

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2637, IPB2639, IPB2641, IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Hydrazines
QC Level: Level IV
No. of Samples: 4
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 8, 2006

The samples listed in Table 1 were validated based on the general guidelines outlined in the USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review (2/94)*, and USEPA SW-846 Method 8315. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Truesdail Laboratory ID	Del Mar Laboratory ID	Matrix	COC Method
Outfall 001	952266	IPB2637-01	Water	8315
Outfall 002	952267	IPB2639-01	Water	8315
Outfall 011	952268	IPB2641-01	Water	8315
Outfall 018	952265	IPB2643-01	Water	8315

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in these SDGs were received at Del Mar Analytical and the subcontract laboratory, Truesdail Laboratories, within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The analysis did not require preservation, and no preservation was noted in the field. The case narratives for these SDGs noted that the samples were received intact at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs from the field to Del Mar were signed and dated by field and laboratory personnel, and the transfer COCs from Del Mar to Truesdail Laboratories were signed and dated by personnel from both laboratories. The original COCs and transfer COCs requested only monomethyl hydrazine analysis; however, unsymmetrical dimethyl hydrazine and hydrazine were also reported and therefore, validated. Custody seals were not required as the samples were transported to Del Mar and then to Truesdail by courier. Truesdail Laboratories did not list the client IDs on the Form Is; therefore, the reviewer hand-corrected the Form Is to include this information. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. The samples were extraction within the three-day holding time and analyzed within three days of extraction. No qualifications were required.

2.2 CALIBRATION

The five-point initial calibrations were analyzed 03/03/06, with correlation coefficients of ≥ 0.995 for all three hydrazines. The ICV and CCV bracketing the sample analyses had hydrazine recoveries within the QC limits of 85-115%. No qualifications were required.

2.3 BLANKS

One method blank was analyzed with these SDGs. The results reported on the method blank summary form and in the raw data for the instrument and method blank analyses associated with the samples were nondetects at the reporting limit. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One laboratory control sample/laboratory control sample duplicate pair was analyzed with these SDGs. The hydrazine recoveries and RPDs were within the laboratory-established control limits. No qualifications were required.

2.5 SURROGATES RECOVERY

Surrogates were not utilized in this analysis. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MSD/MSD analyses were performed on Outfall 002. The hydrazines recoveries and RPDs were within the laboratory-established control limits. No qualifications were required.

2.7 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:

2.7.1 Field Blanks and Equipment Rinsates

The samples in these SDGs had no associated field QC. No qualifications were required.

2.7.2 Field Duplicates

There were no field duplicate samples in these SDGs.

2.8 COMPOUND IDENTIFICATION

The samples were analyzed by HPLC for monomethyl hydrazine, unsymmetrical dimethyl hydrazine, and hydrazine by Method 8315. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. As there were no sample detects, compound quantification was verified from the raw data by recalculating LCS/LCSD and MS/MSD detects. No calculation or transcription error were noted. The hydrazine reporting limits were supported by the lower levels of the initial calibration. No qualifications were required.



REPORT

Client: Del Mar Analytical
17461 Derian Ave., Suite 100
Irvine, CA 92614

Attention: Michele Chamberlin
Sample: Liquid / 1 Sample
Project Name: IPB2637
P.O. Number: IPB2637
Method Number: 8315 (Modified)
Investigation: Hydrazines in Liquid

Laboratory No: 952266
Report Date: March 20, 2006
Sampling Date: February 28, 2006
Receiving Date: March 1, 2006
Extraction Date: March 1, 2006
Analysis Date: March 3, 2006
Units: µg/L
Dilution Factor: 1
Reported By: JS

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine	
		Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine
705657-MB	Method Blank	ND	ND	ND	ND	ND	ND
952266	IPB2637-01 Outfall 001	ND	U	U	U	ND	U
MDL		1.2					
PQL		5.0		0.27		0.39	1.0

MDL: Method Detection Limit, ug/L
PQL: Practical Quantitation Limit, ug/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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

* Analysis not validated

Xuan Dang, Project Manager
Environmental Services

LEVEL IV

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 these laboratories.



Client: Del Mar Analytical
17461 Derian Ave., Suite 100
Irvine, CA 92614

Attention: Michele Chamberlin
Sample: Liquid / 1 Sample
Project Name: IPB2639
P.O. Number: IPB2639
Method Number: 8315 (Modified)
Investigation: Hydrazines in Liquid

REPORT

Laboratory No: 952267
Report Date: March 20, 2006
Sampling Date: February 28, 2006
Receiving Date: March 1, 2006
Extraction Date: March 1, 2006
Analysis Date: March 3, 2006
Units: µg/L
Dilution Factor: 1
Reported By: JS

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine
		Hydrazine	Hydrazine	Hydrazine	Hydrazine	
705657-MB	Method Blank	ND	ND	ND	ND	ND
952267	IPB2639-01 Outfall 002	ND	0	ND	ND	ND
MDL		1.2		0.27		0.39
PQL		5.0		5.0		1.0

MDL: Method Detection Limit, ug/L
PQL: Practical Quantitation Limit, ug/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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

Xuan Dang
Xuan Dang, Project Manager
Environmental Services

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Client: Del Mar Analytical
17461 Derlan Ave., Suite 100
Irvine, CA 92614

Attention: Michele Chamberlin

Sample: Liquid / 1 Sample

Project Name: IPB2641

P.O. Number: IPB2641

Method Number: 8315 (Modified)

Investigation: Hydrazines in Liquid

REPORT

Laboratory No: 952268

Report Date: March 20, 2006

Sampling Date: February 28, 2006

Receiving Date: March 1, 2006

Extraction Date: March 1, 2006

Analysis Date: March 3, 2006

Units: µg/L

Dilution Factor: 1

Reported By: JS

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine	
		Hydrazine	Qual Code	Hydrazine	Qual Code	Hydrazine	Qual Code
705657-MB	Method Blank	ND	X	ND	X	ND	X
952268	IPB2641-01 Outfall oil	ND	U	ND	U	ND	U
MDL		1.2		0.27		0.39	
PQL		5.0		5.0		1.0	

**Analysis not validated*

MDL: Method Detection Limit, µg/L
PQL: Practical Quantitation Limit, µg/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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

Xuan Dang, Project Manager
Environmental Services

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Client: Del Mar Analytical
17461 Dertian Ave., Suite 100
Irvine, CA 92614

Attention: Michele Chamberlin
Sample: Liquid / 1 Sample
Project Name: IPB2643
P.O. Number: IPB2643
Method Number: 8315 (Modified)
Investigation: Hydrazines in Liquid

REPORT

Laboratory No: 952265
Report Date: March 20, 2006
Sampling Date: February 28, 2006
Receiving Date: March 1, 2006
Extraction Date: March 1, 2006
Analysis Date: March 3, 2006
Units: µg/L
Dilution Factor: 1
Reported By: JS

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine	
		Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine
705657-MB	Method Blank	ND	ND	ND	ND	ND	ND
952265	out-fall air IPB2643-01	ND	ND	ND	ND	ND	ND
MDL		1.2	0.27	0.39			
PQL		5.0	5.0	1.0			

*Analysis Not Validated

MDL: Method Detection Limit, ug/L
PQL: Practical Quantitation Limit, ug/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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

X
Xuan Dang - Project Manager
Environmental Services

Level IV

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 these laboratories.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^X
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4MT47
 Task Order: 1261.001D.01
 SDG No.: IPB2641

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: Metals

Date: April 4, 2006
Reviewer's Signature <i>P. Meeks</i>

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.,	Qualification applied for a blank detects and detects below the reporting limit.
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	
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>	



DATA VALIDATION REPORT

NPDES Sampling
Outfall 011

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPB2641

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2641
Project Manager: P. Costa
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 6, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for ICP and ICP-MS Metals (DVP-5, Rev. 0)*, *EPA Methods 200.7, 200.8, and 245.1*, and validation guidelines outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPB2641-01	Water	200.7, 200.8, 245.1

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP and ICP-MS metals, and 28 days for mercury. No qualifications were required.

2.2 ICP-MS TUNING

The method-specified tune criteria were met and no qualifications were required.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP and ICP-MS metals and 85-115% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and the recoveries were considered to be acceptable.

The initial calibration measured mean intensities for selenium indicated that the instrument response for selenium was approximately the same in the 1 µg/L standard as in the blank. The 10 µg/L standard exhibited a reasonable response. Due to the poor response of the 1 µg/L standard, the reviewer raised the selenium MDL to 1 µg/L. No qualifications were required.

2.4 BLANKS

Selenium, antimony, and thallium were detected in a bracketing CCB at 1.2, 0.45, and 0.27 µg/L, respectively; therefore, antimony, selenium, and thallium detected in Outfall 011 were qualified as estimated nondetects, "UJ." No further qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were performed in association with the sample in this SDG for the ICP metals. Boron, and chromium were detected in the ICSA above the respective reporting limits. The reviewer checked the raw data for the sample and determined that the level of interferents in Outfall 011 were not of sufficient concentrations to qualify the sample results. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP and ICP-MS were within the laboratory-established control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.8 MATRIX SPIKES

No matrix spike analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

DATA VALIDATION REPORT

2.10 INTERNAL STANDARDS PERFORMANCE

For the target analytes analyzed by ICP-MS, the internal standards were within the method-specified control limits of 60-125%. No qualifications were required.

2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Analytes detected below the reporting limit were qualified as estimated, "J," and denoted with "DNQ," in accordance with the NPDES permit. No further qualifications were required.

2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



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 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0831
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Bocing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 011 Report Number: IPB2641	Sampled: 02/28/06 Received: 02/28/06
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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data	Qualifiers
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: ug/l										
Antimony	EPA 200.8	6C02098	0.18	2.0	1.1	1	03/02/06	03/02/06	U J J	B
Arsenic	EPA 200.7	6C03084	3.8	5.0	4.7	1	03/03/06	03/04/06	J J	DNG
Beryllium	EPA 200.7	6C03084	0.62	2.0	ND	1	03/03/06	03/04/06	J	
Cadmium	EPA 200.8	6C02098	0.015	1.0	0.15	1	03/02/06	03/02/06	J B, J	DNG
Chromium	EPA 200.7	6C03084	0.68	5.0	5.9	1	03/03/06	03/04/06	B	
Cobalt	EPA 200.7	6C03084	2.0	10	ND	1	03/03/06	03/04/06	J	
Copper	EPA 200.8	6C02098	0.49	2.0	7.5	1	03/02/06	03/02/06		
Lead	EPA 200.8	6C02098	0.13	1.0	6.5	1	03/02/06	03/02/06		
Manganese	EPA 200.7	6C03084	3.2	20	120	1	03/03/06	03/04/06		
Mercury	EPA 245.1	6C02097	0.063	0.20	ND	1	03/02/06	03/02/06	J	
Nickel	EPA 200.7	6C03084	2.0	10	5.0	1	03/03/06	03/04/06	J J	DNG
Selenium	EPA 200.8	6C02098	0.36	1.0	1.2	1	03/02/06	03/02/06	U J B, J	B, J
Silver	EPA 200.8	6C02098	0.089	1.0	ND	1	03/02/06	03/02/06	J	
Thallium	EPA 200.8	6C02098	0.075	1.0	0.18	1	03/02/06	03/02/06	U J J	B
Vanadium	EPA 200.7	6C03084	3.0	10	10	1	03/03/06	03/04/06		
Zinc	EPA 200.7	6C03084	3.7	20	47	1	03/03/06	03/04/06		

pm 4/6/06

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2641 <Page 15 of 58>



Del Mar Analytical

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 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 3520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 011 Report Number: IPB2641	Sampled: 02/28/06 Received: 02/28/06
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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont. Reporting Units: mg/l									
Barium	EPA 200.7	6C03084	0.0028	0.010	0.047	1	03/03/06	03/04/06	Res Qual
Boron	EPA 200.7	6C03084	0.0080	0.050	0.073	1	03/03/06	03/07/06	Qual Code
Iron	EPA 200.7	6C03084	0.0088	0.040	5.0	1	03/03/06	03/04/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4PP11
 Task Order: 1261.001D.01
 SDG No.: IPB2641

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: Pesticide/PCBs

Date: April 6, 2006
 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 applied for initial calibration %RSD and continuing calibration %Ds.
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	
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

NPDES Monitoring Program
Annual Outfall 011

ANALYSIS: PESTICIDES / PCBs

SAMPLE DELIVERY GROUP: IPB2641

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2641
Project Manager: P. Costa
Matrix: Water
Analysis: Pesticides
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 7, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Organochlorine Pesticides and PCBs (DVP-4, Rev. 0), EPA Method 608, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPB2641-01	Water	608

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$, at 5°C . According to the case narrative for this SDG, the sample was received intact and on ice. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the sample was couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The water sample was extracted within seven days of sample collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 PESTICIDES INSTRUMENT PERFORMANCE

No resolution check standards or breakdown check standards are required by Method 608 for pesticides, and according to the raw data provided, a resolution check standard was not analyzed by the laboratory. The laboratory did analyze a breakdown check standard with the breakdown for individual components (4,4-DDT and endrin) $\leq 20\%$ and $\leq 30\%$ for the total, as suggested in the National Functional Guidelines. A review of the raw data indicated that the analytical run time was of sufficient length to provide adequate standard separation. The two analytical columns used in the analyses were within the guidelines specified in the methods.

According to the laboratory SOP and the initial calibration raw data, the retention time windows are ± 0.10 minutes for both surrogates and target compound calibration standards. A review of the raw data indicated that the laboratory retention time criteria were met for the surrogates and pesticide calibration standards. No qualifications were required.

2.3 CALIBRATION

2.3.1 Analytical Sequence

Based on the data provided, the analytical sequences were in accordance with the requirements of Method 608. No qualifications were required.

2.3.2 Initial Calibration

There was one initial calibration dated 03/02/06 associated with the Aroclor analysis of the site sample and one dated 03/06/06 associated with the pesticide analysis. The initial calibrations consisted of six point calibrations for Aroclors 1016 and 1260 and all pesticide target compounds on two analytical columns. The average %RSDs of the individual Aroclor peaks were within the EPA Method 608 QC limit of $\leq 10\%$ on the primary analytical column (Channel A) or the r^2 values were ≥ 0.995 , except for the average %RSD for Aroclor 1260. The nondetects for Aroclors 1248, 1254, and 1260 in Outfall 011 were qualified as estimated, "UJ." The %RSDs for all pesticide target compounds were $\leq 10\%$ on the primary column or r^2 values ≥ 0.995 , with the exception of the %RSD for heptachlor. The nondetect for heptachlor was qualified as estimated, "UJ," in Outfall 011.

The pesticide and average Aroclor %RSDs were $\leq 10\%$ or r^2 values ≥ 0.995 on the secondary column (Channel B).

An ICV was analyzed immediately following each initial calibration, and the %Ds for all pesticide target compounds and Aroclors 1016 and 1260 were within the QC limit of $\leq 15\%$ on the primary column. No further qualifications were required.

2.3.3 Continuing Calibration

The pesticide and Aroclor analyses of Outfall 011 were each bracketed by two continuing calibrations. The %Ds for all pesticide target compounds and Aroclors 1016 and 1260 were within the Method QC limit of $\leq 15\%$ for all calibrations on the primary column, with the exception of 4,4-DDT and methoxychlor on the primary column in the ending pesticide CCV. As the responses were low, the nondetects for 4,4-DDT and methoxychlor in Outfall 0131 were qualified as estimated, "UJ." No further qualifications were required.

2.4 BLANKS

2.4.1 Instrument Blanks

An instrument blank was analyzed at the beginning of the analytical sequence. Cross-contamination was not evident in the instrument blank or the sample. No qualifications were necessary.

2.4.2 Method Blanks

One water method blank (6C05031-BLK1) was extracted and analyzed with this SDG. No pesticide target compounds or Aroclors were detected in the method blank. Review of the chromatograms from both channels showed no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6C05031-BS1/BSD1 for pesticides and Aroclors) was analyzed with this SDG. The recoveries for all pesticide compounds and Aroclors 1016 and 1260 were within the laboratory-established QC limits, and all RPDs were within the QC limit of $\leq 30\%$. A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory-established QC limits for the sample in this SDG. The recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision were based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 SAMPLE CLEANUP PERFORMANCE

According to the laboratory extraction benchsheets, no cleanups were performed on the water sample. No qualifications were required.

2.9 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 sample. Following are findings associated with field QC samples:

2.9.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.9.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for pesticide target compounds and seven Aroclors by EPA Method 608. Compound identification is verified at a Level IV validation. The laboratory provided an overlay of the pesticide sample chromatogram and the pesticide standard for identification purposes. Review of chromatograms and retention times indicated no problems with compound identification for the sample in this SDG. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0831
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 796-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 011 Report Number: IPB2641	Sampled: 02/28/06 Received: 02/28/06
--	--	---

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data	Qualifiers
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: ng/l										
Aroclor 1016	EPA 608	6C05031	0.20	0.98	ND	0.98	03/05/06	03/06/06		Low Qual
Aroclor 1221	EPA 608	6C05031	0.098	0.98	ND	0.98	03/05/06	03/06/06		Low Qual
Aroclor 1232	EPA 608	6C05031	0.25	0.98	ND	0.98	03/05/06	03/06/06		Low Qual
Aroclor 1242	EPA 608	6C05031	0.25	0.98	ND	0.98	03/05/06	03/06/06		Low Qual
Aroclor 1248	EPA 608	6C05031	0.25	0.98	ND	0.98	03/05/06	03/06/06		Low Qual
Aroclor 1254	EPA 608	6C05031	0.25	0.98	ND	0.98	03/05/06	03/06/06		Low Qual
Aroclor 1260	EPA 608	6C05031	0.39	0.98	ND	0.98	03/05/06	03/06/06		Low Qual
Surrogate: Decachlorobiphenyl (45-120%)					103 %					

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2641 <Page 13 of 58>



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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 011 Report Number: IPB2641	Sampled: 02/28/06 Received: 02/28/06
--	--	---

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Reporting		Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data	
			Limit	Limit					Raw	Qual
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: ug/l										
Aldrin	EPA 608	6C05031	0.029	0.098	ND	0.98	03/05/06	03/06/06	U	
alpha-BHC	EPA 608	6C05031	0.00048	0.0098	ND	0.98	03/05/06	03/06/06		
beta-BHC	EPA 608	6C05031	0.015	0.098	ND	0.98	03/05/06	03/06/06		
delta-BHC	EPA 608	6C05031	0.020	0.20	ND	0.98	03/05/06	03/06/06		
gamma-BHC (Lindane)	EPA 608	6C05031	0.020	0.098	ND	0.98	03/05/06	03/06/06		
Chlordane	EPA 608	6C05031	0.20	0.98	ND	0.98	03/05/06	03/06/06		
4,4'-DDD	EPA 608	6C05031	0.020	0.098	ND	0.98	03/05/06	03/06/06		
4,4'-DDE	EPA 608	6C05031	0.025	0.098	ND	0.98	03/05/06	03/06/06		
4,4'-DDT	EPA 608	6C05031	0.034	0.098	ND	0.98	03/05/06	03/06/06	U	C
Dieldrin	EPA 608	6C05031	0.015	0.098	ND	0.98	03/05/06	03/06/06	U	
Endosulfan I	EPA 608	6C05031	0.015	0.098	ND	0.98	03/05/06	03/06/06		
Endosulfan II	EPA 608	6C05031	0.039	0.098	ND	0.98	03/05/06	03/06/06		
Endosulfan sulfate	EPA 608	6C05031	0.020	0.20	ND	0.98	03/05/06	03/06/06		
Endrin	EPA 608	6C05031	0.020	0.098	ND	0.98	03/05/06	03/06/06		
Endrin aldehyde	EPA 608	6C05031	0.044	0.098	ND	0.98	03/05/06	03/06/06		
Endrin ketone	EPA 608	6C05031	0.020	0.098	ND	0.98	03/05/06	03/06/06		
Heptachlor	EPA 608	6C05031	0.029	0.098	ND	0.98	03/05/06	03/06/06		
Heptachlor epoxide	EPA 608	6C05031	0.029	0.098	ND	0.98	03/05/06	03/06/06		
Methoxychlor	EPA 608	6C05031	0.034	0.098	ND	0.98	03/05/06	03/06/06		
Toxaphene	EPA 608	6C05031	1.5	4.9	ND	0.98	03/05/06	03/06/06		
Surrogate: Decachlorobiphenyl (45-120%)					65 %					
Surrogate: Tetrachloro-m-xylene (35-120%)					61 %					

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2641 <Page 12 of 58>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4RA3
 Task Order: 1261.001D.05
 SDG No.: Multiple

No. of Analyses: 8

Laboratory: Ebeline
 Reviewer: P. Meeks
 Analysis/Method: Radionuclides

Date: April 1, 2006
 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 were applied for exceeded holding times and low detector efficiencies.
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	
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

NPDES Sampling
Multiple Outfalls

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS: IPB2637, IPB2639, IPB2641,
IPB2643, IPB2645, IPB2647, IPB2648, IPB2650

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2637, IPB2639, IPB2641, IPB2643, IPB2645,
IPB2647, IPB2648, IPB2650
Project Manager: P. Costa
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 1, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 001	IPB2637-01	8660-001	water	900.0
Outfall 002	IPB2639-01	8661-001	water	900.0
Outfall 011	IPB2641-01	8662-001	water	900.0
Outfall 018	IPB2643-01	8663-001	water	900.0
Outfall 005	IPB2645-01	8664-001	water	900.0
Outfall 007	IPB2647-01	8665-001	water	900.0
Outfall 008	IPB2648-01	8666-001	water	900.0
Outfall 010	IPB2650-01	8667-001	water	900.0

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4 \pm 2^\circ\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition.

According to the Los Angeles Regional Water Quality Control Board's (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved and filtered aliquots should be preserved after filtration. The samples in these SDGs were not preserved or filtered. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel and the transfer COCs were signed by personnel from both laboratories. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. The original COCs requested strontium and tritium analyses; however, in accordance with the NPDES permit, these analyses per not performed as the gross alpha and gross beta results did not exceed the permit requirements. No qualifications were required.

2.1.3 Holding Times

All samples were analyzed beyond the five day holding time for unpreserved samples; therefore, all results were qualified as estimated, "J," for detects and, "UJ," for nondetects. No further qualifications were required.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability. All gross alpha detector efficiencies were less than 20%; therefore, all gross alpha results were qualified as estimated, "J," for detects and, "UJ," for nondetects. No further qualifications were required.

2.3 BLANKS

No measurable activities were detected in the method blanks, therefore, no qualifications were necessary.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Aqueous blank spikes were analyzed in association with the samples in these SDGs. The blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analyses on Outfall 001. Both results were within the 3-sigma limit limits. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed MS/MSD analyses on Outfall 001. Both recoveries were within the 3-sigma limits and no qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these SDGs. 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. No qualifications were necessary.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.8.1 Field Blanks and Equipment Rinsates

The samples in these SDGs had no associated field QC samples. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8550</u>	Client <u>DEL MAR ANAD</u>
Work Order <u>8603014-01</u>	Contract <u>PROJECTS IPB2637</u>
Received Date <u>01/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Merclide	Results ± St	Units	MDA	Rev Qual	Qual Code
Outfall 001 IPB2637-01		8550-001	02/26/06	03/06/06	Gross Alpha	2.64 ± 1.7	pCi/L	1.95	J	R, H
				03/06/06	Gross Beta	7.69 ± 1.6	pCi/L	2.05	J	↓

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>01/13/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SOG <u>8661</u> Work Order <u>8603017-01</u> Received Date <u>03/02/06</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# IPB2619</u> Matrix <u>WATER</u>
--	---

Client	Lab							
Sample ID	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	
<i>Outfall 002</i> IPB2639-01	8661-001	02/28/06	03/06/06	Gross Alpha	2.88 ± 1.6	pCi/L	1.93	
			03/06/06	Gross Beta	4.60 ± 1.4	pCi/L	1.85	

Rev Goal	Qual Code
4	R, H ↓

LEVEL IV

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Eberline Services

ANALYSIS RESULTS

SDG <u>8662</u>	Client <u>DEL MAR ANAL.</u>
Work Order <u>R403018-01</u>	Contract <u>PROJECT# IPB2641</u>
Received Date <u>01/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Slide	Results - 2σ	Units	MDA
Sample ID <u>Outfall 011</u> IPB2641-01		8662-001	02/28/06	03/06/06	Gross Alpha	5.24 ± 2.0	pCi/L	1.86
				03/06/06	Gross Beta	7.59 ± 1.7	pCi/L	2.18

Rel Qual	Qual Code
J ↓	R, H ↓

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/13/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8663</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603019-01</u>	Contract <u>PROJECT# IPB2643</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MCA	Rev Qual	Qual Code
Sample ID <u>Outfall 01B</u> IPB2643-01	Sample ID <u>8663-001</u>	<u>02/28/06</u>	<u>03/06/06</u>	Gross Alpha	<u>1.58 ± 1.1</u>	pCi/L	<u>1.40</u>	<u>J</u> <u>↓</u>	<u>R, H</u> <u>↓</u>
			<u>03/06/06</u>	Gross Beta	<u>5.59 ± 1.4</u>	pCi/L	<u>1.81</u>		

LEVEL IV

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Report Date <u>03/13/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

RDG <u>8664</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>8603920-01</u>	Contract <u>PROJECT# IPB2645</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclids	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
		<u>Outfall 005</u>								
IPB2645-01	8664-001		02/28/06	03/06/06	Gross Alpha	1.30 ± 1.0	pCi/L	1.45	UI	R, H
				03/06/06	Gross Beta	6.96 ± 1.4	pCi/L	1.98	J	↓

LEVEL IV

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Report Date <u>03/12/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SOS #465	Client <u>DEL MAR ANAL</u>
Work Order <u>RS03021-01</u>	Contract <u>PROJECT# IPB2647</u>
Received Date <u>03/03/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
outfall 007		8665-001	02/28/06	03/06/06	Gross Alpha	2.56 ± 1.2	pCi/L	1.09	J	R, H
IPB2647-01				03/06/06	Gross Beta	5.35 ± 1.8	pCi/L	2.56	↓	↓

LEVEL IV

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Report Date <u>03/13/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

EDG <u>8666</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>8603022-01</u>	Contract <u>PROJECT# IPB2648</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab								Rev	Qual	Qual
Sample ID	Sample ID	Collected	Analyzed	Nuclide	Results \pm 2 σ	Units	MDA		Qual	Code	
<i>Outfall 008</i> IPB2648-01	8666-001	02/28/06	03/08/06	Gross Alpha	1.63 \pm 1.6	pCi/L	2.02		UI	R, H	
			03/06/06	Gross Beta	23.7 \pm 2.2	pCi/L	1.92		J	\downarrow	

LEVEL IV

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Report Date 03/13/06
Page 1

Eberline Services

ANALYSIS RESULTS

SNS <u>8667</u>	Client <u>DEL NPS ANAL</u>
Work Order <u>2601923-01</u>	Contract <u>PROJECT# IPR2650</u>
Received Date <u>03/03/06</u>	Matrix <u>WATER</u>

Client	Lab	Collected	Analyzed	Nutrient	Results ± SD	Units	MDA	Raw Qual	Qual Code
Outfall 010 IPR2650-01	8667-001	02/28/06	03/06/06	Gross Alpha	3.532 ± 0.90	pCi/L	1.55	UJ	R, H
			03/06/06	Gross Beta	4.02 ± 1.3	pCi/L	1.93	J	↓

LEVEL IV

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Report Date <u>03/23/06</u>
Page 1

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4SV26
 Task Order: 1261.001D.01
 SDG No.: IPB2641

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: L. Calvin
 Analysis/Method: Semivolatiles by Method 625

Date: April 8, 2006
 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: -BS/BSD recoveries below QC limits or no recovery -detects reported between the MDL and reporting limit
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

NPDES Monitoring Program
Annual Outfall 011

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP IPB2641

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2641
Project Manager: P. Costa
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: April 8, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Levels C and D Semivolatile Organics (DVP-3, Rev. 0), EPA Method 625, and the National Functional Guidelines For Organic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPB2641-01	Water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C at 5°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analysis presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The water sample was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 GC/MS TUNING

The DFTPP tunes analyzed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 625. No qualifications were required.

2.3 CALIBRATION

Two initial calibrations were associated with the sample, analyzed 01/18/06 and 02/27/06. The calibration analyzed 02/27/06 was associated with a reanalysis of the sample for benzidine only. The %RSDs for all target compounds were ≤35% or r^2 values ≥0.995 in the respective initial calibrations. The continuing calibrations associated with the sample analyses were analyzed 03/09/06. The %Ds for all target compounds were ≤20% in the respective continuing calibrations. No qualifications were required.

DATA VALIDATION REPORT

2.4 BLANKS

One method blank (6C06060-BLK1) was extracted and analyzed with this SDG. Target compounds were not detected above the MDLs in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6C06060-BS1/BSD1) was extracted and analyzed with this SDG. Benzidine and benzoic acid were not recovered in the BS or BSD, and dimethylphthalate was recovered below the QC limits but $\geq 10\%$ in both the BS and BSD. Nondetect results for benzidine and benzoic acid were rejected, "R," and the nondetect result for dimethylphthalate was qualified as estimated, "UJ," in sample Outfall 011. All remaining recoveries and all RPDs were within the laboratory-established QC limits. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries for the sample were within the laboratory QC limits. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 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:

2.8.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

Project: NPDES
SDG: IPB2641
Analysis: NDMA

DATA VALIDATION REPORT

2.8.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times for the sample were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for semivolatile target compounds by EPA Method 625. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Results were reported in $\mu\text{g/L}$ (ppb). Any results reported between the reporting limit and the MDL were qualified as estimated, "J," and annotated with the "DNQ" qualifier code. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Brouwynn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2641-01 (Outfall 011 - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	6C06060	0.095	0.48	ND	0.952	03/06/06	03/09/06	u
Acenaphthylene	EPA 625	6C06060	0.095	0.48	ND	0.952	03/06/06	03/09/06	u
Aniline	EPA 625	6C06060	2.8	9.5	ND	0.952	03/06/06	03/09/06	u
Anthracene	EPA 625	6C06060	0.079	0.48	ND	0.952	03/06/06	03/09/06	u
Benzidine	EPA 625	6C06060	3.0	4.8	ND	0.952	03/06/06	03/10/06	L2
Benzoic acid	EPA 625	6C06060	3.5	19	ND	0.952	03/06/06	03/09/06	L2
Benzo(a)anthracene	EPA 625	6C06060	0.036	4.8	ND	0.952	03/06/06	03/09/06	u
Benzo(a)pyrene	EPA 625	6C06060	0.13	1.9	ND	0.952	03/06/06	03/09/06	u
Benzo(b)fluoranthene	EPA 625	6C06060	0.048	1.9	ND	0.952	03/06/06	03/09/06	u
Benzo(g,h,i)perylene	EPA 625	6C06060	0.056	4.8	ND	0.952	03/06/06	03/09/06	u
Benzo(k)fluoranthene	EPA 625	6C06060	0.050	0.48	ND	0.952	03/06/06	03/09/06	u
Benzyl alcohol	EPA 625	6C06060	0.20	4.8	ND	0.952	03/06/06	03/09/06	u
Bis(2-chloroethoxy)methane	EPA 625	6C06060	0.069	0.48	ND	0.952	03/06/06	03/09/06	u
Bis(2-chloroethyl)ether	EPA 625	6C06060	0.080	0.48	ND	0.952	03/06/06	03/09/06	u
Bis(2-chloroisopropyl)ether	EPA 625	6C06060	0.10	0.48	ND	0.952	03/06/06	03/09/06	u
Bis(2-ethylhexyl)phthalate	EPA 625	6C06060	1.0	4.8	ND	0.952	03/06/06	03/09/06	u
4-Bromophenyl phenyl ether	EPA 625	6C06060	0.11	0.95	ND	0.952	03/06/06	03/09/06	u
Butyl benzyl phthalate	EPA 625	6C06060	0.32	4.8	0.32	0.952	03/06/06	03/09/06	u, DNQ
4-Chloroaniline	EPA 625	6C06060	0.19	1.9	ND	0.952	03/06/06	03/09/06	u
2-Chloronaphthalene	EPA 625	6C06060	0.056	0.48	ND	0.952	03/06/06	03/09/06	u
4-Chloro-3-methylphenol	EPA 625	6C06060	0.32	1.9	ND	0.952	03/06/06	03/09/06	u
4-Chlorophenyl phenyl ether	EPA 625	6C06060	0.053	0.48	ND	0.952	03/06/06	03/09/06	u
2-Chlorophenol	EPA 625	6C06060	0.11	0.95	ND	0.952	03/06/06	03/09/06	u
Chrysene	EPA 625	6C06060	0.069	0.48	ND	0.952	03/06/06	03/09/06	u
Dibenz(a,h)anthracene	EPA 625	6C06060	0.079	0.48	ND	0.952	03/06/06	03/09/06	u
Dibenzofuran	EPA 625	6C06060	0.071	0.48	ND	0.952	03/06/06	03/09/06	u
Di-n-butyl phthalate	EPA 625	6C06060	0.25	1.9	ND	0.952	03/06/06	03/09/06	u
1,2-Dichlorobenzene	EPA 625	6C06060	0.10	0.48	ND	0.952	03/06/06	03/09/06	u
1,3-Dichlorobenzene	EPA 625	6C06060	0.12	0.48	ND	0.952	03/06/06	03/09/06	u
1,4-Dichlorobenzene	EPA 625	6C06060	0.048	0.48	ND	0.952	03/06/06	03/09/06	u
3,3-Dichlorobenzidine	EPA 625	6C06060	0.89	4.8	ND	0.952	03/06/06	03/09/06	u
2,4-Dichlorophenol	EPA 625	6C06060	0.20	1.9	ND	0.952	03/06/06	03/09/06	u
Diethyl phthalate	EPA 625	6C06060	0.11	0.95	ND	0.952	03/06/06	03/09/06	u
2,4-Dimethylphenol	EPA 625	6C06060	0.30	1.9	ND	0.952	03/06/06	03/09/06	u
Dimethyl phthalate	EPA 625	6C06060	0.077	0.48	ND	0.952	03/06/06	03/09/06	L2
4,6-Dinitro-2-methylphenol	EPA 625	6C06060	0.36	4.8	ND	0.952	03/06/06	03/09/06	u
2,4-Dinitrophenol	EPA 625	6C06060	2.6	4.8	ND	0.952	03/06/06	03/09/06	u
2,4-Dinitrotoluene	EPA 625	6C06060	0.22	4.8	ND	0.952	03/06/06	03/09/06	u
2,6-Dinitrotoluene	EPA 625	6C06060	0.23	4.8	ND	0.952	03/06/06	03/09/06	u
Di-n-octyl phthalate	EPA 625	6C06060	0.16	4.8	ND	0.952	03/06/06	03/09/06	u
1,2-Diphenylhydrazine/Azobenzene	EPA 625	6C06060	0.083	0.95	ND	0.952	03/06/06	03/09/06	u

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 Michele Chamberlin
 Project Manager

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IPB2641 <Page 10 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2641-01 (Outfall 011 - Water) - cont.									
Reporting Units: ug/l									
Fluoranthene	EPA 625	6C06060	0.085	0.48	ND	0.952	03/06/06	03/09/06	<i>Handwritten notes:</i> ↓ J DNG ↓ J ↓
Fluorene	EPA 625	6C06060	0.071	0.48	ND	0.952	03/06/06	03/09/06	
Hexachlorobenzene	EPA 625	6C06060	0.12	0.95	ND	0.952	03/06/06	03/09/06	
Hexachlorobutadiene	EPA 625	6C06060	0.36	1.9	ND	0.952	03/06/06	03/09/06	
Hexachlorocyclopentadiene	EPA 625	6C06060	1.7	4.8	ND	0.952	03/06/06	03/09/06	
Hexachloroethane	EPA 625	6C06060	0.49	2.9	ND	0.952	03/06/06	03/09/06	
Indeno(1,2,3-cd)pyrene	EPA 625	6C06060	0.18	1.9	ND	0.952	03/06/06	03/09/06	
Isophorone	EPA 625	6C06060	0.056	0.95	0.095	0.952	03/06/06	03/09/06	
2-Methylnaphthalene	EPA 625	6C06060	0.12	0.95	ND	0.952	03/06/06	03/09/06	
2-Methylphenol	EPA 625	6C06060	0.27	1.9	ND	0.952	03/06/06	03/09/06	
4-Methylphenol	EPA 625	6C06060	0.19	4.8	ND	0.952	03/06/06	03/09/06	
Naphthalene	EPA 625	6C06060	0.12	0.95	ND	0.952	03/06/06	03/09/06	
2-Nitroaniline	EPA 625	6C06060	0.17	4.8	ND	0.952	03/06/06	03/09/06	
3-Nitroaniline	EPA 625	6C06060	0.33	4.8	ND	0.952	03/06/06	03/09/06	
4-Nitroaniline	EPA 625	6C06060	0.47	4.8	ND	0.952	03/06/06	03/09/06	
Nitrobenzene	EPA 625	6C06060	0.095	0.95	ND	0.952	03/06/06	03/09/06	
2-Nitrophenol	EPA 625	6C06060	0.22	1.9	ND	0.952	03/06/06	03/09/06	
4-Nitrophenol	EPA 625	6C06060	0.70	4.8	ND	0.952	03/06/06	03/09/06	
N-Nitrosodimethylamine	EPA 625	6C06060	0.21	1.9	ND	0.952	03/06/06	03/09/06	
N-Nitroso-di-n-propylamine	EPA 625	6C06060	0.17	1.9	ND	0.952	03/06/06	03/09/06	
N-Nitrosodiphenylamine	EPA 625	6C06060	0.073	0.95	ND	0.952	03/06/06	03/09/06	
Pentachlorophenol	EPA 625	6C06060	0.74	1.9	ND	0.952	03/06/06	03/09/06	
Phenanthrene	EPA 625	6C06060	0.068	0.48	ND	0.952	03/06/06	03/09/06	
Phenol	EPA 625	6C06060	0.13	0.95	ND	0.952	03/06/06	03/09/06	
Pyrene	EPA 625	6C06060	0.056	0.48	ND	0.952	03/06/06	03/09/06	
1,2,4-Trichlorobenzene	EPA 625	6C06060	0.095	0.95	ND	0.952	03/06/06	03/09/06	
2,4,5-Trichlorophenol	EPA 625	6C06060	0.071	1.9	ND	0.952	03/06/06	03/09/06	
2,4,6-Trichlorophenol	EPA 625	6C06060	0.095	0.95	ND	0.952	03/06/06	03/09/06	
Surrogate: 2-Fluorophenol (35-120%)					61 %				
Surrogate: Phenol-d6 (45-120%)					70 %				
Surrogate: 2,4,6-Tribromophenol (50-125%)					73 %				
Surrogate: Nitrobenzene-d5 (45-120%)					80 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					67 %				
Surrogate: Terphenyl-d14 (45-133%)					74 %				

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

Handwritten: Level IV

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IPB2641 <Page 11 of 58>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4TF5
 Task Order: 1261.001D.01
 SDG No.: IPB2641

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: EFH/GRO

Date: April 7, 2006
 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 GC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications applied for detect below the reporting limit.
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

NPDES Monitoring Program
Annual Outfall 011

ANALYSIS: TOTAL FUEL HYDROCARBONS

SAMPLE DELIVERY GROUP IPB2641

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2641
Project Manager: P. Costa
Matrix: Water
Analysis: TFH/EFH
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 8, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Levels C and D Total Fuel Hydrocarbons (DVP-8, Rev. 0), EPA Method 8015B, and the National Functional Guidelines For Organic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPB2641-01	Water	8015B & 8015M

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C at 5°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analyses presented in this SDG. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The water sample was analyzed within 14 days of collection for the gasoline range organics analysis (GRO). The sample for extractable fuel hydrocarbons (EFH) was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 CALIBRATION

Three initial calibrations, two for EFH analyzed 02/22/06 and 02/23/06, and one for GRO analyzed 01/28/06, were associated with the samples in this SDG. The %RSDs for target compounds GRO (C4-C12) and EFH (C13-C22) were ≤20%. An initial calibration verification (ICV) was analyzed following each initial calibration, with %Ds for the target compounds within the QC limit of ≤15%. The continuing calibrations bracketing the sample analyses had %Ds of ≤15% for both GRO and EFH analyses. No qualifications were required.

