

APPENDIX G

Section 3

Outfall 002, February 16, 2009

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ISB1796

Prepared by

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I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: ISB1796
 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 002	ISB1796-01	D9B190119-001, 31440-001, F9B180215-001, 981794-1	Water	02/16/09 0930	120.1, 180.1, 200.7, 200.7 (Diss), 200.8, 200.8 (Diss) 245.1, 245.1 (Diss), 608, 625, 900.0, 901.1, 903.0, 904.0, 905.0, 906.0, 908.0, 1613B, 8315M, SM2340B, SM2540D, SM5310B

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 30, 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. The laboratory does not include EMPCs in the reported totals; therefore, no totals were qualified. 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: MS/MSD analyses were performed on the sample in this SDG. Recoveries and RPDs were within the laboratory-established control limits.
- 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

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 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 and 85-115% for mercury. The selenium CRI recovery associated with the total

metals analyses was 41%. Due to this low recovery, negative results in the bracketing CCBs (see Blanks) section and a negative sample result (see Sample Result Verification section), the total selenium result was rejected, "R." The zinc CRI recovery associated with the dissolved metals analyses was 63%; therefore, dissolved zinc detected in the sample was qualified as estimated, "J." The remaining CRI and CRA and check standards were recovered within the control limits of 70-130%.

- **Blanks:** Chromium and nickel were detected in the total method blank at 4.13 and 2.91 µg/L, respectively; therefore, total chromium and nickel detected in the sample were qualified as nondetected, "U," at the level of contamination if detected above the control limit or at the reporting limit if detected below. Antimony was detected in CCBs bracketing the sample analyses at 0.666 and 0.258 µg/L; therefore both total and dissolved antimony detected in the sample were qualified as nondetected, "U," at the reporting limit. Selenium was reported in the CCBs bracketing the total metals analysis at -0.502 and -0.696 µg/L; however, the nondetected selenium result was not retained (see Calibration). Zinc was reported in a CCB bracketing the dissolved metals analysis at -7.6 µg/L; therefore, nondetected dissolved zinc in the sample was qualified as estimated, "UJ." 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. No transcription errors or calculation errors were noted. Detects reported below the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

The reviewer noted that the raw result for total selenium was a negative value, the absolute value of which was nearly 3x the MDL, -0.881 µg/L. As noted in the Calibration section above, due to this negative result, negative bracketing CCBs and a poor CRI recovery, the nondetected total selenium result was rejected.

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

D. VARIOUS EPA METHODS — 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, nondetected gross alpha in the sample was qualified as estimated, "UJ." The gross beta detector efficiency was greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. The tritium detector efficiency for the sample was at least 20% and was considered acceptable. The 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.
- 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.

E. EPA METHOD 608—Pesticides

Reviewed By: K. Shadowlight

Date Reviewed: March 30, 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 002 (see the Blank section). The sample was analyzed within 40 days of extraction.

- Calibration: The initial calibration had average %RSDs of $\leq 10\%$ or $r^2 \geq 0.995$ for the pesticides. The %Ds for all analytes except 4,4'-DDE, aldrin, delta-BHC, dieldrin, gamma-BHC, methoxychlor, chlordane, and toxaphene exceeded 15% in one or both of the low-level CCVs bracketing the pesticide analysis; therefore, the retained nondetects for these analytes were qualified as estimated, "UJ," in the sample in this SDG. As there were no confirmed detects for the retained results, the confirmation column %Ds were not evaluated for either analysis. The ICV and remaining CCVs bracketing the sample analyses had %Ds within the QC limit of $\leq 15\%$.
- Blanks: Alpha-BHC was detected at a concentration of 0.00634 $\mu\text{g/L}$ in method blank 9B20074; however, the associated result for alpha-BHC was rejected due to laboratory contamination (see below). There were no other target compound detects above the MDL in method blank 9B20074 which was associated with the original analysis of Outfall 002.

