

APPENDIX G

Section 1

Outfall 002, September 22, 2007

MEC^X Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
12260 East Vassar Drive
Suite 500
Lakewood, CO 80226

Package ID IQI2057
Task Order 1261.100D.00 001
SDG No. IQI2057

No. of Analyses 1

Laboratory Vista Analytical
Reviewer E. Wessling
Analysis/Method Dioxins/Furans

Date: Oct. 31, 2007
Reviewer's Signature 

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	<hr/> <hr/>
2. Out of Scope Analyses	<hr/> <hr/> <hr/>
3. Analyses Not Conducted	<hr/> <hr/>
4. Missing Hardcopy Deliverables	<hr/> <hr/> <hr/>
5. Incorrect Hardcopy Deliverables	<hr/> <hr/> <hr/>
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	<p>Qualifications were assigned for the following:</p> <hr/> <hr/> <p>- Estimated values between the RL and EDL qualified DNQ</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
COMMENTS ^b	<hr/> <hr/> <hr/> <hr/>

^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.
^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
 12260 East Vassar Drive
 Suite 500
 Lakewood, CO 80226

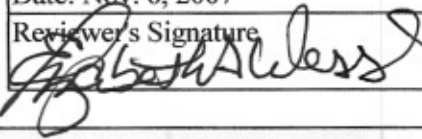
Package ID IQI2057
 Task Order 1261.100D.00 001
 SDG No. IQI2057

No. of Analyses 1

Laboratory TestAmerica - Irvine

Reviewer E. Wessling

Analysis/Method GRO

Date: Nov. 6, 2007
 Reviewer's Signature 

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis	Qualifications were assigned for the following:
Protocol, e.g.,	
Holding Times	Acceptable as reviewed
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS ^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	

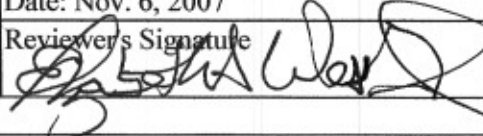
CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
 12260 East Vassar Drive
 Suite 500
 Lakewood, CO 80226

Package ID IQI2057
 Task Order 1261.100D.00 001
 SDG No. IQI2057

No. of Analyses 1

Laboratory TestAmerica - Irvine
 Reviewer E. Wessling
 Analysis/Method EFH

Date: Nov. 6, 2007
 Reviewer's Signature 

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications were assigned for the following: Detects between the MDL and RL qualified as estimated "J" and "DNQ"
COMMENTS ^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	

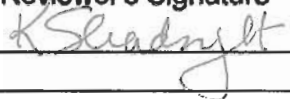
CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Task Order 1261.001D.01
 SDG No. IQI2057

No. of Analyses 1

Laboratory TestAmerica
 Reviewer K. Shadowlight
 Analysis/Method PCBs by Method 608

Date: November 6, 2007
 Reviewer's Signature


ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications were assigned for the following:
Holding Times	-Surrogate recoveries below QC limits
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	

^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.
^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x

12269 East Vassar Drive
Aurora, CO 80014

Task Order 1261.001D.01
SDG No. IQI2057

No. of Analyses 1

Laboratory TestAmerica
Reviewer K. Shadowlight
Analysis/Method Pesticides by Method 608

Date: November 6, 2007
Reviewer's Signature
K. Shadowlight

ACTION ITEMS^a	
1. Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications were assigned for the following:
Holding Times	-Continuing calibration %Ds exceeded 20%
GC/MS Tune/Inst. Performance	-Surrogate recoveries below QC limits
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
<p>^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.</p> <p>^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.</p>	

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x

12269 East Vassar Drive
Aurora, CO 80014

Task Order 1261.001D.01

SDG No. IQI2057

No. of Analyses 2

Laboratory TestAmerica

Date: November 6, 2007

Reviewer K. Shadowlight

Reviewer's Signature

Analysis/Method Volatiles by Method 624

K. Shadowlight

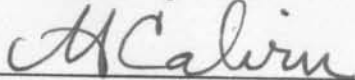
ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications were assigned for the following:
Holding Times	-Continuing calibration %D exceeded 20%
GC/MS Tune/Inst. Performance	-Compounds reported from TIC search
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Laboratory: TestAmerica-Irvine and -Phoenix
 Reviewer: L. Calvin
 Analysis/Method: Semivolatiles by Method 625 and
1,4-Dioxane by Method 8260B

Task Order: 1261.001D.01
 SDG No.: IQI2057
 No. of Analyses: 1

Date: November 6, 2007
 Reviewer's Signature


ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	
Holding Times	Method 625: Qualifications were assigned for an initial calibration $r^2 < 0.995$, method blank contamination, an LCS/LCSD RPD above the QC limit, and a detect reported between the MDL and the reporting limit.
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	Method 8260B: Qualification was assigned for method blank contamination.
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	


^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.
^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Task Order: 1261.100D.00
 SDG No.: IQI2057
 No. of Analyses: 1

Laboratory: TestAmerica, Weck, Eberline
 Reviewer: P. Meeks
 Analysis/Method: Metals, General Minerals,
 Radionuclides

Date: <u>October 29, 2007</u>
Reviewer's Signature 

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications applied for gross alpha detector efficiency, exceeded holding times, laboratory duplicate RPD outlier and detects below the reporting limit.
Holding Times	
GC/MS Tune/Inst. Performance	Results rejected for low MS/MSD recoveries
Calibration	Result rejected as analysis was not performed.
Method blanks	Qualification applied for low MS/MSD recoveries
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS ^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: IQI2057

Prepared by

MEC^X, LLC
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES
 Contract Task Order: 1261.100D.00
 Sample Delivery Group: IQI2057
 Project Manager: P. Costa
 Matrix: Water
 QC Level: IV
 No. of Samples: 2
 No. of Reanalyses/Dilutions: 0
 Laboratory: TestAmerica-Irvine, Vista Analytical (DF)
 Eberline (RA)

Table 1. Sample Identification

Client ID	Laboratory ID	Sub-Laboratory ID	Matrix	Collected	Method
Outfall 002	IQI2057-01	8669-01, 7092407-01	Water	9/22/07 1110	120.1, 160.2, 160.5, 180.1, 200.7, 200.8, 245.1, 300.0, 314.0, 330.5, 335.2, 350.2, 405.1, 413.1, 415.1, 418.1, 608, 624, 625, 900.0, 901.1, 903.1, 904.0, 905.0, CP-124, 1613, 6010B, 8015B, 8260B, 8315M
Trip Blank	IQI2507-02	N/A	Water	9/22/07	624