2.3 BLANKS

Two method blanks, one GRO (606046-BLK1) and one EFH (607098-BLK1) were associated with this SDG. Target compounds GRO (C4-C12) and EFH (C13-C22) were not detected above the MDLs in the respective method blanks. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One GRO blank spike (606046-BS1) and one EFH blank spike/blank spike duplicate pair (607098-BS1/BSD1) were associated with this SDG. All recoveries were within the laboratory-established QC limits, and the RPD for the EFH BS/BSD pair was within the QC limit of $\leq 25\%$. No qualifications were required.

2.5 SURROGATE RECOVERY

The samples for GRO analysis were fortified with the surrogate compound 4-BFB, and for EFH analysis, n-octacosane. Surrogate recoveries were within the laboratory-established QC limits of 65-140% for 4-BFB and 40-125% for n-octacosane. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the samples of this SDG. Evaluation of method accuracy and precision was based on the blank spike and blank spike/blank spike duplicate results. No qualifications were required.

2.7 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 sample. Following are findings associated with field QC samples:

2.7.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.7.2 Trip Blanks

There was no trip blank associated with the GRO analysis of site sample Outfall 011. As GRO (C4-C12) was not detected above the MDL in Outfall 011, trip blank review was not necessary. No qualifications were required.

2.7.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

DATA VALIDATION REPORT

2.8 COMPOUND IDENTIFICATION

The laboratory analyzed for target compounds GRO (C4-C12) and EFH (C13-C22). Review of the sample chromatograms, retention times, and patterns indicated no problems with target compound identification. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limit was supported by the low point of the initial calibration and the laboratory MDLs. Results were reported in mg/L (ppm). EFH detected below the reporting limit was qualified as estimated, "J," and annotated with "DNQ," in accordance with the NPDES permit. No further qualifications were required.



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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3627

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 011 Report Number: IPB2641	Sampled: 02/28/06 Received: 02/28/06
--	--	---

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: IPB2641-01RE1 (Outfall 011 - Water) - cont.									
Reporting Units: mg/l									
EFH (C13 - C22)	EPA 8015B	6C07098	0.043	0.48	0.054 87 %	0.952	03/07/06	03/07/06	J J
Surrogate: n-Octacosane (40-125%)									

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011
 Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

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

Analyte	Method	Batch	MDL Reporting		Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
			Limit	Limit					Per Qual	Qual Code
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: mg/l										
GRO (C4 - C12)	EPA 8015 Mod.	6C06046	0.050	0.10	ND 83 %	1	03/06/06	03/06/06	U	
Surrogate: 4-BFB (FID) (65-140%)										

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4VO31
 Task Order: 1261.001D.01
 SDG No.: IPB2641

No. of Analyses: 2

Laboratory: Del Mar Analytical
 Reviewer: L. Calvin
 Analysis/Method: Volatiles by Method 624

Date: April 8, 2006
 Reviewer's Signature: *L. Calvin*

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., 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: --r ² value <0.995 in initial calibration --continuing calibration %D >20% --TIC search only for two target compounds
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

NPDES Monitoring Program
Annual Outfall 011

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPB2641

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPB2641-01	Water	624
Trip Blank	IPB2641-02	Water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C, at 5°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved. Unpreserved aliquots of the samples were also provided for the analysis of target compound 2-chloroethyl vinyl ether; however, the instrument run log indicated the pH of sample Trip Blank was five rather than seven, indicating some acidification. The result for 2-chloroethyl vinyl ether in sample Trip Blank was not qualified; however detection of that compound may have been affected. Information regarding lack of headspace in the VOA vials was not provided. No further qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The unpreserved aliquots of the water samples were analyzed for all target compounds within seven days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 624. No qualifications were required.

2.3 CALIBRATION

Two initial calibrations were associated with the sample analyses, dated 03/01/06 (acrolein and acrylonitrile only), 02/06/06 (all remaining target compounds). The average RRFs were ≥0.05 for all target compounds. The r^2 value was <0.995 for 2-chloroethyl vinyl ether. The nondetect result for 2-chloroethyl vinyl ether was qualified as estimated, "UJ," in sample Outfall 011. Sample Trip Blank was a field QC sample and required no qualification. The %RSDs were ≤35% or r^2 values ≥0.995 for the remaining target compounds listed on the sample result summary forms.

Two continuing calibrations were associated with the sample analyses (one for acrolein and acrylonitrile and one for the remaining target compounds). The RRFs for were ≥0.05 and all %Ds were within the QC limit of ≤20%, with the exception of the %D for 2-chloroethyl vinyl ether. The nondetect result for 2-chloroethyl vinyl ether was qualified as estimated, "UJ," in sample Outfall

DATA VALIDATION REPORT

011. Sample Trip Blank was a field QC sample and required no qualification. No further qualifications were required.

2.4 BLANKS

One method blank (6C02019-BLK1) was analyzed with this SDG. No target compounds were detected above the MDLs in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6C02019-BS1) was analyzed with this SDG. Target compounds acrolein and acrylonitrile were not included in the blank spike. The recovery for 1,1,2-tetrachloroethane was above the QC limits in the blank spike; however, the compound was not detected in the site sample of this SDG. The remaining recoveries were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the site sample in this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

2.8 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:

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 011. No target compounds were detected in the trip blank. No qualifications were required.

DATA VALIDATION REPORT

2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compounds by EPA Method 624. For two of the requested target compounds, 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane, only a TIC search was performed. Calibration was performed for 1,2-dichloro-1,1,2-trifluoroethane but was not utilized, and no calibration was performed for cyclohexane. Neither compound was identified in the site sample. Nondetect results for both compounds were qualified as estimated, "UJ," in the site sample. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No further qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Results were reported in $\mu\text{g/L}$ (ppb). No qualifications were required.

2.12 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 section 2.10). No qualifications were required.

Project: NPDES
SDG: IPB2641
Analysis: VOCs

DATA VALIDATION REPORT

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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MWH-Pasadena/Bocing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: ug/l										
Benzene	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06	<i>not qual table</i> 	
Bromodichloromethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06		
Bromoform	EPA 624	6C02019	0.32	5.0	ND	1	03/02/06	03/03/06		
Bromomethane	EPA 624	6C02019	0.42	5.0	ND	1	03/02/06	03/03/06		
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C02019	1.2	5.0	ND	1	03/02/06	03/03/06		
Carbon tetrachloride	EPA 624	6C02019	0.28	5.0	ND	1	03/02/06	03/03/06		
Chlorobenzene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/03/06		
Chloroethane	EPA 624	6C02019	0.40	5.0	ND	1	03/02/06	03/03/06		
Chloroform	EPA 624	6C02019	0.33	2.0	ND	1	03/02/06	03/03/06		
Chloromethane	EPA 624	6C02019	0.30	5.0	ND	1	03/02/06	03/03/06		
Dibromochloromethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06		
1,2-Dichlorobenzene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06		
1,3-Dichlorobenzene	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/03/06		
1,4-Dichlorobenzene	EPA 624	6C02019	0.37	2.0	ND	1	03/02/06	03/03/06		
1,1-Dichloroethane	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/03/06		
1,2-Dichloroethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06		
1,1-Dichloroethene	EPA 624	6C02019	0.32	3.0	ND	1	03/02/06	03/03/06		
trans-1,2-Dichloroethene	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/03/06		
1,2-Dichloropropane	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/03/06		
cis-1,3-Dichloropropene	EPA 624	6C02019	0.22	2.0	ND	1	03/02/06	03/03/06		
trans-1,3-Dichloropropene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06		
Ethylbenzene	EPA 624	6C02019	0.25	2.0	ND	1	03/02/06	03/03/06		
Methylene chloride	EPA 624	6C02019	0.70	5.0	ND	1	03/02/06	03/03/06		
1,1,2,2-Tetrachloroethane	EPA 624	6C02019	0.24	2.0	ND	1	03/02/06	03/03/06		
Tetrachloroethene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06		
Toluene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/03/06		
1,1,1-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06		
1,1,2-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06		
Trichloroethene	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/03/06		
Trichlorofluoromethane	EPA 624	6C02019	0.34	5.0	ND	1	03/02/06	03/03/06		
Vinyl chloride	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/03/06		
Xylenes, Total	EPA 624	6C02019	0.52	4.0	ND	1	03/02/06	03/03/06		
Surrogate: Dibromofluoromethane (80-120%)					111 %					
Surrogate: Toluene-d8 (80-120%)					109 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					91 %					

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

Level III

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MWH-Pasadena/Boeing
306 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
Received: 02/28/06

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: IPB2641-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	<div style="text-align: right;"> Data Qualifiers nH see Qual Book ↓ </div>
Bromodichloromethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
Bromoform	EPA 624	6C02019	0.32	5.0	ND	1	03/02/06	03/02/06	
Bromomethane	EPA 624	6C02019	0.42	5.0	ND	1	03/02/06	03/02/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C02019	1.2	5.0	ND	1	03/02/06	03/02/06	
Carbon tetrachloride	EPA 624	6C02019	0.28	5.0	ND	1	03/02/06	03/02/06	
Chlorobenzene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/02/06	
Chloroethane	EPA 624	6C02019	0.40	5.0	ND	1	03/02/06	03/02/06	
Chloroform	EPA 624	6C02019	0.33	2.0	ND	1	03/02/06	03/02/06	
Chloromethane	EPA 624	6C02019	0.30	5.0	ND	1	03/02/06	03/02/06	
Dibromochloromethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichlorobenzene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
1,3-Dichlorobenzene	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/02/06	
1,4-Dichlorobenzene	EPA 624	6C02019	0.37	2.0	ND	1	03/02/06	03/02/06	
1,1-Dichloroethane	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichloroethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	
1,1-Dichloroethene	EPA 624	6C02019	0.32	3.0	ND	1	03/02/06	03/02/06	
trans-1,2-Dichloroethene	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichloropropane	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/02/06	
cis-1,3-Dichloropropene	EPA 624	6C02019	0.22	2.0	ND	1	03/02/06	03/02/06	
trans-1,3-Dichloropropene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
Ethylbenzene	EPA 624	6C02019	0.25	2.0	ND	1	03/02/06	03/02/06	
Methylene chloride	EPA 624	6C02019	0.70	5.0	ND	1	03/02/06	03/02/06	
1,1,2,2-Tetrachloroethane	EPA 624	6C02019	0.24	2.0	ND	1	03/02/06	03/02/06	
Tetrachloroethene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
Toluene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/02/06	
1,1,1-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
1,1,2-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
Trichloroethene	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/02/06	
Trichlorofluoromethane	EPA 624	6C02019	0.34	5.0	ND	1	03/02/06	03/02/06	
Vinyl chloride	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/02/06	
Xylenes, Total	EPA 624	6C02019	0.52	4.0	ND	1	03/02/06	03/02/06	
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					100 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					99 %				

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Project Manager

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IPB2641 <Page 7 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2641-01 (Outfall 011 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	6C02019	4.6	50	ND	1	03/02/06	03/03/06	u
Acrylonitrile	EPA 624	6C02019	0.70	50	ND	1	03/02/06	03/03/06	u
2-Chloroethyl vinyl ether	EPA 624	6C02019	1.8	5.0	ND	1	03/02/06	03/03/06	u
Surrogate: Dibromofluoromethane (80-120%)					111 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					91 %				
Sample ID: IPB2641-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	6C02019	4.6	50	ND	1	03/02/06	03/02/06	u
Acrylonitrile	EPA 624	6C02019	0.70	50	ND	1	03/02/06	03/02/06	u
2-Chloroethyl vinyl ether	EPA 624	6C02019	1.8	5.0	ND	1	03/02/06	03/02/06	u
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					99 %				

Handwritten notes:
 u
 u
 u
 u
 pH

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 Michele Chamberlin
 Project Manager

Handwritten: Level IV

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 2320 E. Sunbelt Rd., #3, Las Vegas, NV 89120 (702) 798-3820 FAX (702) 798-3821

MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2641-01 (Outfall 011 - Water)									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/03/06	u, T, *10
Cyclohexane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/03/06	u, T, *10
Sample ID: IPB2641-02 (Trip Blank - Water)									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/02/06	u
Cyclohexane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/02/06	u

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

Level IV

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4VO40
 Task Order 1261.001D.01
 SDG No. IPB2641

No. of Analyses 1

Laboratory Del Mar Analytical-Phoenix
 Reviewer K. Shadowlight
 Analysis/Method 1,4-Dioxane by Method 8260

Date: April 5, 2006
 Reviewer's Signature
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.,	_____
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	_____
COMMENTS^b	Acceptable as reviewed.
^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

NPDES Monitoring Program
Annual Outfall 011

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPB2641

Prepared by

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

Table 1. Sample Identification

Client ID	Laboratory ID (Irvine)	Laboratory ID (Phoenix)	Matrix	COC Method
Outfall 011	IPB2641-01	PPC0069-01	Water	8260B

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2641
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles (1,4-dioxane)
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 5, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X *Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0)*, *SW-846 Method 8260B*, and the *National Functional Guidelines for Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$, at 2°C at Del Mar-Irvine. The 1,4-dioxane analysis was subcontracted to Del Mar-Phoenix, and the temperature recorded upon receipt was 2°C . According to the case narrative for this SDG, the sample was received intact, on ice, and properly preserved. Information regarding lack of headspace in the VOA vials was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC from the field to the laboratory was signed and dated by both field and laboratory personnel, and the transfer COC from Del Mar-Irvine to Del Mar-Phoenix was signed by personnel from both laboratories. As the sample was couriered directly from the field to the laboratory, custody seals were not required. Custody seals were present on the cooler upon receipt at Del Mar-Phoenix. The Client ID was added to the result summary by the reviewer. No qualifications were required.

2.1.3 Holding Times

The water sample was analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tunes met the abundance criteria specified in SW-846 Method 8260, and the sample was analyzed within 12 hours of the BFB injection times. No qualifications were required.

2.3 CALIBRATION

One initial calibration, dated 02/17/06, was associated with the sample in this SDG. The average RRF for target compound 1,4-dioxane was ≥ 0.05 and the %RSD was $\leq 15\%$. The continuing calibration associated with the sample analysis was dated 03/03/06. The laboratory reported the continuing calibration and the blank spike (P6C0311-BS1) of the blank spike/blank spike duplicate pair from the same analysis. As a single analysis cannot be reported as both a CCV and a blank spike, the reviewer reported the analysis as the continuing calibration. The RRF for 1,4-dioxane was ≥ 0.05 and the %D was within the QC limit of $\leq 20\%$. The average RRF and %RSD in the initial calibration and RRF and %D in the continuing calibration were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.4 BLANKS

One method blank (P6C0311-BLK1) was analyzed with this SDG. Target compound 1,4-dioxane was not detected above the MDL in the method blank. Review of the method blank raw data indicated no false negative. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory analyzed one blank spike/blank spike duplicate pair (P6C0311-BS1/BSD1) with this SDG. As P6C0311-BS1 was reported as a CCV (see section 2.3), P6C0311-BSD1 was evaluated as a single blank spike. The recovery for 1,4-dioxane was within the QC limits of 70-130%. The recovery was calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The surrogate recovery was within the laboratory QC limits of 70-130% for this SDG. The recovery was calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy was based on the blank spike result. No qualifications were required.

2.8 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 sample. Following are findings associated with field QC samples:

2.8.1 Trip Blanks

There was no trip blank sample associated with this SDG. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications were required.

DATA VALIDATION REPORT

2.8.3 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compound 1,4-dioxane by EPA Method 8260B. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. As there were no detects, compound quantification was verified by recalculating the blank spike and surrogate recoveries. No calculation or transcription errors were found. The reporting limit was supported by the low point of the initial calibration and the laboratory MDL. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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Del Mar Analytical - Irvine 17461 Derian Ave. Suite 100 Irvine, CA 92614 Attention: Michele Chamberlin	Project ID: IPB2641 Report Number: PPC0069	Sampled: 02/28/06 Received: 03/02/06
---	---	---

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: PPC0069-01 (IPB2641-01 - Water)		Out fall 011							Raw Data
Reporting Units: ug/l									
1,4-Dioxane	EPA 8260B	P6C0311	0.49	1.0	ND 115 %	1	03/03/06	03/04/06	u
Surrogate: Dibromofluoromethane (70-130%)									

Level IV

Del Mar Analytical - Phoenix
 Ken Baker
 Project Manager

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4WCP3
 Task Order: 1261.001D.01
 SDG No.: IPB2641

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: General Minerals

Date: <u>April 4, 2006</u>
Reviewer's Signature <i>P. Meeks</i>

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.,	Qualification applied for a detect below the reporting limit and a CCV recovery.
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	_____
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

NPDES Sampling
Outfall 011

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPB2641

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPB2641
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 5, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC^x *Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *USEPA Methods for Chemical Analysis of Water and Wastes Methods 120.1, 160.1, 160.2, 160.5, 180.1, 300.0, 314.0, 330.5, 335.2, 350.2, 405.1, 413.1, 415.1, and 418.1* and *Standard Methods for the Examination of Water and Wastewater Method SM2540-C*, and validation guidelines outlined in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification coded. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPB2641-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. All analyses were performed within the method specified holding times. No qualifications were required.

2.2 CALIBRATION

For all applicable analyses, the initial calibration correlation coefficients were ≥ 0.995 and the ICV and CCV recoveries were within the control limits of 90-110%. For those methods requiring weight determinations, balance calibration logs were reviewed and found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, as the LCS recovery was above the calibration control limit, at 115%, ammonia detected in Outfall 011 was qualified as estimated, "J." No further qualifications were required.

2.3 BLANKS

There were no defects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS and LCSD (BOD and oil and grease only) recoveries were within the laboratory-established control limits. No LCS recovery was listed for nitrate; however, the reviewer checked the raw data and found that nitrate was spiked into the LCS and was recovered acceptably. No qualifications were required.

2.5 LABORATORY DUPLICATES

MS/MSD analyses were performed on Outfall 011 for chloride, sulfate, fluoride, and nitrate/nitrite. The reported RPDs were within the laboratory-established control limits. No RPD was listed for nitrate; however, the reviewer checked the raw data and found that nitrate was spiked into the MS/MSD pair and had an acceptable RPD. No qualifications were required.

2.6 MATRIX SPIKES

MS/MSD analyses were performed on Outfall 011 for chloride, sulfate, fluoride, and nitrate/nitrite. The reported recoveries were within the laboratory-established control limits. Sulfate was recovered below the control limit in the MS only; therefore, sulfate detected in outfall 011 was qualified as estimated, "J." No recoveries were listed for nitrate; however, the reviewer checked the raw data and found that nitrate was spiked into the MS/MSD pair and was recovered acceptably. No other MS/MSD analyses were performed in association with this SDG. Evaluation of method accuracy and precision (for BOD and oil and grease) for all other methods was based on LCS/LCSD results. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the results were all reported on the Form 10 were verified against the raw data. Results reported by the laboratory between the MDL and reporting limit were qualified as estimated, "J," and annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

DATA VALIDATION REPORT

2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2641-01 (Outfall 011 - Water)									
Reporting Units: mg/l									
Total Recoverable Hydrocarbons	EPA 418.1	6C06047	0.30	0.96	ND	0.962	03/06/06	03/06/06	U

Raw Qual
 Qual Code

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Qual	Code
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: mg/l										
Ammonia-N (Distilled)	EPA 350.2	6C05021	0.30	0.50	0.56	1	03/05/06	03/05/06	J	R
Biochemical Oxygen Demand	EPA 405.1	6C01114	0.59	2.0	3.2	1	03/01/06	03/06/06		
Chloride	EPA 300.0	6C01049	0.26	0.50	24	1	03/01/06	03/01/06	J J	DNQ
Fluoride	EPA 300.0	6C01049	0.10	0.50	0.27	1	03/01/06	03/01/06		
Nitrate/Nitrite-N	EPA 300.0	6C01049	0.072	0.26	0.91	1	03/01/06	03/01/06	U	
Oil & Grease	EPA 413.1	6C08046	0.93	5.0	ND	1	03/08/06	03/08/06	U	
Residual Chlorine	EPA 330.5	6B28145	0.10	0.10	ND	1	02/28/06	02/28/06	U	
Sulfate	EPA 300.0	6C01049	0.18	0.50	35	1	03/01/06	03/01/06	J M2	Q
Surfactants (MBAS)	SM5540-C	6C01108	0.044	0.10	ND	1	03/01/06	03/01/06	U	
Total Dissolved Solids	SM2540C	6C03069	10	10	240	1	03/03/06	03/03/06		
Total Organic Carbon	EPA 415.1	6C02064	0.25	1.0	11	1	03/01/06	03/01/06		
Total Suspended Solids	EPA 160.2	6C05025	10	10	69	1	03/05/06	03/05/06		

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 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Res Qual	Qual Code
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: ml/l/hr										
Total Settleable Solids	EPA 160.5	6B28095	0.10	0.10	ND	1	02/28/06	02/28/06	U	

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MWH-Pasadena/Boeing
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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

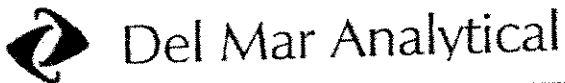
INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Low	Qual
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: NTU										
Turbidity	EPA 180.1	6C01122	0.080	2.0	72	2	03/01/06	03/01/06		

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 Project Manager

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011
 Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									rw	Qual Code
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: ug/l										
Total Cyanide	EPA 335.2	6C02125	2.2	5.0	3.0	1	03/02/06	03/02/06	I J	DNR
Perchlorate	EPA 314.0	6C02068	0.80	4.0	ND	1	03/02/06	03/03/06	U	

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 Michele Chamberlin
 Project Manager

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 011

Report Number: IPB2641

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Reporting		Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
			Limit	Limit					Dev	Qual
Sample ID: IPB2641-01 (Outfall 011 - Water) - cont.										
Reporting Units: umhos/cm										
Specific Conductance	EPA 120.1	6C03067	1.0	1.0	380	1	03/03/06	03/03/06		

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 Michele Chamberlin
 Project Manager

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APPENDIX G

Section 67

Outfall 012, February 10, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project: Alfa Outfall 012 - During Test

Sampled: 02/10/06
Received: 02/10/06
Revised: 03/20/06 13:42

NELAP #01108CA California ELAP#1197 CSDLAC #10117

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.*

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.
HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION: Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS: Results that fall between the MDL and RL are 'J' flagged.
SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.
ADDITIONAL INFORMATION: The report was revised to correct the value reported for Ammonia.

LABORATORY ID	CLIENT ID	MATRIX
IPB1064-01	Outfall 012	Water
IPB1064-02	Trip Blank	Water

Reviewed By:

Michele Chamberlin

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB1064-01 (Outfall 012 - Water)									
Reporting Units: mg/l									
Total Recoverable Hydrocarbons	EPA 418.1	6B16050	0.31	1.0	8.4	1	02/16/06	02/16/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test
Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

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: IPB1064-01 (Outfall 012 - Water) - cont.									
Reporting Units: mg/l									
EFH (C13 - C22)	EPA 8015B	6B15104	0.043	0.48	1.8	0.952	02/15/06	02/16/06	
Surrogate: n-Octacosane (40-125%)					73 %				

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

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: IPB1064-01 (Outfall 012 - Water) - cont.									
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	6B20002	0.25	0.50	1.3	5	02/20/06	02/20/06	
Surrogate: 4-BFB (FID) (65-140%)					102 %				
Sample ID: IPB1064-02 (Trip Blank - Water)									
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	6B17047	0.050	0.10	ND	1	02/17/06	02/17/06	
Surrogate: 4-BFB (FID) (65-140%)					96 %				

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

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: IPB1064-01 (Outfall 012 - Water)									
Reporting Units: ug/l									
1,2-Dibromoethane (EDB)	EPA 624	6B23012	0.32	2.0	ND	1	02/23/06	02/23/06	
Methyl-tert-butyl Ether (MTBE)	EPA 624	6B23012	0.32	5.0	ND	1	02/23/06	02/23/06	
1,2,3-Trichloropropane	EPA 624	6B23012	0.40	10	ND	1	02/23/06	02/23/06	
Di-isopropyl Ether (DIPE)	EPA 624	6B23012	0.25	5.0	ND	1	02/23/06	02/23/06	
tert-Butanol (TBA)	EPA 624	6B23012	3.1	25	ND	1	02/23/06	02/23/06	
Surrogate: Dibromofluoromethane (80-120%)					111 %				
Surrogate: Toluene-d8 (80-120%)					104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					107 %				
Sample ID: IPB1064-02 (Trip Blank - Water)									
Reporting Units: ug/l									
1,2-Dibromoethane (EDB)	EPA 624	6B23012	0.32	2.0	ND	1	02/23/06	02/23/06	
Methyl-tert-butyl Ether (MTBE)	EPA 624	6B23012	0.32	5.0	ND	1	02/23/06	02/23/06	
1,2,3-Trichloropropane	EPA 624	6B23012	0.40	10	ND	1	02/23/06	02/23/06	
Di-isopropyl Ether (DIPE)	EPA 624	6B23012	0.25	5.0	ND	1	02/23/06	02/23/06	
tert-Butanol (TBA)	EPA 624	6B23012	3.1	25	ND	1	02/23/06	02/23/06	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

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Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06

Received: 02/10/06

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: IPB1064-01 (Outfall 012 - Water)									
Reporting Units: ug/l									
Naphthalene	EPA 625	6B14057	4.3	9.6	47	0.962	02/14/06	02/18/06	
N-Nitrosodimethylamine	EPA 625	6B14057	3.6	19	ND	0.962	02/14/06	02/18/06	
Surrogate: 2-Fluorophenol (30-120%)					53 %				
Surrogate: Phenol-d6 (35-120%)					68 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					53 %				
Surrogate: Nitrobenzene-d5 (45-120%)					81 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					78 %				
Surrogate: Terphenyl-d14 (45-120%)					123 %				ZX

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Sampled: 02/10/06
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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB1064-01 (Outfall 012 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6B21111	0.60	1.0	5.6	1	02/21/06	02/21/06	
Biochemical Oxygen Demand	EPA 405.1	6B11057	0.59	2.0	3.3	1	02/11/06	02/16/06	
Oil & Grease	EPA 413.1	6B20049	0.90	4.8	ND	1	02/20/06	02/20/06	
Total Dissolved Solids	SM2540C	6B16084	10	10	240	1	02/16/06	02/16/06	
Total Suspended Solids	EPA 160.2	6B13121	10	10	28	1	02/13/06	02/13/06	
Sample ID: IPB1064-01 (Outfall 012 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6B10136	0.10	0.10	1.0	1	02/10/06	02/10/06	
Sample ID: IPB1064-01 (Outfall 012 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	6B11058	0.040	1.0	20	1	02/11/06	02/11/06	
Sample ID: IPB1064-01 (Outfall 012 - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	6B13069	0.80	4.0	ND	1	02/13/06	02/13/06	

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Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

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: IPB1064-01 (Outfall 012 - Water) - cont.									
Reporting Units: ug/l									
I,4-Dioxane	EPA 8260B	P6B2203	0.49	1.0	ND	1	02/22/06	02/22/06	
Surrogate: Dibromofluoromethane (70-130%)					117 %				

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Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 012 (IPB1064-01) - Water					
EPA 160.5	2	02/10/2006 15:15	02/10/2006 18:45	02/10/2006 20:30	02/10/2006 21:30
EPA 180.1	2	02/10/2006 15:15	02/10/2006 18:45	02/11/2006 09:00	02/11/2006 10:00
EPA 405.1	2	02/10/2006 15:15	02/10/2006 18:45	02/11/2006 15:00	02/16/2006 13:20

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Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

METHOD BLANK/QC DATA

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B16050 Extracted: 02/16/06											
Blank Analyzed: 02/16/2006 (6B16050-BLK1)											
Total Recoverable Hydrocarbons	ND	1.0	0.31	mg/l							
LCS Analyzed: 02/16/2006 (6B16050-BS1)											
Total Recoverable Hydrocarbons	3.87	1.0	0.31	mg/l	5.00		77	65-120			M-NRI
LCS Dup Analyzed: 02/16/2006 (6B16050-BSD1)											
Total Recoverable Hydrocarbons	3.99	1.0	0.31	mg/l	5.00		80	65-120	3	20	

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Sampled: 02/10/06
Received: 02/10/06

METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B15104 Extracted: 02/15/06											
Blank Analyzed: 02/15/2006 (6B15104-BLK1)											
EFH (C13 - C22)	ND	0.50	0.045	mg/l							
EFH (C13 - C40)	0.0781	0.50	0.045	mg/l							J
Surrogate: n-Octacosane	0.180			mg/l	0.200		90	40-125			
LCS Analyzed: 02/16/2006 (6B15104-BS1)											
EFH (C13 - C40)	0.575	0.50	0.045	mg/l	0.750		77	40-120			M-NR1
Surrogate: n-Octacosane	0.137			mg/l	0.200		68	40-125			
LCS Dup Analyzed: 02/16/2006 (6B15104-BSD1)											
EFH (C13 - C40)	0.582	0.50	0.045	mg/l	0.750		78	40-120	1	25	
Surrogate: n-Octacosane	0.148			mg/l	0.200		74	40-125			

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Sampled: 02/10/06
 Received: 02/10/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6B17047 Extracted: 02/17/06										
Blank Analyzed: 02/17/2006 (6B17047-BLK1)										
GRO (C4 - C12)	ND	0.10	0.050	mg/l						
Surrogate: 4-BFB (FID)	0.00942			mg/l	0.0100		94 65-140			
LCS Analyzed: 02/17/2006 (6B17047-BS1)										
GRO (C4 - C12)	0.760	0.10	0.050	mg/l	0.800		95 65-140			
Surrogate: 4-BFB (FID)	0.0229			mg/l	0.0300		76 65-140			
Matrix Spike Analyzed: 02/17/2006 (6B17047-MS1) Source: IPB0961-01										
GRO (C4 - C12)	0.270	0.10	0.050	mg/l	0.220	ND	123 60-145			
Surrogate: 4-BFB (FID)	0.0114			mg/l	0.0100		114 65-140			
Matrix Spike Dup Analyzed: 02/17/2006 (6B17047-MSD1) Source: IPB0961-01										
GRO (C4 - C12)	0.224	0.10	0.050	mg/l	0.220	ND	102 60-145	19	20	
Surrogate: 4-BFB (FID)	0.00985			mg/l	0.0100		98 65-140			
Batch: 6B20002 Extracted: 02/20/06										
Blank Analyzed: 02/20/2006 (6B20002-BLK1)										
GRO (C4 - C12)	ND	0.10	0.050	mg/l						
Surrogate: 4-BFB (FID)	0.0107			mg/l	0.0100		107 65-140			
LCS Analyzed: 02/20/2006 (6B20002-BS1)										
GRO (C4 - C12)	0.940	0.10	0.050	mg/l	0.800		118 65-140			
Surrogate: 4-BFB (FID)	0.0322			mg/l	0.0300		107 65-140			
Matrix Spike Analyzed: 02/20/2006 (6B20002-MS1) Source: IPB1040-01										
GRO (C4 - C12)	0.229	0.10	0.050	mg/l	0.220	ND	104 60-145			
Surrogate: 4-BFB (FID)	0.0113			mg/l	0.0100		113 65-140			

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Sampled: 02/10/06
Received: 02/10/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B20002 Extracted: 02/20/06											
Matrix Spike Dup Analyzed: 02/20/2006 (6B20002-MSD1)						Source: IPB1040-01					
GRO (C4 - C12)	0.273	0.10	0.050	mg/l	0.220	ND	124	60-145	18	20	
Surrogate: 4-BFB (FID)	0.0118			mg/l	0.0100		118	65-140			

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Sampled: 02/10/06
Received: 02/10/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6B23012 Extracted: 02/23/06										
Blank Analyzed: 02/23/2006 (6B23012-BLK1)										
1,2-Dibromoethane (EDB)	ND	2.0	0.32	ug/l						
Methyl-tert-butyl Ether (MTBE)	ND	5.0	0.32	ug/l						
1,2,3-Trichloropropane	ND	10	0.40	ug/l						
Di-isopropyl Ether (DIPE)	ND	5.0	0.25	ug/l						
tert-Butanol (TBA)	ND	25	3.1	ug/l						
Surrogate: Dibromofluoromethane	27.0			ug/l	25.0		108		80-120	
Surrogate: Toluene-d8	25.7			ug/l	25.0		103		80-120	
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100		80-120	
LCS Analyzed: 02/23/2006 (6B23012-BS1)										
1,2-Dibromoethane (EDB)	27.9	2.0	0.32	ug/l	25.0		112		70-125	
Methyl-tert-butyl Ether (MTBE)	30.3	5.0	0.32	ug/l	25.0		121		55-140	
1,2,3-Trichloropropane	24.6	10	0.40	ug/l	25.0		98		55-130	
Di-isopropyl Ether (DIPE)	26.6	5.0	0.25	ug/l	25.0		106		60-135	
tert-Butanol (TBA)	120	25	3.1	ug/l	125		96		65-135	
Surrogate: Dibromofluoromethane	27.9			ug/l	25.0		112		80-120	
Surrogate: Toluene-d8	26.0			ug/l	25.0		104		80-120	
Surrogate: 4-Bromofluorobenzene	27.2			ug/l	25.0		109		80-120	
Matrix Spike Analyzed: 02/23/2006 (6B23012-MS1)					Source: IPB1064-01					
1,2-Dibromoethane (EDB)	24.6	2.0	0.32	ug/l	25.0	ND	98		65-130	
Methyl-tert-butyl Ether (MTBE)	26.2	5.0	0.32	ug/l	25.0	ND	105		50-150	
1,2,3-Trichloropropane	23.4	10	0.40	ug/l	25.0	ND	94		50-135	
Di-isopropyl Ether (DIPE)	20.6	5.0	0.25	ug/l	25.0	ND	82		60-140	
tert-Butanol (TBA)	94.6	25	3.1	ug/l	125	ND	76		60-145	
Surrogate: Dibromofluoromethane	26.9			ug/l	25.0		108		80-120	
Surrogate: Toluene-d8	26.3			ug/l	25.0		105		80-120	
Surrogate: 4-Bromofluorobenzene	27.1			ug/l	25.0		108		80-120	

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B23012 Extracted: 02/23/06											
Matrix Spike Dup Analyzed: 02/23/2006 (6B23012-MSD1)						Source: IPB1064-01					
1,2-Dibromoethane (EDB)	24.0	2.0	0.32	ug/l	25.0	ND	96	65-130	2	25	
Methyl-tert-butyl Ether (MTBE)	23.3	5.0	0.32	ug/l	25.0	ND	93	50-150	12	25	
1,2,3-Trichloropropane	19.8	10	0.40	ug/l	25.0	ND	79	50-135	17	30	
Di-isopropyl Ether (DIPE)	21.6	5.0	0.25	ug/l	25.0	ND	86	60-140	5	25	
tert-Butanol (TBA)	120	25	3.1	ug/l	125	ND	96	60-145	24	25	
Surrogate: Dibromofluoromethane	25.6			ug/l	25.0		102	80-120			
Surrogate: Toluene-d8	26.3			ug/l	25.0		105	80-120			
Surrogate: 4-Bromofluorobenzene	26.6			ug/l	25.0		106	80-120			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B14057 Extracted: 02/14/06											
Blank Analyzed: 02/17/2006 (6B14057-BLK1)											
Naphthalene	ND	10	4.5	ug/l							
N-Nitrosodimethylamine	ND	20	3.7	ug/l							
Surrogate: 2-Fluorophenol	118			ug/l	200		59	30-120			
Surrogate: Phenol-d6	148			ug/l	200		74	35-120			
Surrogate: 2,4,6-Tribromophenol	141			ug/l	200		70	45-120			
Surrogate: Nitrobenzene-d5	72.2			ug/l	100		72	45-120			
Surrogate: 2-Fluorobiphenyl	81.3			ug/l	100		81	45-120			
Surrogate: Terphenyl-d14	95.0			ug/l	100		95	45-120			
LCS Analyzed: 02/17/2006 (6B14057-BS1)											
Naphthalene	69.4	10	4.5	ug/l	100		69	50-120			
N-Nitrosodimethylamine	57.2	20	3.7	ug/l	100		57	40-120			
Surrogate: 2-Fluorophenol	136			ug/l	200		68	30-120			
Surrogate: Phenol-d6	150			ug/l	200		75	35-120			
Surrogate: 2,4,6-Tribromophenol	159			ug/l	200		80	45-120			
Surrogate: Nitrobenzene-d5	65.3			ug/l	100		65	45-120			
Surrogate: 2-Fluorobiphenyl	78.4			ug/l	100		78	45-120			
Surrogate: Terphenyl-d14	88.4			ug/l	100		88	45-120			
LCS Dup Analyzed: 02/17/2006 (6B14057-BSD1)											
Naphthalene	71.3	10	4.5	ug/l	100		71	50-120	3	20	
N-Nitrosodimethylamine	64.1	20	3.7	ug/l	100		64	40-120	11	20	
Surrogate: 2-Fluorophenol	137			ug/l	200		68	30-120			
Surrogate: Phenol-d6	151			ug/l	200		76	35-120			
Surrogate: 2,4,6-Tribromophenol	148			ug/l	200		74	45-120			
Surrogate: Nitrobenzene-d5	69.3			ug/l	100		69	45-120			
Surrogate: 2-Fluorobiphenyl	77.7			ug/l	100		78	45-120			
Surrogate: Terphenyl-d14	90.0			ug/l	100		90	45-120			

M-NRI

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B11057 Extracted: 02/11/06										
Blank Analyzed: 02/16/2006 (6B11057-BLK1)										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l						
LCS Analyzed: 02/16/2006 (6B11057-BS1)										
Biochemical Oxygen Demand	218	100	30	mg/l	198		110 85-115			
LCS Dup Analyzed: 02/16/2006 (6B11057-BSD1)										
Biochemical Oxygen Demand	208	100	30	mg/l	198		105 85-115	5	20	
Batch: 6B11058 Extracted: 02/11/06										
Blank Analyzed: 02/11/2006 (6B11058-BLK1)										
Turbidity	ND	1.0	0.040	NTU						
Duplicate Analyzed: 02/11/2006 (6B11058-DUP1)										
Turbidity	1.53	1.0	0.040	NTU		Source: IPB1060-01 1.6		4	20	
Batch: 6B13069 Extracted: 02/13/06										
Blank Analyzed: 02/13/2006 (6B13069-BLK1)										
Perchlorate	ND	4.0	0.80	ug/l						
LCS Analyzed: 02/13/2006 (6B13069-BS1)										
Perchlorate	51.0	4.0	0.80	ug/l	50.0		102 85-115			
Matrix Spike Analyzed: 02/13/2006 (6B13069-MS1)										
Perchlorate	55.6	4.0	0.80	ug/l	50.0	Source: IPA2241-04RE1 6.2	99 80-120			

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Sampled: 02/10/06
 Received: 02/10/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B13069 Extracted: 02/13/06											
Matrix Spike Dup Analyzed: 02/13/2006 (6B13069-MSD1)						Source: IPA2241-04RE1					
Perchlorate	55.5	4.0	0.80	ug/l	50.0	6.2	99	80-120	0	20	
Batch: 6B13121 Extracted: 02/13/06											
Blank Analyzed: 02/13/2006 (6B13121-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 02/13/2006 (6B13121-BS1)											
Total Suspended Solids	996	10	10	mg/l	1000		100	85-115			
Duplicate Analyzed: 02/13/2006 (6B13121-DUP1)						Source: IPB1056-01					
Total Suspended Solids	314	10	10	mg/l		330			5	10	
Batch: 6B16084 Extracted: 02/16/06											
Blank Analyzed: 02/16/2006 (6B16084-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/16/2006 (6B16084-BS1)											
Total Dissolved Solids	982	10	10	mg/l	1000		98	90-110			
Duplicate Analyzed: 02/16/2006 (6B16084-DUP1)						Source: IPB1283-01					
Total Dissolved Solids	8840	10	10	mg/l		8900			1	10	
Batch: 6B20049 Extracted: 02/20/06											
Blank Analyzed: 02/20/2006 (6B20049-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6B20049 Extracted: 02/20/06											
LCS Analyzed: 02/20/2006 (6B20049-BS1)											
Oil & Grease	17.9	5.0	0.94	mg/l	20.0		90	65-120			M-NR1
LCS Dup Analyzed: 02/20/2006 (6B20049-BSD1)											
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120	1	20	
Batch: 6B21111 Extracted: 02/21/06											
Blank Analyzed: 02/21/2006 (6B21111-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 02/21/2006 (6B21111-BS1)											
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0		109	80-115			
Matrix Spike Analyzed: 02/21/2006 (6B21111-MS1)											
Ammonia-N (Distilled)	12.0	0.50	0.30	mg/l	10.0	1.1	109	70-120			
Matrix Spike Dup Analyzed: 02/21/2006 (6B21111-MSD1)											
Ammonia-N (Distilled)	11.8	0.50	0.30	mg/l	10.0	1.1	107	70-120	2	15	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
 Received: 02/10/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P6B2203 Extracted: 02/22/06											
Blank Analyzed: 02/22/2006 (P6B2203-BLK1)											
1,4-Dioxane	ND	1.0	0.49	ug/l							
Surrogate: Dibromofluoromethane	1.16			ug/l	1.00		116	70-130			
LCS Analyzed: 02/22/2006 (P6B2203-BS1)											
1,4-Dioxane	10.2	1.0	0.49	ug/l	10.0		102	70-130			
Surrogate: Dibromofluoromethane	1.13			ug/l	1.00		113	70-130			
LCS Dup Analyzed: 02/22/2006 (P6B2203-BSD1)											
1,4-Dioxane	10.5	1.0	0.49	ug/l	10.0		105	70-130	3	20	
Surrogate: Dibromofluoromethane	1.11			ug/l	1.00		111	70-130			
Matrix Spike Analyzed: 02/22/2006 (P6B2203-MS1) Source: PPB0378-01											
1,4-Dioxane	12.7	1.0	0.49	ug/l	10.0	0.49	122	65-125			
Surrogate: Dibromofluoromethane	1.14			ug/l	1.00		114	70-130			
Matrix Spike Dup Analyzed: 02/22/2006 (P6B2203-MSD1) Source: PPB0378-01											
1,4-Dioxane	10.8	1.0	0.49	ug/l	10.0	0.49	103	65-125	16	20	
Surrogate: Dibromofluoromethane	1.13			ug/l	1.00		113	70-130			

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ZX** Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

ADDITIONAL COMMENTS

For GRO (C4-C12):

GRO (C4-C12) is quantitated against a gasoline standard. Quantitation begins immediately following the methanol peak.