Alpha-BHC was reported in sample Outfall 002; however, the laboratory suspected contamination related to one highly contaminated sample with percent level alpha-BHC. A second extraction of Outfall 002 yielded a low-level concentration of alpha BHC, indicating that the laboratory was not contamination free. The sample was sent to TestAmerica-Denver for alpha-BHC analysis. The nondetect result yielded from the TestAmerica-Denver analysis confirmed the suspicion that the original results were indeed laboratory contamination; therefore, the original result for alpha BHC in extraction batch 9B20074 and the sample re-extraction from batch 9B23113 were rejected, "R," in favor of the result for alpha BHC reported in batch 9064381 from TestAmerica-Denver. 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.

Beta-BHC was reported in the re-extraction of Outfall 002 (9B23113) at a concentration slightly above the MDL. Beta-BHC was also detected in the associated method blank (9B23113) at a concentration slightly below the MDL. As beta-BHC was not detected in the original analysis or the re-extraction analysis from TestAmerica-Denver, the detect for beta-BHC in the re-extraction (9B23113) was rejected, "R," in favor of the nondetect result reported in the original extraction of Outfall 002 (9B20074). The remaining analytes in the re-extraction analysis were rejected as duplicate data (see above).

- 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 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.

F. EPA METHOD 625—Semivolatile Organic Compounds (SVOCs)

Reviewed By: S. Dellamia

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 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 unpreserved 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. Samples were analyzed within 12 hours of the DFTPP injection time.
- **Calibration:** Calibration criteria were met. Initial calibration average RRFs were ≥ 0.05 and %RSDs $\leq 35\%$ or r^2 values ≥ 0.995 . Continuing calibration RRFs were ≥ 0.05 and %Ds $\leq 20\%$.
- **Blanks:** The method blank had detects for benzo(g,h,i)perylene at 0.400(J) $\mu\text{g/L}$, butyl benzyl phthalate at 1.04(J) $\mu\text{g/L}$ and ideno(1,2,3-cd)perylene at 0.240(J) $\mu\text{g/L}$; therefore, the detect for butyl benzyl phthalate in sample Outfall 002 was qualified as nondetected, "U," at the RL. There were no other target compound detects above the MDL.

- **Blank Spikes and Laboratory Control Samples:** Recoveries were within laboratory-established QC limits. RPDs were above QC limits for benzyl alcohol, 4-chloroaniline, bis(2-chloroethoxy)methane, 2,6-dinitrotoluene, isophorone, 2-methylphenol, 4-nitroaniline and n-nitroso-di-n-propylamine; therefore, results for all eight compounds in sample Outfall 002 were qualified as estimated, "UJ," for nondetects and "J," for detects. Remaining RPDs were within 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. Evaluation of method accuracy and precision was 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 ± 30 seconds for retention times.
- **Compound Identification:** Compound identification was verified. The laboratory analyzed for semivolatile target compounds by EPA Method 625. 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.

G. 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 120.1, 180.1, Standard Methods SM2540D and SM5310B*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- Holding Times: Analytical holding times, 24 hours for conductivity, 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 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 20 \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: **ISB1796-01** *Out-fall 002*

EPA Method 1613

Client Data		Sample Data	
Name:	Test America-Irvine, CA	Matrix:	Aqueous
Project:	ISB1796	Sample Size:	1.05 L
Date Collected:	16-Feb-09		
Time Collected:	0930		

Laboratory Data			
Lab Sample:	31440-001	Date Received:	18-Feb-09
QC Batch No.:	1907	Date Extracted:	21-Feb-09
Date Analyzed DB-5:	24-Feb-09	Date Analyzed DB-225:	NA

