

APPENDIX G

Section 41

Outfall 012, February 16, 2009

MEC^X Data Validation Report



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: ISB1803

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: ISB1803
Project Manager: B. Kelly
Matrix: Water
QC Level: IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Laboratory: TestAmerica-Irvine

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 012	ISB1803-01	D9B190123-001, 31442-001	Water	02/16/09 1310	180.1, 245.1, 245.1 (Diss), 624, 1613B, SM5310B
Trip Blanks	ISB1803-02	N/A	Water	02/16/09	624

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, custody seals were not required. Custody seal were present and intact upon arrival at TestAmerica-Denver 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. Any estimated maximum possible concentrations (EMPCs) were qualified as estimated nondetects, "UJ." Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHOD 245.1—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 Method 245.1*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- Holding Times: The analytical holding time, 28 days for mercury, was met.
- Tuning: Not applicable to this analysis.
- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥ 0.995 . Initial and continuing calibration recoveries were within 85-115%. The CRA and check standard was recovered within the control limits of 70-130%.

- Blanks: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: Not applicable to this analysis.
- 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.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. EPA METHOD 624—Volatile Organic Compounds (VOCs)

Reviewed By: S. Dellamia

Date Reviewed: March 27, 2009

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

- Holding Times: Analytical holding times were met. The preserved water samples were analyzed within 14 days of collection.

- GC/MS Tuning: The BFB tunes met the method abundance criteria specified in EPA Method 624. Samples were analyzed within 12 hours of the BFB injection time.
- Calibration: Initial and continuing calibration average RRFs were ≥ 0.05 . Initial calibration %RSDs were $\leq 35\%$ and continuing calibration %Ds were $\leq 20\%$.
- Blanks: The method blanks had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on a sample from this SDG. Evaluation of method accuracy was based on LCS results.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Trip Blanks: Sample Trip Blanks was the trip blank associated with the site sample in this SDG. There were no detects above the MDL in the trip blank.
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified in 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 volatile target compounds by EPA Method 624. 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.

D. 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 Method SM5210B*, and the *National Functional Guidelines for Inorganic Data Review (10/04)*.

- Holding Times: Analytical holding times, 48 hours from collection for BOD and turbidity, were met.
- Calibration: Calibration criteria were met. Turbidity initial calibration r^2 value was ≥ 0.995 and all initial and continuing calibration recoveries were within 90-110%.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries and the BOD RPD 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: Not applicable to these analyses.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. Any detects 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.

Client Data				Sample Data		Laboratory Data			
Sample ID: ISB1803-01 <i>Outfall 012</i>						EPA Method 1613			
Name: Test America-Irvine, CA Project: ISB1803 Date Collected: 16-Feb-09 Time Collected: 1310				Matrix: Sample Size: 1.03 L		Lab Sample: 31442-001 QC Batch No.: 1907 Date Analyzed DB-5: 24-Feb-09 Date Received: 18-Feb-09 Date Extracted: 21-Feb-09 Date Analyzed DB-225: N/A			
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers	
2,3,7,8-TCDD	ND U	0.000000514			IS 13C-2,3,7,8-TCDD	79.5	25 - 164		
1,2,3,7,8-PeCDD	ND U	0.000000986			13C-1,2,3,7,8-PeCDD	71.7	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.000000156			13C-1,2,3,4,7,8-HxCDD	77.8	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.000000159			13C-1,2,3,6,7,8-HxCDD	72.3	28 - 130		
1,2,3,7,8,9-HxCDD	ND U	0.000000152			13C-1,2,3,4,6,7,8-HpCDD	69.1	23 - 140		
1,2,3,4,6,7,8-HpCDD	0.00000401				13C-OCDD	55.1	17 - 157		
OCDD	0.006365				13C-2,3,7,8-TCDF	102	24 - 169		
2,3,7,8-TCDF	ND U	0.000000392			13C-1,2,3,7,8-PeCDF	74.5	24 - 185		
1,2,3,7,8-PeCDF	ND	0.000000602			13C-2,3,4,7,8-PeCDF	74.0	21 - 178		
2,3,4,7,8-PeCDF	ND U	0.000000593			13C-1,2,3,4,7,8-HxCDF	78.8	26 - 152		
1,2,3,4,7,8-HxCDF	ND U	0.000000119			13C-1,2,3,6,7,8-HxCDF	72.4	26 - 123		
1,2,3,6,7,8-HxCDF	ND U	0.000000924			13C-2,3,4,6,7,8-HxCDF	84.6	28 - 136		
2,3,4,6,7,8-HxCDF	0.00000123	5/DNR		J	13C-1,2,3,7,8,9-HxCDF	72.4	29 - 147		
1,2,3,7,8,9-HxCDF	ND U	0.00000105			13C-1,2,3,4,6,7,8-HpCDF	67.8	28 - 143		
1,2,3,4,6,7,8-HpCDF	0.00000301				13C-1,2,3,4,7,8,9-HpCDF	75.8	26 - 138		
1,2,3,4,7,8,9-HpCDF	ND U	0.00000156			13C-OCDF	55.3	17 - 157		
OCDF	0.00000605				CRS 37Cl-2,3,7,8-TCDD	89.4	35 - 197		
Totals									
Total TCDD	ND U	0.000000514							
Total PeCDD	ND U	0.000000986							
Total HxCDD	0.00000620	5/DNR							
Total HpCDD	0.00000850								
Total TCDF	ND U	0.000000392							
Total PeCDF	ND U	0.000000138							
Total HxCDF	0.0000137	5/DNR							
Total HpCDF	0.00000507								