For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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IPB1064 <Page 21 of 22>

NPDES - 3109



MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
Received: 02/10/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 314.0	Water	N/A	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 418.1	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
EPA 8015 Mod.	Water	X	X
EPA 8015B	Water	X	X
EPA 8260B	Water	X	X
Level 4	Water		
SM2540C	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Del Mar Analytical - Phoenix NELAC Cert #01109CA, California Cert #2446, Arizona Cert #AZ0426, Nevada Cert #AZ-907

9830 S. 51st Street, Suite B-120 - Phoenix, AZ 85044

Method Performed: EPA 8260B

Samples: IPB1064-01

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager

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17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Cotton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 796-3620 Fax (702) 796-3621

SUBCONTRACT ORDER - PROJECT # IPB1064

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	Del Mar Analytical - Phoenix 9830 S. 51st Street, Suite B-120 Phoenix, AZ 85044 Phone: (480) 785-0043 Fax: (480) 785-0851

Analysis	Expiration	Due	Comments
Sample ID: IPB1064-01 Water Sampled: 02/10/06 15:15			
Dioxane-8260B-out	02/24/06 15:15	02/21/06 12:00	Boeing-permit, sub DMAP, J flags, ID=DMA+Outfall 012
Level 4 Data Package - Phoenix-03/10/06 15:15	02/21/06 12:00		Boeing, TAT= 17 days from receipt at Phoenix
Containers Supplied:			
40 ml VOA w/HCL (IPB1064-01M)			
40 ml VOA w/HCL (IPB1064-01N)			
40 ml VOA w/HCL (IPB1064-01O)			

PPB 0416-1

SAMPLE INTEGRITY:			
All containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample labels/COC agree:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Custody Seals Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Preserved Properly:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		Samples Received On Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		Samples Received at (temp):	2.6.9

<i>Henry G. ...</i> Released By	Date	Time	Fed-EX	2-13-06	Received By	Date	Time
<i>02/14/06</i>					<i>...</i>	<i>02/14/06</i>	<i>09:45</i>
Released By	Date	Time	Received By	Date	Time		

344

TPB1064

Del Mar Analytical Version 02/17/05 CHAIN OF CUSTODY FORM

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES During Test -- Outfall 012 Alfa Test Stand		ANALYSIS REQUIRED												Field readings: Temp = 73 pH = 7.45		
Project Manager: Bronwyn Kelly Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Sampler: Rick Banagia Ruben Banagos		Oil & Grease (EPA 413.1)	8015-gas	8015-diesel/jet fuel	1,4-Dioxane-826B	TRPH = Total Rec. Petroleum Hydrocarbons (EPA 418.1)	624 (EDB, 1,2,3-TCF, MTBE, DPE, TBA)	BOD5(20 degrees C)	625 Naphthalene +NDMA analysis	Ammonia-N, Titr. (350.2) w/ dist	Perchlorate	Turbidity, TDS, TSS	Settleable Solids	Comments		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	8015-gas	1,4-Dioxane-826B	TRPH = Total Rec. Petroleum Hydrocarbons (EPA 418.1)	624 (EDB, 1,2,3-TCF, MTBE, DPE, TBA)	BOD5(20 degrees C)	625 Naphthalene +NDMA analysis	Ammonia-N, Titr. (350.2) w/ dist	Perchlorate	Turbidity, TDS, TSS	Settleable Solids	Comments	
Outfall 012	W	1L Amber	1	2-10-06	HCl	1A	X											
Outfall 012 duplicate	W	1L Amber	1		HCl	1B	X											
Outfall 012	W	VOAs	1		HCl	2A	X											
Outfall 012 duplicate	W	VOAs	2		HCl	2B, 2C	X											
Outfall 012	W	1L Amber	1		None	3A	X											
Outfall 012 duplicate	W	1L Amber	1		None	3B	X											
Outfall 012	W	VOAs	1		HCl	4A	X											
Outfall 012 duplicate	W	VOAs	2		HCl	4B, 4C	X											
Outfall 012	W	1L Amber	1		HCl	5A	X											
Outfall 012 duplicate	W	1L Amber	1		HCl	5B	X											
Outfall 012	W	VOAs	1		HCl	6A	X											
Outfall 012 duplicate	W	VOAs	2		HCl	6B, 6C	X											
Outfall 012	W	1L Poly	1		None	7A				X								
Outfall 012	W	1L Amber	1		None	8A					X							
Outfall 012 duplicate	W	1L Amber	1		None	8B					X							
Outfall 012	W	500ml Poly	1		H2SO4	9A						X						
Outfall 012	W	1L Poly	1		None	10A							X					
Outfall 012	W	1L Poly	1		None	11A								X				
Trip Blank	W	VOAs	6		HCl	12A, 12B, 12C, 12D, 12E, 12F	X			X								
Relinquished By	Date/Time:			Received By	Date/Time:			Turn around Time: (check)									5 Days	
<i>Rick Banagia</i>	2-10-06 1550			<i>Gary Lopez</i>	2-10-06 1550												48 Hours	
Relinquished By	Date/Time:			Received By	Date/Time:			Perchlorate Only 72 Hours									Normal	
<i>Gary Lopez</i>	2-10-06 1645			<i>Steve Ly</i>	2-10-06 18:45 @ 4°C												Metals Only 72 Hours	
Relinquished By	Date/Time:			Received By	Date/Time:			Sample Integrity: (Check) On Ice:										

APPENDIX G

Section 68

Outfall 012, February 10, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4SV20
 Task Order: 1261.001D.01
 SDG No.: IPB1064

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: L. Calvin
 Analysis/Method: Semivolatiles by Method 625

Date: <u>March 20, 2006</u>
Reviewer's Signature <i>L. Calvin</i>

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	
COMMENTS^b	Acceptable as reviewed.
^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

NPDES Monitoring Program
Outfall 012

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IPB1064

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB1064
Project Manager: P. Costa
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: March 20, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Levels C and D Semivolatile Organics (DVP-3, Rev. 0)*, *EPA Method 625*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPB1064-01	Water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ at 4°C . No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analysis presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The water sample was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 GC/MS TUNING

The DFTPP tunes analyzed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 625. No qualifications were required.

2.3 CALIBRATION

One initial calibration analyzed 02/03/06 was associated with the sample in this SDG. The %RSDs were $\leq 35\%$ for target compounds naphthalene and NDMA. The continuing calibration associated with the sample was analyzed 02/17/06. The %Ds for both target compounds were within the QC limit of $\leq 20\%$. No qualifications were required.

DATA VALIDATION REPORT

2.4 BLANKS

One method blank (6B14057-BLK1) was extracted and analyzed with this SDG. Neither target compound was detected above the MDL in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6B14057-BS1/BSD1) was extracted and analyzed with this SDG. All recoveries and RPDs were within the laboratory-established QC limits. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries for the sample were within the laboratory QC limits, with the exception of a recovery above the QC limits for terphenyl-d14. No qualifications were required for the single surrogate recovery outlier.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the blank spike and blank spike/blank spike duplicate results. No qualifications were required.

2.8 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:

2.8.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times for the sample were within the control limits established by the continuing calibration standards of -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for semivolatile target compounds naphthalene and NDMA by EPA Method 625. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Results were reported in $\mu\text{g/L}$ (ppb). No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0831
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Bocing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
 Received: 02/10/06

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: IPB1064-01 (Outfall 012 - Water)									
Reporting Units: ug/l									
Naphthalene	EPA 625	6B14057	4.3	9.6	47	0.962	02/14/06	02/18/06	val qual Decode
N-Nitrosodimethylamine	EPA 625	6B14057	3.6	19	ND	0.962	02/14/06	02/18/06	
Surrogate: 2-Fluorophenol (30-120%)					53 %				
Surrogate: Phenol-d6 (35-120%)					68 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					53 %				
Surrogate: Nitrobenzene-d5 (45-120%)					81 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					78 %				
Surrogate: Terphenyl-d14 (45-120%)					123 %				ZX

Del Mar Analytical, Irvine
 Michele Chamberlin
 Project Manager

Level IV

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NPDES - 3121
 IPB1064 <Page 6 of 22>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4TF3
 Task Order: 1261.001D.01
 SDG No.: IPB1064

No. of Analyses: 2

Laboratory: Del Mar Analytical
 Reviewer: L. Calvin
 Analysis/Method: TFH by Methods 8015B & 8015M

Date: <u>March 20, 2006</u>
Reviewer's Signature <i>L. Calvin</i>

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	
COMMENTS^b	Acceptable as reviewed.
^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

NPDES Monitoring Program
Outfall 012

ANALYSIS: TOTAL FUEL HYDROCARBONS

SAMPLE DELIVERY GROUP IPB1064

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPB1064
Project Manager: P. Costa
Matrix: Water
Analysis: TFH
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: March 20, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for Levels C and D Total Fuel Hydrocarbons (DVP-8, Rev. 0)*, *EPA Method 8015B*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPB1064-01	Water	8015B & 8015M
Trip Blank	IPB1064-02	Water	8015M

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C at 4°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analyses presented in this SDG. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The water samples were analyzed within 14 days of collection for the gasoline range organics analysis (GRO). The sample for extractable fuel hydrocarbons (EFH) was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 CALIBRATION

Three initial calibrations, two for GRO analyzed 01/19/06 and 01/25/06, and one for EFH analyzed 01/16/06, were associated with the samples in this SDG. The %RSDs for target compounds GRO (C4-C12) and EFH (C13-C22) were ≤20%. An initial calibration verification (ICV) was analyzed following each initial calibration, with %Ds for the target compounds within the QC limit of ≤15%. The continuing calibrations bracketing the sample analyses had %Ds of ≤15% for both GRO and EFH analyses. No qualifications were required.

2.3 BLANKS

Two method blanks, one GRO (6B17047-BLK1) and one EFH (6B15104-BLK1) were associated with this SDG. Target compounds GRO (C4-C12) and EFH (C13-C22) were not detected above the MDLs in the respective method blanks. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One GRO blank spike (6B17047-BS1) and one EFH blank spike/blank spike duplicate pair (6B15104-BS1/BSD1) were associated with this SDG. All recoveries were within the laboratory-established QC limits, and the RPD for the EFH BS/BSD pair was within the QC limit of $\leq 25\%$. No qualifications were required.

2.5 SURROGATE RECOVERY

The samples for GRO analysis were fortified with the surrogate compound 4-BFB, and for EFH analysis, n-octacosane. Surrogate recoveries were within the laboratory-established QC limits of 65-140% for 4-BFB and 40-125% for n-octacosane. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the samples of this SDG. Evaluation of method accuracy and precision was based on the blank spike and blank spike/blank spike duplicate results. No qualifications were required.

2.7 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:

2.7.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.7.2 Trip Blanks

Sample Trip Blank was the trip blank sample associated with the GRO analysis of site sample Outfall 012. GRO (C4-C12) was not detected above the MDL in the trip blank. No qualifications were required.

2.7.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

Project: NPDES
SDG: IPB1064
Analysis: TFH

DATA VALIDATION REPORT

2.8 COMPOUND IDENTIFICATION

The laboratory analyzed for target compounds GRO (C4-C12) and EFH (C13-C22). Review of the sample chromatograms, retention times, and patterns indicated no problems with target compound identification. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limit was supported by the low point of the initial calibration and the laboratory MDLs. Results were reported in mg/L (ppm). No qualifications were required.



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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Alfa Outfall 012 - During Test Report Number: IPB1064	Sampled: 02/10/06 Received: 02/10/06
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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: IPB1064-01 (Outfall 012 - Water) - cont. Reporting Units: mg/l									
EFH (C13 - C22) Surrogate: n-Octacosane (40-125%)	EPA 8015B	6B15104	0.043	0.48	1.8 73 %	0.952	02/15/06	02/16/06	see qual qual code

Del Mar Analytical, Irvine
Michele Chamberlin
Project Manager

Level IV

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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
 Received: 02/10/06

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: IPB1064-01 (Outfall 012 - Water) - cont.									
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	6B20002	0.25	0.50	1.3	5	02/20/06	02/20/06	Very good
Surrogate: 4-BFB (FID) (65-140%)					102 %				
Sample ID: IPB1064-02 (Trip Blank - Water)									
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	6B17047	0.050	0.10	ND	1	02/17/06	02/17/06	U
Surrogate: 4-BFB (FID) (65-140%)					96 %				

Del Mar Analytical, Irvine
 Michele Chamberlin
 Project Manager

Level IV

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
12269 East Vassar Drive
Aurora, CO 80014

Package ID: B4VO22³ SA/3/12/06
Task Order: 1261.001D.01
SDG No.: IPB1064

No. of Analyses: 1

Laboratory: Del Mar Analytical
Reviewer: L. Calvin
Analysis/Method: 1,4-Dioxane by Method 8260B

Date: March 20, 2006
Reviewer's Signature:
L. Calvin

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	
COMMENTS ^b	Acceptable as reviewed.

^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

NPDES Monitoring Program
Outfall 012

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPB1064

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB1064
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles (1,4-dioxane)
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: March 20, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0)*, *SW-846 Method 8260B*, and the *National Functional Guidelines for Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPB1064-01	Water	8260B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C, at 4°C at Del Mar – Irvine. The 1,4-dioxane analysis was subcontracted to Del Mar – Phoenix, and the sample was received within the temperature limits at 3°C. According to the case narrative for this SDG, the sample was received intact, on ice, and properly preserved. Information regarding lack of headspace in the VOA vials was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC from the field to the laboratory was signed and dated by both field and laboratory personnel, and the transfer COC from Del Mar – Irvine to Del Mar – Phoenix was signed by personnel from both laboratories. As the sample was couriered directly from the field to the laboratory, custody seals were not required. Custody seals were not present on the cooler upon receipt at Del Mar – Phoenix. No qualifications were required.

2.1.3 Holding Times

The water sample was analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tunes met the abundance criteria specified in SW-846 Method 8260, and the sample was analyzed within 12 hours of the BFB injection time. No qualifications were required.

2.3 CALIBRATION

One initial calibration was associated with the sample in this SDG, dated 02/17/06. The average RRF for target compound 1,4-dioxane was ≥ 0.05 and the %RSD was $\leq 15\%$. The continuing calibration associated with the sample in this SDG was dated 02/22/06. The RRF for 1,4-dioxane was ≥ 0.05 and the %D was within the QC limit of $\leq 20\%$. No qualifications were required.

2.4 BLANKS

One method blank (P6B2203-BLK1) was analyzed with this SDG. Target compound 1,4-dioxane was not detected above the MDL in the method blank. Review of the method blank raw data indicated no false negative. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (P6B2203-BS1/BSD1) was analyzed with this SDG. The recoveries for 1,4-dioxane were within the QC limits of 70-130%, and the RPD was within the QC limit of $\leq 20\%$. No qualifications were required.

2.6 SURROGATE RECOVERY

The surrogate recovery was within the laboratory QC limits of 70-130% for the sample in this SDG. The recovery was calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 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:

2.8.1 Trip Blanks

There was no trip blank sample associated with the sample in this SDG; however, as 1,4-dioxane was not detected in the sample, evaluation of possible trip blank contamination was not necessary. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

DATA VALIDATION REPORT

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area count and retention time were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recovery was checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compound 1,4-dioxane by EPA Method 8260B. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limit for 1,4-dioxane was supported by the low point of the initial calibration and the laboratory MDL. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Alfa Outfall 012 - During Test Report Number: IPB1064	Sampled: 02/10/06 Received: 02/10/06
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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: IPB1064-01 (Outfall 012 - Water) - cont.									
Reporting Units: ug/l									
1,4-Dioxane	EPA 8260B	P6B2203	0.49	1.0	ND	1	02/22/06	02/22/06	U
Surrogate: Dibromofluoromethane (70-130%)					117 %				

Handwritten notes:
 qual
 qual
 Code

Del Mar Analytical, Irvine
 Michele Chamberlin
 Project Manager

Handwritten: Level IV

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4VO24
 Task Order: 1261.001D.01
 SDG No.: IPB1064

No. of Analyses: 2

Laboratory: Del Mar Analytical
 Reviewer: L. Calvin
 Analysis/Method: Volatiles by Method 624

Date: March 20, 2006
 Reviewer's Signature: *L. Calvin*

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	_____
COMMENTS^b	Acceptable as reviewed.
^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

NPDES Monitoring Program
Outfall 012

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPB1064

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB1064
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: March 20, 2006

The samples listed in Table 1 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)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPB1064-01	Water	624
Trip Blank	IPB1064-02	Water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C \pm 2°C, at 4°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved. Information regarding lack of headspace in the VOA vials was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The water samples were analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 624. No qualifications were required.

2.3 CALIBRATION

One initial calibration was associated with the samples in this SDG, dated 01/21/06. The average RRFs were \geq 0.05 and the %RSDs were \leq 35% for the target compounds listed on the sample result summary forms. The continuing calibration associated with the sample analyses was dated 02/23/06. The RRFs were \geq 0.05 and all %Ds were within the QC limit of \leq 20% for the target compounds. No qualifications were required.

2.4 BLANKS

One method blank (6B23012-BLK1) was analyzed with this SDG. No target compounds were detected in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6B23012-BS1) was analyzed with this SDG. The recoveries were within the laboratory-established QC limits. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on sample Outfall 012. Recoveries were within the laboratory-established QC limits and the RPDs were within the QC limit of $\leq 15\%$. No qualifications were required.

2.8 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:

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 012. No target compounds were detected in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standard: $-50\%/+100\%$ for internal standard areas and ± 30 seconds

for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for five volatile target compounds by EPA Method 624. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Alfa Outfall 012 - During Test Report Number: IPB1064	Sampled: 02/10/06 Received: 02/10/06
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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: IPB1064-01 (Outfall 012 - Water) Reporting Units: ug/l											
1,2-Dibromoethane (EDB)	EPA 624	6B23012	0.32	2.0	ND	1	02/23/06	02/23/06		<i>new qual code</i> ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	
Methyl-tert-butyl Ether (MTBE)	EPA 624	6B23012	0.32	5.0	ND	1	02/23/06	02/23/06			
1,2,3-Trichloropropane	EPA 624	6B23012	0.40	10	ND	1	02/23/06	02/23/06			
Di-isopropyl Ether (DIPE)	EPA 624	6B23012	0.25	5.0	ND	1	02/23/06	02/23/06			
tert-Butanol (TBA)	EPA 624	6B23012	3.1	25	ND	1	02/23/06	02/23/06			
Surrogate: Dibromofluoromethane (80-120%)					111 %						
Surrogate: Toluene-d8 (80-120%)					104 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					107 %						
Sample ID: IPB1064-02 (Trip Blank - Water) Reporting Units: ug/l											
1,2-Dibromoethane (EDB)	EPA 624	6B23012	0.32	2.0	ND	1	02/23/06	02/23/06			
Methyl-tert-butyl Ether (MTBE)	EPA 624	6B23012	0.32	5.0	ND	1	02/23/06	02/23/06			
1,2,3-Trichloropropane	EPA 624	6B23012	0.40	10	ND	1	02/23/06	02/23/06			
Di-isopropyl Ether (DIPE)	EPA 624	6B23012	0.25	5.0	ND	1	02/23/06	02/23/06			
tert-Butanol (TBA)	EPA 624	6B23012	3.1	25	ND	1	02/23/06	02/23/06			
Surrogate: Dibromofluoromethane (80-120%)					108 %						
Surrogate: Toluene-d8 (80-120%)					104 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %						

Del Mar Analytical, Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4WPC2
 Task Order: 1261.001D.01
 SDG No.: IPB1064

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: General Minerals

Date: February 15, 2006
Reviewer's Signature <i>P. Meeks</i>

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	
COMMENTS ^b	Acceptable as reviewed.
^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

NPDES Sampling
Outfall 012

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPB1064

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPB1064
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 15, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC^x Data Validation Procedure for General Minerals (DVP-6, Rev. 0), USEPA Methods for Chemical Analysis of Water and Wastes Methods 160.1, 160.2, 160.5, 180.1, 314.0, 350.2, 405.1, 413.1, and 418.1 and validation guidelines outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPB1064-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. All samples were analyzed within the method-specified holding times. No qualifications were required.

2.2 CALIBRATION

For the applicable analyses, the initial calibration correlation coefficients were ≥ 0.995 and the ICV and CCV recoveries were within the control limits of 90-110%. For ammonia, no information for the titrant standardization was provided; however, as the LCS recovery was within the calibration control limits, no qualifications were required. Balance calibration logs were included for oil and grease, TDS, and TSS. Calibration is not applicable to BOD or settleable solids. No qualifications were required.

2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS recoveries were within the laboratory-established control limits. No qualifications were required.

2.5 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.6 MATRIX SPIKES

No MS/MSD or matrix spike analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was assessed based on LCS results. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06
 Received: 02/10/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Rev Qual	Qual Code
Sample ID: IPB1064-01 (Outfall 012 - Water) - cont.										
Reporting Units: mg/l										
Ammonia-N (Distilled)	EPA 350.2	6B21111	0.60	1.0	5.6	1	02/21/06	02/21/06		
Biochemical Oxygen Demand	EPA 405.1	6B11057	0.59	2.0	3.3	1	02/11/06	02/16/06		
Oil & Grease	EPA 413.1	6B20049	0.90	4.8	ND	1	02/20/06	02/20/06	U	
Total Dissolved Solids	SM2540C	6B16084	10	10	240	1	02/16/06	02/16/06		
Total Suspended Solids	EPA 160.2	6B13121	10	10	28	1	02/13/06	02/13/06		
Sample ID: IPB1064-01 (Outfall 012 - Water)										
Reporting Units: ml/hr										
Total Settleable Solids	EPA 160.5	6B10136	0.10	0.10	1.0	1	02/10/06	02/10/06		
Sample ID: IPB1064-01 (Outfall 012 - Water)										
Reporting Units: NTU										
Turbidity	EPA 180.1	6B11058	0.040	1.0	20	1	02/11/06	02/11/06		
Sample ID: IPB1064-01 (Outfall 012 - Water)										
Reporting Units: ug/l										
Perchlorate	EPA 314.0	6B13069	0.80	4.0	ND	1	02/13/06	02/13/06	U	

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 Project Manager

LEVEL IV

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IPB1064 <Page 7 of 22>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPB1064

Sampled: 02/10/06

Received: 02/10/06

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Rev Qual	Qual Code
Sample ID: IPB1064-01 (Outfall 012 - Water)										
Reporting Units: mg/l										
Total Recoverable Hydrocarbons	EPA 418.1	6B16050	0.31	1.0	8.4	1	02/16/06	02/16/06		

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 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB1064 <Page 2 of 22>

NPDES - 3154

APPENDIX G

Section 69

Outfall 018, February 28, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project: Annual Outfall 018

Sampled: 02/28/06
Received: 02/28/06
Issued: 03/20/06 18:30

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 3 pages, are included and are an integral part of this report. This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IPB2643-01	Outfall 018	Water
IPB2643-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
--	--	---

CORRECTIVE ACTION REPORT

Department: Extractions

Date: 03/10/2006

Method: EPA 625

Matrix: Water

QC Batch: 6C06060

Identification and Definition of Problem:

BS/BSD recoveries were below the acceptance limits for Benzoic Acid (ND/ND, 30-125%), Dimethyl phthalate (36%/44%, 60-120%), and Benzidine (ND/ND, 20-180%).

Determination of the Cause of the Problem:

Benzidine is known to be a problematic compound. According to the EPA, it can be subject to oxidative losses during solvent extraction and its chromatographic behavior is poor. Benzidine failure is typical of the low level method. Less than optimal extraction technique is the likely cause for the failure of benzoic acid and dimethyl phthalate.

Corrective Action Taken:

All results reported for Benzoic Acid, Dimethyl phthalate and Benzidine are potentially biased low and can be considered estimates only and are flagged with L2 qualifier.

Quality Assurance Approval:

Dave Dawes

Date: 03/28/2006 11:40 AM

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
Received: 02/28/06

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water)									
Reporting Units: mg/l									
Total Recoverable Hydrocarbons	EPA 418.1	6C06047	0.30	0.96	ND	0.962	03/06/06	03/06/06	

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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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: IPB2643-01RE1 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
EFH (C13 - C22)	EPA 8015B	6C07098	0.043	0.48	ND	0.952	03/07/06	03/08/06	
<i>Surrogate: n-Octacosane (40-125%)</i>					84 %				

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Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
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Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	6C06046	0.050	0.10	ND	1	03/06/06	03/06/06	
Surrogate: 4-BFB (FID) (65-140%)					88 %				

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Benzene	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06	
Bromodichloromethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06	
Bromoform	EPA 624	6C02019	0.32	5.0	ND	1	03/02/06	03/03/06	
Bromomethane	EPA 624	6C02019	0.42	5.0	ND	1	03/02/06	03/03/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C02019	1.2	5.0	ND	1	03/02/06	03/03/06	
Carbon tetrachloride	EPA 624	6C02019	0.28	5.0	ND	1	03/02/06	03/03/06	
Chlorobenzene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/03/06	
Chloroethane	EPA 624	6C02019	0.40	5.0	ND	1	03/02/06	03/03/06	
Chloroform	EPA 624	6C02019	0.33	2.0	ND	1	03/02/06	03/03/06	
Chloromethane	EPA 624	6C02019	0.30	5.0	ND	1	03/02/06	03/03/06	
Dibromochloromethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06	
1,2-Dichlorobenzene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06	
1,3-Dichlorobenzene	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/03/06	
1,4-Dichlorobenzene	EPA 624	6C02019	0.37	2.0	ND	1	03/02/06	03/03/06	
1,1-Dichloroethane	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/03/06	
1,2-Dichloroethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06	
1,1-Dichloroethene	EPA 624	6C02019	0.32	3.0	ND	1	03/02/06	03/03/06	
trans-1,2-Dichloroethene	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/03/06	
1,2-Dichloropropane	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/03/06	
cis-1,3-Dichloropropene	EPA 624	6C02019	0.22	2.0	ND	1	03/02/06	03/03/06	
trans-1,3-Dichloropropene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06	
Ethylbenzene	EPA 624	6C02019	0.25	2.0	ND	1	03/02/06	03/03/06	
Methylene chloride	EPA 624	6C02019	0.70	5.0	ND	1	03/02/06	03/03/06	
1,1,2,2-Tetrachloroethane	EPA 624	6C02019	0.24	2.0	ND	1	03/02/06	03/03/06	L
Tetrachloroethene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06	
Toluene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/03/06	
1,1,1-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06	
1,1,2-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06	
Trichloroethene	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/03/06	
Trichlorofluoromethane	EPA 624	6C02019	0.34	5.0	ND	1	03/02/06	03/03/06	
Vinyl chloride	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/03/06	
Xylenes, Total	EPA 624	6C02019	0.52	4.0	ND	1	03/02/06	03/03/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					90 %				

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

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: IPB2643-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	
Bromodichloromethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
Bromoform	EPA 624	6C02019	0.32	5.0	ND	1	03/02/06	03/02/06	
Bromomethane	EPA 624	6C02019	0.42	5.0	ND	1	03/02/06	03/02/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C02019	1.2	5.0	ND	1	03/02/06	03/02/06	
Carbon tetrachloride	EPA 624	6C02019	0.28	5.0	ND	1	03/02/06	03/02/06	
Chlorobenzene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/02/06	
Chloroethane	EPA 624	6C02019	0.40	5.0	ND	1	03/02/06	03/02/06	
Chloroform	EPA 624	6C02019	0.33	2.0	ND	1	03/02/06	03/02/06	
Chloromethane	EPA 624	6C02019	0.30	5.0	ND	1	03/02/06	03/02/06	
Dibromochloromethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichlorobenzene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
1,3-Dichlorobenzene	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/02/06	
1,4-Dichlorobenzene	EPA 624	6C02019	0.37	2.0	ND	1	03/02/06	03/02/06	
1,1-Dichloroethane	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichloroethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	
1,1-Dichloroethene	EPA 624	6C02019	0.32	3.0	ND	1	03/02/06	03/02/06	
trans-1,2-Dichloroethene	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichloropropane	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/02/06	
cis-1,3-Dichloropropene	EPA 624	6C02019	0.22	2.0	ND	1	03/02/06	03/02/06	
trans-1,3-Dichloropropene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
Ethylbenzene	EPA 624	6C02019	0.25	2.0	ND	1	03/02/06	03/02/06	
Methylene chloride	EPA 624	6C02019	0.70	5.0	ND	1	03/02/06	03/02/06	
1,1,2,2-Tetrachloroethane	EPA 624	6C02019	0.24	2.0	ND	1	03/02/06	03/02/06	L
Tetrachloroethene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
Toluene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/02/06	
1,1,1-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
1,1,2-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
Trichloroethene	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/02/06	
Trichlorofluoromethane	EPA 624	6C02019	0.34	5.0	ND	1	03/02/06	03/02/06	
Vinyl chloride	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/02/06	
Xylenes, Total	EPA 624	6C02019	0.52	4.0	ND	1	03/02/06	03/02/06	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					110 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					108 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					97 %				

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 Michele Chamberlin
 Project Manager

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IPB2643 <Page 7 of 58>



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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	6C02019	4.6	50	ND	1	03/02/06	03/03/06	
Acrylonitrile	EPA 624	6C02019	0.70	50	ND	1	03/02/06	03/03/06	
2-Chloroethyl vinyl ether	EPA 624	6C02019	1.8	5.0	ND	1	03/02/06	03/03/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					90 %				
Sample ID: IPB2643-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	6C02019	4.6	50	ND	1	03/02/06	03/02/06	pH
Acrylonitrile	EPA 624	6C02019	0.70	50	ND	1	03/02/06	03/02/06	
2-Chloroethyl vinyl ether	EPA 624	6C02019	1.8	5.0	ND	1	03/02/06	03/02/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					108 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

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 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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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: IPB2643-01 (Outfall 018 - Water)									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/03/06	
Cyclohexane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/03/06	
Sample ID: IPB2643-02 (Trip Blank - Water)									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/02/06	
Cyclohexane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/02/06	

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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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: IPB2643-01 (Outfall 018 - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	6C06060	0.096	0.48	ND	0.962	03/06/06	03/09/06	
Acenaphthylene	EPA 625	6C06060	0.096	0.48	ND	0.962	03/06/06	03/09/06	
Aniline	EPA 625	6C06060	2.8	9.6	ND	0.962	03/06/06	03/09/06	
Anthracene	EPA 625	6C06060	0.080	0.48	ND	0.962	03/06/06	03/09/06	
Benzidine	EPA 625	6C06060	3.1	4.8	ND	0.962	03/06/06	03/10/06	L2
Benzoic acid	EPA 625	6C06060	3.6	19	ND	0.962	03/06/06	03/09/06	L2
Benzo(a)anthracene	EPA 625	6C06060	0.037	4.8	ND	0.962	03/06/06	03/09/06	
Benzo(a)pyrene	EPA 625	6C06060	0.13	1.9	ND	0.962	03/06/06	03/09/06	
Benzo(b)fluoranthene	EPA 625	6C06060	0.048	1.9	ND	0.962	03/06/06	03/09/06	
Benzo(g,h,i)perylene	EPA 625	6C06060	0.057	4.8	ND	0.962	03/06/06	03/09/06	
Benzo(k)fluoranthene	EPA 625	6C06060	0.051	0.48	ND	0.962	03/06/06	03/09/06	
Benzyl alcohol	EPA 625	6C06060	0.20	4.8	ND	0.962	03/06/06	03/09/06	
Bis(2-chloroethoxy)methane	EPA 625	6C06060	0.069	0.48	ND	0.962	03/06/06	03/09/06	
Bis(2-chloroethyl)ether	EPA 625	6C06060	0.081	0.48	ND	0.962	03/06/06	03/09/06	
Bis(2-chloroisopropyl)ether	EPA 625	6C06060	0.11	0.48	ND	0.962	03/06/06	03/09/06	
Bis(2-ethylhexyl)phthalate	EPA 625	6C06060	1.1	4.8	ND	0.962	03/06/06	03/09/06	
4-Bromophenyl phenyl ether	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
Butyl benzyl phthalate	EPA 625	6C06060	0.33	4.8	1.4	0.962	03/06/06	03/09/06	J
4-Chloroaniline	EPA 625	6C06060	0.19	1.9	ND	0.962	03/06/06	03/09/06	
2-Chloronaphthalene	EPA 625	6C06060	0.057	0.48	ND	0.962	03/06/06	03/09/06	
4-Chloro-3-methylphenol	EPA 625	6C06060	0.33	1.9	ND	0.962	03/06/06	03/09/06	
4-Chlorophenyl phenyl ether	EPA 625	6C06060	0.054	0.48	ND	0.962	03/06/06	03/09/06	
2-Chlorophenol	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
Chrysene	EPA 625	6C06060	0.069	0.48	ND	0.962	03/06/06	03/09/06	
Dibenz(a,h)anthracene	EPA 625	6C06060	0.080	0.48	ND	0.962	03/06/06	03/09/06	
Dibenzofuran	EPA 625	6C06060	0.072	0.48	ND	0.962	03/06/06	03/09/06	
Di-n-butyl phthalate	EPA 625	6C06060	0.25	1.9	ND	0.962	03/06/06	03/09/06	
1,2-Dichlorobenzene	EPA 625	6C06060	0.11	0.48	ND	0.962	03/06/06	03/09/06	
1,3-Dichlorobenzene	EPA 625	6C06060	0.12	0.48	ND	0.962	03/06/06	03/09/06	
1,4-Dichlorobenzene	EPA 625	6C06060	0.048	0.48	ND	0.962	03/06/06	03/09/06	
3,3-Dichlorobenzidine	EPA 625	6C06060	0.89	4.8	ND	0.962	03/06/06	03/09/06	
2,4-Dichlorophenol	EPA 625	6C06060	0.20	1.9	ND	0.962	03/06/06	03/09/06	
Diethyl phthalate	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
2,4-Dimethylphenol	EPA 625	6C06060	0.30	1.9	ND	0.962	03/06/06	03/09/06	
Dimethyl phthalate	EPA 625	6C06060	0.078	0.48	ND	0.962	03/06/06	03/09/06	L2
4,6-Dinitro-2-methylphenol	EPA 625	6C06060	0.37	4.8	ND	0.962	03/06/06	03/09/06	
2,4-Dinitrophenol	EPA 625	6C06060	2.6	4.8	ND	0.962	03/06/06	03/09/06	
2,4-Dinitrotoluene	EPA 625	6C06060	0.22	4.8	ND	0.962	03/06/06	03/09/06	
2,6-Dinitrotoluene	EPA 625	6C06060	0.23	4.8	ND	0.962	03/06/06	03/09/06	
Di-n-octyl phthalate	EPA 625	6C06060	0.16	4.8	ND	0.962	03/06/06	03/09/06	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	6C06060	0.084	0.96	ND	0.962	03/06/06	03/09/06	