Analyte	Conc (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND U	0.000000653			IS 13C-2,3,7,8-TCDD	83.9	25 - 164	
1,2,3,7,8-PeCDD	ND U	0.00000104			13C-1,2,3,7,8-PeCDD	76.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND U	0.00000206			13C-1,2,3,4,7,8-HxCDD	77.7	32 - 141	
1,2,3,6,7,8-HxCDD	0.00000240			J	13C-1,2,3,6,7,8-HxCDD	77.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND U	0.00000195			13C-1,2,3,4,6,7,8-HpCDD	72.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000435				13C-OCDD	62.6	17 - 157	
OCDD	0.000380				13C-2,3,7,8-TCDF	96.4	24 - 169	
2,3,7,8-TCDF	ND U	0.000000525			13C-1,2,3,7,8-PeCDF	80.5	24 - 185	
1,2,3,7,8-PeCDF	ND U	0.000000830			13C-2,3,4,7,8-PeCDF	78.8	21 - 178	
2,3,4,7,8-PeCDF	ND U	0.000000782			13C-1,2,3,4,7,8-HxCDF	79.9	26 - 152	
1,2,3,4,7,8-HxCDF	ND U	0.00000112			13C-1,2,3,6,7,8-HxCDF	75.1	26 - 123	
1,2,3,6,7,8-HxCDF	ND U	0.00000115			13C-2,3,4,6,7,8-HxCDF	82.8	28 - 136	
2,3,4,6,7,8-HxCDF	ND U	0.00000121			13C-1,2,3,7,8,9-HxCDF	75.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND U	0.00000171			13C-1,2,3,4,6,7,8-HpCDF	74.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000196			J	13C-1,2,3,4,7,8,9-HpCDF	72.2	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND U	0.00000220			13C-OCDF	61.4	17 - 157	
OCDF	0.0000641				CRS 37Cl-2,3,7,8-TCDD	89.4	35 - 197	
Totals					Footnotes			
Total TCDD	ND U	0.000000653			a. Sample specific estimated detection limit.			
Total PeCDD	ND U	0.00000104			b. Estimated maximum possible concentration.			
Total HxCDD	0.00000524		0.00000938		c. Method detection limit.			
Total HpCDD	0.0000790				d. Lower control limit - upper control limit.			
Total TCDF	ND U	0.000000525						
Total PeCDF	ND U	0.000000806						
Total HxCDF	0.0000136							
Total HpCDF	0.0000461							

Analyst: JMH

Approved By: Martha M. Maier 07-Mar-2009 08:37

LEVEL IV

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

14201 FRANKLIN AVENUE · TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

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

Attention: Joseph Doak
Sample: Water / 1 Sample
Project Name: ISB1796
P.O. Number: 2294272
Method Number: 8315 (Modified)
Investigation: Hydrazines

REPORT

Laboratory No: 981794
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
981794 Out-fall 002	ISB1796-01	100	1	ND U	ND U	ND UJ/c	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

004

2952

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 002

Report Number: ISB1796

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: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B	[CALC]	N/A	0.33	100	1	02/17/09	02/17/09	
Barium	EPA 200.7	9B17091	0.0060	0.010	0.13	1	02/17/09	02/17/09	
Boron <i>0.18</i>	EPA 200.7	9B17091	0.020	0.050	0.052	1	02/17/09	02/17/09	
Calcium	EPA 200.7	9B17091	0.050	0.10	25	1	02/17/09	02/17/09	
Iron	EPA 200.7	9B17091	0.015	0.040	17	1	02/17/09	02/17/09	
Magnesium	EPA 200.7	9B17091	0.012	0.020	9.9	1	02/17/09	02/17/09	