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at TestAmerica-Irvine within the temperature limits of 4°C ±2°C. Vista received the dioxin sample below 2°C however, the sample was not noted to be frozen or damaged and no qualification was required. Eberline did not provide temperature information; however, as radiological samples do not need to be chilled, no qualifications were required. 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 samples were couriered to TestAmerica-Irvine, custody seals were not required. Custody seals were intact upon arrival at sub-laboratory Eberline 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: E. Wessling
Date Reviewed: 10/21/2007

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 (8/02)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.
- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.
 - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards. No adverse affect was observed with this practice. 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. No qualification of the data was required.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613.
- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detect below the laboratory lower calibration level was qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. Nondetects are valid to the estimated detection limit (EDL).

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

Reviewed By: P. Meeks

Date Reviewed: October 23, 2007

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 200.7, 200.8 and 245.1*, and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The analytical holding times, 6 months for metals and 28 days for mercury, were met.
- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were $\leq 5\%$, and all masses of interest were calibrated to ≤ 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 and all initial and continuing calibration recoveries were within 90-110% for the ICP-MS metals and 85-115% for mercury.
- Blanks: There were no applicable detects in the method blanks or CCBs.
- Interference Check Samples: Recoveries were within the method-established control limits. There were some target analytes detected in the ICSEA solution, but none at levels indicative of matrix interference.
- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for dissolved metals. Method accuracy was evaluated based on LCS results.
- Serial Dilution: No serial dilution analyses were performed.
- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration. All CCV and CCB internal standard intensities were within 80-120% of the internal standard intensities measured in the initial calibration.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. Detects reported below the reporting limit were qualified as estimated 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 608—PCBs

Reviewed By: K. Shadowlight

Date Reviewed: November 6, 2007

The sample listed in Table 1 for this analysis 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 (2/94)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.
- Calibration: The initial calibration had average %RSDs of $\leq 10\%$. The ICV and CCVs bracketing the sample analyses had %Ds within the QC limit of $\leq 15\%$.
- Blanks: The method blank had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.
- Surrogate Recovery: The recovery was below the laboratory-established QC limits but $>10\%$ in the site sample; therefore, the results (all nondetects) were qualified as estimated, "UJ," in sample Outfall 002.
- Matrix Spike/Matrix Spike Duplicate: There were no MS/MSD analyses performed for this SDG. Evaluation of method accuracy was based on blank spike results.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Compound Identification: Compound identification was verified. Review of the sample chromatograms and retention times indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified from the raw data. The reporting limits were supported by the lower level of the initial calibration. Reported nondetects are valid to the reporting limit.

D. EPA METHOD 608—Pesticides

Reviewed By: K. Shadowlight

Date Reviewed: November 6, 2007

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

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.
- Calibration: The initial calibration had average %RSDs of $\leq 10\%$ or r^2 values ≥ 0.995 for both columns. The ICV and CCVs bracketing the sample analyses had %Ds within the QC limit of $\leq 15\%$, with the exception of the %Ds for endosulfan sulfate, endrin ketone, and methoxychlor in one or both of the calibrations bracketing the sample analysis. The results (all nondetects) were qualified as estimated, "UJ," in sample Outfall 002. The breakdown total for endrin and 4,4-DDT were each $\leq 15\%$.
- Blanks: The method blank 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 the blank spike 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 Method 8081A. 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. Reported nondetects are valid to the MDL.

E. EPA METHODS 900.0 901.1, 903.1, 904.0 and 905.0 — Radionuclides

Reviewed By: P. Meeks

Date Reviewed: October 21, 2007 and November 5, 2007

The sample listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0*, and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- **Holding Times:** The tritium sample was analyzed within 180 days of collection. The analytical holding times for the remaining analyses, five days for unpreserved samples, was exceeded. All results, except for tritium, were qualified as estimated, "J," for detects and, "UJ," for nondetects.
- **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 reported in the sample was qualified as estimated, "J." All continuing calibration data was acceptable and all tracer yields were at least 70% and were considered acceptable. All gamma spectroscopy analytes were determined at the maximum photopeak energy.

The laboratory does not specifically calibrate its liquid scintillation counters for tritium. Instead, each tritium aliquot is spiked with a known amount of tritium and then recounted. The ratio of the spiked result to the known amount added is the efficiency factor used to determine the final sample result. This efficiency ratio was greater than 90% and was considered acceptable.

- **Blanks:** There were no detects reported above the MDA in the method blank.
- **Blank Spikes and Laboratory Control Samples:** All recoveries were within laboratory-established control limits.
- **Laboratory Duplicates:** Duplicate analysis was performed for the sample in this SDG. The RPDs for gamma spectroscopy analytes potassium-40, cesium-137, thallium-208, bismuth-212, bismuth-214, and radium-226 exceeded the laboratory-established control limit of 20%. The RPD for strontium-90 exceeded the laboratory-established control limit of 20%. The aforementioned analytes reported in the samples were qualified as estimated detects, "J."
- **Matrix Spike/Matrix Spike Duplicate:** MS/MSD analyses were performed for the sample in this SDG for gross beta and tritium. The recoveries were within the laboratory-established control limits. Accuracy for the remaining methods was 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. Reported nondetects are valid to the MDA.

According to the case narrative and laboratory benchsheets, the aliquot size for the gross beta minus potassium-40 analysis was only 25 mL. The aliquot size for the gross beta analysis was 6.5 mL. The gamma spectroscopy aliquot size was 2 L. Due to the disparity in the aliquot sizes, the potassium-40 results (gross beta – potassium-40, gross beta, and potassium-40) are inconsistent. The case narrative also indicated the sample contained a significant level of sediment which may have influenced the three results. Gross Beta- K40 was analyzed by a non-industry standard method and utilized a different isotope for calibrating activity efficiency therefore this analysis was rejected in favor of the Gross Beta analysis conducted according to EPA protocol.