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Fluoranthene	EPA 625	6C06060	0.086	0.48	ND	0.962	03/06/06	03/09/06	
Fluorene	EPA 625	6C06060	0.072	0.48	ND	0.962	03/06/06	03/09/06	
Hexachlorobenzene	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
Hexachlorobutadiene	EPA 625	6C06060	0.37	1.9	ND	0.962	03/06/06	03/09/06	
Hexachlorocyclopentadiene	EPA 625	6C06060	1.7	4.8	ND	0.962	03/06/06	03/09/06	
Hexachloroethane	EPA 625	6C06060	0.49	2.9	ND	0.962	03/06/06	03/09/06	
Indeno(1,2,3-cd)pyrene	EPA 625	6C06060	0.18	1.9	ND	0.962	03/06/06	03/09/06	
Isophorone	EPA 625	6C06060	0.057	0.96	ND	0.962	03/06/06	03/09/06	
2-Methylnaphthalene	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
2-Methylphenol	EPA 625	6C06060	0.27	1.9	ND	0.962	03/06/06	03/09/06	
4-Methylphenol	EPA 625	6C06060	0.19	4.8	ND	0.962	03/06/06	03/09/06	
Naphthalene	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
2-Nitroaniline	EPA 625	6C06060	0.17	4.8	ND	0.962	03/06/06	03/09/06	
3-Nitroaniline	EPA 625	6C06060	0.34	4.8	ND	0.962	03/06/06	03/09/06	
4-Nitroaniline	EPA 625	6C06060	0.47	4.8	ND	0.962	03/06/06	03/09/06	
Nitrobenzene	EPA 625	6C06060	0.096	0.96	ND	0.962	03/06/06	03/09/06	
2-Nitrophenol	EPA 625	6C06060	0.22	1.9	ND	0.962	03/06/06	03/09/06	
4-Nitrophenol	EPA 625	6C06060	0.70	4.8	ND	0.962	03/06/06	03/09/06	
N-Nitrosodimethylamine	EPA 625	6C06060	0.21	1.9	ND	0.962	03/06/06	03/09/06	
N-Nitroso-di-n-propylamine	EPA 625	6C06060	0.17	1.9	ND	0.962	03/06/06	03/09/06	
N-Nitrosodiphenylamine	EPA 625	6C06060	0.074	0.96	ND	0.962	03/06/06	03/09/06	
Pentachlorophenol	EPA 625	6C06060	0.75	1.9	ND	0.962	03/06/06	03/09/06	
Phenanthrene	EPA 625	6C06060	0.068	0.48	ND	0.962	03/06/06	03/09/06	
Phenol	EPA 625	6C06060	0.13	0.96	ND	0.962	03/06/06	03/09/06	
Pyrene	EPA 625	6C06060	0.057	0.48	ND	0.962	03/06/06	03/09/06	
1,2,4-Trichlorobenzene	EPA 625	6C06060	0.096	0.96	ND	0.962	03/06/06	03/09/06	
2,4,5-Trichlorophenol	EPA 625	6C06060	0.072	1.9	ND	0.962	03/06/06	03/09/06	
2,4,6-Trichlorophenol	EPA 625	6C06060	0.096	0.96	ND	0.962	03/06/06	03/09/06	
Surrogate: 2-Fluorophenol (35-120%)									54 %
Surrogate: Phenol-d6 (45-120%)									64 %
Surrogate: 2,4,6-Tribromophenol (50-125%)									66 %
Surrogate: Nitrobenzene-d5 (45-120%)									75 %
Surrogate: 2-Fluorobiphenyl (45-120%)									62 %
Surrogate: Terphenyl-d14 (45-135%)									72 %

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IPB2643 <Page 11 of 58>



MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
Received: 02/28/06

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Aldrin	EPA 608	6C05031	0.029	0.095	ND	0.952	03/05/06	03/07/06	
alpha-BHC	EPA 608	6C05031	0.00047	0.0095	ND	0.952	03/05/06	03/07/06	
beta-BHC	EPA 608	6C05031	0.014	0.095	ND	0.952	03/05/06	03/07/06	
delta-BHC	EPA 608	6C05031	0.019	0.19	ND	0.952	03/05/06	03/07/06	
gamma-BHC (Lindane)	EPA 608	6C05031	0.019	0.095	ND	0.952	03/05/06	03/07/06	
Chlordane	EPA 608	6C05031	0.19	0.95	ND	0.952	03/05/06	03/07/06	
4,4'-DDD	EPA 608	6C05031	0.019	0.095	ND	0.952	03/05/06	03/07/06	
4,4'-DDE	EPA 608	6C05031	0.024	0.095	ND	0.952	03/05/06	03/07/06	
4,4'-DDT	EPA 608	6C05031	0.033	0.095	ND	0.952	03/05/06	03/07/06	
Dieldrin	EPA 608	6C05031	0.014	0.095	ND	0.952	03/05/06	03/07/06	
Endosulfan I	EPA 608	6C05031	0.014	0.095	ND	0.952	03/05/06	03/07/06	
Endosulfan II	EPA 608	6C05031	0.038	0.095	ND	0.952	03/05/06	03/07/06	
Endosulfan sulfate	EPA 608	6C05031	0.019	0.19	ND	0.952	03/05/06	03/07/06	
Endrin	EPA 608	6C05031	0.019	0.095	ND	0.952	03/05/06	03/07/06	
Endrin aldehyde	EPA 608	6C05031	0.043	0.095	ND	0.952	03/05/06	03/07/06	
Endrin ketone	EPA 608	6C05031	0.019	0.095	ND	0.952	03/05/06	03/07/06	
Heptachlor	EPA 608	6C05031	0.029	0.095	ND	0.952	03/05/06	03/07/06	
Heptachlor epoxide	EPA 608	6C05031	0.029	0.095	ND	0.952	03/05/06	03/07/06	
Methoxychlor	EPA 608	6C05031	0.033	0.095	ND	0.952	03/05/06	03/07/06	
Toxaphene	EPA 608	6C05031	1.4	4.8	ND	0.952	03/05/06	03/07/06	
Surrogate: Decachlorobiphenyl (45-120%)									67 %
Surrogate: Tetrachloro-m-xylene (35-120%)									66 %

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Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	6C05031	0.19	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1221	EPA 608	6C05031	0.095	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1232	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1242	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1248	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1254	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1260	EPA 608	6C05031	0.38	0.95	ND	0.952	03/05/06	03/06/06	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					107 %				

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
Barium	EPA 200.7	6C03084	0.0028	0.010	0.041	1	03/03/06	03/04/06	
Boron	EPA 200.7	6C03084	0.0080	0.050	0.046	1	03/03/06	03/07/06	J
Iron	EPA 200.7	6C03084	0.0088	0.040	4.0	1	03/03/06	03/04/06	

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IPB2643 <Page 14 of 58>



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 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C02098	0.18	2.0	0.45	1	03/02/06	03/02/06	J
Arsenic	EPA 200.7	6C03084	3.8	5.0	ND	1	03/03/06	03/04/06	
Beryllium	EPA 200.7	6C03084	0.62	2.0	ND	1	03/03/06	03/04/06	
Cadmium	EPA 200.8	6C02098	0.015	1.0	0.20	1	03/02/06	03/02/06	J
Chromium	EPA 200.7	6C03084	0.68	5.0	6.5	1	03/03/06	03/04/06	B
Cobalt	EPA 200.7	6C03084	2.0	10	ND	1	03/03/06	03/04/06	
Copper	EPA 200.8	6C02098	0.49	2.0	5.9	1	03/02/06	03/02/06	
Lead	EPA 200.8	6C02098	0.13	1.0	3.6	1	03/02/06	03/02/06	
Manganese	EPA 200.7	6C03084	3.2	20	110	1	03/03/06	03/04/06	
Mercury	EPA 245.1	6C02097	0.063	0.20	ND	1	03/02/06	03/02/06	
Nickel	EPA 200.7	6C03084	2.0	10	4.3	1	03/03/06	03/04/06	J
Selenium	EPA 200.8	6C02098	0.36	2.0	0.47	1	03/02/06	03/02/06	B, J
Silver	EPA 200.8	6C02098	0.089	1.0	0.11	1	03/02/06	03/02/06	J
Thallium	EPA 200.8	6C02098	0.075	1.0	0.089	1	03/02/06	03/02/06	J
Vanadium	EPA 200.7	6C03084	3.0	10	9.9	1	03/03/06	03/04/06	J
Zinc	EPA 200.7	6C03084	3.7	20	270	1	03/03/06	03/04/06	

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 Project Manager

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IPB2643 <Page 15 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C05021	0.30	0.50	0.56	1	03/05/06	03/05/06	
Biochemical Oxygen Demand	EPA 405.1	6C01115	0.59	2.0	2.9	1	03/01/06	03/06/06	
Chloride	EPA 300.0	6C01049	0.26	0.50	14	1	03/01/06	03/01/06	
Fluoride	EPA 300.0	6C01049	0.10	0.50	0.20	1	03/01/06	03/01/06	J
Nitrate/Nitrite-N	EPA 300.0	6C01049	0.072	0.26	1.3	1	03/01/06	03/01/06	
Oil & Grease	EPA 413.1	6C08046	0.91	4.9	ND	1	03/08/06	03/08/06	
Residual Chlorine	EPA 330.5	6B28145	0.10	0.10	ND	1	02/28/06	02/28/06	
Sulfate	EPA 300.0	6C01049	0.18	0.50	32	1	03/01/06	03/01/06	
Surfactants (MBAS)	SM5540-C	6C01108	0.044	0.10	ND	1	03/01/06	03/01/06	
Total Dissolved Solids	SM2540C	6C03069	10	10	180	1	03/03/06	03/03/06	
Total Organic Carbon	EPA 415.1	6C02064	0.25	1.0	9.8	1	03/01/06	03/01/06	
Total Suspended Solids	EPA 160.2	6C05025	10	10	39	1	03/05/06	03/05/06	

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IPB2643 <Page 16 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6B28095	0.10	0.10	ND	1	02/28/06	02/28/06	

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Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C01122	0.080	2.0	62	2	03/01/06	03/01/06	

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IPB2643 <Page 18 of 58>



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Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C02125	2.2	5.0	ND	1	03/02/06	03/02/06	
Perchlorate	EPA 314.0	6C02068	0.80	4.0	ND	1	03/02/06	03/03/06	

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IPB2643 <Page 19 of 58>



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Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C03067	1.0	1.0	230	1	03/03/06	03/03/06	

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IPB2643 <Page 20 of 58>



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Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
1,4-Dioxane	EPA 8260B	P6C0311	0.49	1.0	0.60	1	03/03/06	03/04/06	J
Surrogate: Dibromofluoromethane (70-130%)					112 %				

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IPB2643 <Page 21 of 58>



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Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 018 (IPB2643-01) - Water					
EPA 160.5	2	02/28/2006 10:00	02/28/2006 18:35	02/28/2006 20:45	02/28/2006 21:45
EPA 180.1	2	02/28/2006 10:00	02/28/2006 18:35	03/01/2006 15:15	03/01/2006 16:15
EPA 300.0	2	02/28/2006 10:00	02/28/2006 18:35	03/01/2006 08:00	03/01/2006 09:01
EPA 330.5	1	02/28/2006 10:00	02/28/2006 18:35	02/28/2006 21:30	02/28/2006 21:45
EPA 405.1	2	02/28/2006 10:00	02/28/2006 18:35	03/01/2006 18:45	03/06/2006 15:30
EPA 624	3	02/28/2006 10:00	02/28/2006 18:35	03/02/2006 00:00	03/03/2006 04:09
SM5540-C	2	02/28/2006 10:00	02/28/2006 18:35	03/01/2006 14:29	03/01/2006 15:25
Sample ID: Trip Blank (IPB2643-02) - Water					
EPA 624	3	02/28/2006 15:45	02/28/2006 18:35	03/02/2006 00:00	03/02/2006 23:09

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IPB2643 <Page 22 of 58>



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Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

METHOD BLANK/QC DATA

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C06047 Extracted: 03/06/06											
Blank Analyzed: 03/06/2006 (6C06047-BLK1)											
Total Recoverable Hydrocarbons	ND	1.0	0.31	mg/l							
LCS Analyzed: 03/06/2006 (6C06047-BS1)											
Total Recoverable Hydrocarbons	4.47	1.0	0.31	mg/l	5.00		89	65-120			M-NR1
LCS Dup Analyzed: 03/06/2006 (6C06047-BSD1)											
Total Recoverable Hydrocarbons	4.11	1.0	0.31	mg/l	5.00		82	65-120	8	20	

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IPB2643 <Page 23 of 58>

NPDES - 3178



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Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C07098 Extracted: 03/07/06											
Blank Analyzed: 03/07/2006 (6C07098-BLK1)											
EFH (C13 - C22)	ND	0.50	0.045	mg/l							
EFH (C13 - C40)	ND	0.50	0.045	mg/l							
Surrogate: n-Octacosane	0.142			mg/l	0.200		71	40-125			
LCS Analyzed: 03/07/2006 (6C07098-BS1)											
EFH (C13 - C40)	0.504	0.50	0.045	mg/l	0.750		67	40-120			
Surrogate: n-Octacosane	0.146			mg/l	0.200		73	40-125			
LCS Dup Analyzed: 03/07/2006 (6C07098-BSD1)											
EFH (C13 - C40)	0.540	0.50	0.045	mg/l	0.750		72	40-120	7	25	
Surrogate: n-Octacosane	0.153			mg/l	0.200		76	40-125			

M-NR1

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IPB2643 <Page 24 of 58>



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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C06046 Extracted: 03/06/06											
Blank Analyzed: 03/06/2006 (6C06046-BLK1)											
GRO (C4 - C12)	ND	0.10	0.050	mg/l							
Surrogate: 4-BFB (FID)	0.00732			mg/l	0.0100		73	65-140			
LCS Analyzed: 03/06/2006 (6C06046-BS1)											
GRO (C4 - C12)	0.827	0.10	0.050	mg/l	0.800		103	65-140			
Surrogate: 4-BFB (FID)	0.0414			mg/l	0.0300		138	65-140			
Matrix Spike Analyzed: 03/06/2006 (6C06046-MS1) Source: IPB2637-01											
GRO (C4 - C12)	0.208	0.10	0.050	mg/l	0.220	ND	95	60-145			
Surrogate: 4-BFB (FID)	0.0115			mg/l	0.0100		115	65-140			
Matrix Spike Dup Analyzed: 03/06/2006 (6C06046-MSD1) Source: IPB2637-01											
GRO (C4 - C12)	0.216	0.10	0.050	mg/l	0.220	ND	98	60-145	4	20	
Surrogate: 4-BFB (FID)	0.0117			mg/l	0.0100		117	65-140			

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IPB2643 <Page 25 of 58>



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Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits RPD	RPD Limit	Data Qualifiers
Batch: 6C02019 Extracted: 03/02/06										
Blank Analyzed: 03/02/2006 (6C02019-BLK1)										
Benzene	ND	2.0	0.28	ug/l						
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.42	ug/l						
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l						
Carbon tetrachloride	ND	5.0	0.28	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.40	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,2-Dichloroethane	ND	2.0	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.42	ug/l						
1,1-Dichloroethene	ND	3.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.32	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	1.16	5.0	0.70	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	ug/l						
Tetrachloroethene	ND	2.0	0.32	ug/l						
Tetrachloroethene	ND	2.0	0.32	ug/l						
Toluene	ND	2.0	0.36	ug/l						
Toluene	ND	2.0	0.36	ug/l						

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IPB2643 <Page 26 of 58>



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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02019 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02019-BLK1)											
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
Trichloroethene	ND	5.0	0.26	ug/l							
Trichloroethene	ND	2.0	0.26	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Vinyl chloride	ND	5.0	0.26	ug/l							
Vinyl chloride	ND	0.50	0.26	ug/l							
Xylenes, Total	ND	4.0	0.52	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l							
Surrogate: Dibromofluoromethane	27.6			ug/l	25.0		110	80-120			
Surrogate: Dibromofluoromethane	27.6			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	24.1			ug/l	25.0		96	80-120			
Surrogate: 4-Bromofluorobenzene	24.1			ug/l	25.0		96	80-120			
LCS Analyzed: 03/02/2006 (6C02019-BS1)											
Benzene	26.3	1.0	0.28	ug/l	25.0		105	65-120			
Benzene	26.3	2.0	0.28	ug/l	25.0		105	70-120			
Bromodichloromethane	25.5	2.0	0.30	ug/l	25.0		102	65-135			
Bromoform	21.8	5.0	0.32	ug/l	25.0		87	50-130			
Bromomethane	23.1	5.0	0.42	ug/l	25.0		92	60-140			
Carbon tetrachloride	24.8	5.0	0.28	ug/l	25.0		99	70-140			
Carbon tetrachloride	24.8	0.50	0.28	ug/l	25.0		99	65-140			
Chlorobenzene	26.0	2.0	0.36	ug/l	25.0		104	70-125			
Chloroethane	26.1	5.0	0.40	ug/l	25.0		104	55-140			
Chloroform	26.0	2.0	0.33	ug/l	25.0		104	75-130			
Chloroform	26.0	2.0	0.33	ug/l	25.0		104	65-130			
Chloromethane	23.7	5.0	0.30	ug/l	25.0		95	40-140			
Dibromochloromethane	25.8	2.0	0.28	ug/l	25.0		103	65-140			
1,2-Dichlorobenzene	27.1	2.0	0.32	ug/l	25.0		108	70-120			
1,3-Dichlorobenzene	24.9	2.0	0.35	ug/l	25.0		100	70-125			

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IPB2643 <Page 27 of 58>



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 Attention: Bronwyn Kelly

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Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02019 Extracted: 03/02/06											
LCS Analyzed: 03/02/2006 (6C02019-BS1)											
1,4-Dichlorobenzene	24.3	2.0	0.37	ug/l	25.0		97	70-125			
1,1-Dichloroethane	26.0	2.0	0.27	ug/l	25.0		104	65-130			
1,1-Dichloroethane	26.0	2.0	0.27	ug/l	25.0		104	70-135			
1,2-Dichloroethane	26.0	2.0	0.28	ug/l	25.0		104	60-150			
1,2-Dichloroethane	26.0	0.50	0.28	ug/l	25.0		104	60-140			
1,1-Dichloroethene	28.5	5.0	0.42	ug/l	25.0		114	70-130			
1,1-Dichloroethene	28.5	3.0	0.32	ug/l	25.0		114	75-135			
trans-1,2-Dichloroethene	27.9	2.0	0.27	ug/l	25.0		112	65-130			
1,2-Dichloropropane	26.7	2.0	0.35	ug/l	25.0		107	65-125			
cis-1,3-Dichloropropene	26.2	2.0	0.22	ug/l	25.0		105	70-130			
trans-1,3-Dichloropropene	26.9	2.0	0.32	ug/l	25.0		108	65-130			
Ethylbenzene	26.1	2.0	0.25	ug/l	25.0		104	80-120			
Ethylbenzene	26.1	2.0	0.25	ug/l	25.0		104	70-125			
Methylene chloride	28.2	5.0	0.70	ug/l	25.0		113	60-130			
1,1,2,2-Tetrachloroethane	36.9	2.0	0.24	ug/l	25.0		148	55-130			L
Tetrachloroethene	25.7	2.0	0.32	ug/l	25.0		103	75-125			
Tetrachloroethene	25.7	2.0	0.32	ug/l	25.0		103	65-125			
Toluene	25.6	2.0	0.36	ug/l	25.0		102	75-120			
Toluene	25.6	2.0	0.36	ug/l	25.0		102	70-125			
1,1,1-Trichloroethane	23.6	2.0	0.30	ug/l	25.0		94	65-135			
1,1,1-Trichloroethane	23.6	2.0	0.30	ug/l	25.0		94	75-140			
1,1,2-Trichloroethane	29.4	2.0	0.30	ug/l	25.0		118	65-125			
1,1,2-Trichloroethane	29.4	2.0	0.30	ug/l	25.0		118	70-125			
Trichloroethene	26.7	2.0	0.26	ug/l	25.0		107	70-125			
Trichloroethene	26.7	5.0	0.26	ug/l	25.0		107	80-120			
Trichlorofluoromethane	23.0	5.0	0.34	ug/l	25.0		92	60-140			
Trichlorofluoromethane	23.0	5.0	0.34	ug/l	25.0		92	65-145			
Vinyl chloride	25.2	5.0	0.26	ug/l	25.0		101	50-130			
Vinyl chloride	25.2	0.50	0.26	ug/l	25.0		101	50-130			
Surrogate: Dibromofluoromethane	27.8			ug/l	25.0		111	80-120			
Surrogate: Dibromofluoromethane	27.8			ug/l	25.0		111	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			

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 Michele Chamberlin
 Project Manager

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IPB2643 <Page 28 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 6C02019 Extracted: 03/02/06											
Matrix Spike Analyzed: 03/02/2006 (6C02019-MS1)						Source: IPB2639-01					
Benzene	26.1	2.0	0.28	ug/l	25.0	ND	104	70-120			
Benzene	26.1	1.0	0.28	ug/l	25.0	ND	104	60-125			
Bromodichloromethane	25.1	2.0	0.30	ug/l	25.0	ND	100	65-135			
Bromoform	18.2	5.0	0.32	ug/l	25.0	ND	73	50-135			
Bromomethane	21.9	5.0	0.42	ug/l	25.0	ND	88	50-145			
Carbon tetrachloride	24.9	5.0	0.28	ug/l	25.0	ND	100	70-145			
Carbon tetrachloride	24.9	0.50	0.28	ug/l	25.0	ND	100	65-140			
Chlorobenzene	25.7	2.0	0.36	ug/l	25.0	ND	103	70-125			
Chloroethane	25.6	5.0	0.40	ug/l	25.0	ND	102	50-140			
Chloroform	25.6	2.0	0.33	ug/l	25.0	ND	102	65-135			
Chloroform	25.6	2.0	0.33	ug/l	25.0	ND	102	70-135			
Chloromethane	23.5	5.0	0.30	ug/l	25.0	ND	94	35-140			
Dibromochloromethane	24.0	2.0	0.28	ug/l	25.0	ND	96	60-140			
1,2-Dichlorobenzene	25.9	2.0	0.32	ug/l	25.0	ND	104	70-125			
1,3-Dichlorobenzene	24.0	2.0	0.35	ug/l	25.0	ND	96	70-125			
1,4-Dichlorobenzene	23.4	2.0	0.37	ug/l	25.0	ND	94	70-125			
1,1-Dichloroethane	25.6	2.0	0.27	ug/l	25.0	ND	102	60-130			
1,1-Dichloroethane	25.6	2.0	0.27	ug/l	25.0	ND	102	65-135			
1,2-Dichloroethane	25.8	2.0	0.28	ug/l	25.0	ND	103	60-150			
1,2-Dichloroethane	25.8	0.50	0.28	ug/l	25.0	ND	103	60-140			
1,1-Dichloroethene	27.2	3.0	0.32	ug/l	25.0	ND	109	65-140			
1,1-Dichloroethene	27.2	5.0	0.42	ug/l	25.0	ND	109	60-135			
trans-1,2-Dichloroethene	26.6	2.0	0.27	ug/l	25.0	ND	106	60-135			
1,2-Dichloropropane	26.6	2.0	0.35	ug/l	25.0	ND	106	60-125			
cis-1,3-Dichloropropene	25.8	2.0	0.22	ug/l	25.0	ND	103	65-135			
trans-1,3-Dichloropropene	26.4	2.0	0.32	ug/l	25.0	ND	106	65-140			
Ethylbenzene	25.7	2.0	0.25	ug/l	25.0	ND	103	70-130			
Ethylbenzene	25.7	2.0	0.25	ug/l	25.0	ND	103	65-130			
Methylene chloride	25.9	5.0	0.70	ug/l	25.0	ND	104	55-130			
1,1,2,2-Tetrachloroethane	35.2	2.0	0.24	ug/l	25.0	ND	141	55-140			MI
Tetrachloroethene	25.1	2.0	0.32	ug/l	25.0	ND	100	70-130			
Tetrachloroethene	25.1	2.0	0.32	ug/l	25.0	ND	100	60-130			
Toluene	25.5	2.0	0.36	ug/l	25.0	ND	102	65-125			
Toluene	25.5	2.0	0.36	ug/l	25.0	ND	102	70-120			
1,1,1-Trichloroethane	23.2	2.0	0.30	ug/l	25.0	ND	93	65-140			

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IPB2643 <Page 29 of 58>

NPDES - 3184



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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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Batch: 6C02019 Extracted: 03/02/06

Matrix Spike Analyzed: 03/02/2006 (6C02019-MS1)

Source: IPB2639-01

1,1,1-Trichloroethane	23.2	2.0	0.30	ug/l	25.0	ND	93	75-140			
1,1,2-Trichloroethane	28.0	2.0	0.30	ug/l	25.0	ND	112	60-130			
1,1,2-Trichloroethane	28.0	2.0	0.30	ug/l	25.0	ND	112	60-135			
Trichloroethene	28.2	5.0	0.26	ug/l	25.0	2.4	103	70-125			
Trichloroethene	28.2	2.0	0.26	ug/l	25.0	2.4	103	60-125			
Trichlorofluoromethane	22.3	5.0	0.34	ug/l	25.0	ND	89	55-145			
Trichlorofluoromethane	22.3	5.0	0.34	ug/l	25.0	ND	89	55-145			
Vinyl chloride	23.9	0.50	0.26	ug/l	25.0	ND	96	40-135			
Vinyl chloride	23.9	5.0	0.26	ug/l	25.0	ND	96	40-135			
Surrogate: Dibromofluoromethane	28.1			ug/l	25.0		112	80-120			
Surrogate: Dibromofluoromethane	28.1			ug/l	25.0		112	80-120			
Surrogate: Toluene-d8	28.1			ug/l	25.0		112	80-120			
Surrogate: Toluene-d8	28.1			ug/l	25.0		112	80-120			
Surrogate: 4-Bromofluorobenzene	26.7			ug/l	25.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	26.7			ug/l	25.0		107	80-120			

Matrix Spike Dup Analyzed: 03/02/2006 (6C02019-MSD1)

Source: IPB2639-01

Benzene	26.7	1.0	0.28	ug/l	25.0	ND	107	60-125	2	20	
Benzene	26.7	2.0	0.28	ug/l	25.0	ND	107	70-120	2	20	
Bromodichloromethane	24.9	2.0	0.30	ug/l	25.0	ND	100	65-135	1	20	
Bromoform	16.4	5.0	0.32	ug/l	25.0	ND	66	50-135	10	25	
Bromomethane	25.1	5.0	0.42	ug/l	25.0	ND	100	50-145	14	25	
Carbon tetrachloride	26.4	5.0	0.28	ug/l	25.0	ND	106	70-145	6	25	
Carbon tetrachloride	26.4	0.50	0.28	ug/l	25.0	ND	106	65-140	6	25	
Chlorobenzene	26.2	2.0	0.36	ug/l	25.0	ND	105	70-125	2	20	
Chloroethane	28.5	5.0	0.40	ug/l	25.0	ND	114	50-140	11	25	
Chloroform	26.8	2.0	0.33	ug/l	25.0	ND	107	70-135	5	20	
Chloroform	26.8	2.0	0.33	ug/l	25.0	ND	107	65-135	5	20	
Chloromethane	25.4	5.0	0.30	ug/l	25.0	ND	102	35-140	8	25	
Dibromochloromethane	22.0	2.0	0.28	ug/l	25.0	ND	88	60-140	9	25	
1,2-Dichlorobenzene	25.9	2.0	0.32	ug/l	25.0	ND	104	70-125	0	20	
1,3-Dichlorobenzene	25.2	2.0	0.35	ug/l	25.0	ND	101	70-125	5	20	
1,4-Dichlorobenzene	24.6	2.0	0.37	ug/l	25.0	ND	98	70-125	5	20	
1,1-Dichloroethane	26.6	2.0	0.27	ug/l	25.0	ND	106	65-135	4	20	
1,1-Dichloroethane	26.6	2.0	0.27	ug/l	25.0	ND	106	60-130	4	20	
1,2-Dichloroethane	23.0	0.50	0.28	ug/l	25.0	ND	92	60-140	11	20	

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02019 Extracted: 03/02/06											
Matrix Spike Dup Analyzed: 03/02/2006 (6C02019-MSD1)						Source: IPB2639-01					
1,2-Dichloroethane	23.0	2.0	0.28	ug/l	25.0	ND	92	60-150	11	20	
1,1-Dichloroethene	29.2	5.0	0.42	ug/l	25.0	ND	117	60-135	7	20	
1,1-Dichloroethane	29.2	3.0	0.32	ug/l	25.0	ND	117	65-140	7	20	
trans-1,2-Dichloroethene	28.2	2.0	0.27	ug/l	25.0	ND	113	60-135	6	20	
1,2-Dichloropropane	26.0	2.0	0.35	ug/l	25.0	ND	104	60-125	2	20	
cis-1,3-Dichloropropene	24.5	2.0	0.22	ug/l	25.0	ND	98	65-135	5	20	
trans-1,3-Dichloropropene	23.0	2.0	0.32	ug/l	25.0	ND	92	65-140	14	25	
Ethylbenzene	27.0	2.0	0.25	ug/l	25.0	ND	108	70-130	5	20	
Ethylbenzene	27.0	2.0	0.25	ug/l	25.0	ND	108	65-130	5	20	
Methylene chloride	26.8	5.0	0.70	ug/l	25.0	ND	107	55-130	3	20	
1,1,2,2-Tetrachloroethane	25.7	2.0	0.24	ug/l	25.0	ND	103	55-140	31	30	R-3
Tetrachloroethene	26.4	2.0	0.32	ug/l	25.0	ND	106	70-130	5	20	
Tetrachloroethene	26.4	2.0	0.32	ug/l	25.0	ND	106	60-130	5	20	
Toluene	26.5	2.0	0.36	ug/l	25.0	ND	106	70-120	4	20	
Toluene	26.5	2.0	0.36	ug/l	25.0	ND	106	65-125	4	20	
1,1,1-Trichloroethane	24.3	2.0	0.30	ug/l	25.0	ND	97	75-140	5	20	
1,1,1-Trichloroethane	24.3	2.0	0.30	ug/l	25.0	ND	97	65-140	5	20	
1,1,2-Trichloroethane	23.6	2.0	0.30	ug/l	25.0	ND	94	60-130	17	25	
1,1,2-Trichloroethane	23.6	2.0	0.30	ug/l	25.0	ND	94	60-135	17	25	
Trichloroethene	29.1	5.0	0.26	ug/l	25.0	2.4	107	70-125	3	20	
Trichloroethene	29.1	2.0	0.26	ug/l	25.0	2.4	107	60-125	3	20	
Trichlorofluoromethane	24.3	5.0	0.34	ug/l	25.0	ND	97	55-145	9	25	
Trichlorofluoromethane	24.3	5.0	0.34	ug/l	25.0	ND	97	55-145	9	25	
Vinyl chloride	25.6	0.50	0.26	ug/l	25.0	ND	102	40-135	7	30	
Vinyl chloride	25.6	5.0	0.26	ug/l	25.0	ND	102	40-135	7	30	
Surrogate: Dibromofluoromethane	27.7			ug/l	25.0		111	80-120			
Surrogate: Dibromofluoromethane	27.7			ug/l	25.0		111	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			

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IPB2643 <Page 31 of 58>

NPDES - 3186



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

METHOD BLANK/QC DATA

PURGEABLES-- GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02019 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02019-BLK1)											
Acrolein	ND	50	4.6	ug/l							
Acrylonitrile	ND	50	0.70	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.8	ug/l							
Surrogate: Dibromofluoromethane	27.6			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	24.1			ug/l	25.0		96	80-120			
LCS Analyzed: 03/02/2006 (6C02019-BS1)											
2-Chloroethyl vinyl ether	17.8	5.0	1.8	ug/l	25.0		71	25-170			
Surrogate: Dibromofluoromethane	27.8			ug/l	25.0		111	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			
Matrix Spike Analyzed: 03/02/2006 (6C02019-MS1)											
Source: IPB2639-01											
2-Chloroethyl vinyl ether	21.2	5.0	1.8	ug/l	25.0	ND	85	25-170			
Surrogate: Dibromofluoromethane	28.1			ug/l	25.0		112	80-120			
Surrogate: Toluene-d8	28.1			ug/l	25.0		112	80-120			
Surrogate: 4-Bromofluorobenzene	26.7			ug/l	25.0		107	80-120			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02019-MSD1)											
Source: IPB2639-01											
2-Chloroethyl vinyl ether	8.66	5.0	1.8	ug/l	25.0	ND	35	25-170	84	25	R
Surrogate: Dibromofluoromethane	27.7			ug/l	25.0		111	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			

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300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02019 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02019-BLK1)											
Cyclohexane	ND	2.5	N/A	ug/l							
1,2-Dichloro-1,1,2-trifluoroethane	ND	2.5	N/A	ug/l							

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IPB2643 <Page 33 of 58>



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Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C06060 Extracted: 03/06/06										
Blank Analyzed: 03/09/2006 (6C06060-BLK1)										
Acenaphthene	ND	0.50	0.10	ug/l						
Acenaphthylene	ND	0.50	0.10	ug/l						
Aniline	ND	10	2.9	ug/l						
Anthracene	ND	0.50	0.083	ug/l						
Benzidine	ND	5.0	3.2	ug/l						
Benzoic acid	ND	20	3.7	ug/l						
Benzo(a)anthracene	ND	5.0	0.038	ug/l						
Benzo(a)pyrene	ND	2.0	0.14	ug/l						
Benzo(b)fluoranthene	ND	2.0	0.050	ug/l						
Benzo(g,h,i)perylene	ND	5.0	0.059	ug/l						
Benzo(k)fluoranthene	ND	0.50	0.053	ug/l						
Benzyl alcohol	ND	5.0	0.21	ug/l						
Bis(2-chloroethoxy)methane	ND	0.50	0.072	ug/l						
Bis(2-chloroethyl)ether	ND	0.50	0.084	ug/l						
Bis(2-chloroisopropyl)ether	ND	0.50	0.11	ug/l						
Bis(2-ethylhexyl)phthalate	ND	5.0	1.1	ug/l						
4-Bromophenyl phenyl ether	ND	1.0	0.12	ug/l						
Butyl benzyl phthalate	ND	5.0	0.34	ug/l						
4-Chloroaniline	ND	2.0	0.20	ug/l						
2-Chloronaphthalene	ND	0.50	0.059	ug/l						
4-Chloro-3-methylphenol	ND	2.0	0.34	ug/l						
4-Chlorophenyl phenyl ether	ND	0.50	0.056	ug/l						
2-Chlorophenol	ND	1.0	0.12	ug/l						
Chrysene	ND	0.50	0.072	ug/l						
Dibenz(a,h)anthracene	ND	0.50	0.083	ug/l						
Dibenzofuran	ND	0.50	0.075	ug/l						
Di-n-butyl phthalate	ND	2.0	0.26	ug/l						
1,2-Dichlorobenzene	ND	0.50	0.11	ug/l						
1,3-Dichlorobenzene	ND	0.50	0.13	ug/l						
1,4-Dichlorobenzene	ND	0.50	0.050	ug/l						
3,3-Dichlorobenzidine	ND	5.0	0.93	ug/l						
2,4-Dichlorophenol	ND	2.0	0.21	ug/l						
Diethyl phthalate	ND	1.0	0.12	ug/l						
2,4-Dimethylphenol	ND	2.0	0.31	ug/l						
Dimethyl phthalate	ND	0.50	0.081	ug/l						

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 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 6C06060 Extracted: 03/06/06										
Blank Analyzed: 03/09/2006 (6C06060-BLK1)										
4,6-Dinitro-2-methylphenol	ND	5.0	0.38	ug/l						
2,4-Dinitrophenol	ND	5.0	2.7	ug/l						
2,4-Dinitrotoluene	ND	5.0	0.23	ug/l						
2,6-Dinitrotoluene	ND	5.0	0.24	ug/l						
Di-n-octyl phthalate	ND	5.0	0.17	ug/l						
1,2-Diphenylhydrazine/Azobenzene	ND	1.0	0.087	ug/l						
Fluoranthene	ND	0.50	0.089	ug/l						
Fluorene	ND	0.50	0.075	ug/l						
Hexachlorobenzene	ND	1.0	0.13	ug/l						
Hexachlorobutadiene	ND	2.0	0.38	ug/l						
Hexachlorocyclopentadiene	ND	5.0	1.8	ug/l						
Hexachloroethane	ND	3.0	0.51	ug/l						
Indeno(1,2,3-cd)pyrene	ND	2.0	0.19	ug/l						
Isophorone	ND	1.0	0.059	ug/l						
2-Methylnaphthalene	ND	1.0	0.13	ug/l						
2-Methylphenol	ND	2.0	0.28	ug/l						
4-Methylphenol	ND	5.0	0.20	ug/l						
Naphthalene	ND	1.0	0.13	ug/l						
2-Nitroaniline	ND	5.0	0.18	ug/l						
3-Nitroaniline	ND	5.0	0.35	ug/l						
4-Nitroaniline	ND	5.0	0.49	ug/l						
Nitrobenzene	ND	1.0	0.10	ug/l						
2-Nitrophenol	ND	2.0	0.23	ug/l						
4-Nitrophenol	ND	5.0	0.73	ug/l						
N-Nitrosodimethylamine	ND	2.0	0.22	ug/l						
N-Nitroso-di-n-propylamine	ND	2.0	0.18	ug/l						
N-Nitrosodiphenylamine	ND	1.0	0.077	ug/l						
Pentachlorophenol	ND	2.0	0.78	ug/l						
Phenanthrene	ND	0.50	0.071	ug/l						
Phenol	ND	1.0	0.14	ug/l						
Pyrene	ND	0.50	0.059	ug/l						
1,2,4-Trichlorobenzene	ND	1.0	0.10	ug/l						
2,4,5-Trichlorophenol	ND	2.0	0.075	ug/l						
2,4,6-Trichlorophenol	ND	1.0	0.10	ug/l						
Surrogate: 2-Fluorophenol	14.2			ug/l	20.0		71	35-120		