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Joseph Doak
Project Manager

PM 3/26/09

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ISB1796 <Page 18 of 77>

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MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: ISB1796	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: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Arsenic U	EPA 200.7	9B17091	7.0	10	ND	1	02/17/09	02/17/09	
Antimony U/B	EPA 200.8	9B23088	0.20	2.0	0.28	1	02/23/09	02/24/09	Ja
Beryllium U	EPA 200.7	9B17091	0.90	2.0	ND	1	02/17/09	02/17/09	
Chromium U/B	EPA 200.7	9B17091	2.0	5.0	20	1	02/17/09	02/17/09	B
Cobalt J/DNR	EPA 200.7	9B17091	2.0	10	4.8	1	02/17/09	02/17/09	Ja
Manganese	EPA 200.7	9B17091	7.0	20	240	1	02/17/09	02/17/09	
Nickel U/B	EPA 200.7	9B17091	2.0	10	13	1	02/17/09	02/17/09	B
Cadmium J/DNR	EPA 200.8	9B23088	0.11	1.0	0.14	1	02/23/09	02/24/09	Ja
Vanadium	EPA 200.7	9B17091	3.0	10	36	1	02/17/09	02/17/09	
Zinc	EPA 200.7	9B17091	6.0	20	56	1	02/17/09	02/17/09	
Copper	EPA 200.8	9B23088	0.75	2.0	10	1	02/23/09	02/24/09	
Lead	EPA 200.8	9B23088	0.30	1.0	11	1	02/23/09	02/24/09	
Selenium R/III	EPA 200.8	9B23088	0.30	2.0	ND	1	02/23/09	02/24/09	
Silver U	EPA 200.8	9B23088	0.30	1.0	ND	1	02/23/09	02/24/09	
Thallium U	EPA 200.8	9B23088	0.20	1.0	ND	1	02/23/09	02/24/09	C

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ISB1796 <Page 19 of 77>

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: ISB1796	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: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Hardness as CaCO3	SM2340B-Diss	[CALC]	N/A	0.33	68	1	02/20/09	02/23/09	
Barium	EPA 200.7-Diss	9B20105	0.0060	0.010	0.020	1	02/20/09	02/23/09	
Boron J/DNQ	EPA 200.7-Diss	9B20105	0.020	0.050	0.046	1	02/20/09	02/24/09	Ja
Calcium	EPA 200.7-Diss	9B20105	0.050	0.10	18	1	02/20/09	02/23/09	
Iron	EPA 200.7-Diss	9B20105	0.015	0.040	0.45	1	02/20/09	02/23/09	
Magnesium	EPA 200.7-Diss	9B20105	0.012	0.020	5.3	1	02/20/09	02/23/09	

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---	--	---

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1796-01 (Outfall 002 - 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 U/B	EPA 200.8-Diss	9B20106	0.20	2.0	0.25	1	02/20/09	02/25/09	Ja
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 J/DNR	EPA 200.7-Diss	9B20105	7.0	20	15	1	02/20/09	02/23/09	Ja
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	EPA 200.7-Diss	9B20105	3.0	10	ND	1	02/20/09	02/23/09	
Zinc U/J/A/W/B	EPA 200.7-Diss	9B20105	6.0	20	ND	1	02/20/09	02/23/09	
Lead U	EPA 200.8-Diss	9B20106	0.30	1.0	ND	1	02/20/09	02/23/09	
Selenium U/B	EPA 200.8-Diss	9B20106	0.30	2.0	0.34	1	02/20/09	02/23/09	Ja
Silver U	EPA 200.8-Diss	9B20106	0.30	1.0	ND	1	02/20/09	02/23/09	
Thallium U	EPA 200.8-Diss	9B20106	0.20	1.0	ND	1	02/20/09	02/23/09	C

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Attention: Bronwyn Kelly

Project ID: Annual Outfall 002

Report Number: ISB1796

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: ISB1796-01RE1 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Copper	EPA 200.8-Diss	9B20106	0.75	2.0	3.6	1	02/20/09	03/19/09	

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Arcadia, CA 91007
Attention: Bronwyn Kelly

Project ID: Annual Outfall 002

Report Number: ISB1796

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: ISB1796-01 (Outfall 002 - Water) - cont.										
Reporting Units: ug/L										
Mercury	J/Q, DNG	MCAWW 245.1	9050174	0.027	0.2	0.032	1	02/19/09	02/19/09	J

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---	--	---

MCAWW 245.1-DISS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: ISB1796-01 (Outfall 002 - Water) - cont.										
Reporting Units: ng/L										
Mercury	J/DNQ	MCAWW 245.1-DISS	9050182	0.027	0.2	0.03	1	02/19/09	02/19/09	J