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

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

Reviewed By: L. Calvin

Date Reviewed: November 6, 2007

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 (2/94)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.
- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.
- Calibration: Calibration criteria were met. Initial calibration average RRFs were ≥ 0.05 and %RSDs $\leq 35\%$ or r^2 values ≥ 0.995 , with the exception of the r^2 of < 0.995 for benzo(a)pyrene. The nondetect result for benzo(a)pyrene was qualified as estimated, "UJ," in sample Outfall 002. Continuing calibration RRFs were ≥ 0.05 and %Ds $\leq 20\%$.
- Blanks: The method blank had detects between the MDL and the RL for bis(2-ethylhexyl)phthalate (1.98 $\mu\text{g/L}$), butyl benzyl phthalate (1.54 $\mu\text{g/L}$), and di-n-butyl

phthalate (0.94 µg/L). Detects between the MDL and the reporting limit for bis(2-ethylhexyl)phthalate and butyl benzyl phthalate were qualified as nondetects, "U," at the reporting limit in sample Outfall 002. The method blank had no other target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Di-n-octyl phthalate was recovered above the QC limits in both the blank spike and blank spike duplicate; however, as di-n-octyl phthalate was not detected in the site sample, no qualification was necessary. Benzidine was recovered below the QC limits but $\geq 10\%$ in the blank spike duplicate only. The RPD for benzidine exceeded the QC limit; therefore, the nondetect result for benzidine was qualified as estimated, "UJ," in the site sample, Outfall 002. Remaining recoveries and RPDs 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 the site sample in this SDG. Evaluation of method accuracy and precision was based on the 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. 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." 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. EPA METHOD 8015B—Extractable Total Fuel Hydrocarbons (EFHs)

Reviewed By: E. Wessling

Date Reviewed: November 6, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Total Fuel Hydrocarbons (DVP-8, Rev. 0)*, *EPA Method 8015B*, and the *National Functional Guidelines for Organic Data Review (2/94)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and analyzed within 40 days of extraction.
- Calibration: Calibration criteria were met. Initial calibration %RSDs were $\leq 20\%$ and continuing calibration %Ds $\leq 15\%$.
- 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.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analysis was not performed on a site sample. Accuracy and precision evaluation was based upon 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. EFH hydrocarbon range C13-C22 was reported. 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 result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

H. EPA METHOD 8015B—Volatile Fuel Hydrocarbons (GRO)

Reviewed By: E. Wessling

Date Reviewed: November 6, 2007

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Total Fuel Hydrocarbons (DVP-8, Rev. 0)*, *EPA Method 8015B*, and the *National Functional Guidelines for Organic Data Review (2/94)*.

- Holding Times: Extraction and analytical holding times were met. The water sample was analyzed within seven days of collection.
- Calibration: Calibration criteria were met. Initial calibration %RSDs were $\leq 20\%$ and continuing calibration %Ds $\leq 15\%$.
- Blanks: The method blank had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recovery was within laboratory-established QC limits.
- Surrogate Recovery: Recovery was within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analysis was not performed on a site sample. Accuracy evaluation was based upon 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. GRO hydrocarbon range C4-C12 was reported. 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 result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

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

Reviewed By: K. Shadowlight

Date Reviewed: November 6, 2007

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 624*, and the *National Functional Guidelines for Organic Data Review (2/94)*.

- Holding Times: Analytical holding times were met. The unpreserved water samples were analyzed within seven days of collection.
- GC/MS Tuning: The BFB tunes met the method abundance criteria. Samples were analyzed within 12 hours of the BFB injection time.
- Calibration: Calibration criteria were met. 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 $\leq 20\%$, with the exception of the %D for dibromochloroethane. The nondetect results for dibromochloroethane were qualified as estimated, "UJ," in the samples of this SDG.
- Blanks: The method blank had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Vinyl chloride was recovered above QC limits in the blank spike; however, as vinyl chloride was not detected in the samples no qualifications were required for the elevated recovery. The remaining recoveries were within laboratory-established QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: 1,1,2,2-Tetrachloroethane was recovered above QC limits in the MS/MSD analyses and chloroethane and trichlorofluoromethane were recovered above QC limits in the MS only. The RPD for vinyl chloride exceeded QC limits in the MS/MSD analyses. No qualifications were required for the elevated recoveries or RPD. The remaining recoveries and RPDs were within laboratory-established QC 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:
 - Trip Blanks: Sample Trip Blank was identified as the trip blank for this SDG. There were no target compound detects above the MDL in the trip blank.

- Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
- Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ± 30 seconds for retention times.
- Compound Identification: Compound identification was verified. For two of the requested target compounds, 1,2-dichloro-1,1,2-trifluoroethane (Freon 123A) and cyclohexane, only a TIC search was performed. Neither compound was identified in the site sample or the trip blank. Nondetect results for both compounds were qualified as estimated, "UJ," in the samples of this SDG. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Reported nondetects are valid to the reporting limit.
- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG; however, a TIC search was performed for two requested target compounds, 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane (see above).
- System Performance: Review of the raw data indicated no problems with system performance.

J. EPA METHOD 8260B—1,4-Dioxane

Reviewed By: L. Calvin

Date Reviewed: November 6, 2007

The sample listed in Table 1 for this analysis was 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 (2/94)*.

- Holding Times: Analytical holding times were met. The preserved water sample was analyzed within 14 days of collection.
- GC/MS Tuning: The BFB tunes met the method abundance criteria. The sample was analyzed within 12 hours of the BFB injection time.
- Calibration: Calibration criteria were met. The initial calibration average RRF for 1,4-dioxane was ≥ 0.05 and the %RSDs was $\leq 15\%$. The continuing calibration RRF was ≥ 0.05 and the %D was $\leq 20\%$.

- **Blanks:** The method blank had a detect between the MDL and the reporting limit for 1,4-dioxane at 0.38 µg/L. The detect for 1,4-dioxane in sample Outfall 002 was qualified as a nondetect, "U," at the reporting limit.
- **Blank Spikes and Laboratory Control Samples:** Recoveries and the RPD for 1,4-dioxane were within laboratory-established QC limits.
- **Surrogate Recovery:** The surrogate was recovered above the laboratory-established QC limits; however, as the original sample detect was subsequently qualified as a nondetect for method blank contamination, no qualification for the elevated surrogate recovery was necessary.
- **Matrix Spike/Matrix Spike Duplicate:** MS/MSD analyses were not performed on the site sample in this SDG. Evaluation of method accuracy and precision was based on the 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:
 - **Trip Blanks:** This SDG had no identified trip blank.
 - **Field Blanks and Equipment Rinsates:** This SDG had no identified field blank or equipment rinsate samples.
 - **Field Duplicates:** There were no field duplicate samples identified for this SDG.
- **Internal Standards Performance:** The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times.
- **Compound Identification:** Compound identification was verified. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.
- **Compound Quantification and Reported Detection Limits:** Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. 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.

K. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks

Date Reviewed: October 21 and November 6, 2007

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 Methods 120.1, 160.2, 160.5, 180.1, 300.0, 314.0, 330.5, 335.2, 350.2, 405.1, 413.1, 415.1, 418.1, and 8315M*, and the *National Functional Guidelines for Inorganic Data Review (2/94)*.

- Holding Times: The residual chlorine holding time is noted as “immediate.” As this analysis was not performed within 24 hours of sample receipt, the reviewer qualified the nondetected residual chlorine result as estimated, “UJ.” The remaining analytical holding times 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%. Recoveries for perchlorate ICCS, and IPC were within 90-110% and the perchlorate IPC-MA was recovered within 85-115%.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within laboratory-established QC limits.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for the method 300.0 analytes, MBAS, and the hydrazines. The monomethyl hydrazine and hydrazine recoveries were below 10%; therefore, nondetected monomethyl hydrazine and hydrazine were rejected, “R.” Unsymmetrical-dimethyl hydrazine was recovered below the control limit but above 10%; therefore nondetected unsymmetrical-dimethyl hydrazine was qualified as an estimated nondetect, “UJ.” Nitrite was recovered below the control limit in both the MS and the MSD; therefore, nitrite detected in the sample was qualified as an estimated detect, “J.” The remaining recoveries and all RPDs were within the laboratory-established control limits.

Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. The reviewer was able to reproduce the method 300.0 initial calibration curves but was not able to exactly reproduce any result associated with this analysis. The largest difference between the reported and the calculated result was approximately 4%. The results were considered to be acceptable. No transcription errors or calculation errors were noted. Detects reported below the reporting limit were qualified as estimated and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

The case narrative noted that the sample aliquot for settleable solids was too dark in color to perform a reading. As the analysis was effectively not performed, the reviewer rejected, "R," the settleable solids result.

- 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: **IQI2057-01** *outfall 002* **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	TestAmerica	Matrix:	Aqueous	Lab Sample:	29588-001	Date Received:	25-Sep-07
Project:	IQI2057	Sample Size:	1.05 L	QC Batch No.:	9458	Date Extracted:	7-Oct-07
Date Collected:	22-Sep-07			Date Analyzed DB-5:	8-Oct-07	Dates Analyzed DB-225:	9-Oct-07
Time Collected:	1110						

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	0.00000512				IS 13C-2,3,7,8-TCDD	82.5	25 - 164	
1,2,3,7,8-PeCDD	0.0000219			J	13C-1,2,3,7,8-PeCDD	93.6	25 - 181	
1,2,3,4,7,8-HxCDD	0.0000238			J	13C-1,2,3,4,7,8-HxCDD	81.6	32 - 141	
1,2,3,6,7,8-HxCDD	0.0000477				13C-1,2,3,6,7,8-HxCDD	76.8	28 - 130	
1,2,3,7,8,9-HxCDD	0.0000433				13C-1,2,3,4,6,7,8-HpCDD	93.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.000597				13C-OCDD	82.0	17 - 157	
OCDD	0.00484				13C-2,3,7,8-TCDF	82.7	24 - 169	
2,3,7,8-TCDF	0.0000358				13C-1,2,3,7,8-PeCDF	99.7	24 - 185	
1,2,3,7,8-PeCDF	0.0000170			J	13C-2,3,4,7,8-PeCDF	99.6	21 - 178	
2,3,4,7,8-PeCDF	0.0000337				13C-1,2,3,4,7,8-HxCDF	79.0	26 - 152	
1,2,3,4,7,8-HxCDF	0.0000215			J	13C-1,2,3,6,7,8-HxCDF	74.5	26 - 123	
1,2,3,6,7,8-HxCDF	0.0000197			J	13C-2,3,4,6,7,8-HxCDF	73.8	28 - 136	
2,3,4,6,7,8-HxCDF	0.0000225			J	13C-1,2,3,7,8,9-HxCDF	77.1	29 - 147	
1,2,3,7,8,9-HxCDF	0.00000670			J	13C-1,2,3,4,6,7,8-HpCDF	77.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.000137				13C-1,2,3,4,7,8,9-HpCDF	87.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	0.0000110			J	13C-OCDF	80.2	17 - 157	
OCDF	0.000331				CRS 37Cl-2,3,7,8-TCDD	83.7	35 - 197	

Totals				Footnotes				
Total TCDD	0.000184		0.000186					a. Sample specific estimated detection limit.
Total PeCDD	0.000250							b. Estimated maximum possible concentration.
Total HxCDD	0.000641							c. Method detection limit.
Total HpCDD	0.00133							d. Lower control limit - upper control limit.
Total TCDF	0.000488							
Total PeCDF	0.000486							
Total HxCDF	0.000308							
Total HpCDF	0.000321							

Analyst: JMH

Approved By: William J. Luksemburg 09-Oct-2007 13:15

Lead IX

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.										
Reporting Units: ug/l										
Antimony	J/DNQ	EPA 200.8-Diss	7I26138	0.40	4.0	0.93	2	09/26/07	09/28/07	RL1, Ja
Cadmium	U	EPA 200.8-Diss	7I26138	0.22	2.0	ND	2	09/26/07	09/28/07	RL1
Copper		EPA 200.8-Diss	7I26138	1.5	4.0	7.9	2	09/26/07	09/28/07	
Lead	J/DNQ	EPA 200.8-Diss	7I26138	0.20	2.0	1.9	2	09/26/07	09/29/07	RL1, Ja
Nickel		EPA 200.8-Diss	7I26138	1.8	4.0	5.3	2	09/26/07	09/28/07	
Selenium	J/DNQ	EPA 200.8-Diss	7I26138	0.60	4.0	0.76	2	09/26/07	09/28/07	RL1, Ja
Silver	U	EPA 200.8-Diss	7I26138	0.40	2.0	ND	2	09/26/07	09/28/07	RL1
Thallium	J/DNQ	EPA 200.8-Diss	7I26138	0.30	2.0	0.31	2	09/26/07	09/29/07	RL1, Ja