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IPB2643 <Page 35 of 58>



MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C06060 Extracted: 03/06/06											
Blank Analyzed: 03/09/2006 (6C06060-BLK1)											
Surrogate: Phenol-d6	14.6			ug/l	20.0		73	45-120			
Surrogate: 2,4,6-Tribromophenol	16.4			ug/l	20.0		82	50-125			
Surrogate: Nitrobenzene-d5	7.76			ug/l	10.0		78	45-120			
Surrogate: 2-Fluorobiphenyl	6.74			ug/l	10.0		67	45-120			
Surrogate: Terphenyl-d14	7.50			ug/l	10.0		75	45-135			
LCS Analyzed: 03/09/2006 (6C06060-BS1)											
Acenaphthene	7.90	0.50	0.10	ug/l	10.0		79	55-120			
Acenaphthylene	8.44	0.50	0.10	ug/l	10.0		84	55-120			
Aniline	7.02	10	2.9	ug/l	10.0		70	30-120			J
Anthracene	8.74	0.50	0.083	ug/l	10.0		87	60-120			
Benzidine	ND	5.0	3.2	ug/l	10.0			20-180			L2
Benzoic acid	ND	20	3.7	ug/l	10.0			30-125			L2
Benzo(a)anthracene	9.48	5.0	0.038	ug/l	10.0		95	65-120			
Benzo(a)pyrene	10.3	2.0	0.14	ug/l	10.0		103	55-125			
Benzo(b)fluoranthene	11.0	2.0	0.050	ug/l	10.0		110	50-125			
Benzo(g,h,i)perylene	12.0	5.0	0.059	ug/l	10.0		120	35-160			
Benzo(k)fluoranthene	10.1	0.50	0.053	ug/l	10.0		101	50-125			
Benzyl alcohol	7.00	5.0	0.21	ug/l	10.0		70	40-130			
Bis(2-chloroethoxy)methane	7.98	0.50	0.072	ug/l	10.0		80	55-120			
Bis(2-chloroethyl)ether	7.26	0.50	0.084	ug/l	10.0		73	50-120			
Bis(2-chloroisopropyl)ether	7.70	0.50	0.11	ug/l	10.0		77	50-120			
Bis(2-ethylhexyl)phthalate	10.0	5.0	1.1	ug/l	10.0		100	65-125			
4-Bromophenyl phenyl ether	8.36	1.0	0.12	ug/l	10.0		84	55-125			
Butyl benzyl phthalate	10.6	5.0	0.34	ug/l	10.0		106	60-125			
4-Chloroaniline	7.00	2.0	0.20	ug/l	10.0		70	55-120			
2-Chloronaphthalene	7.24	0.50	0.059	ug/l	10.0		72	60-120			
4-Chloro-3-methylphenol	9.26	2.0	0.34	ug/l	10.0		93	60-120			
4-Chlorophenyl phenyl ether	8.04	0.50	0.056	ug/l	10.0		80	55-120			
2-Chlorophenol	7.00	1.0	0.12	ug/l	10.0		70	45-120			
Chrysene	9.24	0.50	0.072	ug/l	10.0		92	65-120			
Dibenz(a,h)anthracene	11.0	0.50	0.083	ug/l	10.0		110	40-160			
Dibenzofuran	7.64	0.50	0.075	ug/l	10.0		76	60-120			
Di-n-butyl phthalate	9.46	2.0	0.26	ug/l	10.0		95	65-125			
1,2-Dichlorobenzene	6.56	0.50	0.11	ug/l	10.0		66	40-120			
1,3-Dichlorobenzene	6.48	0.50	0.13	ug/l	10.0		65	40-120			

M-NR1

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C06060 Extracted: 03/06/06											
LCS Analyzed: 03/09/2006 (6C06060-BS1)											
1,4-Dichlorobenzene	6.50	0.50	0.050	ug/l	10.0		65	40-120			M-NR1
3,3-Dichlorobenzidine	8.90	5.0	0.93	ug/l	10.0		89	50-170			
2,4-Dichlorophenol	7.36	2.0	0.21	ug/l	10.0		74	55-120			
Diethyl phthalate	7.08	1.0	0.12	ug/l	10.0		71	60-120			
2,4-Dimethylphenol	7.40	2.0	0.31	ug/l	10.0		74	35-120			L2
Dimethyl phthalate	3.64	0.50	0.081	ug/l	10.0		36	60-120			
4,6-Dinitro-2-methylphenol	7.74	5.0	0.38	ug/l	10.0		77	55-120			
2,4-Dinitrophenol	6.30	5.0	2.7	ug/l	10.0		63	40-140			
2,4-Dinitrotoluene	8.12	5.0	0.23	ug/l	10.0		81	60-140			
2,6-Dinitrotoluene	7.88	5.0	0.24	ug/l	10.0		79	65-125			
Di-n-octyl phthalate	8.70	5.0	0.17	ug/l	10.0		87	60-130			
1,2-Diphenylhydrazine/Azobenzene	7.70	1.0	0.087	ug/l	10.0		77	60-120			
Fluoranthene	9.46	0.50	0.089	ug/l	10.0		95	55-125			
Fluorene	8.10	0.50	0.075	ug/l	10.0		81	60-120			
Hexachlorobenzene	8.70	1.0	0.13	ug/l	10.0		87	50-120			
Hexachlorobutadiene	7.32	2.0	0.38	ug/l	10.0		73	45-120			
Hexachlorocyclopentadiene	7.00	5.0	1.8	ug/l	10.0		70	10-130			
Hexachloroethane	6.46	3.0	0.51	ug/l	10.0		65	40-120			
Indeno(1,2,3-cd)pyrene	11.5	2.0	0.19	ug/l	10.0		115	35-150			
Isophorone	8.94	1.0	0.059	ug/l	10.0		89	55-120			
2-Methylnaphthalene	8.32	1.0	0.13	ug/l	10.0		83	50-120			
2-Methylphenol	7.04	2.0	0.28	ug/l	10.0		70	45-120			
4-Methylphenol	7.00	5.0	0.20	ug/l	10.0		70	45-120			
Naphthalene	7.92	1.0	0.13	ug/l	10.0		79	50-120			
2-Nitroaniline	7.90	5.0	0.18	ug/l	10.0		79	60-130			
3-Nitroaniline	6.74	5.0	0.35	ug/l	10.0		67	50-140			
4-Nitroaniline	6.76	5.0	0.49	ug/l	10.0		68	45-160			
Nitrobenzene	7.84	1.0	0.10	ug/l	10.0		78	50-120			
2-Nitrophenol	7.40	2.0	0.23	ug/l	10.0		74	55-120			
4-Nitrophenol	6.38	5.0	0.73	ug/l	10.0		64	50-135			
N-Nitrosodimethylamine	7.38	2.0	0.22	ug/l	10.0		74	40-120			
N-Nitroso-di-n-propylamine	7.84	2.0	0.18	ug/l	10.0		78	50-120			
N-Nitrosodiphenylamine	7.82	1.0	0.077	ug/l	10.0		78	60-120			
Pentachlorophenol	7.98	2.0	0.78	ug/l	10.0		80	50-125			
Phenanthrene	8.64	0.50	0.071	ug/l	10.0		86	55-120			

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 Michele Chamberlin
 Project Manager

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IPB2643 <Page 37 of 58>



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C06060 Extracted: 03/06/06										
LCS Analyzed: 03/09/2006 (6C06060-BS1)										
Phenol	7.12	1.0	0.14	ug/l	10.0		71 45-120			
Pyrene	9.30	0.50	0.059	ug/l	10.0		93 50-120			
1,2,4-Trichlorobenzene	7.38	1.0	0.10	ug/l	10.0		74 50-120			
2,4,5-Trichlorophenol	7.50	2.0	0.075	ug/l	10.0		75 60-120			
2,4,6-Trichlorophenol	7.90	1.0	0.10	ug/l	10.0		79 60-120			
Surrogate: 2-Fluorophenol	10.9			ug/l	20.0		54 35-120			
Surrogate: Phenol-d6	12.1			ug/l	20.0		60 45-120			
Surrogate: 2,4,6-Tribromophenol	13.6			ug/l	20.0		68 50-125			
Surrogate: Nitrobenzene-d5	7.08			ug/l	10.0		71 45-120			
Surrogate: 2-Fluorobiphenyl	6.30			ug/l	10.0		63 45-120			
Surrogate: Terphenyl-d14	7.26			ug/l	10.0		73 45-135			
LCS Dup Analyzed: 03/09/2006 (6C06060-BSD1)										
Acenaphthene	8.18	0.50	0.10	ug/l	10.0		82 55-120	3	20	
Acenaphthylene	8.82	0.50	0.10	ug/l	10.0		88 55-120	4	20	
Aniline	7.34	10	2.9	ug/l	10.0		73 30-120	4	25	J
Anthracene	9.64	0.50	0.083	ug/l	10.0		96 60-120	10	20	
Benzidine	ND	5.0	3.2	ug/l	10.0		20-180		35	L2
Benzoic acid	ND	20	3.7	ug/l	10.0		30-125		30	L2
Benzo(a)anthracene	10.5	5.0	0.038	ug/l	10.0		105 65-120	10	20	
Benzo(a)pyrene	11.5	2.0	0.14	ug/l	10.0		115 55-125	11	25	
Benzo(b)fluoranthene	12.1	2.0	0.050	ug/l	10.0		121 50-125	10	25	
Benzo(g,h,i)perylene	13.1	5.0	0.059	ug/l	10.0		131 35-160	9	25	
Benzo(k)fluoranthene	11.3	0.50	0.053	ug/l	10.0		113 50-125	11	20	
Benzyl alcohol	7.60	5.0	0.21	ug/l	10.0		76 40-130	8	20	
Bis(2-chloroethoxy)methane	7.82	0.50	0.072	ug/l	10.0		78 55-120	2	20	
Bis(2-chloroethyl)ether	7.42	0.50	0.084	ug/l	10.0		74 50-120	2	20	
Bis(2-chloroisopropyl)ether	7.96	0.50	0.11	ug/l	10.0		80 50-120	3	20	
Bis(2-ethylhexyl)phthalate	11.3	5.0	1.1	ug/l	10.0		113 65-125	12	20	
4-Bromophenyl phenyl ether	8.82	1.0	0.12	ug/l	10.0		88 55-125	5	25	
Butyl benzyl phthalate	11.1	5.0	0.34	ug/l	10.0		111 60-125	5	20	
4-Chloroaniline	7.62	2.0	0.20	ug/l	10.0		76 55-120	8	25	
2-Chloronaphthalene	7.56	0.50	0.059	ug/l	10.0		76 60-120	4	20	
4-Chloro-3-methylphenol	9.84	2.0	0.34	ug/l	10.0		98 60-120	6	25	
4-Chlorophenyl phenyl ether	8.50	0.50	0.056	ug/l	10.0		85 55-120	6	20	
2-Chlorophenol	7.00	1.0	0.12	ug/l	10.0		70 45-120	0	25	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager



MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018
 Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C06060 Extracted: 03/06/06											
LCS Dup Analyzed: 03/09/2006 (6C06060-BSD1)											
Chrysene	10.1	0.50	0.072	ug/l	10.0	101	65-120	9	20		
Dibenz(a,h)anthracene	12.6	0.50	0.083	ug/l	10.0	126	40-160	14	25		
Dibenzofuran	8.02	0.50	0.075	ug/l	10.0	80	60-120	5	20		
Di-n-butyl phthalate	10.6	2.0	0.26	ug/l	10.0	106	65-125	11	20		
1,2-Dichlorobenzene	6.10	0.50	0.11	ug/l	10.0	61	40-120	7	25		
1,3-Dichlorobenzene	5.78	0.50	0.13	ug/l	10.0	58	40-120	11	25		
1,4-Dichlorobenzene	5.88	0.50	0.050	ug/l	10.0	59	40-120	10	25		
3,3-Dichlorobenzidine	9.52	5.0	0.93	ug/l	10.0	95	50-170	7	25		
2,4-Dichlorophenol	7.34	2.0	0.21	ug/l	10.0	73	55-120	0	20		
Diethyl phthalate	7.48	1.0	0.12	ug/l	10.0	75	60-120	5	20		
2,4-Dimethylphenol	7.70	2.0	0.31	ug/l	10.0	77	35-120	4	25		
Dimethyl phthalate	4.40	0.50	0.081	ug/l	10.0	44	60-120	19	20		L2
4,6-Dinitro-2-methylphenol	8.12	5.0	0.38	ug/l	10.0	81	55-120	5	25		
2,4-Dinitrophenol	6.46	5.0	2.7	ug/l	10.0	65	40-140	3	25		
2,4-Dinitrotoluene	8.96	5.0	0.23	ug/l	10.0	90	60-140	10	20		
2,6-Dinitrotoluene	8.64	5.0	0.24	ug/l	10.0	86	65-125	9	20		
Di-n-octyl phthalate	10.3	5.0	0.17	ug/l	10.0	103	60-130	17	20		
1,2-Diphenylhydrazine/Azobenzene	8.60	1.0	0.087	ug/l	10.0	86	60-120	11	25		
Fluoranthene	10.7	0.50	0.089	ug/l	10.0	107	55-125	12	20		
Fluorene	8.66	0.50	0.075	ug/l	10.0	87	60-120	7	20		
Hexachlorobenzene	9.30	1.0	0.13	ug/l	10.0	93	50-120	7	20		
Hexachlorobutadiene	7.18	2.0	0.38	ug/l	10.0	72	45-120	2	25		
Hexachlorocyclopentadiene	7.16	5.0	1.8	ug/l	10.0	72	10-130	2	30		
Hexachloroethane	5.88	3.0	0.51	ug/l	10.0	59	40-120	9	25		
Indeno(1,2,3-cd)pyrene	12.9	2.0	0.19	ug/l	10.0	129	35-150	11	25		
Isophorone	9.40	1.0	0.059	ug/l	10.0	94	55-120	5	20		
2-Methylnaphthalene	8.46	1.0	0.13	ug/l	10.0	85	50-120	2	20		
2-Methylphenol	7.66	2.0	0.28	ug/l	10.0	77	45-120	8	20		
4-Methylphenol	7.64	5.0	0.20	ug/l	10.0	76	45-120	9	20		
Naphthalene	7.86	1.0	0.13	ug/l	10.0	79	50-120	1	20		
2-Nitroaniline	8.56	5.0	0.18	ug/l	10.0	86	60-130	8	20		
3-Nitroaniline	7.58	5.0	0.35	ug/l	10.0	76	50-140	12	25		
4-Nitroaniline	7.50	5.0	0.49	ug/l	10.0	75	45-160	10	20		
Nitrobenzene	8.26	1.0	0.10	ug/l	10.0	83	50-120	5	25		
2-Nitrophenol	7.72	2.0	0.23	ug/l	10.0	77	55-120	4	25		

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C06060 Extracted: 03/06/06											
LCS Dup Analyzed: 03/09/2006 (6C06060-BSD1)											
4-Nitrophenol	6.44	5.0	0.73	ug/l	10.0		64	50-135	1	25	
N-Nitrosodimethylamine	7.48	2.0	0.22	ug/l	10.0		75	40-120	1	20	
N-Nitroso-di-n-propylamine	8.20	2.0	0.18	ug/l	10.0		82	50-120	4	20	
N-Nitrosodiphenylamine	8.64	1.0	0.077	ug/l	10.0		86	60-120	10	20	
Pentachlorophenol	8.50	2.0	0.78	ug/l	10.0		85	50-125	6	25	
Phenanthrene	9.56	0.50	0.071	ug/l	10.0		96	55-120	10	20	
Phenol	7.22	1.0	0.14	ug/l	10.0		72	45-120	1	25	
Pyrene	10.2	0.50	0.059	ug/l	10.0		102	50-120	9	25	
1,2,4-Trichlorobenzene	7.26	1.0	0.10	ug/l	10.0		73	50-120	2	20	
2,4,5-Trichlorophenol	7.22	2.0	0.075	ug/l	10.0		72	60-120	4	20	
2,4,6-Trichlorophenol	7.64	1.0	0.10	ug/l	10.0		76	60-120	3	20	
Surrogate: 2-Fluorophenol	10.7			ug/l	20.0		54	35-120			
Surrogate: Phenol-d6	12.0			ug/l	20.0		60	45-120			
Surrogate: 2,4,6-Tribromophenol	13.7			ug/l	20.0		68	50-125			
Surrogate: Nitrobenzene-d5	7.24			ug/l	10.0		72	45-120			
Surrogate: 2-Fluorobiphenyl	6.58			ug/l	10.0		66	45-120			
Surrogate: Terphenyl-d14	7.58			ug/l	10.0		76	45-135			

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C05031 Extracted: 03/05/06										
Blank Analyzed: 03/06/2006 (6C05031-BLK1)										
Aldrin	ND	0.10	0.030	ug/l						
alpha-BHC	ND	0.010	0.0010	ug/l						
alpha-BHC	ND	0.10	0.020	ug/l						
beta-BHC	ND	0.10	0.015	ug/l						
delta-BHC	ND	0.20	0.020	ug/l						
gamma-BHC (Lindane)	ND	0.10	0.020	ug/l						
Chlordane	ND	1.0	0.20	ug/l						
4,4'-DDD	ND	0.10	0.020	ug/l						
4,4'-DDE	ND	0.10	0.025	ug/l						
4,4'-DDT	ND	0.10	0.035	ug/l						
Dieldrin	ND	0.10	0.015	ug/l						
Endosulfan I	ND	0.10	0.015	ug/l						
Endosulfan II	ND	0.10	0.040	ug/l						
Endosulfan sulfate	ND	0.20	0.020	ug/l						
Endrin	ND	0.10	0.020	ug/l						
Endrin aldehyde	ND	0.10	0.045	ug/l						
Endrin ketone	ND	0.10	0.020	ug/l						
Heptachlor	ND	0.10	0.030	ug/l						
Heptachlor epoxide	ND	0.10	0.030	ug/l						
Methoxychlor	ND	0.10	0.035	ug/l						
Toxaphene	ND	5.0	1.5	ug/l						
Surrogate: Tetrachloro-m-xylene	0.350			ug/l	0.500		70	35-115		
Surrogate: Decachlorobiphenyl	0.455			ug/l	0.500		91	45-120		
Surrogate: Tetrachloro-m-xylene	0.350			ug/l	0.500		70	35-115		
Surrogate: Decachlorobiphenyl	0.455			ug/l	0.500		91	45-120		

M-NRI

LCS Analyzed: 03/06/2006 (6C05031-BS1)

Aldrin	0.389	0.10	0.030	ug/l	0.500		78	35-120		
alpha-BHC	0.434	0.10	0.020	ug/l	0.500		87	45-120		
alpha-BHC	0.434	0.010	0.0010	ug/l	0.500		87	45-120		
beta-BHC	0.426	0.10	0.015	ug/l	0.500		85	50-120		
delta-BHC	0.435	0.20	0.020	ug/l	0.500		87	50-120		
gamma-BHC (Lindane)	0.423	0.10	0.020	ug/l	0.500		85	40-120		
4,4'-DDD	0.438	0.10	0.020	ug/l	0.500		88	55-120		
4,4'-DDE	0.419	0.10	0.025	ug/l	0.500		84	50-120		
4,4'-DDT	0.458	0.10	0.035	ug/l	0.500		92	55-120		

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IPB2643 <Page 41 of 58>



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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 6C05031 Extracted: 03/05/06											
LCS Analyzed: 03/06/2006 (6C05031-BS1)											M-NRI
Dieldrin	0.431	0.10	0.015	ug/l	0.500		86	50-120			
Endosulfan I	0.406	0.10	0.015	ug/l	0.500		81	50-120			
Endosulfan II	0.421	0.10	0.040	ug/l	0.500		84	55-120			
Endosulfan sulfate	0.429	0.20	0.020	ug/l	0.500		86	60-120			
Endrin	0.449	0.10	0.020	ug/l	0.500		90	55-120			
Endrin aldehyde	0.410	0.10	0.045	ug/l	0.500		82	55-120			
Endrin ketone	0.429	0.10	0.020	ug/l	0.500		86	55-120			
Heptachlor	0.393	0.10	0.030	ug/l	0.500		79	40-115			
Heptachlor epoxide	0.409	0.10	0.030	ug/l	0.500		82	50-120			
Methoxychlor	0.435	0.10	0.035	ug/l	0.500		87	55-120			
Surrogate: Tetrachloro-m-xylene	0.361			ug/l	0.500		72	35-115			
Surrogate: Decachlorobiphenyl	0.412			ug/l	0.500		82	45-120			
Surrogate: Tetrachloro-m-xylene	0.361			ug/l	0.500		72	35-115			
Surrogate: Decachlorobiphenyl	0.412			ug/l	0.500		82	45-120			
LCS Dup Analyzed: 03/06/2006 (6C05031-BSD1)											
Aldrin	0.372	0.10	0.030	ug/l	0.500		74	35-120	4	30	
alpha-BHC	0.413	0.10	0.020	ug/l	0.500		83	45-120	5	30	
alpha-BHC	0.413	0.010	0.0010	ug/l	0.500		83	45-120	5	30	
beta-BHC	0.413	0.10	0.015	ug/l	0.500		83	50-120	3	30	
delta-BHC	0.425	0.20	0.020	ug/l	0.500		85	50-120	2	30	
gamma-BHC (Lindane)	0.406	0.10	0.020	ug/l	0.500		81	40-120	4	30	
4,4'-DDD	0.422	0.10	0.020	ug/l	0.500		84	55-120	4	30	
4,4'-DDE	0.411	0.10	0.025	ug/l	0.500		82	50-120	2	30	
4,4'-DDT	0.450	0.10	0.035	ug/l	0.500		90	55-120	2	30	
Dieldrin	0.424	0.10	0.015	ug/l	0.500		85	50-120	2	30	
Endosulfan I	0.397	0.10	0.015	ug/l	0.500		79	50-120	2	30	
Endosulfan II	0.415	0.10	0.040	ug/l	0.500		83	55-120	1	30	
Endosulfan sulfate	0.426	0.20	0.020	ug/l	0.500		85	60-120	1	30	
Endrin	0.434	0.10	0.020	ug/l	0.500		87	55-120	3	30	
Endrin aldehyde	0.404	0.10	0.045	ug/l	0.500		81	55-120	1	30	
Endrin ketone	0.424	0.10	0.020	ug/l	0.500		85	55-120	1	30	
Heptachlor	0.377	0.10	0.030	ug/l	0.500		75	40-115	4	30	
Heptachlor epoxide	0.398	0.10	0.030	ug/l	0.500		80	50-120	3	30	
Methoxychlor	0.434	0.10	0.035	ug/l	0.500		87	55-120	0	30	
Surrogate: Tetrachloro-m-xylene	0.339			ug/l	0.500		68	35-115			

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C05031 Extracted: 03/05/06											
LCS Dup Analyzed: 03/06/2006 (6C05031-BSD1)											
Surrogate: Decachlorobiphenyl	0.407			ug/l	0.500		81	45-120			
Surrogate: Tetrachloro-m-xylene	0.339			ug/l	0.500		68	35-115			
Surrogate: Decachlorobiphenyl	0.407			ug/l	0.500		81	45-120			

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Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C05031 Extracted: 03/05/06											
Blank Analyzed: 03/06/2006 (6C05031-BLK1)											
Aroclor 1016	ND	1.0	0.20	ug/l							
Aroclor 1221	ND	1.0	0.10	ug/l							
Aroclor 1232	ND	1.0	0.25	ug/l							
Aroclor 1242	ND	1.0	0.25	ug/l							
Aroclor 1248	ND	1.0	0.25	ug/l							
Aroclor 1254	ND	1.0	0.25	ug/l							
Aroclor 1260	ND	1.0	0.40	ug/l							
Surrogate: Decachlorobiphenyl	0.512			ug/l	0.500		102	45-120			
LCS Analyzed: 03/06/2006 (6C05031-BS2)											
Aroclor 1016	3.60	1.0	0.20	ug/l	4.00		90	45-115			
Aroclor 1260	3.91	1.0	0.40	ug/l	4.00		98	55-115			
Surrogate: Decachlorobiphenyl	0.458			ug/l	0.500		92	45-120			
LCS Dup Analyzed: 03/06/2006 (6C05031-BSD2)											
Aroclor 1016	3.74	1.0	0.20	ug/l	4.00		94	45-115	4	30	
Aroclor 1260	3.99	1.0	0.40	ug/l	4.00		100	55-115	2	25	
Surrogate: Decachlorobiphenyl	0.550			ug/l	0.500		110	45-120			

M-NR1

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IPB2643 <Page 44 of 58>

NPDES - 3199



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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02097 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02097-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/02/2006 (6C02097-BS1)											
Mercury	7.88	0.20	0.050	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/02/2006 (6C02097-MS1)											
						Source: IPB2608-01					
Mercury	7.84	0.20	0.050	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02097-MSD1)											
						Source: IPB2608-01					
Mercury	7.88	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C02098 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02098-BLK1)											
Antimony	ND	2.0	0.18	ug/l							J
Cadmium	0.0179	1.0	0.015	ug/l							
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							J
Selenium	1.65	2.0	0.36	ug/l							
Silver	ND	1.0	0.089	ug/l							
Thallium	ND	1.0	0.075	ug/l							
LCS Analyzed: 03/02/2006 (6C02098-BS1)											
Antimony	86.5	2.0	0.18	ug/l	80.0		108	85-115			
Cadmium	86.9	1.0	0.015	ug/l	80.0		109	85-115			
Copper	89.3	2.0	0.49	ug/l	80.0		112	85-115			
Lead	85.6	1.0	0.13	ug/l	80.0		107	85-115			
Selenium	85.7	2.0	0.36	ug/l	80.0		107	85-115			
Silver	84.6	1.0	0.089	ug/l	80.0		106	85-115			
Thallium	84.8	1.0	0.075	ug/l	80.0		106	85-115			

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 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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Batch: 6C02098 Extracted: 03/02/06

Matrix Spike Analyzed: 03/02/2006 (6C02098-MS1)

Source: IPB2651-01

Antimony	84.3	2.0	0.18	ug/l	80.0	ND	105	70-130			
Cadmium	83.6	1.0	0.015	ug/l	80.0	ND	104	70-130			
Copper	81.5	2.0	0.49	ug/l	80.0	0.49	101	70-130			
Lead	83.1	1.0	0.13	ug/l	80.0	0.19	104	70-130			
Selenium	83.5	2.0	0.36	ug/l	80.0	0.95	103	70-130			
Silver	81.7	1.0	0.089	ug/l	80.0	0.052	102	70-130			
Thallium	81.3	1.0	0.075	ug/l	80.0	0.31	101	70-130			

Matrix Spike Analyzed: 03/02/2006 (6C02098-MS2)

Source: IPB2645-01

Antimony	85.1	2.0	0.18	ug/l	80.0	0.46	106	70-130			
Cadmium	82.7	1.0	0.015	ug/l	80.0	0.077	103	70-130			
Copper	78.9	2.0	0.49	ug/l	80.0	2.3	96	70-130			
Lead	82.4	1.0	0.13	ug/l	80.0	0.50	102	70-130			
Selenium	85.2	2.0	0.36	ug/l	80.0	2.9	103	70-130			
Silver	78.0	1.0	0.089	ug/l	80.0	0.050	97	70-130			
Thallium	81.6	1.0	0.075	ug/l	80.0	0.53	101	70-130			

Matrix Spike Dup Analyzed: 03/02/2006 (6C02098-MSD1)

Source: IPB2651-01

Antimony	82.9	2.0	0.18	ug/l	80.0	ND	104	70-130	2	20	
Cadmium	81.4	1.0	0.015	ug/l	80.0	ND	102	70-130	3	20	
Copper	78.3	2.0	0.49	ug/l	80.0	0.49	97	70-130	4	20	
Lead	80.8	1.0	0.13	ug/l	80.0	0.19	101	70-130	3	20	
Selenium	82.8	2.0	0.36	ug/l	80.0	0.95	102	70-130	1	20	
Silver	80.1	1.0	0.089	ug/l	80.0	0.052	100	70-130	2	20	
Thallium	80.7	1.0	0.075	ug/l	80.0	0.31	100	70-130	1	20	

Batch: 6C03084 Extracted: 03/03/06

Blank Analyzed: 03/04/2006-03/07/2006 (6C03084-BLK1)

Arsenic	ND	5.0	3.8	ug/l							
Barium	ND	0.010	0.0028	mg/l							
Beryllium	ND	2.0	0.62	ug/l							
Boron	ND	0.050	0.0074	mg/l							
Chromium	1.10	5.0	0.68	ug/l							J
Cobalt	ND	10	2.0	ug/l							
Iron	0.0327	0.040	0.0088	mg/l							J

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IPB2643 <Page 46 of 58>

NPDES - 3201



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C03084 Extracted: 03/03/06										
Blank Analyzed: 03/04/2006-03/07/2006 (6C03084-BLK1)										
Manganese	ND	20	3.2	ug/l						
Nickel	ND	10	2.0	ug/l						
Vanadium	ND	10	3.0	ug/l						
Zinc	ND	20	3.7	ug/l						
LCS Analyzed: 03/04/2006-03/07/2006 (6C03084-BS1)										
Arsenic	519	5.0	3.8	ug/l	500		104		85-115	
Barium	0.501	0.010	0.0028	mg/l	0.500		100		85-115	
Beryllium	524	2.0	0.62	ug/l	500		105		85-115	
Boron	0.501	0.050	0.0074	mg/l	0.500		100		85-115	
Chromium	518	5.0	0.68	ug/l	500		104		85-115	
Cobalt	505	10	2.0	ug/l	500		101		85-115	
Iron	0.529	0.040	0.0088	mg/l	0.500		106		85-115	
Manganese	520	20	3.2	ug/l	500		104		85-115	
Nickel	513	10	2.0	ug/l	500		103		85-115	
Vanadium	517	10	3.0	ug/l	500		103		85-115	
Zinc	499	20	3.7	ug/l	500		100		85-115	
Matrix Spike Analyzed: 03/04/2006-03/07/2006 (6C03084-MS1)										
Source: IPB2463-01										
Arsenic	544	5.0	3.8	ug/l	500	8.8	107		70-130	
Barium	0.517	0.010	0.0028	mg/l	0.500	0.020	99		70-130	
Beryllium	520	2.0	0.62	ug/l	500	ND	104		70-130	
Boron	0.609	0.050	0.0074	mg/l	0.500	0.064	109		70-130	
Chromium	520	5.0	0.68	ug/l	500	ND	104		70-130	
Cobalt	495	10	2.0	ug/l	500	ND	99		70-130	
Iron	3.20	0.040	0.0088	mg/l	0.500	2.6	120		70-130	
Manganese	869	20	3.2	ug/l	500	350	104		70-130	
Nickel	503	10	2.0	ug/l	500	ND	101		70-130	
Vanadium	522	10	3.0	ug/l	500	ND	104		70-130	
Zinc	732	20	3.7	ug/l	500	480	50		70-130	M2

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 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 018 Report Number: IPB2643	Sampled: 02/28/06 Received: 02/28/06
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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C03084 Extracted: 03/03/06											
Matrix Spike Analyzed: 03/04/2006-03/07/2006 (6C03084-MS2)						Source: IPB2463-02					
Arsenic	527	5.0	3.8	ug/l	500	4.9	104	70-130			
Barium	0.515	0.010	0.0028	mg/l	0.500	0.023	98	70-130			
Beryllium	508	2.0	0.62	ug/l	500	ND	102	70-130			
Boron	0.554	0.050	0.0074	mg/l	0.500	0.037	103	70-130			
Chromium	511	5.0	0.68	ug/l	500	2.3	102	70-130			
Cobalt	484	10	2.0	ug/l	500	ND	97	70-130			
Iron	1.24	0.040	0.0088	mg/l	0.500	0.66	116	70-130			
Manganese	513	20	3.2	ug/l	500	10	101	70-130			
Nickel	493	10	2.0	ug/l	500	ND	99	70-130			
Vanadium	511	10	3.0	ug/l	500	ND	102	70-130			
Zinc	497	20	3.7	ug/l	500	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/04/2006-03/07/2006 (6C03084-MSD1)						Source: IPB2463-01					
Arsenic	532	5.0	3.8	ug/l	500	8.8	105	70-130	2	20	
Barium	0.501	0.010	0.0028	mg/l	0.500	0.020	96	70-130	3	20	
Beryllium	504	2.0	0.62	ug/l	500	ND	101	70-130	3	20	
Boron	0.593	0.050	0.0074	mg/l	0.500	0.064	106	70-130	3	20	
Chromium	510	5.0	0.68	ug/l	500	ND	102	70-130	2	20	
Cobalt	485	10	2.0	ug/l	500	ND	97	70-130	2	20	
Iron	3.06	0.040	0.0088	mg/l	0.500	2.6	92	70-130	4	20	
Manganese	838	20	3.2	ug/l	500	350	98	70-130	4	20	
Nickel	492	10	2.0	ug/l	500	ND	98	70-130	2	20	
Vanadium	504	10	3.0	ug/l	500	ND	101	70-130	4	20	
Zinc	722	20	3.7	ug/l	500	480	48	70-130	1	20	M2

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 6B28145 Extracted: 02/28/06										
Duplicate Analyzed: 02/28/2006 (6B28145-DUP1)					Source: IPB2637-01					
Residual Chlorine	ND	0.10	0.10	mg/l		ND			20	
Batch: 6C01049 Extracted: 03/01/06										
Blank Analyzed: 03/01/2006 (6C01049-BLK1)										
Chloride	ND	0.50	0.26	mg/l						
Fluoride	ND	0.50	0.10	mg/l						
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l						
Sulfate	ND	0.50	0.18	mg/l						
LCS Analyzed: 03/01/2006 (6C01049-BS1)										
Chloride	5.02	0.50	0.26	mg/l	5.00		100	90-110		
Fluoride	5.08	0.50	0.10	mg/l	5.00		102	90-110		
Sulfate	10.3	0.50	0.18	mg/l	10.0		103	90-110		
Matrix Spike Analyzed: 03/01/2006 (6C01049-MS1)					Source: IPB2641-01					
Chloride	28.9	0.50	0.26	mg/l	5.00	24	98	80-120		
Fluoride	5.04	0.50	0.10	mg/l	5.00	0.27	95	80-120		
Sulfate	42.7	0.50	0.18	mg/l	10.0	35	77	80-120		M2
Matrix Spike Dup Analyzed: 03/01/2006 (6C01049-MSD1)					Source: IPB2641-01					
Chloride	28.9	0.50	0.26	mg/l	5.00	24	98	80-120	0	20
Fluoride	5.08	0.50	0.10	mg/l	5.00	0.27	96	80-120	1	20
Sulfate	43.5	0.50	0.18	mg/l	10.0	35	85	80-120	2	20
Batch: 6C01108 Extracted: 03/01/06										
Blank Analyzed: 03/01/2006 (6C01108-BLK1)										
Surfactants (MBAS)	ND	0.10	0.044	mg/l						

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 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 6C01108 Extracted: 03/01/06											
LCS Analyzed: 03/01/2006 (6C01108-BS1)											
Surfactants (MBAS)	0.258	0.10	0.044	mg/l	0.250		103	90-110			
Source: IPB2639-01											
Matrix Spike Analyzed: 03/01/2006 (6C01108-MS1)											
Surfactants (MBAS)	0.343	0.10	0.044	mg/l	0.250	ND	137	50-125			MI
Source: IPB2639-01											
Matrix Spike Dup Analyzed: 03/01/2006 (6C01108-MSD1)											
Surfactants (MBAS)	0.336	0.10	0.044	mg/l	0.250	ND	134	50-125	2	20	MI
Batch: 6C01115 Extracted: 03/01/06											
Blank Analyzed: 03/06/2006 (6C01115-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/06/2006 (6C01115-BS1)											
Biochemical Oxygen Demand	180	100	30	mg/l	198		91	85-115			
LCS Dup Analyzed: 03/06/2006 (6C01115-BSD1)											
Biochemical Oxygen Demand	173	100	30	mg/l	198		87	85-115	4	20	
Batch: 6C01122 Extracted: 03/01/06											
Blank Analyzed: 03/01/2006 (6C01122-BLK1)											
Turbidity	ND	1.0	0.040	NTU							
Source: IPB2571-01											
Duplicate Analyzed: 03/01/2006 (6C01122-DUP1)											
Turbidity	4.96	1.0	0.040	NTU		4.9			1	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02064 Extracted: 03/01/06											
Blank Analyzed: 03/01/2006 (6C02064-BLK1)											
Total Organic Carbon	ND	1.0	0.25	mg/l							
LCS Analyzed: 03/01/2006 (6C02064-BS1)											
Total Organic Carbon	10.3	1.0	0.25	mg/l	10.0		103	90-110			
Matrix Spike Analyzed: 03/01/2006 (6C02064-MS1)											
Total Organic Carbon	8.69	1.0	0.25	mg/l	5.00	3.7	100	80-120			
Matrix Spike Dup Analyzed: 03/01/2006 (6C02064-MSD1)											
Total Organic Carbon	8.83	1.0	0.25	mg/l	5.00	3.7	103	80-120	2	20	
Batch: 6C02068 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02068-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 03/02/2006 (6C02068-BS1)											
Perchlorate	51.6	4.0	0.80	ug/l	50.0		103	85-115			
Matrix Spike Analyzed: 03/02/2006 (6C02068-MS1)											
Perchlorate	53.2	4.0	0.80	ug/l	50.0	3.5	99	80-120			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02068-MSD1)											
Perchlorate	54.3	4.0	0.80	ug/l	50.0	3.5	102	80-120	2	20	
Batch: 6C02125 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02125-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							

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IPB2643 <Page 51 of 58>



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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02125 Extracted: 03/02/06											
LCS Analyzed: 03/02/2006 (6C02125-BS1)											
Total Cyanide	194	5.0	2.2	ug/l	200		97	90-110			
Matrix Spike Analyzed: 03/02/2006 (6C02125-MS1)											
Total Cyanide	193	5.0	2.2	ug/l	200	2.5	95	70-115			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02125-MSD1)											
Total Cyanide	205	5.0	2.2	ug/l	200	2.5	101	70-115	6	15	
Batch: 6C03067 Extracted: 03/03/06											
Duplicate Analyzed: 03/03/2006 (6C03067-DUP1)											
Specific Conductance	110	1.0	1.0	umhos/cm		110			0	5	
Batch: 6C03069 Extracted: 03/03/06											
Blank Analyzed: 03/03/2006 (6C03069-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/03/2006 (6C03069-BS1)											
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/03/2006 (6C03069-DUP1)											
Total Dissolved Solids	285	10	10	mg/l		280			2	10	
Batch: 6C05021 Extracted: 03/05/06											
Blank Analyzed: 03/05/2006 (6C05021-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C05021 Extracted: 03/05/06											
LCS Analyzed: 03/05/2006 (6C05021-BS1)											
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0		115	80-115			
Matrix Spike Analyzed: 03/05/2006 (6C05021-MS1)											
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0	0.56	109	70-120			
Matrix Spike Dup Analyzed: 03/05/2006 (6C05021-MSD1)											
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	0.56	106	70-120	3	15	
Batch: 6C05025 Extracted: 03/05/06											
Blank Analyzed: 03/05/2006 (6C05025-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/05/2006 (6C05025-BS1)											
Total Suspended Solids	982	10	10	mg/l	1000		98	85-115			
Duplicate Analyzed: 03/05/2006 (6C05025-DUP1)											
Total Suspended Solids	69.0	10	10	mg/l		69			0	10	
Batch: 6C08046 Extracted: 03/08/06											
Blank Analyzed: 03/08/2006 (6C08046-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/08/2006 (6C08046-BS1)											
Oil & Grease	15.7	5.0	0.94	mg/l	20.0		78	65-120			M-NR1

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IPB2643 <Page 53 of 58>

NPDES - 3208



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Report Number: IPB2643

Sampled: 02/28/06
Received: 02/28/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
Calculation	Water	X	X
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 330.5	Water	X	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 415.1	Water	X	X
EPA 418.1	Water	X	X
EPA 608	Water	X	X
EPA 624 (MOD.)	Water		X
EPA 624	Water	X	X
EPA 625	Water	X	X
EPA 8015 Mod.	Water	X	X
EPA 8015B	Water	X	X
EPA 8260B	Water	X	X
EPA 8315 Mod.	Water		
EPA 900.0	Water		
EPA 905.0	Water		
EPA 906.0	Water		
Haz Waste Scree	Water		
Level 4	Water		
SM2540C	Water	X	X
SM5540-C	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413
1104 Windfield Way - El Dorado Hills, CA 95762

Del Mar Analytical - Irvine

Michele Chamberlin
Project Manager

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Alta Analytical *NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413*

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPB2643-01

Analysis Performed: Level 4 + EDD
Samples: IPB2643-01

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chmic
Samples: IPB2643-01

Analysis Performed: Bioassay-Acute 96hr
Samples: IPB2643-01

Del Mar Analytical - Phoenix *NELAC Cert #01109CA, California Cert #2446, Arizona Cert #AZ0426, Nevada Cert #AZ-907*

9830 S. 51st Street, Suite B-120 - Phoenix, AZ 85044

Method Performed: EPA 8260B
Samples: IPB2643-01

Eberline Services

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4
Samples: IPB2643-01

Analysis Performed: Gross Alpha
Samples: IPB2643-01

Analysis Performed: Gross Beta
Samples: IPB2643-01

Analysis Performed: Radium, Combined
Samples: IPB2643-01

Analysis Performed: Strontium 90
Samples: IPB2643-01

Analysis Performed: Tritium
Samples: IPB2643-01

Truesdail Laboratories-SUB *California Cert #1237*

14201 Franklin Avenue - Tustin, CA 92680

Analysis Performed: Hydrazine
Samples: IPB2643-01

Del Mar Analytical - Irvine
Michele Chamberlin
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 Del Mar Analytical.