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ISB1796 <Page 30 of 77>

TestAmerica Irvine

Client Sample ID: ISB1796-01

Outfall 002

Radiochemistry

Lab Sample ID: F9B180215-001
 Work Order: K7DH2
 Matrix: WATER

Date Collected: 02/16/09 0930
 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							
Cesium 137 <i>UJ/H</i>	-4	U	10	20	19	02/27/09	03/14/09
Potassium 40 <i>↓ ↓</i>	-100	U	3800		200	02/27/09	03/14/09
Gross Alpha/Beta EPA 900							
Gross Alpha <i>J/H, C</i>	6.8		2.3	3.0	2.4	02/24/09	03/03/09
Gross Beta <i>↓ ↓</i>	5.4		1.1	4.0	1.2	02/24/09	03/03/09
TRITIUM (Distill) by EPA 906.0 MOD							
Tritium <i>U</i>	230	U	190	500	300	03/07/09	03/13/09
SR-90 BY GFPC EPA-905 MOD							
Strontium 90 <i>U</i>	-0.01	U	0.30	3.00	0.53	02/18/09	02/28/09
Total Uranium by KPA ASTM 5174-91							
Total Uranium <i>J/H, DNQ</i>	0.483	J	0.052	0.677	0.21	02/19/09	03/08/09
Radium 226 by EPA 903.0 MOD							
Radium (226) <i>J/DNQ</i>	0.37	J	0.16	1.00	0.16	02/18/09	03/13/09
Radium 228 by GFPC EPA 904 MOD							
Radium 228 <i>U</i>	0.41	U	0.27	1.00	0.41	02/18/09	03/13/09

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.

LOT# F9B180215

7 of 2362

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

Project ID: Annual Outfall 002

Report Number: ISB1796

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: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
4,4'-DDD	U	9B20074	0.0019	0.0048	ND	0.952	02/20/09	02/22/09	
4,4'-DDE	U	9B20074	0.0029	0.0048	ND	0.952	02/20/09	02/22/09	
4,4'-DDT	U	9B20074	0.0038	0.0095	ND	0.952	02/20/09	02/22/09	
Aldrin	U	9B20074	0.0014	0.0048	ND	0.952	02/20/09	02/22/09	
alpha-BHC	R/D	9B20074	0.0024	0.0095	0.010	0.952	02/20/09	02/22/09	N2
beta-BHC	U	9B20074	0.0038	0.0095	ND	0.952	02/20/09	02/22/09	
delta-BHC	U	9B20074	0.0033	0.0048	ND	0.952	02/20/09	02/22/09	
Dieldrin	U	9B20074	0.0019	0.0048	ND	0.952	02/20/09	02/22/09	
Endosulfan I	U	9B20074	0.0019	0.0048	ND	0.952	02/20/09	02/22/09	
Endosulfan II	U	9B20074	0.0029	0.0048	ND	0.952	02/20/09	02/22/09	
Endosulfan sulfate	U	9B20074	0.0029	0.0095	ND	0.952	02/20/09	02/22/09	
Endrin	U	9B20074	0.0019	0.0048	ND	0.952	02/20/09	02/22/09	
Endrin aldehyde	U	9B20074	0.0019	0.0095	ND	0.952	02/20/09	02/22/09	C
Endrin ketone	U	9B20074	0.0029	0.0095	ND	0.952	02/20/09	02/22/09	
gamma-BHC (Lindane)	U	9B20074	0.0029	0.019	ND	0.952	02/20/09	02/22/09	
Heptachlor	U	9B20074	0.0029	0.0095	ND	0.952	02/20/09	02/22/09	
Heptachlor epoxide	U	9B20074	0.0024	0.0048	ND	0.952	02/20/09	02/22/09	
Methoxychlor	U	9B20074	0.0033	0.0048	ND	0.952	02/20/09	02/22/09	
Chlordane	U	9B20074	0.038	0.095	ND	0.952	02/20/09	02/22/09	
Toxaphene	U	9B20074	0.24	0.48	ND	0.952	02/20/09	02/22/09	
Surrogate: Decachlorobiphenyl (45-120%)					73 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					62 %				