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 16 of 63>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8	7I25136	1.0	10	ND	5	09/25/07	09/26/07	RL1
Arsenic	EPA 200.7	7I25144	7.0	10	35	1	09/25/07	09/26/07	
Beryllium	EPA 200.7	7I25144	0.90	2.0	11	1	09/25/07	09/26/07	
Cadmium	EPA 200.8	7I25136	0.55	5.0	6.9	5	09/25/07	09/26/07	
Chromium	EPA 200.7	7I25144	2.0	5.0	100	1	09/25/07	09/26/07	
Cobalt	EPA 200.7	7I25144	2.0	10	91	1	09/25/07	09/26/07	
Copper	EPA 200.8	7I25136	3.8	10	100	5	09/25/07	09/26/07	
Lead	EPA 200.8	7I25136	0.50	5.0	310	5	09/25/07	09/26/07	
Manganese	EPA 200.7	7I25144	14	40	11000	2	09/25/07	09/26/07	
Nickel	EPA 200.7	7I25144	2.0	10	110	1	09/25/07	09/26/07	
Selenium	EPA 200.8	7I25136	1.5	10	3.9	5	09/25/07	09/26/07	RL1, Ja
Silver	EPA 200.8	7I25136	1.0	5.0	ND	5	09/25/07	09/26/07	RL1
Thallium	EPA 200.8	7I25136	0.75	5.0	1.9	5	09/25/07	09/26/07	RL1, Ja
Vanadium	EPA 200.7	7I25144	3.0	10	210	1	09/25/07	09/26/07	
Zinc	EPA 200.7	7I25144	12	40	790	2	09/25/07	10/01/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 14 of 63>

MWH-Pasadena/Boeing 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: IQI2057	Sampled: 09/22/07 Received: 09/22/07
---	--	---

Metals by EPA 200 Series Methods

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Mercury, Dissolved	EPA 245.1	W7I1160	0.025	0.10	0.029	1	09/27/07	09/27/07	J
Mercury, Total	EPA 245.1	W7I1160	0.025	0.10	0.042	1	09/27/07	09/27/07	J

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 22 of 63>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
 Received: 09/22/07

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Barium	EPA 200.7-Diss	7I24139	0.0060	0.010	0.044	1	09/24/07	09/27/07	
Beryllium U	EPA 200.7-Diss	7I24139	0.00090	0.0020	ND	1	09/24/07	09/27/07	
Boron	EPA 200.7-Diss	7I24139	0.020	0.050	0.083	1	09/24/07	09/27/07	
Calcium	EPA 200.7-Diss	7I24139	0.050	0.10	32	1	09/24/07	09/27/07	MHA
Chromium U	EPA 200.7-Diss	7I24139	0.0020	0.0050	ND	1	09/24/07	09/27/07	
Cobalt J/DNQ	EPA 200.7-Diss	7I24139	0.0020	0.010	0.0032	1	09/24/07	09/27/07	Ja
Iron	EPA 200.7-Diss	7I24139	0.015	0.040	0.62	1	09/24/07	09/27/07	M1
Magnesium	EPA 200.7-Diss	7I24139	0.012	0.020	7.6	1	09/24/07	09/27/07	
Manganese	EPA 200.7-Diss	7I24139	0.0070	0.020	0.26	1	09/24/07	09/27/07	
Hardness (as CaCO3)	SM2340B	7I24139	1.0	1.0	110	1	09/24/07	09/27/07	
Vanadium J/DNQ	EPA 200.7-Diss	7I24139	0.0030	0.010	0.0042	1	09/24/07	09/27/07	Ja
Zinc U	EPA 200.7-Diss	7I24139	0.0060	0.020	ND	1	09/24/07	09/27/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 15 of 63>

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Barium	EPA 200.7	7I25144	0.0060	0.010	2.3	1	09/25/07	09/26/07	
Boron	EPA 200.7	7I25144	0.020	0.050	0.22	1	09/25/07	09/26/07	
Calcium	EPA 200.7	7I25144	0.050	0.10	310	1	09/25/07	09/26/07	
Iron	EPA 200.7	7I25144	0.015	0.040	97	1	09/25/07	09/26/07	
Magnesium	EPA 200.7	7I25144	0.012	0.020	54	1	09/25/07	09/26/07	
Hardness (as CaCO3)	2340B/200.7	7I25144	1.0	1.0	990	1	09/25/07	09/26/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 13 of 63>

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
 Received: 09/22/07

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	7124073	0.42	0.94	ND	0.943	09/24/07	09/25/07	
Aroclor 1221	EPA 608	7124073	0.094	0.94	ND	0.943	09/24/07	09/25/07	
Aroclor 1232	EPA 608	7124073	0.24	0.94	ND	0.943	09/24/07	09/25/07	
Aroclor 1242	EPA 608	7124073	0.24	0.94	ND	0.943	09/24/07	09/25/07	
Aroclor 1248	EPA 608	7124073	0.24	0.94	ND	0.943	09/24/07	09/25/07	
Aroclor 1254	EPA 608	7124073	0.24	0.94	ND	0.943	09/24/07	09/25/07	
Aroclor 1260	EPA 608	7124073	0.28	0.94	ND	0.943	09/24/07	09/25/07	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					33 %				Z