IPB2643 <Page 58 of 58>

NPDES - 3210



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
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 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB2643

SENDING LABORATORY:
 Del Mar Analytical, Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 261-1228
 Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
 Del Mar Analytical - Phoenix
 9830 S. 51st Street, Suite B-120
 Phoenix, AZ 85044
 Phone: (480) 785-0043
 Fax: (480) 785-0851

Analysis	Expiration	Due	Comments
Sample ID: IPB2643-01 Water	Sampled: 02/28/06 10:00		Instant Notification
Dioxane-8260B-out	03/14/06 10:00	03/09/06 12:00	sub to DMAP, J flags
Level 4 Data Package - Phoenix	03/28/06 10:00	03/09/06 12:00	Boeing, TAT= 17 days from receipt at Phoenix
Containers Supplied:			
40 ml VOA w/HCL (IPB2643-01AA)			
40 ml VOA w/HCL (IPB2643-01AB)			
40 ml VOA w/HCL (IPB2643-01Z)			

PPC0066-01

SAMPLE INTEGRITY:

All containers intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample labels/COC agree: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Custody Seals Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Preserved Properly: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received at (temp): <u>2-0-C</u>

U U *Fed-Ex 3.1.06*

Released By	Date	Time	Received By	Date	Time
<i>FED EX</i>			<i>[Signature]</i>	<i>03/12/06</i>	<i>08:40</i>
Released By	Date	Time	Received By	Date	Time

IPB2643

Del Mar Analytical Version 01/24/06 **CHAIN OF CUSTODY FORM**

Client Name/Address:		Project:		Project Manager:		Phone Number:		Fax Number:		ANALYSIS REQUIRED		Field readings:								
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Annual Outfall 018		Bronwyn Kelly		(626) 568-6691		(626) 568-6515		Turbidity, TDS, TSS, Conductivity Ammonia-N Alpha BHC (609) + PP 2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2- ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625) + PP		Temp = 57.2 pH = 6.9								
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Cu, Pb, Hg, B, Ba, Fe, Mn, Ag, Ti, Zn, Co, V	Settleable Solids	VOCs 624 + xylenes + Freon 113, Freon 123A, Cyclohexane	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Ch, SO4, NO3+NO2-N, F, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N			
Outfall 018	W	Poly-1L	1	2-28-06	HNO3	1A	X													
Outfall 018-Dup	W	Poly-1L	1		HNO3	1B	X													
Outfall 018	W	Poly-1L	1		None	2		X												
Outfall 018	W	VOAs	5		HCl	3A, 3B, 3C, 3D, 3E		X												
Outfall 018	W	1L Amber	2		None	4A, 4B				X										
Outfall 018	W	1L Amber	2		HCl	5A, 5B					X									
Outfall 018	W	Poly-500 ml	1		NaOH	6						X								
Outfall 018	W	Poly-1L	1		None	7							X							
Outfall 018	W	Poly-500 ml	2		None	8A, 8B								X						
Outfall 018	W	Poly-500 ml	2		None	9A, 9B									X					
Outfall 018	W	Poly-500 ml	2		None	10A, 10B										X				
Outfall 018	W	Poly-500 ml	1		H2SO4	11											X			
Outfall 018	W	1L Amber	2		None	12A, 12B												X		
Outfall 018	W	1L Amber	2	2-28-06	None	13A, 13B													X	
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C			X											
Relinquished By	Date/Time:		Received By		Date/Time:		Turn around Time: (check)		24 Hours		48 Hours		72 Hours		Perchlorate Only 72 Hours		Metals Only 72 Hours		Sample Integrity (Check) On loc: <input checked="" type="checkbox"/>	
Relinquished By	2-28-06 1545		L Kelly 2/28/06 1545		2/28/06 1545		5 Days		10 Days		Normal									
Relinquished By	2-28-06 1835		L Kelly 2-28-06 1835		2-28-06 1835															

(3)

Del Mar Analytical Version 01/24/06 CHAIN OF CUSTODY FORM

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Annual Outfall 018		ANALYSIS REQUIRED													
Project Manager: Bronwyn Kelly Sampler: SAJAGP		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Total Organic Carbon Total Residual Chlorine Gross Alpha, Gross Beta, Tritium (90.0), Sr-90 Radium 226 & Radium 228 PCBs TPH = all fuels, gas, diesel and jet fuel, modified 8015 and 418.1 Monomethylhydrazine Acute and Chronic toxicity VOCs 624 +A+A+2CVE													
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	1,4-Dioxane	Total Organic Carbon	Total Residual Chlorine	Gross Alpha, Gross Beta, Tritium (90.0), Sr-90 Radium 226 & Radium 228	PCBs	TPH = all fuels, gas, diesel and jet fuel, modified 8015 and 418.1	Monomethylhydrazine	Acute and Chronic toxicity	VOCs 624 +A+A+2CVE	Comments	
Outfall 018	W	VOAs	3	2-28-06 10:00	HCl	15A, 15B, 15C	X										
Outfall 018	W	VOAs	2	2-28-06 10:00	HCl	16A, 16B		X									
Outfall 018	W	Poly-150 ml	1		None	17			X								
Outfall 018	W	2.5 Gal Cube Amber VOAs	3	2-28-06 10:00	None	18A, 25B, 25C				X						* Analyze for Total Combined RA 228.226 only if Gross Alpha > 15pCi/L Preserve 2.5 Gal Cube with HNO3 at lab.	
Outfall 018	W	1L Amber	2		None	19A, 19B					X						
Outfall 018	W	VOAs	3	2-28-06 10:00	HCl	20A, 20B, 20C						X					
Outfall 018	W	1L Amber	2		HCl	20D, 20E, 20F, 20G							X				
Outfall 018	W	1L Amber	2		None	21A, 21B								X			
Outfall 018	W	1 Gal	2	2-28-06 10:00	None	22A, 22B								X			
Outfall 018	W	VOAs	3		None	23A, 23B, 23C									X		
Trip Blank	W	VOAs	3		None	24A, 24B, 24C									X		
Relinquished By	Date/Time:		Received By		Date/Time:		Turn around Time: (check)										
Relinquished By	2-28-06 1545		Received By		2/28/06 1545		24 Hours _____ 5 Days _____										
Relinquished By	2-28-06 1835		Received By		2/28/06 1835		48 Hours _____ 10 Days _____										
Relinquished By			Received By				72 Hours _____ Normal _____										
							Perchlorate Only 72 Hours _____							Metals Only 72 Hours _____			
							Sample Integrity: (Check) Intact _____							On Ice: _____			



March 09, 2006

Alta Project I.D.: 27353

Ms. Michele Chamberlin
Del Mar Analytical Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 02, 2006 under your Project Name "IPB2643". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

A handwritten signature in cursive script, appearing to read "Martha M. Maier".

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/2/2006

Alta Lab. ID

Client Sample ID

27353-001

IPB2643-01

SECTION II

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7807	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	5-Mar-06	Date Analyzed DB-5:	7-Mar-06
				Date Analyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000119		82.1	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000130		84.5	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000161		82.1	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000170		81.9	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000161		79.4	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.00000167		54.4	17 - 157
OCDD	ND	0.00000485		85.8	24 - 169
2,3,7,8-TCDF	ND	0.00000138		89.7	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000126		92.9	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000115		82.7	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.000000677		82.0	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000623		83.9	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.000000697		77.1	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.000000951		71.7	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.000000890		80.8	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.000000780		59.4	17 - 157
OCDF	ND	0.00000335		90.3	35 - 197
Totals					
Total TCDD	ND	0.00000119			
Total PeCDD	ND	0.00000130			
Total HxCDD	ND	0.00000164			
Total HpCDD	ND	0.00000167			
Total TCDF	ND	0.00000138			
Total PeCDF	ND	0.00000120			
Total HxCDF	ND	0.000000725			
Total HpCDF	ND	0.000000836			

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
 08-Mar-2006 13:49

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No	7807	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	5-Mar-06	Date Analyzed DB-5:	7-Mar-06	
				Date Analyzed DB-225:	NA	
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	11.1	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	77.8	25 - 164
1,2,3,7,8-PeCDD	50.0	56.7	35 - 71	13C-1,2,3,7,8-PeCDD	81.0	25 - 181
1,2,3,4,7,8-HxCDD	50.0	54.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	74.4	32 - 141
1,2,3,6,7,8-HxCDD	50.0	53.3	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.6	28 - 130
1,2,3,7,8,9-HxCDD	50.0	52.4	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	74.2	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	55.2	35 - 70	13C-OCDD	52.1	17 - 157
OCDD	100	109	78 - 144	13C-2,3,7,8-TCDF	78.6	24 - 169
2,3,7,8-TCDF	10.0	11.2	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	84.3	24 - 185
1,2,3,7,8-PeCDF	50.0	55.2	40 - 67	13C-2,3,4,7,8-PeCDF	87.3	21 - 178
2,3,4,7,8-PeCDF	50.0	56.1	34 - 80	13C-1,2,3,4,7,8-HxCDF	76.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	55.2	36 - 67	13C-1,2,3,6,7,8-HxCDF	76.9	26 - 123
1,2,3,6,7,8-HxCDF	50.0	56.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0	56.4	35 - 78	13C-1,2,3,7,8,9-HxCDF	69.6	29 - 147
1,2,3,7,8,9-HxCDF	50.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	70.6	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	55.1	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	74.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.0	39 - 69	13C-OCDF	57.0	17 - 157
OCDF	100	105	63 - 170	CRS 37Cl-2,3,7,8-TCDD	94.1	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 08-Mar-2006 13:49

EPA Method 1613

Sample ID: IPB2643-01

Client Data		Sample Data		Laboratory Data			
Name	Del Mar Analytical, Irvine	Matrix	Aqueous	Lab Sample:	27353-001		
Project	IPB2643	Sample Size:	1.01 L	QC Batch No.:	7807		
Date Collected:	28-Feb-06			Date Analyzed DB-5:	8-Mar-06		
Time Collected:	1000			Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000166		IS 13C-2,3,7,8-TCDD	82.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000208		13C-1,2,3,7,8-PeCDD	85.7	25 - 181	
1,2,3,4,7,8-HxCDD	0.00000180			13C-1,2,3,4,7,8-HxCDD	80.6	32 - 141	J
1,2,3,6,7,8-HxCDD	0.00000441			13C-1,2,3,6,7,8-HxCDD	81.1	28 - 130	J
1,2,3,7,8,9-HxCDD	0.00000438			13C-1,2,3,4,6,7,8-HpCDD	76.6	23 - 140	J
1,2,3,4,6,7,8-HpCDD	0.000109			13C-OCDD	56.2	17 - 157	
OCDD	0.00113			13C-2,3,7,8-TCDF	85.5	24 - 169	
2,3,7,8-TCDF	ND	0.00000116		13C-1,2,3,7,8-PeCDF	96.2	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000112		13C-2,3,4,7,8-PeCDF	93.9	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000119		13C-1,2,3,4,7,8-HxCDF	73.3	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000818		13C-1,2,3,6,7,8-HxCDF	74.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000760		13C-2,3,4,6,7,8-HxCDF	77.8	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000784		13C-1,2,3,7,8,9-HxCDF	77.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000101		13C-1,2,3,4,6,7,8-HpCDF	73.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000156			13C-1,2,3,4,7,8,9-HpCDF	78.5	26 - 138	J
1,2,3,4,7,8,9-HpCDF	ND	0.00000136		13C-OCDF	61.6	17 - 157	
OCDF	0.0000493			CRS 37Cl-2,3,7,8-TCDD	84.6	35 - 197	
Totals							
Total TCDD	ND	0.00000166					
Total PeCDD	ND	0.00000208					
Total HxCDD	0.0000352						
Total HpCDD	0.000215						
Total TCDF	ND	0.00000116					
Total PeCDF	0.00000232						
Total HxCDF	0.0000146						
Total HpCDF	0.0000475						

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 08-Mar-2006 13:49

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9586 Fax (619) 505-9689
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0651
 2520 E. Sunset Rd., Suite #2, Las Vegas, NV 89120 Ph (702) 799-3620 Fax (702) 795-3821

SUBCONTRACT ORDER - PROJECT # IPB2643

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	Alta Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 <i>27353</i> <i>0.2°C</i>

Standard TAT is requested unless specific due date is requested => Due Date: _____ Initials: _____

Analysis	Expiration	Comments
Sample ID: IPB2643-01 Water	Sampled: 02/28/06 10:00	Instant Notification
1613-Dioxin-HR-Alta	03/07/06 10:00	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
Level 4 + EDD-OUT	03/28/06 10:00	**LEVEL IV QC, ACCESS 7 EDD**
Containers Supplied:		
1 L Amber (IPB2643-01I)		
1 L Amber (IPB2643-01J)		

SAMPLE INTEGRITY:

All containers intact: Yes No Sample labels/COC agree: Yes No Samples Received On Ice: Yes No
 Custody Seals Present: Yes No Samples Preserved Properly: Yes No Samples Received at (temp): _____

Col-U *Fed-Ex 03-01-06*

Released By	Date	Time	Received By	Date	Time
			<i>Bethina G. Benedict</i>	<i>3/8/06</i>	<i>0850</i>
Released By	Date	Time	Received By	Date	Time

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27353

Samples Arrival:	Date/Time 3/2/06 0850	Initials: BBB	Location: WR-2
Logged In: BBB 3/3/06	Date/Time 3/3/06 0651	Initials: BBB	Location: WR-2
Delivered By:	<u>FedEx</u>	UPS	Cal
		DHL	Hand Delivered
		Other	
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
		None	
Temp °C	0.2°C	Time: 1015	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7980 3107 8338		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			<u>None</u>
Shipping Container	Alta	<u>Client</u>	Retain
			<u>Return</u>
			Dispose

Comments:

LABORATORY REPORT



**Aquatic
Testing
Laboratories**

"dedicated to providing quality aquatic toxicity testing"

4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: March 8, 2006
Client: Del Mar Analytical, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Michele Chamberlin

Laboratory No.: A-06030114-001
Sample ID.: IPB2643-01

Sample Control: The sample was received by ATL within the recommended hold time, in a chilled state, and with the chain of custody record attached.

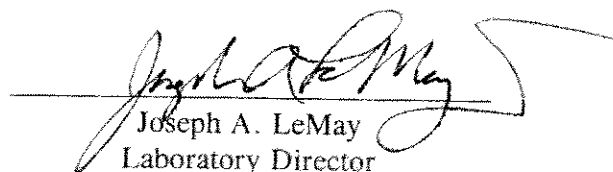
Date Sampled: 02/28/06
Date Received: 03/01/06
Temp. Received: 2°C
Chlorine (TRC): 0.0 mg/l
Date Tested: 03/01/06 to 03/07/06

Sample Analysis: The following analyses were performed on your sample:
Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0),
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).
Attached are the test data generated from the analysis of your sample.

Result Summary:

Acute:	<u>Survival</u>	<u>TUa</u>
Fathead Minnow:	100%	0.0
Chronic:	<u>NOEC</u>	<u>TUc</u>
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of the Laboratory's name for advertising or publicity purpose without authorization is prohibited.

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0



Lab No.: A-06030114-001
 Client/ID: Del Mar - IPB2643-01

Start Date: 03/01/2006

TEST SUMMARY

Species: *Pimephales promelas*.
 Age: 13 (1-14) days.
 Regulations: NPDES.
 Test solution volume: 250 ml.
 Feeding: prior to renewal at 48 hrs.
 Number of replicates: 2.
 Dilution water: Moderately hard reconstituted water.
 Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.
 Test type: Static-Renewal.
 Test Protocol: EPA-821-R-02-012.
 Endpoints: Percent Survival at 96 hrs.
 Test chamber: 600 ml beakers.
 Temperature: 20 +/- 1°C.
 Number of fish per chamber: 10.
 QA/QC Batch No.: RT-060301.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.4	8.9	7.9	0	0	Ru
	100%	19.6	9.0	7.1	0	0	1200
24 Hr	Control	19.2	8.0	7.7	0	0	Ru
	100%	19.2	8.3	7.6	0	0	1100
48 Hr	Control	19.3	7.4	7.6	0	0	Ru
	100%	19.2	7.7	7.5	0	0	1230
Renewal	Control	19.5	8.4	7.8	0	0	Ru
	100%	19.2	9.2	7.4	0	0	1300
72 Hr	Control	19.4	8.0	7.6	0	0	Ru
	100%	19.1	8.2	7.6	0	0	1100
96 Hr	Control	19.4	7.9	7.6	0	0	Ru
	100%	19.4	8.0	7.7	0	0	1130

Comments:

Sample as received: Chlorine: 0.0 mg/l; pH: 7.1; Conductivity: 240 umho; Temp: 2°C;
 DO: 9.0 mg/l; Alkalinity: 52 mg/l; Hardness: 86 mg/l; NH₃-N: 0.4 mg/l.
 Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / No
 Control: Alkalinity: 54 mg/l; Hardness: 94 mg/l; Conductivity: 325 umho.
 Test solution aerated (not to exceed 100 bubbles/min) to maintain DO > 4.0 mg/l? Yes / No
 Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.

RESULTS

Percent Survival In: Control: 100 % 100% Sample: 100 %

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-06030114
Client/ID: Del Mar IPB2643-01 Outfall 018

Date Tested: 03/01/06 to 03/07/06

TEST SUMMARY

Test type: Daily static-renewal.	Endpoints: Survival and Reproduction.
Species: <i>Ceriodaphnia dubia</i> .	Source: In-laboratory culture.
Age: < 24 hrs; all released within 8 hrs.	Food: .1 ml YTC, algae per day.
Test vessel size: 30 ml.	Test solution volume: 15 ml.
Number of test organisms per vessel: 1.	Number of replicates: 10.
Temperature: 25 +/- 1°C.	Photoperiod: 16/8 hrs. light/dark cycle.
Dilution water: Mod. hard reconstituted (MHRW).	Test duration: 6 days.
QA/QC Batch No.: RT-060301.	Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	21.3
6.25%	100%	26.8
12.5%	100%	30.1
25%	100%	28.6
50%	100%	31.1
100%	100%	30.6

No concentration statistically significantly less than control at P = 0.05 level.
** Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

CHRONIC TOXICITY

Parameter	Survival	Growth
NOEC	100%	100%
TUc	1.0	1.0

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥ 80%	Pass (100% survival)
≥ 15 young per surviving control female	Pass (21.3 young)
≥ 60% surviving controls had 3 broods	Pass (90% with 3 broods)
PMSD < 47% for reproduction; if > 47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 19.0%)
Statistically significantly different concentrations relative difference > 13%	NA - No stat. sig. diff. concentrations
Concentration response relationship acceptable	Pass (no response at conc. tested)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date: 01 Mar-06 15:00 Test ID: 6030114c Sample ID: Del Mar IPB2643 Outfall 018
 End Date: 07 Mar-06 16:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater
 Sample Date: 28 Feb-06 00:00 Protocol: EPAF 91 Test Species: CD-Ceriodaphnia dubia
 Comments:

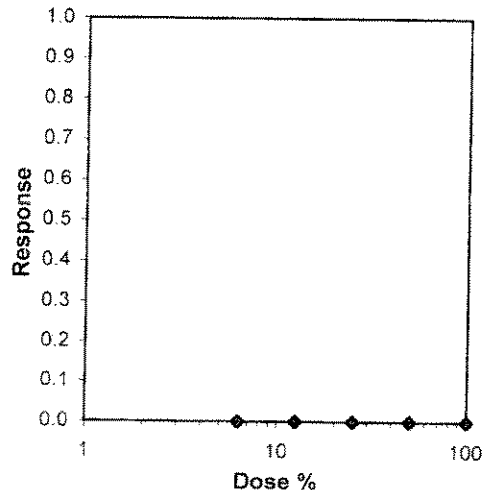
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's 1-Tailed		Isotonic	
							Exact P	Critical	Mean	N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
6.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
12.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
50	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1

Log-Logit Interpolation (80 Resamples)

Point	%	SE	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 01 Mar-06 15:00 Test ID: 6030114c Sample ID: Del Mar IPB2643 Outfall 018
 End Date: 07 Mar-06 16:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SRW2-Industrial stormwater
 Sample Date: 28 Feb-06 00:00 Protocol: EPAF 91 Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	21.000	22.000	18.000	21.000	23.000	14.000	22.000	23.000	26.000	23.000
6.25	25.000	27.000	26.000	27.000	25.000	26.000	32.000	25.000	29.000	26.000
12.5	25.000	38.000	34.000	27.000	26.000	29.000	37.000	30.000	28.000	27.000
25	26.000	29.000	36.000	26.000	29.000	27.000	29.000	25.000	32.000	27.000
50	24.000	30.000	35.000	27.000	26.000	43.000	32.000	31.000	31.000	32.000
100	29.000	30.000	33.000	33.000	23.000	26.000	37.000	28.000	32.000	35.000

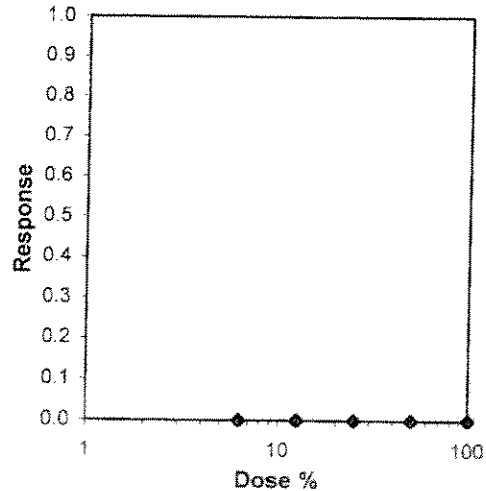
Conc-%	Mean	N-Mean	Transform: Untransformed				N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%					Mean	N-Mean
D-Control	21.300	1.0000	21.300	14.000	26.000	15.341	10				28.083	1.0000
6.25	26.800	1.2582	26.800	25.000	32.000	8.213	10	-3.107	2.287	4.048	28.083	1.0000
12.5	30.100	1.4131	30.100	25.000	38.000	15.381	10	-4.971	2.287	4.048	28.083	1.0000
25	28.600	1.3427	28.600	25.000	36.000	11.561	10	-4.123	2.287	4.048	28.083	1.0000
50	31.100	1.4601	31.100	24.000	43.000	17.045	10	-5.535	2.287	4.048	28.083	1.0000
100	30.600	1.4366	30.600	23.000	37.000	13.882	10	-5.253	2.287	4.048	28.083	1.0000

Auxiliary Tests

	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.8323	1.035	0.57932	0.94222
Bartlett's Test indicates equal variances (p = 0.18)	7.5917	15.0863		
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Dunnett's Test	100	>100		1
				4.0484 134.857 15.6722 8.60482 4.8E-06 5, 54

Linear Interpolation (80 Resamples)

Point	%	SE	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reproduction and Survival Raw Data Sheet



Lab No.: A-006030114-001
 Client ID: Del Mar IPB2643-01

Start Date: 03/01/2006

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	4	3	2	0	3	5	4	5	5	0	31	10	R
	4	0	8	6	4	0	0	0	0	0	5	23	10	h
	5	9	0	0	8	8	9	7	8	9	8	66	10	h
	6	8	11	10	9	12	0	11	10	12	10	93	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	21	22	18	21	23	14	22	23	26	23	213	10	h
6.25%	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	4	4	3	5	3	4	0	3	6	5	37	10	R
	4	9	9	8	8	8	7	6	0	8	0	63	10	h
	5	12	14	15	14	14	15	9	9	15	8	125	10	h
	6	15	17	12	11	14	12	17	13	0	13	43	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	25	27	26	27	25	26	32	25	29	26	268	10	h
12.5%	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	5	10	6	2	3	4	9	5	7	4	55	10	R
	4	0	0	0	8	9	10	0	8	8	0	43	10	h
	5	8	11	10	17	14	15	12	0	0	8	95	10	h
	6	12	17	18	10	15	14	16	17	13	15	108	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	25	38	34	27	26	29	37	30	28	27	301	10	h

Note: Fourth broods (circled) are not counted in data analysis.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Reproduction and Survival Raw Data Sheet



Lab No.: A-006030114-001
 Client ID: Del Mar IPB2643-01

Start Date: 03/01/2006

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
25%	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	3	8	8	3	6	2	3	5	8	4	50	10	R
	4	9	0	0	8	0	9	0	0	8	8	42	10	R
	5	14	8	10	15	11	16	10	8	16	15	123	10	R
	6	(16)	13	18	(14)	12	(13)	16	12	(15)	(9)	71	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	26	29	36	26	29	27	29	25	32	27	286	10	R
50%	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	4	7	9	2	4	0	4	6	6	4	46	10	R
	4	8	0	0	9	8	10	0	10	9	0	54	10	R
	5	12	8	10	16	14	15	11	15	16	11	128	10	R
	6	(16)	15	16	(12)	(14)	18	17	(16)	(17)	17	83	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	24	30	35	27	26	43	32	31	31	32	311	10	R
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	2	4	7	6	2	2	6	4	5	4	42	10	R
	4	9	0	0	0	8	10	0	9	11	0	47	10	R
	5	18	8	11	10	13	14	12	15	16	12	129	10	R
	6	(17)	18	15	17	(17)	(16)	19	(14)	0	19	88	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	29	30	33	33	23	26	37	28	32	35	306	10	R

Note: Fourth broods (circled) are not counted in data analysis.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY

Water Chemistries Raw Data Sheet



Lab No.: A-006030114-001
 Client ID: Del Mar IPB2643-01

Start Date: 03/01/2006

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:		RM	RM	RM	RM	RM	RM	RM	RM	RM	RM	RM	RM	RM	RM
Time of Readings:		1530	1600	1600	1700	1700	1700	1700	1800	1800	1800	1800	1800	1800	1800
Control	DO	8.0	8.0	8.0	7.9	8.3	7.9	8.1	7.8	8.1	7.7	8.0	7.9	-	-
	pH	7.7	8.0	8.0	8.0	7.8	7.6	7.9	7.6	7.8	7.8	7.5	7.9	-	-
	Temp	25.9	25.3	25.9	24.9	25.7	25.5	25.8	25.2	25.2	24.6	25.1	25.5	-	-
6.25%	DO	8.1	8.0	8.1	7.9	8.4	7.9	8.2	7.9	8.2	7.8	8.1	7.9	-	-
	pH	7.6	8.0	7.9	7.9	7.7	7.6	7.7	7.6	7.7	7.8	7.6	7.9	-	-
	Temp	25.9	25.3	25.8	24.9	25.7	25.5	25.7	25.3	25.2	24.7	25.1	25.6	-	-
12.5%	DO	8.2	8.0	8.2	7.9	8.4	7.9	8.2	7.8	8.1	7.9	8.0	7.9	-	-
	pH	7.5	8.0	7.8	7.8	7.6	7.9	7.6	7.9	7.6	7.8	7.5	7.8	-	-
	Temp	25.8	25.3	25.8	24.9	25.6	25.5	25.6	25.2	24.9	25.0	25.2	25.6	-	-
25%	DO	8.3	7.9	8.3	7.9	8.5	7.9	8.2	7.7	8.2	7.9	8.2	7.9	-	-
	pH	7.4	8.0	7.7	7.7	7.5	7.6	7.4	7.6	7.4	7.7	7.5	7.8	-	-
	Temp	25.7	25.4	25.8	24.9	25.4	25.5	25.4	25.2	24.9	24.6	25.2	25.6	-	-
50%	DO	8.4	7.9	8.4	8.0	8.7	7.8	8.3	7.8	8.2	7.8	8.1	7.9	-	-
	pH	7.2	8.1	7.5	7.7	7.2	7.6	7.3	7.6	7.4	7.6	7.4	7.7	-	-
	Temp	25.5	25.4	25.7	25.0	25.3	25.4	25.2	25.3	25.1	24.7	25.3	25.6	-	-
100%	DO	8.7	7.7	8.6	8.0	9.2	7.8	8.4	7.9	8.3	7.9	8.2	7.8	-	-
	pH	7.1	8.1	7.4	7.6	7.0	7.5	7.3	7.5	7.3	7.6	7.4	7.7	-	-
	Temp	25.4	25.4	25.6	25.0	25.1	25.4	24.7	25.2	24.9	24.6	25.3	25.6	-	-

Source of Neonates										
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	A6	B4	B5	B6	C4	C5	D6	D5	F4	G5

Additional Parameters	Control	100% Effluent
Conductivity	325	240
Alkalinity	54	52
Hardness	94	86
Chlorine (TRC)	0	0
Ammonia (NH ₃ -N)	0.2	0.4



1014 E. Cooley Dr., Suite A, Cotton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB2643

SENDING LABORATORY: Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	RECEIVING LABORATORY: Aquatic Testing Laboratories-SUB 4350 Transport Street, Unit 107 Ventura, CA 93003 Phone : (805) 650-0546 Fax: (805) 650-0756
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Standard TAT is requested unless specific due date is requested => **Due Date:** _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IPB2643-01	Water	Sampled: 02/28/06 10:00
Bioassay-7 dy Chronic	03/01/06 22:00	Instant Notification
Bioassay-Acute 96hr	03/01/06 22:00	Cerio, EPA/821-R02-013, Sub to AqTox Labs
		FH minnow, EPA/821-R02-012, Sub to AqTox Labs
Containers Supplied:		
1 gal Poly (IPB2643-01AU)		
1 gal Poly (IPB2643-01AV)		

SAMPLE INTEGRITY:					
All containers intact:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Sample labels/COC agree:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Custody Seals Present:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Samples Preserved Properly:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
			Samples Received On Ice:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
			Samples Received at (temp):	<u>7°C</u>	

	Date	Time		Date	Time
<u>3-1-06</u>	<u>10:20</u>	<u>7:00</u>	<u>3-1-06</u>	<u>10:20</u>	<u>7:00</u>

**FATHEAD MINNOW ACUTE
Method 2000.0
Reference Toxicant - SDS**



QA/QC Batch No.: RT-060301

TEST SUMMARY

Species: *Pimephales promelas*.
Age: 13 days old.
Regulations: NPDES.
Test chamber volume: 250 ml.
Feeding: Prior to renewal at 48 hrs.
Temperature: 20 +/- 1°C.
Number of replicates: 2.
Dilution water: MHSF.

Source: In-lab culture.
Test type: Static-Renewal.
Test Protocol: EPA-821-R-02-012.
Endpoints: LC50 at 96 hrs.
Test chamber: 600 ml glass beakers.
Aeration: None.
Number of organisms per chamber: 10.
Photoperiod: 16/8 hrs light/dark.

TEST DATA

Date/Time: Analyst:	INITIAL			24 Hr					48 Hr				
	<u>3-1-06 1200</u>			<u>3-2-06 1100</u>					<u>3-3-06 1300</u>				
	<u>[Signature]</u>			<u>[Signature]</u>					<u>[Signature]</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
						A	B				A	B	
Control	<u>20.4</u>	<u>8.9</u>	<u>7.9</u>	<u>19.8</u>	<u>7.8</u>	<u>7.5</u>	<u>0</u>	<u>0</u>	<u>20.0</u>	<u>7.1</u>	<u>7.6</u>	<u>0</u>	<u>0</u>
1.0 mg/l	<u>20.4</u>	<u>8.9</u>	<u>7.9</u>	<u>19.7</u>	<u>7.7</u>	<u>7.5</u>	<u>0</u>	<u>0</u>	<u>20.0</u>	<u>7.0</u>	<u>7.6</u>	<u>0</u>	<u>0</u>
2.0 mg/l	<u>20.5</u>	<u>9.0</u>	<u>7.9</u>	<u>19.7</u>	<u>7.4</u>	<u>7.4</u>	<u>0</u>	<u>0</u>	<u>20.0</u>	<u>6.9</u>	<u>7.5</u>	<u>0</u>	<u>0</u>
4.0 mg/l	<u>20.5</u>	<u>9.1</u>	<u>7.9</u>	<u>19.7</u>	<u>7.7</u>	<u>7.4</u>	<u>0</u>	<u>0</u>	<u>20.0</u>	<u>6.6</u>	<u>7.5</u>	<u>0</u>	<u>0</u>
8.0 mg/l	<u>20.5</u>	<u>9.1</u>	<u>7.9</u>	<u>19.7</u>	<u>5.3</u>	<u>7.2</u>	<u>10</u>	<u>10</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Date/Time: Analyst:	RENEWAL			72 Hr					96 Hr				
	<u>3-3-06 1300</u>			<u>3-4-06 1100</u>					<u>3-5-06 1130</u>				
	<u>[Signature]</u>			<u>[Signature]</u>					<u>[Signature]</u>				
	°C	DO	pH	°C	DO	pH	# Dead		°C	DO	pH	# Dead	
						A	B				A	B	
Control	<u>19.8</u>	<u>9.0</u>	<u>7.8</u>	<u>19.5</u>	<u>7.9</u>	<u>7.6</u>	<u>0</u>	<u>0</u>	<u>19.9</u>	<u>7.5</u>	<u>7.4</u>	<u>0</u>	<u>0</u>
1.0 mg/l	<u>19.8</u>	<u>9.0</u>	<u>7.8</u>	<u>19.6</u>	<u>8.3</u>	<u>7.6</u>	<u>0</u>	<u>0</u>	<u>19.9</u>	<u>7.6</u>	<u>7.4</u>	<u>0</u>	<u>0</u>
2.0 mg/l	<u>19.8</u>	<u>9.1</u>	<u>7.8</u>	<u>19.6</u>	<u>8.3</u>	<u>7.6</u>	<u>0</u>	<u>0</u>	<u>19.8</u>	<u>7.6</u>	<u>7.4</u>	<u>0</u>	<u>0</u>
4.0 mg/l	<u>19.9</u>	<u>9.1</u>	<u>7.8</u>	<u>19.6</u>	<u>7.7</u>	<u>7.5</u>	<u>0</u>	<u>0</u>	<u>19.8</u>	<u>7.6</u>	<u>7.4</u>	<u>0</u>	<u>0</u>
8.0 mg/l	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Comments:

Control: Alkalinity: 54 mg/l; Hardness: 94 mg/l; Conductivity: 325 umho.
SDS: Alkalinity: 53 mg/l; Hardness: 94 mg/l; Conductivity: 330 umho.