LEVEL IV

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Joseph Doak
 Project Manager

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 002

Report Number: ISB1796

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: ISB1796-01RE1 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
4,4'-DDD	EPA 608	9B23113	0.0019	0.0048	ND	0.952	02/23/09	02/25/09	
4,4'-DDE	EPA 608	9B23113	0.0029	0.0048	ND	0.952	02/23/09	02/25/09	
4,4'-DDT	EPA 608	9B23113	0.0038	0.0095	ND	0.952	02/23/09	02/25/09	
Aldrin	EPA 608	9B23113	0.0014	0.0048	ND	0.952	02/23/09	02/25/09	
alpha-BHC	EPA 608	9B23113	0.0024	0.0095	0.0034	0.952	02/23/09	02/25/09	Ja, N2
beta-BHC	EPA 608	9B23113	0.0038	0.0095	0.0042	0.952	02/23/09	02/25/09	Ja
delta-BHC	EPA 608	9B23113	0.0033	0.0048	ND	0.952	02/23/09	02/25/09	
Dieldrin	EPA 608	9B23113	0.0019	0.0048	ND	0.952	02/23/09	02/25/09	
Endosulfan I	EPA 608	9B23113	0.0019	0.0048	ND	0.952	02/23/09	02/25/09	
Endosulfan II	EPA 608	9B23113	0.0029	0.0048	ND	0.952	02/23/09	02/25/09	
Endosulfan sulfate	EPA 608	9B23113	0.0029	0.0095	ND	0.952	02/23/09	02/25/09	
Endrin	EPA 608	9B23113	0.0019	0.0048	ND	0.952	02/23/09	02/25/09	
Endrin aldehyde	EPA 608	9B23113	0.0019	0.0095	ND	0.952	02/23/09	02/25/09	
Endrin ketone	EPA 608	9B23113	0.0029	0.0095	ND	0.952	02/23/09	02/25/09	
gamma-BHC (Lindane)	EPA 608	9B23113	0.0029	0.019	ND	0.952	02/23/09	02/25/09	
Heptachlor	EPA 608	9B23113	0.0029	0.0095	ND	0.952	02/23/09	02/25/09	
Heptachlor epoxide	EPA 608	9B23113	0.0024	0.0048	ND	0.952	02/23/09	02/25/09	
Methoxychlor	EPA 608	9B23113	0.0033	0.0048	ND	0.952	02/23/09	02/25/09	
Chlordane	EPA 608	9B23113	0.038	0.095	ND	0.952	02/23/09	02/25/09	
Toxaphene	EPA 608	9B23113	0.24	0.48	ND	0.952	02/23/09	02/25/09	
Surrogate: Decachlorobiphenyl (45-120%)					82 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					76 %				

R/D

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

Project ID: Annual Outfall 002

Report Number: ISB1796

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: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: ng/L									
alpha-BHC	CFR136A 608	9064381	0.0053	0.05	ND	1	03/05/09	03/10/09	HTV
Surrogate: Decachlorobiphenyl (32-144%)					64 %				
Surrogate: Tetrachloro-m-xylene (52-117%)					78 %				