WJ/S

Level IV

TestAmerica - Irvine, CA

Joseph Doak
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

Eberline Services

ANALYSIS RESULTS

SDG <u>8669</u>	Client <u>TA IRVINE</u>
Work Order <u>R709145-01</u>	Contract <u>PROJECT# IQI2057</u>
Received Date <u>09/25/07</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA
Client Sample ID <i>Outfall 002</i> IQI2057-01	8669-001	09/22/07	10/10/07	G.Beta-K40	426 ± 34	pCi/L	28	J/H R/D
				Gross Beta	426 ± 95	pCi/L	140	J/H
				GrossAlpha	701 ± 170	pCi/L	120	J/H,R
				Ra-228	3.01 ± 0.061	pCi/L	0.27	J/H
				K-40 (G)	268 ± 38	pCi/L	28	J/H,E
				Mn-54 (G)	U	pCi/L	2.1	UJ/H
				Co-58 (G)	U	pCi/L	2.4	↓
				Co-60 (G)	U	pCi/L	2.2	↓
				Cs-134 (G)	U	pCi/L	3.2	↓
				Cs-137 (G)	9.06 ± 2.3	pCi/L	2.5	J/H,E
				Eu-152 (G)	U	pCi/L	6.0	UJ/H
				Eu-154 (G)	U	pCi/L	6.7	↓
				Tl-208 (G)	16.4 ± 2.6	pCi/L	2.5	J/H,E
				Pb-210 (G)	U	pCi/L	600	UJ/H
				Bi-212 (G)	47.2 ± 30	pCi/L	34	J/H,E
				Pb-212 (G)	43.0 ± 3.5	pCi/L	3.3	J/H
				Bi-214 (G)	24.1 ± 4.5	pCi/L	4.8	J/H,E
				Pb-214 (G)	27.2 ± 5.9	pCi/L	5.5	J/H
				Ra-226 (G)	23.4 ± 4.4	pCi/L	4.7	J/H,E
				Ac-228 (G)	48.0 ± 11	pCi/L	14	J/H
				Th-228 (G)	U	pCi/L	14	UJ/H
				Th-230 (G)	U	pCi/L	640	↓
				Th-232 (G)	47.8 ± 11	pCi/L	9.7	J/H
				Th-234 (G)	U	pCi/L	2.0	UJ/H
				U-238 (G)	U	pCi/L	340	↓
				U-235 (G)	U	pCi/L	11	↓
				Am-241 (G)	U	pCi/L	18	↓
				U-234 (G)	U	pCi/L	550	↓
H-3	15.4 ± 110	pCi/L	190	U				
Ra-226	14.0 ± 1.3	pCi/L	0.60	J/H				
Sr-90	2.79 ± 0.44	pCi/L	0.46	↓				

LEVEL IV

Certified by <i>[Signature]</i>
Report Date <u>10/26/07</u>
Page 1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

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: IQI2057-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Acenaphthylene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Anthracene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Benzidine	EPA 625	7I24082	0.94	4.7	ND	0.943	09/24/07	09/27/07	
Benzo(a)anthracene	EPA 625	7I24082	0.094	4.7	ND	0.943	09/24/07	09/27/07	L6
Benzo(a)pyrene	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
Benzo(b)fluoranthene	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
Benzo(g,h,i)perylene	EPA 625	7I24082	0.094	4.7	ND	0.943	09/24/07	09/27/07	
Benzo(k)fluoranthene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Bis(2-chloroethoxy)methane	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Bis(2-chloroethyl)ether	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Bis(2-chloroisopropyl)ether	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Bis(2-ethylhexyl)phthalate	EPA 625	7I24082	1.6	4.7	1.9	0.943	09/24/07	09/27/07	Ja
4-Bromophenyl phenyl ether	EPA 625	7I24082	0.094	0.94	ND	0.943	09/24/07	09/27/07	Ja
Butyl benzyl phthalate	EPA 625	7I24082	0.66	4.7	1.0	0.943	09/24/07	09/27/07	Ja
4-Chloroaniline	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
2-Chloronaphthalene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
4-Chloro-3-methylphenol	EPA 625	7I24082	0.19	1.9	ND	0.943	09/24/07	09/27/07	
4-Chlorophenyl phenyl ether	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
2-Chlorophenol	EPA 625	7I24082	0.19	0.94	ND	0.943	09/24/07	09/27/07	
Chrysene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Dibenz(a,h)anthracene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Dibenzofuran	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Di-n-butyl phthalate	EPA 625	7I24082	0.19	1.9	ND	0.943	09/24/07	09/27/07	
3,3-Dichlorobenzidine	EPA 625	7I24082	0.38	4.7	ND	0.943	09/24/07	09/27/07	
2,4-Dichlorophenol	EPA 625	7I24082	0.19	1.9	ND	0.943	09/24/07	09/27/07	
Diethyl phthalate	EPA 625	7I24082	0.094	0.94	ND	0.943	09/24/07	09/27/07	
2,4-Dimethylphenol	EPA 625	7I24082	0.28	1.9	0.32	0.943	09/24/07	09/27/07	Ja
Dimethyl phthalate	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
4,6-Dinitro-2-methylphenol	EPA 625	7I24082	0.19	4.7	ND	0.943	09/24/07	09/27/07	
2,4-Dinitrophenol	EPA 625	7I24082	0.85	4.7	ND	0.943	09/24/07	09/27/07	
2,4-Dinitrotoluene	EPA 625	7I24082	0.19	4.7	ND	0.943	09/24/07	09/27/07	
2,6-Dinitrotoluene	EPA 625	7I24082	0.094	4.7	ND	0.943	09/24/07	09/27/07	
Di-n-octyl phthalate	EPA 625	7I24082	0.094	4.7	ND	0.943	09/24/07	09/27/07	
Fluoranthene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	L
Fluorene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Hexachlorobenzene	EPA 625	7I24082	0.094	0.94	ND	0.943	09/24/07	09/27/07	
Hexachlorocyclopentadiene	EPA 625	7I24082	0.094	4.7	ND	0.943	09/24/07	09/27/07	
Hexachloroethane	EPA 625	7I24082	0.19	2.8	ND	0.943	09/24/07	09/27/07	
Indeno(1,2,3-cd)pyrene	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
Isophorone	EPA 625	7I24082	0.094	0.94	ND	0.943	09/24/07	09/27/07	