Acute Fish Test-96 Hr Survival

Start Date: 01 Mar-06 12:00 Test ID: RT-060301f Sample ID: REF-Ref Toxicant
 End Date: 05 Mar-06 11:30 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SDS-Sodium dodecyl sulfate
 Sample Date: 01 Mar-06 00:00 Protocol: EPAA 91-EPA Acute Test Species: PP-Pimephales promelas
 Comments:

Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	1.0000	1.0000
8	0.0000	0.0000

Conc-mg/L	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
4	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	0	20	
								20	20	

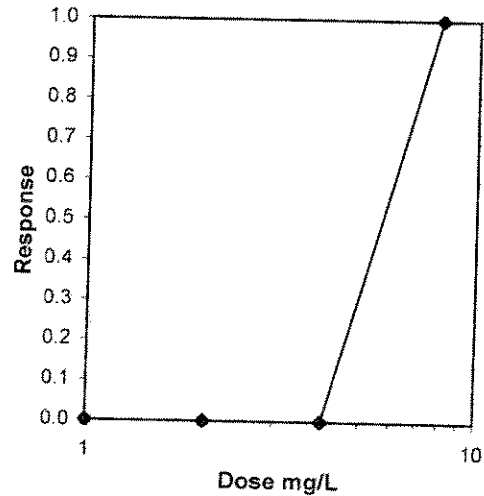
Auxiliary Tests

Normality of the data set cannot be confirmed
 Equality of variance cannot be confirmed

Statistic	Critical	Skew	Kurt
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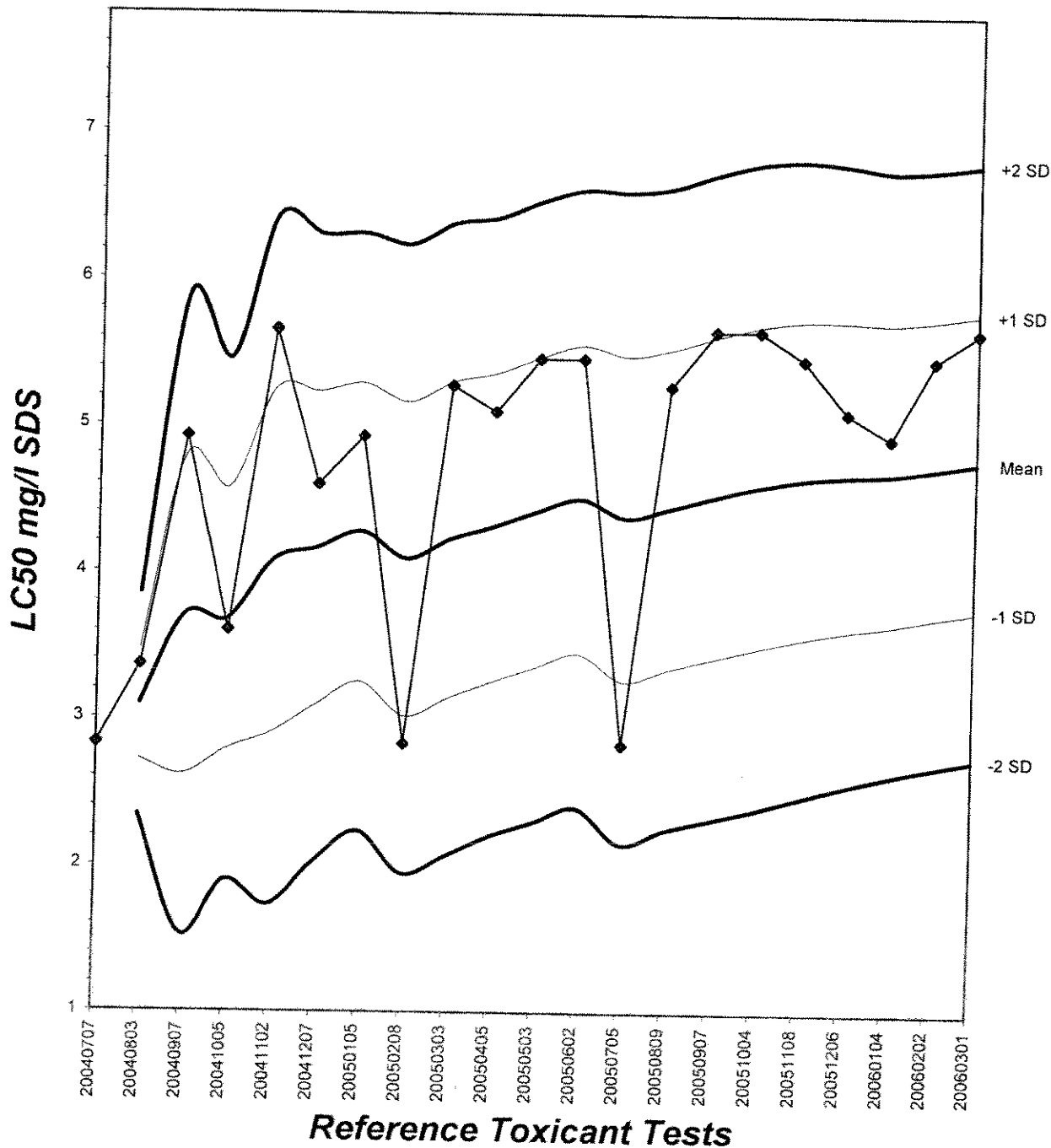
Graphical Method

Trim Level	EC50
0.0%	5.6569



Fathead Minnow Acute Laboratory Control Chart

CV% = 21.3



TEST ORGANISM LOG

FATHEAD MINNOW - LARVAL
(*Pimephales promelas*)



QA/QC BATCH NO.: RT-060301

SOURCE: In-Lab Culture

DATE HATCHED: 2-16-06

APPROXIMATE QUANTITY: 400

GENERAL APPEARANCE: good

MORTALITIES 48 HOURS PRIOR TO
TO USE IN TESTING: 0

DATES USED IN LAB: 3/1/06
to
1/1/06

AVERAGE FISH WEIGHT: 0.006 gm

TEST LOADING LIMITS: 0.65 gm/liter

200 ml test solution volume = 0.013 gm mean fish weight limit

250 ml test solution volume = 0.016 gm mean fish weight limit

ACCLIMATION WATER QUALITY:

Temp.: 20.4 °C pH: 7.7 Ammonia: 0.2 mg/l NH₃-N

DO: 2.8 mg/l Alkalinity: 54 mg/l Hardness: 94 mg/l

READINGS RECORDED BY: [Signature] DATE: 3-5-06

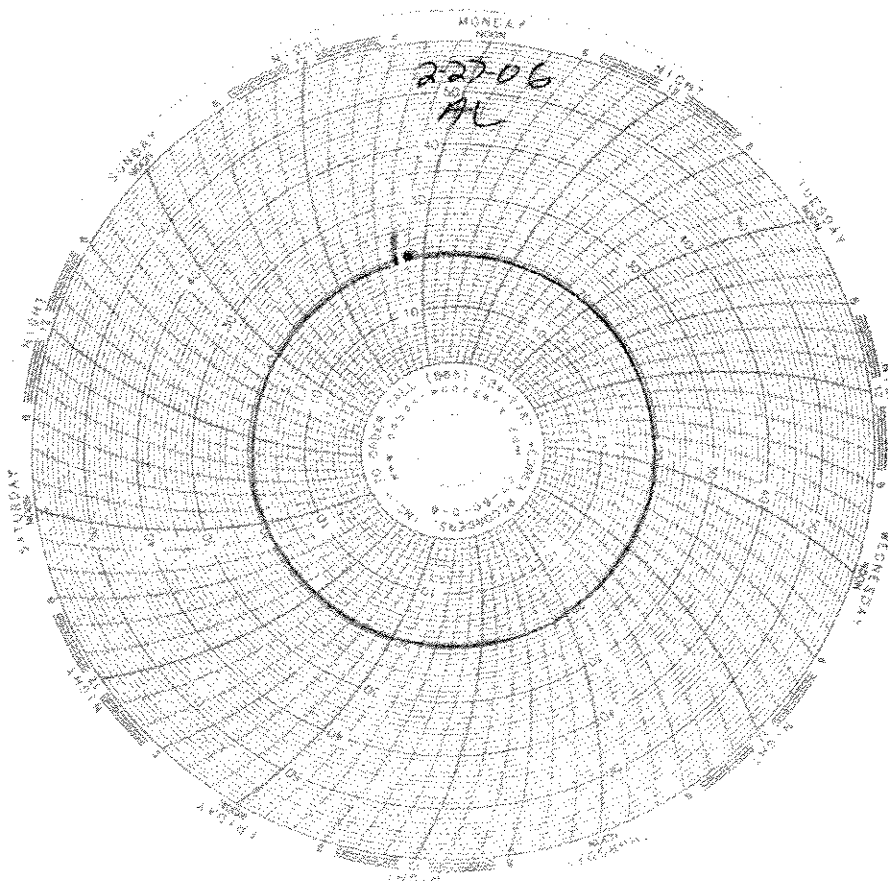


Laboratory Temperature Chart

QA/QC Batch No: RT-060301

Date Tested: 03/01/06 to 03/05/06

Acceptable Range: 20+/- 1°C



CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl



QA/QC Batch No.: RT-060301

Date Tested: 03/01/06 to 03/07/06

TEST SUMMARY

Test type: Daily static-renewal.
 Species: *Ceriodaphnia dubia*.
 Age: < 24 hrs; all released within 8 hrs.
 Test vessel size: 30 ml.
 Number of test organisms per vessel: 1.
 Temperature: 25 +/- 1°C.
 Dilution water: Mod. hard reconstituted (MHRW).
 Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.
 Source: In-laboratory culture.
 Food: .1 ml YTC, algae per day.
 Test solution volume: 20 ml.
 Number of replicates: 10.
 Photoperiod: 16/8 hrs. light/dark cycle.
 Test duration: 6 days.
 Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		21.0	
0.5 g/l	100%		22.4	
1.0 g/l	100%		17.8	*
2.0 g/l	100%		2.4	*
4.0 g/l	0%	*	0	**

* Statistically significantly less than control at P = 0.05 level
 ** Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

CHRONIC TOXICITY

Survival LC50	2.8 g/l
Reproduction IC25	1.10 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥ 80%	Pass (100% Survival)
≥ 15 young per surviving control female	Pass (21.0 young)
≥ 60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD < 47% for reproduction	Pass (PMSD = 8.3%)
Stat. sig. diff. conc. relative difference > 13%	Pass (Stat. sig. diff. conc. = 15.2%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-Survival Day 6

Start Date: 01 Mar-06 14:00 Test ID: RT-060301c Sample ID: REF-Ref Toxicant
 End Date: 07 Mar-06 16:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 01 Mar-06 00:00 Protocol: EPAF 91 Test Species: CD-Ceriodaphnia dubia
 Comments:

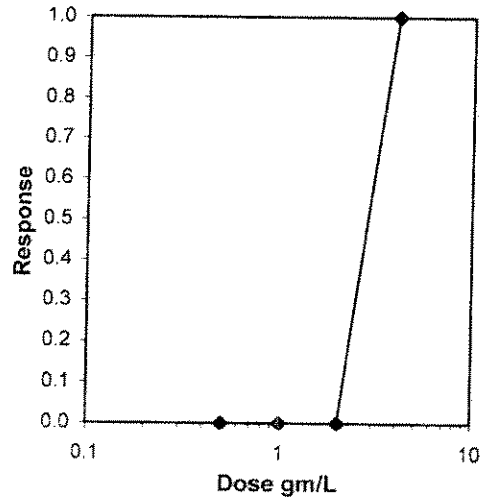
Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
2	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
4	0.0000	0.0000	10	0	10	10			10	10

Hypothesis Test (1-tail, 0.05) NOEC LOEC ChV TU
 Fisher's Exact Test 2 >4

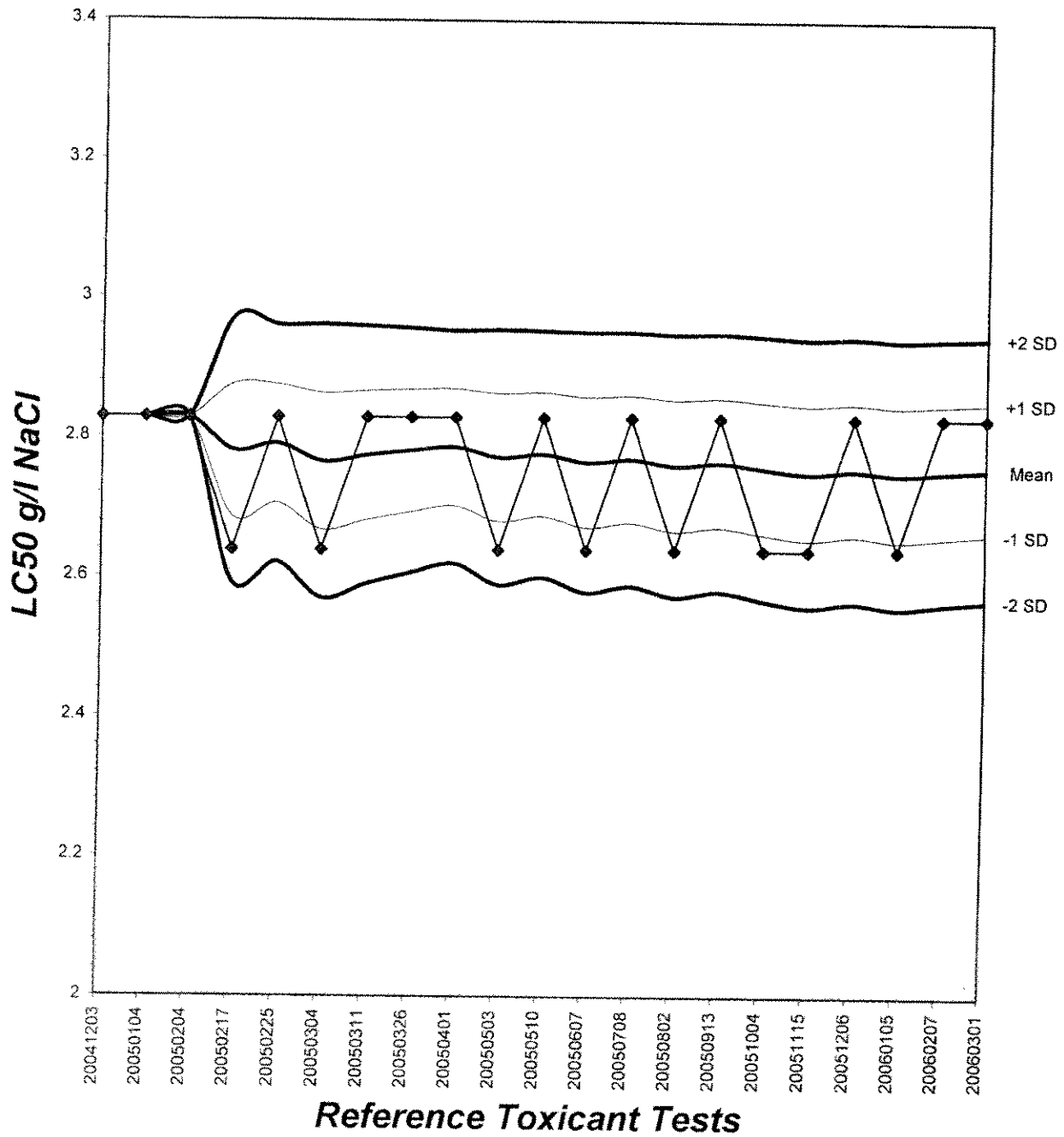
Graphical Method

Trim Level EC50
 0.0% 2.8284



Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 3.4



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 01 Mar-06 14:00 Test ID: RT-060301c Sample ID: REF-Ref Toxicant
 End Date: 07 Mar-06 16:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: NACL-Sodium chloride
 Sample Date: 01 Mar-06 00:00 Protocol: EPAF 91 Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	20.000	22.000	19.000	18.000	20.000	21.000	26.000	22.000	22.000	20.000
0.5	22.000	20.000	20.000	24.000	23.000	24.000	25.000	23.000	22.000	21.000
1	19.000	18.000	20.000	15.000	19.000	20.000	16.000	14.000	20.000	17.000
2	2.000	2.000	2.000	2.000	4.000	3.000	2.000	2.000	2.000	3.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

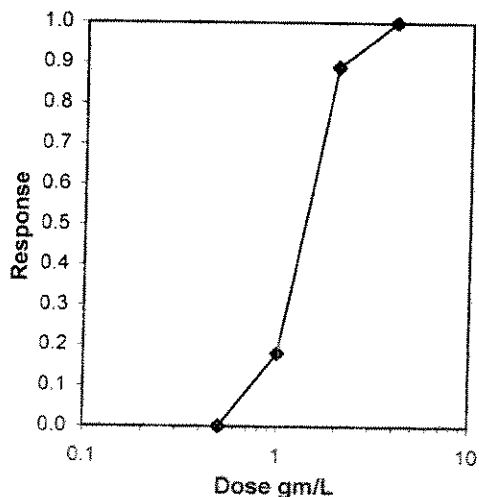
Conc-gm/L	Mean	N-Mean	Transform: Untransformed					N	t-Stat	1-Tailed Critical	MSD	isotonic	
			Mean	Min	Max	CV%	Mean					N-Mean	
D-Control	21.000	1.0000	21.000	18.000	26.000	10.529	10				21.700	1.0000	
0.5	22.400	1.0667	22.400	20.000	25.000	7.646	10	-1.726	2.137	1.733	21.700	1.0000	
*1	17.800	0.8476	17.800	14.000	20.000	12.365	10	3.946	2.137	1.733	17.800	0.8203	
*2	2.400	0.1143	2.400	2.000	4.000	29.134	10	22.934	2.137	1.733	2.400	0.1106	
4	0.000	0.0000	0.000	0.000	0.000	0.000	10				0.000	0.0000	

Auxiliary Tests

Statistic	Critical	Skew	Kurt							
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.97953	0.919	0.2143							
Bartlett's Test indicates equal variances (p = 0.01)	10.6394	11.3449	0.71232							
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSB	MSE	F-Stat	F-Prob	df
Dunnett's Test	0.5	1	0.70711		1.73291	847.067	3.28889	257.554	2.3E-24	3, 36

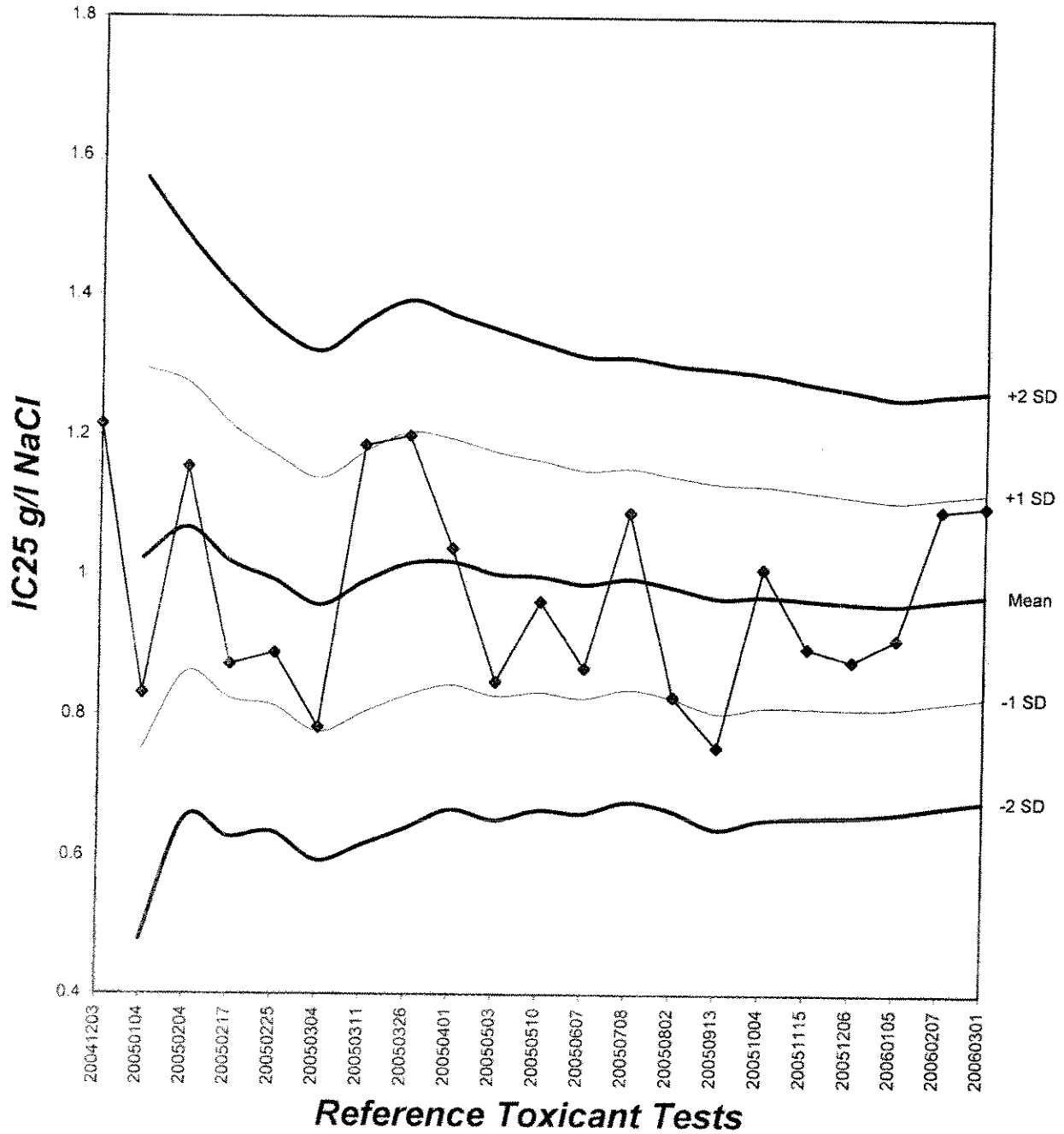
Linear Interpolation (80 Resamples)

Point	gm/L	SE	95% CL	Skew
IC05	0.6391	0.0359	0.5587 0.7148	0.5339
IC10	0.7782	0.0612	0.7030 0.9295	1.5066
IC15	0.9173	0.0675	0.8164 1.0435	0.5242
IC20	1.0286	0.0507	0.9218 1.1083	-0.0551
IC25	1.0990	0.0414	1.0199 1.1731	0.2340
IC40	1.3104	0.0319	1.2476 1.3675	0.1691
IC50	1.4513	0.0260	1.3973 1.4971	0.0934



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 15.1



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-060301

Start Date: 03/01/2006

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	R
	2	0	0	0	0	0	0	0	0	0	0	0	10	R
	3	4	3	3	5	0	4	4	3	4	0	30	10	R
	4	0	0	0	0	5	0	0	0	0	4	9	10	J
	5	8	9	8	6	7	8	9	9	7	8	79	10	M
	6	8	10	8	7	8	9	13	10	11	8	92	10	R
	7	0	-	-	-	-	-	-	-	-	-	-	-	-
	Total	20	22	19	18	20	21	26	22	22	20	220	10	R
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	3	2	0	4	4	4	3	4	4	3	31	10	R
	4	0	0	5	0	0	0	0	0	0	0	5	10	J
	5	8	7	7	8	9	8	9	9	8	7	80	10	M
	6	11	11	8	12	10	12	13	10	10	11	108	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	22	20	20	24	23	24	25	23	22	21	224	10	R
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	10	R	
	2	0	0	0	0	0	0	0	0	0	0	10	R	
	3	0	0	4	3	2	4	0	3	0	3	19	10	R
	4	3	3	0	0	0	0	4	0	4	0	14	10	J
	5	6	6	4	4	6	4	3	4	6	4	47	10	M
	6	10	9	12	8	11	12	9	7	10	10	98	10	R
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	19	18	20	15	19	20	16	14	20	17	178	10	R

Note: Fourth broods (circled) are not counted in data analysis.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet



QA/QC No.: RT-060301

Start Date: 03/01/2006

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	2	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	3	0	0	0	0	0	0	0	0	0	0	0	10	Rm
	4	0	0	0	0	2	3	0	2	0	0	7	10	Rm
	5	2	2	2	2	0	0	2	0	2	3	15	10	Rm
	6	0	0	0	0	2	0	0	0	0	0	2	10	Rm
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	2	2	2	2	4	3	2	2	2	3	24	10	Rm
4.0 g/l	1	X	X	X	X	X	X	X	X	X	0	0	Rm	
	2	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	-	-	-	
	5	-	-	-	-	-	-	-	-	-	-	-	-	
	6	-	-	-	-	-	-	-	-	-	-	-	-	
	7	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	Rm

Note: Fourth broods (circled) are not counted in data analysis.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Water Chemistries Raw Data Sheet



QA/QC No.: RT-060301

Start Date: 03/01/2006

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:		LM	LM	RM	RM	RM	RM	RM	J	LM	J	LM	LM	—	—
Time of Readings:		1400	1500	1500	1500	1500	1600	1600	1400	1400	1300	1300	1600	—	—
Control	DO	8.1	7.8	8.0	8.2	8.4	8.0	8.1	7.8	8.1	8.1	8.0	8.0	—	—
	pH	7.8	7.9	8.0	8.0	7.8	7.8	7.8	7.8	7.9	7.8	7.6	7.7	—	—
	Temp	25.8	25.5	25.8	25.3	25.6	25.2	25.8	25.1	25.6	24.9	25.9	25.8	—	—
0.5 g/l	DO	8.1	7.9	8.0	8.3	8.4	8.0	8.1	7.7	8.1	8.1	7.8	8.0	—	—
	pH	7.8	7.9	8.0	8.0	7.8	7.9	7.8	7.9	7.8	7.9	7.8	7.8	—	—
	Temp	25.8	25.5	25.9	25.3	25.7	25.2	25.9	25.2	25.6	25.0	25.3	25.7	—	—
1.0 g/l	DO	8.1	7.9	8.0	8.3	8.4	7.9	8.1	7.9	8.1	7.7	8.0	7.9	—	—
	pH	7.8	7.9	8.0	8.0	7.8	7.9	7.9	7.9	7.9	7.9	7.8	7.8	—	—
	Temp	25.8	25.5	25.9	25.3	25.7	25.2	25.9	25.0	25.8	25.7	25.4	25.7	—	—
2.0 g/l	DO	8.1	8.0	7.9	8.2	8.3	7.9	8.0	7.8	8.0	7.8	8.0	7.9	—	—
	pH	7.9	7.9	8.0	8.0	7.8	7.9	7.9	7.8	7.9	7.8	7.8	7.8	—	—
	Temp	25.8	25.5	26.0	25.3	25.8	25.2	26.0	25.2	25.8	25.6	25.4	25.7	—	—
4.0 g/l	DO	8.1	8.0	—	—	—	—	—	—	—	—	—	—	—	—
	pH	7.8	7.9	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	25.7	25.5	—	—	—	—	—	—	—	—	—	—	—	—

Additional Parameters	Control	High Concentration (4.0 g/l)
Conductivity	325	6340
Alkalinity	54	55
Hardness	94	93
Ammonia (NH ₃ -N)	0.2	0.2

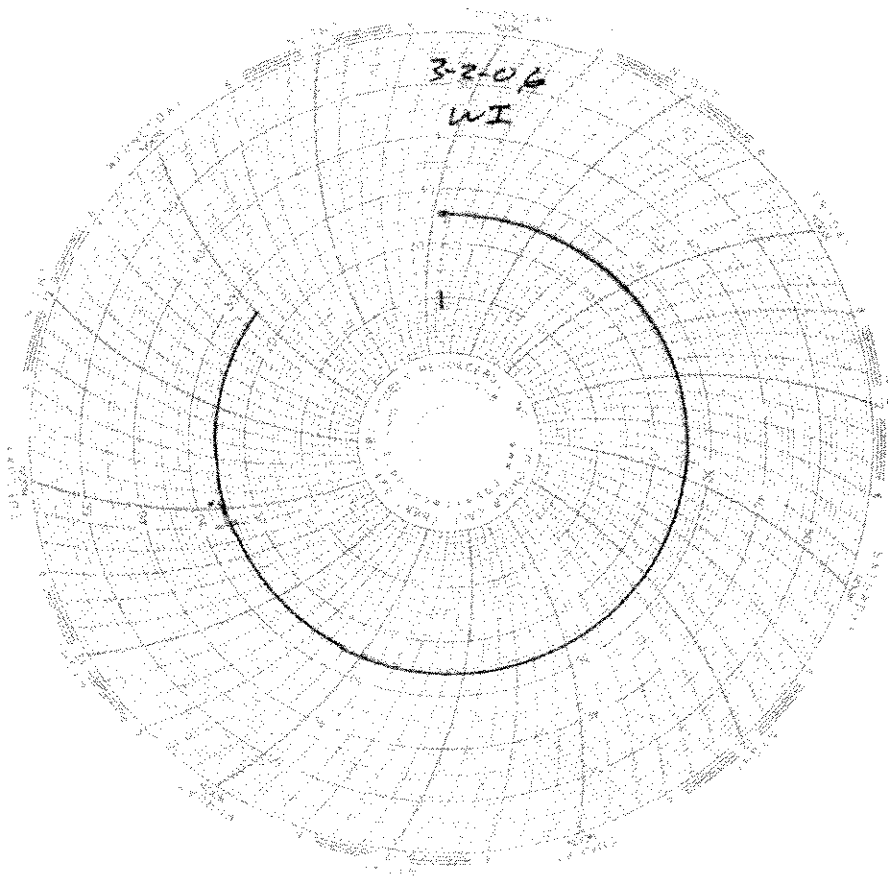
Source of Neonates										
Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	E1	E2	G6	H4	H5	H6	I4	I6	J4	J2

Laboratory Temperature Chart

QA/QC Batch No: RT-060301

Date Tested: 03/01/06 to 03/07/06

Acceptable Range: 25+/- 1°C





EBERLINE

SERVICES

March 13, 2006

Ms. Michele Chamberlin
Project Manager
Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Reference: Del Mar Analytical Project No. IPB2643
Eberline Services NELAP Cert #01120CA (exp. 01/31/07)
Eberline Services Report R603019-8663

Dear Ms. Chamberlin:

Enclosed are results from the analysis of one water sample received at Eberline Services on March 2, 2006. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analysis was gross alpha/gross beta (EPA900.0). The batch QC LCS, blank analysis, duplicate analysis, and matrix spike results were within the limits defined in Eberline Services Quality Control Procedures Manual. No problems were encountered during the requested analysis.

Please call me if you have any questions concerning this report.

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

NPDES - 3248

Eberline Services

ANALYSIS RESULTS

SDG <u>8663</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603019-01</u>	Contract <u>PROJECT# IPB2643</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
IPB2643-01	8663-001	02/28/06	03/06/06	GrossAlpha	1.58 ± 1.1	pCi/L	1.40
			03/06/06	Gross Beta	5.59 ± 1.4	pCi/L	1.81

Certified by <u><i>[Signature]</i></u>
Report Date <u>03/12/06</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8663</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603019-01</u>	Contract <u>PROJECT# IPB2643</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Lab

Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>						
8660-002	GrossAlpha	9.57 ± 1.3	pCi/Smpl	10.2	0.635	94% recovery
	Gross Beta	9.53 ± 0.77	pCi/Smpl	9.84	0.609	97% recovery
<u>BLANK</u>						
8660-003	GrossAlpha	-0.067 ± 0.23	pCi/Smpl	NA	0.513	<MDA
	Gross Beta	-0.136 ± 0.31	pCi/Smpl	NA	0.548	<MDA

<u>DUPLICATES</u>				<u>ORIGINALS</u>			
Sample ID	Nuclide	Results ± 2σ	MDA	Sample ID	Results ± 2σ	MDA	RPD (Tot) Eval
8660-004	GrossAlpha	1.33 ± 1.5	2.25	8660-001	2.64 ± 1.7	1.95	66 177 satis.
	Gross Beta	7.77 ± 1.8	2.37		7.69 ± 1.6	2.06	1 63 satis.

<u>SPIKED SAMPLE</u>				<u>ORIGINAL SAMPLE</u>				
Sample ID	Nuclide	Results ± 2σ	MDA	Sample ID	Results ± 2σ	MDA	Added	%Recv
8660-005	GrossAlpha	92.9 ± 7.9	1.88	8660-001	2.64 ± 1.7	1.95	76.5	118
	Gross Beta	79.8 ± 3.9	1.99		7.69 ± 1.6	2.06	70.3	103

Certified by *[Signature]*
 Report Date 03/12/06
 Page 2



1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-6689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPB2643

SENDING LABORATORY:

Del Mar Analytical, Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 261-1228
 Project Manager: Michele Chamberlin

RECEIVING LABORATORY:

Eberline Services
 2030 Wright Avenue
 Richmond, CA 94804
 Phone : (510) 235-2633
 Fax: (510) 235-0438

Standard TAT is requested unless specific due date is requested => **Due Date:** _____ **Initials:** _____

Analysis	Expiration	Comments
Sample ID: IPB2643-01	Water	Sampled: 02/28/06 10:00
EDD + Level 4	03/28/06 10:00	Instant Notification
Gross Alpha-O	02/28/07 10:00	Excl EDD email to pm, include Std logs for Lvl IV
Gross Beta-O	02/28/07 10:00	900.0, IF RESULT > 15 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/28/07 10:00	900.0, IF RESULT > 50 pCi/L, run Radium 226 & 228
Strontium 90-O	02/28/07 10:00	HOLD for Gross Alpha/Beta result; EPA 903.1 & 904.0
Tritium-O	02/28/07 10:00	905.0
		906

Containers Supplied:

- 2.5 gal Poly (IPB2643-01AF)
- 40 ml Amber Voa Vial (IPB2643-01AG)
- 40 ml Amber Voa Vial (IPB2643-01AH)
- 40 ml Amber Voa Vial (IPB2643-01AI)

SAMPLE INTEGRITY:

All containers intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample labels/COC agree: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received On Ice: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Custody Seals Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Samples Preserved Properly: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Samples Received at (temp): _____

Released By: Colin Cl Date: 3-1-06 Time: 1700 Received By: MPM Date: 03/02/06 Time: 9:30

Released By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL MAR City IRVINE State CA
 Date/Time received 03/02/06 9:30 CoC No. IPB2643
 Container I.D. No. ICE CHEST Requested TAT (Days) MUST P.O. Received Yes [] No []

INSPECTION

1. Custody seals on shipping container intact? Yes No [] N/A []
2. Custody seals on shipping container dated & signed? Yes No [] N/A []
3. Custody seals on sample containers intact? Yes [] No [] N/A
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A
5. Packing material is: Wet [] Dry
6. Number of samples in shipping container: 1 Sample Matrix W
7. Number of containers per sample: 4 (Or see CoC _____)
8. Samples are in correct container Yes No []
9. Paperwork agrees with samples? Yes No []
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels
11. Samples are: In good condition Leaking [] Broken Container [] Missing []
12. Samples are: Preserved [] Not preserved pH _____ Preservative _____
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
 15. Inspected by MFU Date: 03/02/06 Time: 10:00

Customer Sample No.	cpm	mR/hr	Wipe	Customer Sample No.	cpm	mR/hr	wipe

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. _____ Calibration date _____

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INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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Del Mar Analytical

Laboratory Number: 952265

Project Name: IPB2643



Prepared for:

**Michele Chamberlin
Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614**

Prepared by:

Truesdail Laboratories, Inc.
Tustin, CA 92780

March 20, 2006

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

March 20, 2006

Client: Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attention: Michele Chamberlin

Project Name: IPB2643
Date Received: 03/01/06

Truesdail Project: 952265

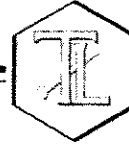
Samples Cross-reference

<u>Truesdail ID</u>	<u>Client ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Time Sampled</u>	<u>Analysis Requested</u>
952265-1	IPB2643-01	Water	02/28/06	1000	Hydrazines by EPA 8315M

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

K. R. P. Iyer
K.R.P. Iyer
Quality Control/Quality Assurance Officer

Xuan Huong Dang
Xuan Huong Dang
Project Manager



March 20, 2006

Client: Del Mar Analytical
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attention: Michele Chamberlin

Project Name: IPB2643
Date Received: 03/01/06

Truesdail Project: 952265

Case Narrative

Sample Receipt The sample was received in good condition and no anomalies were noted during check-in. The sample was kept in a refrigerator until analysis. Thereafter, it is being kept in ambient storage for an additional 2 months before disposal.

Analysis The analysis was performed as requested on the chain-of-custody.

Quality Control The analytical results for each batch of samples performed include a minimum of one set of laboratory control sample/laboratory control sample duplicate (LCS/LCSD), one matrix spike (MS) and a reagent blank (Method blank). Any exceptions or problems would be noted in the "comments" section.

Comments The test results in this report meet all quality assurance requirements set forth by the method specification and all quality control recoveries were within the laboratory acceptance limits. No anomalies or nonconformance events occurred during the course of analysis.

On 3/20/06, client called to add a Level IV Data Package to the project. Since the request was made after the analysis was completed, the normal procedure for logging-in for Level IV was not followed. However, the data package for this project is completed as per the requirement.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

K.R.P. Iyer
K.R.P. Iyer
Quality Control/Quality Assurance Officer

Xuan Huong Dang
Xuan Huong Dang
Project Manager

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



Client: Del Mar Analytical
 17461 Derian Ave., Suite 100
 Irvine, CA 92614

Client Contact: Michele Chamberlin
Sample: Liquid / 1 Sample
Sample ID: IPB2643
P.O. Number: IPB2643
Method Number: 8315 (Modified)
Run Batch No.: Extraction: 3434; Analysis: 455
Investigation: Hydrazines in Liquid

REPORT

QC Lab. No.: 705657
Project Lab. No.: 952265
Spiked Sample ID: 952267
Report Date: March 20, 2006
Sampling Date: February 28, 2006
Receiving Date: March 1, 2006
Extraction Date: March 1, 2006
Analysis Date: March 3, 2006
Units: µg/L
Reported By: JS

Quality Control/Quality Assurance Calibration Report

CCV

Parameter	Theoretical Value	Measured Value	% Rec.	Control Limits	Flag
Monomethyl Hydrazine	50.0	46.1	92.2	85-115	PASS
u-Dimethyl Hydrazine	50.0	49.8	99.5	85-115	PASS
Hydrazine	10.0	9.86	98.6	85-115	PASS

QCS

Parameter	Theoretical Value	Measured Value	% Rec.	Control Limits	Flag
Monomethyl Hydrazine	50.0	46.8	93.6	85-115	PASS
u-Dimethyl Hydrazine	50.0	50.3	101	85-115	PASS
Hydrazine	10.0	10.2	102	85-115	PASS

Quality Control/Quality Assurance Spikes Report

Parameter	LCS/LCSD			MS/MSD			Recovery (%)			Accuracy		
	Spiked Conc.	Recovered Conc.	Percent Recovery	Spiked Conc.	Recovered Conc.	Percent Recovery	MS	MSD	% D	MS	MSD	% D
Monomethyl Hydrazine	50.0	48.6	97.2	50.0	0.0	58.2	29.1	36.0	0.0	58.2	71.9	21.2%
u-Dimethyl Hydrazine	50.0	50.3	101	47.5	49.0	94.9	50.0	47.5	49.0	94.9	98.1	3.28%
Hydrazine	10.0	9.97	99.7	8.81	9.30	88.1	10.0	8.81	9.30	88.1	93.0	5.40%

ICV: Initial Calibration Verification
 QCS: Quality Control Standard
 LCS: Laboratory Control Spike
 MS: Matrix Spike
 %D: Percent Difference
 Flag "Pass" if within Control Limits, otherwise "Fail"

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

Juan Dang, Project Manager
 Environmental Services

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 these laboratories.



Client: Del Mar Analytical
17461 Derian Ave., Suite 100
Irvine, CA 92614

REPORT

Laboratory No: 952265
Report Date: March 20, 2006
Sampling Date: February 28, 2006
Receiving Date: March 1, 2006
Extraction Date: March 1, 2006
Analysis Date: March 3, 2006
Units: µg/L
Dilution Factor: 1
Reported By: JS

Attention: Michele Chamberlin
Sample: Liquid / 1 Sample
Project Name: IPB2643
P.O. Number: IPB2643
Method Number: 8315 (Modified)
Investigation: Hydrazines in Liquid

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine
		Hydrazine	Hydrazine	Hydrazine	Hydrazine	
705657-MB	Method Blank	ND	ND	ND	ND	ND
952265	IPB2643-01	ND	ND	ND	ND	ND
MDL		1.2	0.27	0.39		0.39
PQL		5.0	5.0	5.0		1.0

MDL: Method Detection Limit, ug/L
PQL: Practical Quantitation Limit, ug/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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

Xian Dang, Project Manager
Environmental Services

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 these laboratories.