Footnotes

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

Analyst: JMH

Approved By: Martha M. Maier 07-Mar-2009 08:24

LEVEL IV

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

Project ID: Routine Outfall 012
Alpha Test Stand
Report Number: ISB1803

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: ISB1803-01 (Outfall 012 - Water) - cont.									
Reporting Units: ug/L									
Mercury	MCAWW 245.1	9050174	0.027	0.2	ND	1	02/19/09	02/19/09	

LEVEL IV

TestAmerica Irvine
Joseph Doak
Project Manager

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ISB1803 <Page 11 of 34>

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

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

Project ID: Routine Outfall 012
Alpha Test Stand
Report Number: ISB1803

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: ISB1803-01 (Outfall 012 - 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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TestAmerica Irvine

Joseph Doak
Project Manager

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ISB1803 <Page 12 of 34>

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

Project ID: Routine Outfall 012
Alpha Test Stand
Report Number: ISB1803

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

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISB1803-01 (Outfall 012 - Water) - cont.									
Reporting Units: ug/l									
1,2-Dibromoethane (EDB)	EPA 624	9B23014	0.40	0.50	ND	1	02/23/09	02/24/09	u
1,2,3-Trichloropropane	EPA 624	9B23014	0.40	1.0	ND	1	02/23/09	02/24/09	↓
Di-isopropyl Ether (DIPE)	EPA 624	9B23014	0.25	0.50	ND	1	02/23/09	02/24/09	
Methyl-tert-butyl Ether (MTBE)	EPA 624	9B23014	0.32	0.50	ND	1	02/23/09	02/24/09	
tert-Butanol (TBA)	EPA 624	9B23014	6.5	10	ND	1	02/23/09	02/24/09	
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				
Surrogate: Dibromofluoromethane (80-120%)					88 %				
Surrogate: Toluene-d8 (80-120%)					95 %				
Sample ID: ISB1803-02 (Trip Blanks - Water)									
Reporting Units: ug/l									
1,2-Dibromoethane (EDB)	EPA 624	9B25033	0.40	0.50	ND	1	02/25/09	02/25/09	u
1,2,3-Trichloropropane	EPA 624	9B25033	0.40	1.0	ND	1	02/25/09	02/25/09	
Di-isopropyl Ether (DIPE)	EPA 624	9B25033	0.25	0.50	ND	1	02/25/09	02/25/09	
Methyl-tert-butyl Ether (MTBE)	EPA 624	9B25033	0.32	0.50	ND	1	02/25/09	02/25/09	
tert-Butanol (TBA)	EPA 624	9B25033	6.5	10	18	1	02/25/09	02/25/09	A-01
Surrogate: 4-Bromofluorobenzene (80-120%)					101 %				
Surrogate: Dibromofluoromethane (80-120%)					96 %				
Surrogate: Toluene-d8 (80-120%)					102 %				

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ISB1803 <Page 4 of 34>

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

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Routine Outfall 012 Alpha Test Stand Report Number: ISB1803	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: ISB1803-01 (Outfall 012 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	SM4500NH3-C	9B24128	0.50	0.50	0.84	1	02/24/09	02/24/09	
Biochemical Oxygen Demand	SMS210B	9B17161	0.50	2.0	2.5	1	02/17/09	02/22/09	
Chloride	EPA 300.0	9B16058	0.25	0.50	20	1	02/16/09	02/17/09	
Fluoride	SM 4500-F-C	9B20008	0.020	0.10	0.33	1	02/20/09	02/20/09	B
Nitrate-N	EPA 300.0	9B16058	0.060	0.11	1.0	1	02/16/09	02/17/09	
Nitrite-N	EPA 300.0	9B16058	0.090	0.15	ND	1	02/16/09	02/17/09	C
Nitrate/Nitrite-N	EPA 300.0	9B16058	0.15	0.26	1.0	1	02/16/09	02/17/09	
Sulfate	EPA 300.0	9B16058	0.20	0.50	7.6	1	02/16/09	02/17/09	
Total Dissolved Solids	SM2540C	9B18065	10	10	75	1	02/18/09	02/18/09	
Total Suspended Solids	SM 2540D	9B21068	1.0	10	4.0	1	02/21/09	02/21/09	J
Sample ID: ISB1803-01 (Outfall 012 - Water)									
Reporting Units: ml/l									
Total Settleable Solids	SM2540F	9B17065	0.10	0.10	ND	1	02/17/09	02/17/09	pH
Sample ID: ISB1803-01 (Outfall 012 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	9B17067	0.040	1.0	21	1	02/17/09	02/17/09	
Sample ID: ISB1803-01 (Outfall 012 - Water)									
Reporting Units: ng/l									
Perchlorate	EPA 314.0	9B18101	0.90	4.0	ND	1	02/18/09	02/18/09	

pm 3/27/09

LEVEL IV

*Analysis not validated

TestAmerica Irvine
Joseph Doak
Project Manager

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ISB1803 <Page 10 of 34>