WS 3/30/09

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ISB1796 <Page 28 of 77>

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

Project ID: Annual Outfall 002

Report Number: ISB1796

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

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Acenaphthene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
Acenaphthylene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
Aniline	EPA 625	9B21046	0.30	9.9	ND	0.99	02/21/09	02/24/09	
Anthracene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
Benzidine	EPA 625	9B21046	N/A	5.0	ND	0.99	02/21/09	02/24/09	
Benzo(a)anthracene	EPA 625	9B21046	0.099	5.0	ND	0.99	02/21/09	02/24/09	
Benzo(a)pyrene	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	
Benzo(b)fluoranthene	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	
Benzo(g,h,i)perylene	EPA 625	9B21046	0.099	5.0	ND	0.99	02/21/09	02/24/09	
Benzo(k)fluoranthene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
Benzoic acid	EPA 625	9B21046	3.0	20	ND	0.99	02/21/09	02/24/09	
Benzyl alcohol	EPA 625	9B21046	0.099	5.0	ND	0.99	02/21/09	02/24/09	u
4-Bromophenyl phenyl ether	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
Butyl benzyl phthalate	EPA 625	9B21046	0.69	5.0	1.2	0.99	02/21/09	02/24/09	u/B Ja, B
4-Chloro-3-methylphenol	EPA 625	9B21046	0.20	2.0	ND	0.99	02/21/09	02/24/09	u
4-Chloroaniline	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	u
Bis(2-chloroethoxy)methane	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
Bis(2-chloroethyl)ether	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
Bis(2-chloroisopropyl)ether	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
Bis(2-ethylhexyl)phthalate	EPA 625	9B21046	1.7	5.0	ND	0.99	02/21/09	02/24/09	u
2-Chloronaphthalene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
2-Chlorophenol	EPA 625	9B21046	0.20	0.99	ND	0.99	02/21/09	02/24/09	
4-Chlorophenyl phenyl ether	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
Chrysene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
Dibenz(a,h)anthracene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
Dibenzofuran	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
Di-n-butyl phthalate	EPA 625	9B21046	0.20	2.0	ND	0.99	02/21/09	02/24/09	
1,2-Dichlorobenzene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
1,3-Dichlorobenzene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
1,4-Dichlorobenzene	EPA 625	9B21046	0.20	0.50	ND	0.99	02/21/09	02/24/09	
3,3'-Dichlorobenzidine	EPA 625	9B21046	N/A	5.0	ND	0.99	02/21/09	02/24/09	
2,4-Dichlorophenol	EPA 625	9B21046	0.20	2.0	ND	0.99	02/21/09	02/24/09	
Diethyl phthalate	EPA 625	9B21046	0.099	0.99	0.12	0.99	02/21/09	02/24/09	J/DNG
2,4-Dimethylphenol	EPA 625	9B21046	0.30	2.0	ND	0.99	02/21/09	02/24/09	u
Dimethyl phthalate	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	
4,6-Dinitro-2-methylphenol	EPA 625	9B21046	0.20	5.0	ND	0.99	02/21/09	02/24/09	
2,4-Dinitrophenol	EPA 625	9B21046	0.89	5.0	ND	0.99	02/21/09	02/24/09	
2,4-Dinitrotoluene	EPA 625	9B21046	0.20	5.0	ND	0.99	02/21/09	02/24/09	
2,6-Dinitrotoluene	EPA 625	9B21046	0.099	5.0	ND	0.99	02/21/09	02/24/09	u
Di-n-octyl phthalate	EPA 625	9B21046	0.099	5.0	ND	0.99	02/21/09	02/24/09	u
1,2-Diphenylhydrazine/Azobenzene	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u