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

Level IV

JAC
u. 06.07

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 9 of 63>

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
 Received: 09/22/07

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: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
4-Methylphenol	EPA 625	7I24082	0.19	4.7	18	0.943	09/24/07	09/27/07	
Nitrobenzene	EPA 625	7I24082	0.094	0.94	ND	0.943	09/24/07	09/27/07	
2-Nitrophenol	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
4-Nitrophenol	EPA 625	7I24082	2.4	4.7	ND	0.943	09/24/07	09/27/07	
N-Nitrosodimethylamine	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
N-Nitroso-di-n-propylamine	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
N-Nitrosodiphenylamine	EPA 625	7I24082	0.094	0.94	ND	0.943	09/24/07	09/27/07	
Pentachlorophenol	EPA 625	7I24082	0.094	1.9	ND	0.943	09/24/07	09/27/07	
Phenanthrene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
Phenol	EPA 625	7I24082	0.28	0.94	3.2	0.943	09/24/07	09/27/07	
Pyrene	EPA 625	7I24082	0.094	0.47	ND	0.943	09/24/07	09/27/07	
2,4,5-Trichlorophenol	EPA 625	7I24082	0.19	1.9	ND	0.943	09/24/07	09/27/07	
2,4,6-Trichlorophenol	EPA 625	7I24082	0.094	0.94	ND	0.943	09/24/07	09/27/07	
Surrogate: 2-Fluorophenol (30-120%)					73 %				
Surrogate: Phenol-d6 (35-120%)					82 %				
Surrogate: 2,4,6-Tribromophenol (40-120%)					79 %				
Surrogate: Nitrobenzene-d5 (40-120%)					86 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					64 %				
Surrogate: Terphenyl-d14 (45-120%)					91 %				

u
 ↓
 u
 ↓
 Level IV

TestAmerica - Irvine, CA

Joseph Doak
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 10 of 63>

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
EFH (C13 - C22)	EPA 8015B	7127058	0.098	0.49	0.20 65 %	0.98	09/27/07	09/27/07	Ja
Surrogate: n-Octacosane (40-125%)									

J / DNP

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

Level IX

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	7J01047	0.025	0.10	ND	1	10/01/07	10/01/07	u /
<i>Surrogate: 4-BFB (FID) (65-140%)</i>									
<i>102 %</i>									

TestAmerica - Irvine, CA
Joseph Doak
Project Manager



The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 4 of 63>

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
 Received: 09/22/07

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: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Benzene	EPA 624	7I24003	0.28	2.0	ND	1	09/24/07	09/24/07	P1
Bromodichloromethane	EPA 624	7I24003	0.30	2.0	ND	1	09/24/07	09/24/07	
Bromoform	EPA 624	7I24003	0.40	5.0	ND	1	09/24/07	09/24/07	
Bromomethane	EPA 624	7I24003	0.42	5.0	ND	1	09/24/07	09/24/07	
Trichlorotrifluoroethane (Freon 113)	EPA 624	7I24003	1.5	5.0	ND	1	09/24/07	09/24/07	
Carbon tetrachloride	EPA 624	7I24003	0.28	5.0	ND	1	09/24/07	09/24/07	
Chlorobenzene	EPA 624	7I24003	0.36	2.0	ND	1	09/24/07	09/24/07	
Chloroethane	EPA 624	7I24003	0.40	5.0	ND	1	09/24/07	09/24/07	M1
Chloroform	EPA 624	7I24003	0.33	2.0	ND	1	09/24/07	09/24/07	
Chloromethane	EPA 624	7I24003	0.40	5.0	ND	1	09/24/07	09/24/07	
Dibromochloromethane	EPA 624	7I24003	0.28	2.0	ND	1	09/24/07	09/24/07	
1,2-Dichlorobenzene	EPA 624	7I24003	0.32	2.0	ND	1	09/24/07	09/24/07	
1,3-Dichlorobenzene	EPA 624	7I24003	0.35	2.0	ND	1	09/24/07	09/24/07	
1,4-Dichlorobenzene	EPA 624	7I24003	0.37	2.0	ND	1	09/24/07	09/24/07	
1,1-Dichloroethane	EPA 624	7I24003	0.27	2.0	ND	1	09/24/07	09/24/07	
1,2-Dichloroethane	EPA 624	7I24003	0.28	2.0	ND	1	09/24/07	09/24/07	
1,1-Dichloroethene	EPA 624	7I24003	0.42	3.0	ND	1	09/24/07	09/24/07	
trans-1,2-Dichloroethene	EPA 624	7I24003	0.27	2.0	ND	1	09/24/07	09/24/07	
1,2-Dichloropropane	EPA 624	7I24003	0.35	2.0	ND	1	09/24/07	09/24/07	
cis-1,3-Dichloropropene	EPA 624	7I24003	0.22	2.0	ND	1	09/24/07	09/24/07	
trans-1,3-Dichloropropene	EPA 624	7I24003	0.32	2.0	ND	1	09/24/07	09/24/07	
Ethylbenzene	EPA 624	7I24003	0.25	2.0	ND	1	09/24/07	09/24/07	
Methylene chloride	EPA 624	7I24003	0.95	5.0	ND	1	09/24/07	09/24/07	
1,1,2,2-Tetrachloroethane	EPA 624	7I24003	0.24	2.0	ND	1	09/24/07	09/24/07	M1
Tetrachloroethene	EPA 624	7I24003	0.32	2.0	ND	1	09/24/07	09/24/07	
Toluene	EPA 624	7I24003	0.36	2.0	ND	1	09/24/07	09/24/07	
1,1,1-Trichloroethane	EPA 624	7I24003	0.30	2.0	ND	1	09/24/07	09/24/07	
1,1,2-Trichloroethane	EPA 624	7I24003	0.30	2.0	ND	1	09/24/07	09/24/07	
Trichloroethene	EPA 624	7I24003	0.26	5.0	ND	1	09/24/07	09/24/07	
Trichlorofluoromethane	EPA 624	7I24003	0.34	5.0	ND	1	09/24/07	09/24/07	M1
Vinyl chloride	EPA 624	7I24003	0.30	5.0	ND	1	09/24/07	09/24/07	L, M7
Xylenes, Total	EPA 624	7I24003	0.90	4.0	ND	1	09/24/07	09/24/07	
Surrogate: Dibromofluoromethane (80-120%)					103 %				
Surrogate: Toluene-d8 (80-120%)					104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					101 %				

u
 u-1/c
 ↓

Level IV

TestAmerica - Irvine, CA

Joseph Doak
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
 Received: 09/22/07

PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	7124003	4.0	50	ND	1	09/24/07	09/24/07	
Acrylonitrile	EPA 624	7124003	0.70	50	ND	1	09/24/07	09/24/07	
2-Chloroethyl vinyl ether	EPA 624	7124003	1.8	5.0	ND	1	09/24/07	09/24/07	
Surrogate: Dibromofluoromethane (80-120%)					103 %				
Surrogate: Toluene-d8 (80-120%)					104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					101 %				
Sample ID: IQI2057-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	7124003	4.0	50	ND	1	09/24/07	09/24/07	
Acrylonitrile	EPA 624	7124003	0.70	50	ND	1	09/24/07	09/24/07	
2-Chloroethyl vinyl ether	EPA 624	7124003	1.8	5.0	ND	1	09/24/07	09/24/07	
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					105 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					98 %				

