
Strontium 90 <i>U</i>	-0.11	U	0.25	3.00	0.47	02/18/09	02/28/09
Total Uranium by KPA ASTM 5174-91				pCi/L		Batch # 9050413	Yld %
Total Uranium <i>J/H,DNQ</i>	0.358	J	0.039	0.677	0.21	02/19/09	03/08/09
Radium 226 by EPA 903.0 MOD				pCi/L		Batch # 9049439	Yld % 79
Radium (226) <i>J/DNQ</i>	0.36	J	0.17	1.00	0.20	02/18/09	03/13/09
Radium 228 by GFPC EPA 904 MOD				pCi/L		Batch # 9049441	Yld % 65
Radium 228 <i>U</i>	0.03	U	0.30	1.00	0.54	02/18/09	03/13/09

LEVEL IV

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.

LOT # ~~F9B180222~~ **F9B180222** less than the sample detection limit.

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

Project ID: Annual Outfall 011

Report Number: ISB1802

Sampled: 02/16/09
 Received: 02/16/09

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	9B24128	0.50	0.50	0.56	1	02/24/09	02/24/09	
Biochemical Oxygen Demand	SM5210B	9B17161	0.50	2.0	2.1	1	02/17/09	02/22/09	
Chloride	EPA 300.0	9B16057	0.25	0.50	12	1	02/16/09	02/17/09	
Fluoride	SM 4500-F-C	9B17074	0.020	0.10	0.12	1	02/17/09	02/17/09	B
Nitrate-N	EPA 300.0	9B16057	0.060	0.11	0.97	1	02/16/09	02/17/09	
Nitrite-N	EPA 300.0	9B16057	0.090	0.15	ND	1	02/16/09	02/17/09	
Nitrate/Nitrite-N	EPA 300.0	9B16057	0.15	0.26	0.97	1	02/16/09	02/17/09	
Residual Chlorine	EPA 330.5	9B17105	0.10	0.10	ND	1	02/17/09	02/17/09	HFT
Sulfate	EPA 300.0	9B16057	0.20	0.50	4.3	1	02/16/09	02/17/09	
Surfactants (MBAS)	SM5540-C	9B17098	0.025	0.10	ND	1	02/17/09	02/17/09	
Total Dissolved Solids	SM2540C	9B18065	10	10	77	1	02/18/09	02/18/09	
Total Organic Carbon	SM5310B	9B24001	0.50	1.0	5.9	1	02/24/09	02/24/09	
Total Suspended Solids	SM 2540D	9B21068	1.0	10	160	1	02/21/09	02/21/09	

LEVEL IV

*Analysis not validated

TestAmerica Irvine

Joseph Doak
 Project Manager

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Annual Outfall 011 Report Number: ISB1802	Sampled: 02/16/09 Received: 02/16/09
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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: NTU									
Turbidity	EPA 180.1	9B17067	0.40	10	210	10	02/17/09	02/17/09	

LEVEL IV

TestAmerica Irvine

Joseph Doak
Project Manager

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

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

Project ID: Annual Outfall 011
Report Number: ISB1802

Sampled: 02/16/09
Received: 02/16/09

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1802-01 (Outfall 011 - Water) - cont.									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	9B18054	1.0	1.0	85	1	02/18/09	02/18/09	

LEVEL IV

TestAmerica Irvine

Joseph Doak
Project Manager

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