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Joseph Doak
Project Manager

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ISB1796 <Page 12 of 77>

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

Project ID: Annual Outfall 002

Report Number: ISB1796

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

ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Fluoranthene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
Fluorene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
Hexachlorobenzene	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
Hexachlorobutadiene	EPA 625	9B21046	0.20	2.0	ND	0.99	02/21/09	02/24/09	u
Hexachlorocyclopentadiene	EPA 625	9B21046	0.099	5.0	ND	0.99	02/21/09	02/24/09	u
Hexachloroethane	EPA 625	9B21046	0.20	3.0	ND	0.99	02/21/09	02/24/09	u
Indeno(1,2,3-cd)pyrene	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	u
Isophorone	EPA 625	9B21046	0.099	0.99	0.12	0.99	02/21/09	02/24/09	J/KIIIa, DNG
2-Methylnaphthalene	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
2-Methylphenol	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	UJ/KIII
4-Methylphenol	EPA 625	9B21046	0.20	5.0	ND	0.99	02/21/09	02/24/09	u
Naphthalene	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
2-Nitroaniline	EPA 625	9B21046	0.099	5.0	ND	0.99	02/21/09	02/24/09	u
3-Nitroaniline	EPA 625	9B21046	0.20	5.0	ND	0.99	02/21/09	02/24/09	u
4-Nitroaniline	EPA 625	9B21046	0.50	5.0	ND	0.99	02/21/09	02/24/09	UJ/KIII
Nitrobenzene	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
2-Nitrophenol	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	u
4-Nitrophenol	EPA 625	9B21046	2.5	5.0	ND	0.99	02/21/09	02/24/09	u
N-Nitroso-di-n-propylamine	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	UJ/KIII
N-Nitrosodimethylamine	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	u
N-Nitrosodiphenylamine	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
Pentachlorophenol	EPA 625	9B21046	0.099	2.0	ND	0.99	02/21/09	02/24/09	u
Phenanthrene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
Phenol	EPA 625	9B21046	0.30	0.99	ND	0.99	02/21/09	02/24/09	u
Pyrene	EPA 625	9B21046	0.099	0.50	ND	0.99	02/21/09	02/24/09	u
1,2,4-Trichlorobenzene	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
2,4,5-Trichlorophenol	EPA 625	9B21046	0.20	2.0	ND	0.99	02/21/09	02/24/09	u
2,4,6-Trichlorophenol	EPA 625	9B21046	0.099	0.99	ND	0.99	02/21/09	02/24/09	u
Surrogate: 2,4,6-Tribromophenol (40-120%)					79 %				
Surrogate: 2-Fluorobiphenyl (50-120%)					76 %				
Surrogate: 2-Fluorophenol (30-120%)					67 %				
Surrogate: Nitrobenzene-d5 (45-120%)					77 %				
Surrogate: Phenol-d6 (35-120%)					55 %				
Surrogate: Terphenyl-d14 (50-125%)					91 %				

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Project Manager

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ISB1796 <Page 13 of 77>

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: ISB1796	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: ISB1796-01 (Outfall 002 - 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	9B17129	0.50	2.0	3.4	1	02/17/09	02/22/09	
Chloride	EPA 300.0	9B16057	0.25	0.50	9.5	1	02/16/09	02/16/09	
Total Cyanide	SM4500-CN-C,E	9B16095	0.0022	0.0050	ND	1	02/16/09	02/16/09	
Fluoride	SM 4500-F-C	9B20008	0.020	0.10	0.20	1	02/20/09	02/20/09	B
Nitrate-N	EPA 300.0	9B16057	0.060	0.11	2.7	1	02/16/09	02/16/09	
Nitrite-N	EPA 300.0	9B16057	0.090	0.15	ND	1	02/16/09	02/16/09	
Nitrate/Nitrite-N	EPA 300.0	9B16057	0.15	0.26	2.7	1	02/16/09	02/16/09	
Residual Chlorine	EPA 330.5	9B17105	0.20	0.20	ND	2	02/17/09	02/17/09	HFT, RL1
Sulfate	EPA 300.0	9B16057	0.20	0.50	39	1	02/16/09	02/16/09	
Surfactants (MBAS)	SM5540-C	9B17098	0.025	0.10	0.029	1	02/17/09	02/17/09	Ja
Total Dissolved Solids	SM2540C	9B18065	10	10	190	1	02/18/09	02/18/09	
Total Organic Carbon	SM5310B	9B24001	0.50	1.0	17	1	02/24/09	02/24/09	
Total Suspended Solids	SM 2540D	9B21068	1.0	10	220	1	02/21/09	02/21/09	

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*Analysis not validated

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ISB1796 <Page 23 of 77>

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

Project ID: Annual Outfall 002

Report Number: ISB1796

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: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: NTU									
Turbidity	EPA 180.1	9B17067	0.80	20	310	20	02/17/09	02/17/09	

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ISB1796 <Page 25 of 77>

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: ISB1796	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: ISB1796-01 (Outfall 002 - Water) - cont.									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	9B18054	1.0	1.0	250	1	02/18/09	02/18/09	

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ISB1796 <Page 27 of 77>