Level IV

TestAmerica - Irvine, CA

Joseph Doak
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IQI2057-01 (Outfall 002 - Water)										
Reporting Units: ug/l										
Cyclohexane	UJ/*III	EPA 624 (MOD.)	7124003	N/A	2.5	ND	1	09/24/07	09/24/07	P1
freon 123a	UJ/*III	EPA 624 (MOD.)	7124003	N/A	2.5	ND	1	09/24/07	09/24/07	
Sample ID: IQI2057-02 (Trip Blank - Water)										
Reporting Units: ug/l										
Cyclohexane	UJ/*III	EPA 624 (MOD.)	7124003	N/A	2.5	ND	1	09/24/07	09/24/07	P1
freon 123a	UJ/*III	EPA 624 (MOD.)	7124003	N/A	2.5	ND	1	09/24/07	09/24/07	

Level IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 8 of 63>

NPDES-46

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

1,4-DIOXANE BY GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
1,4-Dioxane	u/B EPA 8260B	P7I2709	0.36	1.0	0.40 137 %	1	09/27/07	09/27/07	Ja Z2
Surrogate: Dibromofluoromethane (80-130%)									

Level IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 23 of 63>

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

14201 FRANKLIN AVENUE • JUSTIN, CALIFORNIA 92786-7008
 (714) 730-6239 • FAX (714) 730-6462 • www.truesdail.com

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

REPORT

Attention: Joseph Doak
Sample: Water / 1 Sample
Project Name: IQ12057
P.O. Number: IQ12057
Method Number: 8315 (Modified)
Investigation: Hydrazines

Laboratory No: 969803
Report Date: October 8, 2007
Sampling Date: September 22, 2007
Receiving Date: September 24, 2007
Extraction Date: September 24, 2007
Analysis Date: September 25, 2007
Units: µg/L
Reported By: JS

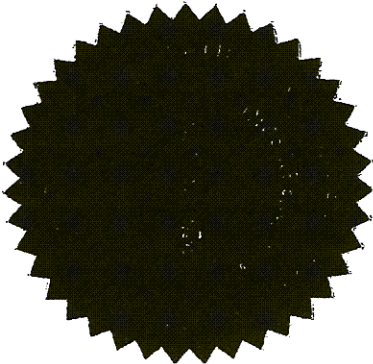
Analytical Results

Sample ID	Sample Description	Sample Amount (mL)	Dilution Factor	Monomethyl Hydrazine	u-Dimethyl Hydrazine	Hydrazine	Qualifier Codes
706928-MB	Method Blank	100	1	ND *	ND *	ND *	None
969803	IQ12057-01	100	1	ND R/Q	ND 05/Q	ND R/Q	None
MDL				0.56	0.32	0.15	
PQL				5.0	5.0	1.00	
Sample Reporting Limits				5.0	5.0	1.00	

LEVEL IV

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

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



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.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQ12057

Sampled: 09/22/07
Received: 09/22/07

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Fa	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQ12057-01 (Outfall 002 - Water)									
Reporting Units: mg/l									
Total Recoverable Hydrocarbons	U EPA 418.1	7124051	0.60	1.0	ND	1	09/24/07	09/24/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced except in full, without written permission from TestAmerica. IQ12057 <Page 2 of 65>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
 Received: 09/22/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	7I27098	0.30	0.50	5.9	1	09/27/07	09/27/07	
Biochemical Oxygen Demand	EPA 405.1	7I24075	0.59	2.0	20	1	09/24/07	09/29/07	
Chloride	EPA 300.0	7I24057	0.25	0.50	4.4	1	09/24/07	09/24/07	
Fluoride J/DNQ	EPA 300.0	7I24057	0.15	0.50	0.50	1	09/24/07	09/24/07	Ja
Nitrate-N	EPA 300.0	7I24057	0.060	0.11	3.8	1	09/24/07	09/24/07	M2
Nitrite-N J/Q	EPA 300.0	7I24057	0.090	0.15	0.22	1	09/24/07	09/24/07	
Nitrate/Nitrite-N	EPA 300.0	7I24057	0.15	0.26	4.0	1	09/24/07	09/24/07	
Oil & Grease J/DNQ	EPA 413.1	7I25056	1.2	5.0	1.5	1	09/25/07	09/25/07	Ja
Residual Chlorine J/H	EPA 330.5	7I24093	0.10	0.10	ND	1	09/24/07	09/24/07	HFT
Sulfate	EPA 300.0	7I24057	0.20	0.50	11	1	09/24/07	09/24/07	
Surfactants (MBAS)	SM5540-C	7I24074	0.044	0.10	0.13	1	09/24/07	09/24/07	
Total Dissolved Solids	SM2540C	7I27118	10	10	780	1	09/27/07	09/27/07	
Total Organic Carbon	EPA 415.1	7I29052	2.5	5.0	53	5	09/29/07	09/29/07	
Total Suspended Solids	EPA 160.2	7I25131	10	10	33000	1	09/25/07	09/25/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 17 of 63>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									A-01
Reporting Units: ml/l/hr									
Total Settleable Solids	R/*III EPA 160.5	7I22057	0.10	0.10	ND	1	09/22/07	09/22/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 18 of 63>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: NTU									
Turbidity	EPA 180.1	7I22051	40	1000	8400	1000	09/22/07	09/22/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 19 of 63>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	7I26122	2.2	5.0	10	1	09/26/07	09/26/07	
Perchlorate U	EPA 314.0	7I28071	3.0	8.0	ND	2	09/28/07	09/28/07	RL1

LEVEL 1U

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 20 of 63>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Project ID: Annual Outfall 002

Report Number: IQI2057

Sampled: 09/22/07
Received: 09/22/07

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQI2057-01 (Outfall 002 - Water) - cont.									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	7I27125	1.0	1.0	300	1	09/27/07	09/27/07	

LEVEL IV

TestAmerica - Irvine, CA

Joseph Doak
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQI2057 <Page 21 of 63>