SENDING LABORATORY:
 Del Mar Analytical, Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 261-1228
 Project Manager: Michele Chamberlitt

RECEIVING LABORATORY:
 Truesdail Laboratories-SUB
 14201 Franklin Avenue
 Tustin, CA 92680
 Phone : (714) 730-6239
 Fax: (714) 730-6462

Rec'd 03/01/06
 s6b **952265**

Standard TAT is requested unless specific due date is requested => Due Date: _____ Initials: _____

Analysis	Expiration	Comments
Sample ID: IPB2643-01 Water Hydrazine-OUT	Sampled: 02/28/06 10:00 03/03/06 10:00	Instant Notification Sub Truesdail for Monomethylhydrazine, J flags
Containers Supplied: 1 L Amber (IPB2643-01AS) 1 L Amber (IPB2643-01AT)		

**For Sample Conditions
See Form Attached**

SAMPLE INTEGRITY:

All containers intact: Yes No Sample labels/COC agree: Yes No Samples Received On Ice: Yes No
 Custody Seals Present: Yes No Samples Preserved Properly: Yes No Samples Received at (temp): _____

Released By: *[Signature]* Date: 02/01/06 Time: 0650 Received By: *[Signature]* Date: 03/01/06 Time: 0650
 Released By: *[Signature]* Date: 03/01/06 Time: 0725 Received By: *[Signature]* Date: 3/1/06 Time: 7:28



1014 E. Coolidge Dr., Suite A, Cotton, CA 92224 Ph (909) 370-4887 Fax (909) 370-1046
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 2220 E. Sunset Pl., Suite 95, Las Vegas, NV 89120 Ph (702) 796-3820 Fax (702) 796-3821

SUBCONTRACT ORDER - PROJECT # IPB2643

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	Truesdail Laboratories-SUB 14201 Franklin Avenue Tustin, CA 92680 Phone: (714) 730-6239 Fax: (714) 730-6462

Standard TAT is requested unless specific due date is requested => Due Date: _____ Initials: _____

Analysis	Expiration	Comments
Sample ID: IPB2643-01 Water Hydrazine-OUT * Level III Data Package Containers Supplied: 1 L Amber (IPB2643-01AS) 1 L Amber (IPB2643-01AT)	Sampled: 02/28/06 10:00 03/03/06 10:00	Instant Notification Sub Truesdail for Monomethylhydrazine, J flags

* revised 3/20/06 MC

SAMPLE INTEGRITY:

All containers intact: Yes No Sample labels/COC agree: Yes No Samples Received On Ice: Yes No
 Custody Seals Present: Yes No Samples Preserved Properly: Yes No Samples Received at (temp): _____

Released By: *[Signature]* Date: 02/01/06 Time: 0650 Received By: *[Signature]* Date: 03/01/06 Time: 0650
 Released By: *[Signature]* Date: 03/01/06 Time: 0725 Received By: *[Signature]* Date: 3/1/06 Time: 7:28



Sample Integrity & Analysis Discrepancy Form

Client: D-I Max Analytical

Lab # 952265

Date Delivered: 3/01/06 Time: 777 By: Mail Field Service Client

1. Was a Chain of Custody received and signed? Yes No N/A
2. Does Customer require an acknowledgement of the COC? Yes No N/A
3. Are there any special requirements or notes on the COC? Yes No N/A
4. If a letter was sent with the COC, does it match the COC? Yes No N/A
5. Were all requested analyses understood and acceptable? Yes No N/A
6. Were samples received in a chilled condition? Yes No N/A
Temperature (if yes)? 4 °C
7. Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)? Yes No N/A
8. Were sample custody seals intact? Yes No N/A
9. Does the number of samples received agree with COC? Yes No N/A
10. Did sample labels correspond with the client ID's? Yes No N/A
11. Did sample labels indicate proper preservation? Yes No N/A
Preserved by: Truesdail Client
12. Were samples pH checked? pH = _____ Yes No N/A
13. Were all analyses within holding time at time of receipt? Yes No N/A
If not, notify the Project Manager.
14. Have Project due dates been checked and accepted? Yes No N/A
Turn Around Time (TAT): RUSH Std
15. **Sample Matrix:** Liquid Drinking Water Ground Water Waste Water
 Sludge Soil Wipe Paint Solid Other water
16. Comments _____
17. Sample Check-In completed by Truesdail Log-In/Receiving: J Brown

APPENDIX G

Section 70

Outfall 018, February 28, 2006
AMEC Data Validation Reports


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4DF55
 Task Order 1261.001D.01
 SDG No. IPB2643

No. of Analyses 1

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxin/Furan by Method 1613

Date: April 10, 2006
 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.,	Detects below the laboratory lower calibration level were qualified as estimated.
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	

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

NPDES Monitoring Program
Annual Outfall 018

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPB2643

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001D.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 10, 2006

The samples listed in Table 1 were 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 for Chlorinated Dioxin/Furan Data Review (8/02)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 018	IPB2643-01	27353-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the sample was couriered directly to Del Mar Analytical-Irvine, custody seals were not required. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

2.1.3 Holding Times

The sample was extracted and analyzed within one year of collection. No qualifications were required.

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 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 (see section 2.3.2). 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%. No qualifications were required.

2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were 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 QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 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. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

2.4 BLANKS

One method blank (0-7807-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7807-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were 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. No further qualifications were required.

Client Data		Sample Data		Laboratory Data		
Sample ID: IPB2643-01	Del Mar Analytical, Irvine IPB2643 28-Feb-06 1000	Matrix: Aqueous Sample Size: 1.01 L	Lab Sample: 27353-001 QC Batch No.: 7807 Date Analyzed DB-5: 8-Mar-06	Date Received: 2-Mar-06 Date Extracted: 5-Mar-06 Date Analyzed DB-225: NA	EPA Method 1613	
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000166			IS 13C-2,3,7,8-TCDD	82.4 25 - 164
1,2,3,7,8-PeCDD	ND	0.00000208			13C-1,2,3,7,8-PeCDD	85.7 25 - 181
1,2,3,4,7,8-HxCDD	0.00000180			J	13C-1,2,3,4,7,8-HxCDD	80.6 32 - 141
1,2,3,6,7,8-HxCDD	0.00000441			J	13C-1,2,3,6,7,8-HxCDD	81.1 28 - 130
1,2,3,7,8,9-HxCDD	0.00000438			J	13C-1,2,3,4,6,7,8-HpCDD	76.6 23 - 140
1,2,3,4,6,7,8-HpCDD	0.000109				13C-OCDD	56.2 17 - 157
OCDD	0.00113				13C-2,3,7,8-TCDF	85.5 24 - 169
2,3,7,8-TCDF	ND	0.00000116			13C-1,2,3,7,8-PeCDF	96.2 24 - 185
1,2,3,7,8-PeCDF	ND	0.00000112			13C-2,3,4,7,8-PeCDF	93.9 21 - 178
2,3,4,7,8-PeCDF	ND	0.00000119			13C-1,2,3,4,7,8-HxCDF	73.3 26 - 152
1,2,3,4,7,8-HxCDF	ND	0.000000818			13C-1,2,3,6,7,8-HxCDF	74.9 26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000760			13C-2,3,4,6,7,8-HxCDF	77.8 28 - 136
2,3,4,6,7,8-HxCDF	ND	0.000000784			13C-1,2,3,7,8,9-HxCDF	77.9 29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000101			13C-1,2,3,4,6,7,8-HpCDF	73.1 28 - 143
1,2,3,4,6,7,8-HpCDF	0.0000156			J	13C-1,2,3,4,7,8,9-HpCDF	78.5 26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.00000136			13C-OCDF	61.6 17 - 157
OCDF	0.0000493			J	CRS 37Cl-2,3,7,8-TCDD	84.6 35 - 197
Totals						
Total TCDD	ND	0.00000166				
Total PeCDD	ND	0.00000208				
Total HxCDD	0.0000352					
Total HpCDD	0.000215					
Total TCDF	ND	0.00000116				
Total PeCDF	0.00000232					
Total HxCDF	0.0000146					
Total HpCDF	0.0000475					

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 08-Mar-2006 13:49

Project 27353


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4HZ1
 Task Order: 1261.001D.01
 SDG No.: Multiple

No. of Analyses: 4

Laboratory: Truesdail Laboratory
 Reviewer: P. Meeks
 Analysis/Method: Hydrazines

Date: April 10, 2006
 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	_____
COMMENTS^b	Acceptable as reviewed.
^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

NPDES Monitoring Program
Outfalls 001, 002, 011, 018

ANALYSIS: HYDRAZINES

SAMPLE DELIVERY GROUP: IPB2637, IPB2639,
IPB2641, IPB2643

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2637, IPB2639, IPB2641, IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Hydrazines
QC Level: Level IV
No. of Samples: 4
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 8, 2006

The samples listed in Table 1 were validated based on the general guidelines outlined in the USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review (2/94)*, and USEPA SW-846 Method 8315. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Truesdail Laboratory ID	Del Mar Laboratory ID	Matrix	COC Method
Outfall 001	952266	IPB2637-01	Water	8315
Outfall 002	952267	IPB2639-01	Water	8315
Outfall 011	952268	IPB2641-01	Water	8315
Outfall 018	952265	IPB2643-01	Water	8315

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in these SDGs were received at Del Mar Analytical and the subcontract laboratory, Truesdail Laboratories, within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The analysis did not require preservation, and no preservation was noted in the field. The case narratives for these SDGs noted that the samples were received intact at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs from the field to Del Mar were signed and dated by field and laboratory personnel, and the transfer COCs from Del Mar to Truesdail Laboratories were signed and dated by personnel from both laboratories. The original COCs and transfer COCs requested only monomethyl hydrazine analysis; however, unsymmetrical dimethyl hydrazine and hydrazine were also reported and therefore, validated. Custody seals were not required as the samples were transported to Del Mar and then to Truesdail by courier. Truesdail Laboratories did not list the client IDs on the Form Is; therefore, the reviewer hand-corrected the Form Is to include this information. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. The samples were extraction within the three-day holding time and analyzed within three days of extraction. No qualifications were required.

2.2 CALIBRATION

The five-point initial calibrations were analyzed 03/03/06, with correlation coefficients of ≥ 0.995 for all three hydrazines. The ICV and CCV bracketing the sample analyses had hydrazine recoveries within the QC limits of 85-115%. No qualifications were required.

2.3 BLANKS

One method blank was analyzed with these SDGs. The results reported on the method blank summary form and in the raw data for the instrument and method blank analyses associated with the samples were nondetects at the reporting limit. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One laboratory control sample/laboratory control sample duplicate pair was analyzed with these SDGs. The hydrazine recoveries and RPDs were within the laboratory-established control limits. No qualifications were required.

2.5 SURROGATES RECOVERY

Surrogates were not utilized in this analysis. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MSD/MSD analyses were performed on Outfall 002. The hydrazines recoveries and RPDs were within the laboratory-established control limits. No qualifications were required.

2.7 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:

2.7.1 Field Blanks and Equipment Rinsates

The samples in these SDGs had no associated field QC. No qualifications were required.

2.7.2 Field Duplicates

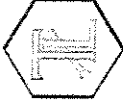
There were no field duplicate samples in these SDGs.

2.8 COMPOUND IDENTIFICATION

The samples were analyzed by HPLC for monomethyl hydrazine, unsymmetrical dimethyl hydrazine, and hydrazine by Method 8315. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. As there were no sample detects, compound quantification was verified from the raw data by recalculating LCS/LCSD and MS/MSD detects. No calculation or transcription error were noted. The hydrazine reporting limits were supported by the lower levels of the initial calibration. No qualifications were required.



Client: Del Mar Analytical
17461 Derian Ave., Suite 100
Irvine, CA 92614

Attention: Michele Chamberlin
Sample: Liquid / 1 Sample
Project Name: IPB2637
P.O. Number: IPB2637
Method Number: 8315 (Modified)
Investigation: Hydrazines in Liquid

REPORT

Laboratory No: 952266
Report Date: March 20, 2006
Sampling Date: February 28, 2006
Receiving Date: March 1, 2006
Extraction Date: March 1, 2006
Analysis Date: March 3, 2006
Units: µg/L
Dilution Factor: 1
Reported By: JS

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine
		Hydrazine	Hydrazine	Hydrazine	Hydrazine	
705657-MB	Method Blank	ND	ND	ND	ND	ND
952266	IPB2637-01 outfall col	ND	ND	ND	ND	ND
MDL		1.2		0.27		0.39
PQL		5.0		5.0		1.0

* Analysis not validated

MDL: Method Detection Limit, ug/L
PQL: Practical Quantitation Limit, ug/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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

Xuan Dang, Project Manager
Environmental Services

LEVEL IV

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 these laboratories.



Client:	Del Mar Analytical 17461 Derian Ave., Suite 100 Irvine, CA 92614	Laboratory No:	952267
Attention:	Michele Chamberlin	Report Date:	March 20, 2006
Sample:	Liquid / 1 Sample	Sampling Date:	February 28, 2006
Project Name:	IPB2639	Receiving Date:	March 1, 2006
P.O. Number:	IPB2639	Extraction Date:	March 1, 2006
Method Number:	8315 (Modified)	Analysis Date:	March 3, 2006
Investigation:	Hydrazines in Liquid	Units:	µg/L
		Dilution Factor:	1
		Reported By:	JS

REPORT

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine	
		Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine
705657-MB	Method Blank	ND	ND	ND	ND	ND	ND
952267	IPB2639-01	ND	ND	ND	ND	ND	ND
MDL		1.2	0.27	0.39	0.39	0.39	0.39
PCL		5.0	5.0	5.0	5.0	5.0	5.0

MDL: Method Detection Limit, ug/L
 PQL: Practical Quantitation Limit, ug/L
 ND: Not Detected at or above the MDL value.
 N/A: Not Applicable

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

Xuan Bang
 Xuan Bang, Project Manager
 Environmental Services

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 these laboratories.



REPORT

Client: Del Mar Analytical
17461 Derian Ave., Suite 100
Irvine, CA 92614

Attention: Michele Chamberlin

Sample: Liquid / 1 Sample

Project Name: IPB2641

P.O. Number: IPB2641

Method Number: 8315 (Modified)

Investigation: Hydrazines in Liquid

Laboratory No: 952268

Report Date: March 20, 2006

Sampling Date: February 28, 2006

Receiving Date: March 1, 2006

Extraction Date: March 1, 2006

Analysis Date: March 3, 2006

Units: µg/L

Dilution Factor: 1

Reported By: JS

Page 1 of 1

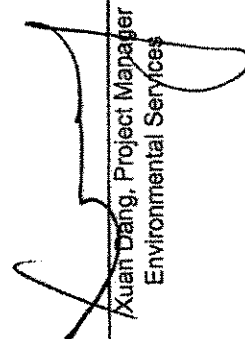
Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine		Qual Code
		Hydrazine	Qual Code	Hydrazine	Qual Code	Hydrazine	Qual Code	
705657-MB	Method Blank	ND	*	ND	*	ND	*	
952268	IPB2641-01	ND	U	ND	U	ND	U	
MDL		1.2		0.27		0.39		
PQL		5.0		5.0		1.0		

*Analysis not validated

MDL: Method Detection Limit, ug/L
PQL: Practical Quantitation Limit, ug/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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


Xuan Dang, Project Manager
Environmental Services

LEVEL IV

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REPORT

Client: Del Mar Analytical
17481 Derian Ave., Suite 100
Irvine, CA 92614

Attention: Michele Chamberlin
Sample: Liquid / 1 Sample
Project Name: IPB2643
P.O. Number: IPB2643
Method Number: 8315 (Modified)
Investigation: Hydrazines in Liquid

Laboratory No: 952265
Report Date: March 20, 2006
Sampling Date: February 28, 2006
Receiving Date: March 1, 2006
Extraction Date: March 1, 2006
Analysis Date: March 3, 2006
Units: µg/L
Dilution Factor: 1
Reported By: JS

Page 1 of 1

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl		Hydrazine	
		Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine	Hydrazine
705657-MB	Method Blank	ND	ND	ND	ND	ND	ND
952265	out-fall air IPB2643-01	ND	ND	ND	ND	ND	ND
MDL		1.2	0.27	0.39			
PQL		5.0	5.0	1.0			

* Analysis Not Validated

MDL: Method Detection Limit, µg/L
PQL: Practical Quantitation Limit, µg/L
ND: Not Detected at or above the MDL value.
N/A: Not Applicable

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

Xuan Dang
Project Manager
Environmental Services


Level IV

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 these laboratories.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4MT53
 Task Order: 1261.001D.01
 SDG No.: IPB2643

No. of Analyses: 1
 Date: April 7, 2006
 Reviewer's Signature


Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: Metals

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 blank detects and detects below the reporting limit.
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	
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

NPDES Sampling
Annual Outfall 018

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPB2643

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 10, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for ICP and ICP-MS Metals (DVP-5, Rev. 0)*, *EPA Methods 200.7, 200.8, and 245.1*, and validation guidelines outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPB2643-01	Water	200.7, 200.8, 245.1

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP and ICP-MS metals, and 28 days for mercury. No qualifications were required.

2.2 ICP-MS TUNING

The method-specified tune criteria were met and no qualifications were required.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP and ICP-MS metals and 85-115% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and the recoveries were considered to be acceptable.

The initial calibration measured mean intensities for selenium indicated that the instrument response for selenium was approximately the same in the 1 µg/L standard as in the blank. The 10 µg/L standard exhibited a reasonable response. Due to the poor response of the 1 µg/L standard, the reviewer raised the selenium MDL to 1 µg/L. No qualifications were required.

2.4 BLANKS

Selenium, antimony, thallium, and silver were detected in a bracketing CCB at 1.2, 0.45, 0.27, and 0.10 µg/L, respectively; therefore, antimony, selenium, thallium, and silver detected in Outfall 018 were qualified as estimated nondetects, "UJ." Boron was reported in method blank 6C03084-BLK1 at -13.2 µg/L; therefore, boron detected in Outfall 018 was qualified as estimated, "J." No further qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were performed in association with the sample in this SDG for the ICP metals. Boron and chromium were detected in the ICSA above the respective reporting limits. The reviewer checked the raw data for the sample and determined that the level of interferents in Outfall 011 were not of sufficient concentrations to qualify the sample results. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP and ICP-MS were within the laboratory-established control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.8 MATRIX SPIKES

No matrix spike analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.10 INTERNAL STANDARDS PERFORMANCE

For the target analytes analyzed by ICP-MS, the internal standards were within the method-specified control limits of 60-125%. No qualifications were required.

2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Analytes detected below the reporting limit were qualified as estimated, "J," and denoted with "DNQ," in accordance with the NPDES permit. No further qualifications were required.

2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



17461 DeRian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018
 Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Rev Qual	Qual Code
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.										
Reporting Units: ug/l										
Antimony	EPA 200.8	6C02098	0.18	2.0	0.45	1	03/02/06	03/02/06	U J J	B
Arsenic	EPA 200.7	6C03084	3.8	5.0	ND	1	03/03/06	03/04/06	U	
Beryllium	EPA 200.7	6C03084	0.62	2.0	ND	1	03/03/06	03/04/06	U	
Cadmium	EPA 200.8	6C02098	0.015	1.0	0.20	1	03/02/06	03/02/06	J J	DNR
Chromium	EPA 200.7	6C03084	0.68	5.0	6.5	1	03/03/06	03/04/06		B
Cobalt	EPA 200.7	6C03084	2.0	10	ND	1	03/03/06	03/04/06	U	
Copper	EPA 200.8	6C02098	0.49	2.0	5.9	1	03/02/06	03/02/06		
Lead	EPA 200.8	6C02098	0.13	1.0	3.6	1	03/02/06	03/02/06		
Manganese	EPA 200.7	6C03084	3.2	20	110	1	03/03/06	03/04/06		
Mercury	EPA 245.1	6C02097	0.063	0.20	ND	1	03/02/06	03/02/06	U	
Nickel	EPA 200.7	6C03084	2.0	10	4.3	1	03/03/06	03/04/06	J J	DNR
Selenium	EPA 200.8	6C02098	0.36	1.0	0.47	1	03/02/06	03/02/06	U J B, J	B, J
Silver	EPA 200.8	6C02098	0.089	1.0	0.11	1	03/02/06	03/02/06	U J J	B
Thallium	EPA 200.8	6C02098	0.075	1.0	0.089	1	03/02/06	03/02/06	U J	DNR
Vanadium	EPA 200.7	6C03084	3.0	10	9.9	1	03/03/06	03/04/06	J J	DNR
Zinc	EPA 200.7	6C03084	3.7	20	270	1	03/03/06	03/04/06		

pm 4/10/06

Del Mar Analytical - Irvine
 Michele Chamberlin
 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 Del Mar Analytical.

LEVEL IV

IPB2643 <Page 15 of 58>



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018
 Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
Barium	EPA 200.7	6C03084	0.0028	0.010	0.041	1	03/03/06	03/04/06	Rev Qual Qual Code
Boron	EPA 200.7	6C03084	0.0080	0.050	0.046	1	03/03/06	03/07/06	J J B, DNQ
Iron	EPA 200.7	6C03084	0.0088	0.040	4.0	1	03/03/06	03/04/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

Level IV

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IPB2643 <Page 14 of 58>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID B4PP17
 Task Order 1261.001D.01
 SDG No. IPB2643
 No. of Analyses 1

Laboratory Del Mar - Irvine

Date: April 7, 2006
 Reviewer's Signature 

Reviewer E. Wessling

Analysis/Method Pesticide/PCBs

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	MDL for alpha-BHC incorrect on Form I
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: - continuing calibration outliers
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

NPDES Monitoring Program
Quarterly Outfall 018

ANALYSIS: PESTICIDES / PCBs

SAMPLE DELIVERY GROUP: IPB2643

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Pesticides
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 6, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides and PCBs (DVP-4, Rev. 0)*, *EPA Method 608*, and the *National Functional Guidelines for Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPB2643-01	Water	608

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C, at 5°C. According to the case narrative for this SDG, the sample was received intact and on ice. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the sample was couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The water sample was extracted within seven days of sample collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 PESTICIDES INSTRUMENT PERFORMANCE

No resolution check standards or breakdown check standards are required by Method 608 for pesticides, and according to the raw data provided, a resolution check standard was not analyzed by the laboratory. However the resolution of the individual standard mixture was deemed acceptable by the reviewer. The laboratory did analyze a breakdown check standard with the breakdown for individual components (4,4-DDT and endrin) ≤20% and ≤30% for the total, as suggested in the National Functional Guidelines. A review of the raw data indicated that the analytical run time was of sufficient length to provide adequate standard separation. The two analytical columns used in the analyses were within the guidelines specified in the methods.

According to the laboratory SOP and the initial calibration raw data, the retention time windows are ±0.10 minutes for both surrogates and target compound calibration standards. A review of the raw data indicated that the laboratory retention time criteria were met for the surrogates and pesticide calibration standards. No qualifications were required.

2.3 CALIBRATION

2.3.1 Analytical Sequence

Based on the data provided, the analytical sequences were in accordance with the requirements of Method 608. No qualifications were required.

2.3.2 Initial Calibration

There was one initial calibration dated 03/02/06 associated with the Aroclor analysis of the site sample and one dated 03/06/06 associated with the pesticide analysis. The initial calibrations consisted of six point calibrations for Aroclors 1016 and 1260 and all pesticide target compounds on two analytical columns. The average %RSDs of the individual Aroclor peaks were within the EPA Method 608 QC limit of $\leq 10\%$ or had an r^2 greater than 0.995 and the %RSDs for all pesticide target compounds were $\leq 10\%$ or had an r^2 greater than 0.995. No qualifications were required.

An ICV was analyzed immediately following each initial calibration, and the %Ds for all pesticide target compounds and Aroclors 1016 and 1260 were within the QC limit of $\leq 15\%$ on both columns. No further qualifications were required.

2.3.3 Continuing Calibration

The pesticide and Aroclor analyses of sample Outfall 012 were each bracketed by two continuing calibrations. The %Ds for all pesticide target compounds and Aroclors 1016 and 1260 were within the Method QC limit of $\leq 15\%$ for all calibrations with the exception of beta-BHC, delta-BHC, DDD, DDE, DDT, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin aldehyde, endrin ketone, heptachlor epoxide, and methoxychlor in one of the ending pesticide CCVs. The aforementioned target compounds were qualified as estimated nondetects, "UJ," in sample Outfall 018. No further qualifications were required.

2.4 BLANKS

2.4.1 Instrument Blanks

An instrument blank was analyzed at the beginning of the analytical sequence. Cross-contamination was not evident in the instrument blank or the sample. No qualifications were necessary.

2.4.2 Method Blanks

One water method blank (6C05031-BLK1) was extracted and analyzed with this SDG. No pesticide target compounds or Aroclors were detected in the method blank. Review of the chromatograms from both channels showed no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spike/blank spike duplicate pairs (6C05031-BS1/BSD1 for pesticides and 6C05031-BS2/BSD2 for Aroclors) were analyzed with this SDG. The recoveries for all pesticide compounds and Aroclors 1016 and 1260 were within the laboratory-established QC limits, and all RPDs were within the QC limit of $\leq 30\%$. A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory-established QC limits for the sample in this SDG. The recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision were based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 SAMPLE CLEANUP PERFORMANCE

According to the laboratory extraction benchesheets, no cleanups were performed on the water sample. No qualifications were required.

2.9 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:

2.9.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.9.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for pesticide target compounds and seven Aroclors by EPA Method 608. Compound identification is verified at a Level IV validation. The laboratory provided an overlay of the pesticide sample chromatogram and the pesticide standard for identification purposes. Review of chromatograms and retention times indicated no problems with compound identification for the sample in this SDG. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. The MDL for alpha-BHC was incorrectly listed on the sample Form I. The MDL was corrected by the reviewer. No qualifications were required.



Del Mar Analytical

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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	6C05031	0.19	0.95	ND	0.952	03/05/06	03/06/06	<i>Raw</i> / <i>Anal</i> <i>Qual</i> / <i>Code</i> ↓
Aroclor 1221	EPA 608	6C05031	0.095	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1232	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1242	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1248	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1254	EPA 608	6C05031	0.24	0.95	ND	0.952	03/05/06	03/06/06	
Aroclor 1260	EPA 608	6C05031	0.38	0.95	ND	0.952	03/05/06	03/06/06	
Surrogate: Decachlorobiphenyl (45-120%)					107 %				

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2643 <Page 13 of 58>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4RA3
 Task Order: 1261.001D.05
 SDG No.: Multiple

No. of Analyses: 8

Laboratory: Ebeline
 Reviewer: P. Meeks
 Analysis/Method: Radionuclides

Date: April 1, 2006
 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 were applied for exceeded holding times and low detector efficiencies.
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	
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

NPDES Sampling
Multiple Outfalls

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS: IPB2637, IPB2639, IPB2641,
IPB2643, IPB2645, IPB2647, IPB2648, IPB2650

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2637, IPB2639, IPB2641, IPB2643, IPB2645,
IPB2647, IPB2648, IPB2650
Project Manager: P. Costa
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 1, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 001	IPB2637-01	8660-001	water	900.0
Outfall 002	IPB2639-01	8661-001	water	900.0
Outfall 011	IPB2641-01	8662-001	water	900.0
Outfall 018	IPB2643-01	8663-001	water	900.0
Outfall 005	IPB2645-01	8664-001	water	900.0
Outfall 007	IPB2647-01	8665-001	water	900.0
Outfall 008	IPB2648-01	8666-001	water	900.0
Outfall 010	IPB2650-01	8667-001	water	900.0

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4 \pm 2^\circ\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition.

According to the Los Angeles Regional Water Quality Control Board's (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved and filtered aliquots should be preserved after filtration. The samples in these SDGs were not preserved or filtered. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel and the transfer COCs were signed by personnel from both laboratories. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. The original COCs requested strontium and tritium analyses; however, in accordance with the NPDES permit, these analyses per not performed as the gross alpha and gross beta results did not exceed the permit requirements. No qualifications were required.

2.1.3 Holding Times

All samples were analyzed beyond the five day holding time for unpreserved samples; therefore, all results were qualified as estimated, "J," for detects and, "UJ," for nondetects. No further qualifications were required.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability. All gross alpha detector efficiencies were less than 20%; therefore, all gross alpha results were qualified as estimated, "J," for detects and, "UJ," for nondetects. No further qualifications were required.

2.3 BLANKS

No measurable activities were detected in the method blanks, therefore, no qualifications were necessary.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Aqueous blank spikes were analyzed in association with the samples in these SDGs. The blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analyses on Outfall 001. Both results were within the 3-sigma limit limits. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed MS/MSD analyses on Outfall 001. Both recoveries were within the 3-sigma limits and no qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these SDGs. 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. No qualifications were necessary.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.8.1 Field Blanks and Equipment Rinsates

The samples in these SDGs had no associated field QC samples. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8269</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>8603014-01</u>	Contract <u>PROJECTS IPB2637</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Sample ID <u>Outfall 001</u> IPB2637-01		8950-001	02/28/06	03/06/06	Gross Alpha	2.64 ± 1.7	pCi/L	1.95	J	R.H
				03/06/06	Gross Beta	7.69 ± 1.6	pCi/L	2.06	J	↓

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/12/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

BDG <u>8661</u>	Client <u>DEL MDR ANAL</u>
Work Order <u>R603017-01</u>	Contract <u>PROJECT# IPB2639</u>
Received Date <u>01/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analysed	Nuclide	Results ± SD	Units	MDA
Sample ID <i>outfall 002</i> IPB2639-01		8661-001	02/28/06	03/06/06	GrossAlpha	2.58 ± 1.6	pCi/L	1.93
				03/06/06	Gross Beta	4.60 ± 1.4	pCi/L	1.85

Rev Code	Qual Code
H	R, H ↓

LEVEL IV

Certified by <i>[Signature]</i>
Report Date <u>02/12/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDS <u>8662</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>8503018-01</u>	Contract <u>PROJECT# IPB2641</u>
Received Date <u>01/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rel Qual	Qual Code
		<u>Outfall 011</u>								
		IPB2641-01	8662-001	02/22/06	03/06/06	Gross Alpha	5.24 ± 2.0	pCi/L	1.86	
					03/06/06	Gross Beta	7.59 ± 1.7	pCi/L	2.16	

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>01/12/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8663</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>8663019-01</u>	Contract <u>PROJECT# IPS2643</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results - 2σ	Units	MDA	Rev Qual	Qual Code
outfall 018 IPS2643-01	8663-001	02/28/06	03/06/06	Gross Alpha	1.58 ± 1.1	pCi/L	1.40	4	↓	R, H
			03/06/06	Gross Beta	5.59 ± 1.4	pCi/L	1.81			↓

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/13/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8664</u>	Client <u>DR. MAR ANAL</u>
Work Order <u>R603020-01</u>	Contract <u>PROJECT# IPB2645</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Residue	Results ± SD	Units	MCA	Rev Qual	Qual Code
outfall 005 IPB2645-01	8664-001	02/28/06	03/06/06	Gross Alpha	1.30 ± 1.0	pCi/L	1.45	UJ	R, H	↓
			03/05/06	Gross Beta	6.96 ± 1.4	pCi/L	1.98	J		

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/13/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SIC 8665	Client DEL MAR ANAL
Work Order 8603021-01	Contract PROJECTS IPH2647
Received Date 03/02/06	Matrix WATER

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
007 Fall 007		8665-001	02/28/06	03/06/06	Gross Alpha	2.56 ± 1.2	pCi/L	1.09	J	R, H
IPH2647-01				03/06/06	Gross Beta	5.35 ± 1.8	pCi/L	2.56	↓	↓

LEVEL IV

Certified by 
Report Date 03/13/06
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8666</u>	Client <u>DEL. MAR ANAL</u>
Work Order <u>8603022-01</u>	Contract <u>PROJECT# IPB2648</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analysed	Nuclide	Results ± 2σ	Units	MCA	Rev Qual	Qual Code
Outfall 008 IPB2648-01	8666-001	02/28/06	03/06/06		Gross Alpha	1.01 ± 1.6	pCi/L	2.02	VI	RH
			03/06/06		Gross Beta	23.7 ± 2.2	pCi/L	1.92	J	↓

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/13/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8667</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603923-01</u>	Contract <u>PROJECT# IPB2650</u>
Received Date <u>03/02/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± SD	Units	MDA	Rev Qual	Qual Code
Sample ID <i>Outfall 010</i>										
IPB2650-01	8667-001	02/28/06	03/06/06	Gross Alpha	0.532 ± 0.90	pCi/L	1.55		UJ	R, H
			03/06/06	Gross Beta	4.02 ± 1.3	pCi/L	1.83		J	↓

LEVEL IV

Certified by <i>[Signature]</i>
Report Date <u>03/12/06</u>
Page 1

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID B4SV32
 Task Order 1261.001D.01
 SDG No. IPB2643

No. of Analyses 1

Laboratory Del Mar - Irvine

Reviewer E. Wessling

Analysis/Method Semivolatiles

Date: April 10, 2006

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: - calibration outlier - detects between the RL and MDL qualified as estimated, DNQ - benzoic acid and benzidine rejected for 0% BS/BSD recovery - Dimethyl phthalate estimated for low BS/BSD recovery
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

NPDES Monitoring Program
Annual Outfall 018

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP IPB2643

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 10, 2006

The samples listed in Table 1 were 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). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPB2643-01	Water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C at 5°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analysis presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The water sample was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 GC/MS TUNING

The DFTPP tunes analyzed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 625. No qualifications were required.

2.3 CALIBRATION

Two initial calibrations were associated with the sample, analyzed 01/18/06 and 02/27/06. The calibration analyzed 02/27/06 was associated with a reanalysis of the sample for benzidine only. The %RSDs for all target compounds were ≤35% or r^2 values ≥0.995 in the respective initial calibrations. All manual integrations were reviewed by the validator and considered acceptable. The continuing calibration associated with the sample analysis was analyzed 03/09/06. The %Ds for all target compounds were ≤20% in the respective continuing calibrations. No qualifications were required.

2.4 BLANKS

One method blank (6C06060-BLK1) was extracted and analyzed with this SDG. Target compounds were not detected above the MDLs in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6C06060-BS1/BSD1) was extracted and analyzed with this SDG. Benzidine and benzoic acid were not recovered in the BS or BSD, and dimethylphthalate was recovered below the QC limits but $\geq 10\%$ in both the BS and BSD. Nondetect results for benzidine and benzoic acid were rejected, "R," and the nondetect result for dimethylphthalate was qualified as estimated, "UJ," in sample Outfall 018. All remaining recoveries and all RPDs were within the laboratory-established QC limits. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries for the sample were within the laboratory QC limits. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 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:

2.8.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times for the sample were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for semivolatile target compounds by EPA Method 625. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limit was supported by the low point of the initial calibration and the laboratory MDLs. Results were reported in $\mu\text{g/L}$ (ppb). Any results reported between the reporting limit and the MDL were qualified as estimated, "J," and annotated with the "DNQ" qualifier code. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	6C06060	0.096	0.48	ND	0.962	03/06/06	03/09/06	
Acenaphthylene	EPA 625	6C06060	0.096	0.48	ND	0.962	03/06/06	03/09/06	
Aniline	EPA 625	6C06060	2.8	9.6	ND	0.962	03/06/06	03/09/06	
Anthracene	EPA 625	6C06060	0.080	0.48	ND	0.962	03/06/06	03/09/06	
Benzidine	EPA 625	6C06060	3.1	4.8	ND	0.962	03/06/06	03/10/06	1.2
Benzoic acid	EPA 625	6C06060	3.6	19	ND	0.962	03/06/06	03/09/06	1.2
Benzo(a)anthracene	EPA 625	6C06060	0.037	4.8	ND	0.962	03/06/06	03/09/06	
Benzo(a)pyrene	EPA 625	6C06060	0.13	1.9	ND	0.962	03/06/06	03/09/06	
Benzo(b)fluoranthene	EPA 625	6C06060	0.048	1.9	ND	0.962	03/06/06	03/09/06	
Benzo(g,h,i)perylene	EPA 625	6C06060	0.057	4.8	ND	0.962	03/06/06	03/09/06	
Benzo(k)fluoranthene	EPA 625	6C06060	0.051	0.48	ND	0.962	03/06/06	03/09/06	
Benzyl alcohol	EPA 625	6C06060	0.20	4.8	ND	0.962	03/06/06	03/09/06	
Bis(2-chloroethoxy)methane	EPA 625	6C06060	0.069	0.48	ND	0.962	03/06/06	03/09/06	
Bis(2-chloroethyl)ether	EPA 625	6C06060	0.081	0.48	ND	0.962	03/06/06	03/09/06	
Bis(2-chloroisopropyl)ether	EPA 625	6C06060	0.11	0.48	ND	0.962	03/06/06	03/09/06	
Bis(2-ethylhexyl)phthalate	EPA 625	6C06060	1.1	4.8	ND	0.962	03/06/06	03/09/06	
4-Bromophenyl phenyl ether	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
Butyl benzyl phthalate	EPA 625	6C06060	0.33	4.8	1.4	0.962	03/06/06	03/09/06	
4-Chloroaniline	EPA 625	6C06060	0.19	1.9	ND	0.962	03/06/06	03/09/06	
2-Chloronaphthalene	EPA 625	6C06060	0.057	0.48	ND	0.962	03/06/06	03/09/06	
4-Chloro-3-methylphenol	EPA 625	6C06060	0.33	1.9	ND	0.962	03/06/06	03/09/06	
4-Chlorophenyl phenyl ether	EPA 625	6C06060	0.054	0.48	ND	0.962	03/06/06	03/09/06	
2-Chlorophenol	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
Chrysene	EPA 625	6C06060	0.069	0.48	ND	0.962	03/06/06	03/09/06	
Dibenz(a,h)anthracene	EPA 625	6C06060	0.080	0.48	ND	0.962	03/06/06	03/09/06	
Dibenzofuran	EPA 625	6C06060	0.072	0.48	ND	0.962	03/06/06	03/09/06	
Di-n-butyl phthalate	EPA 625	6C06060	0.25	1.9	ND	0.962	03/06/06	03/09/06	
1,2-Dichlorobenzene	EPA 625	6C06060	0.11	0.48	ND	0.962	03/06/06	03/09/06	
1,3-Dichlorobenzene	EPA 625	6C06060	0.12	0.48	ND	0.962	03/06/06	03/09/06	
1,4-Dichlorobenzene	EPA 625	6C06060	0.048	0.48	ND	0.962	03/06/06	03/09/06	
3,3-Dichlorobenzidine	EPA 625	6C06060	0.89	4.8	ND	0.962	03/06/06	03/09/06	
2,4-Dichlorophenol	EPA 625	6C06060	0.20	1.9	ND	0.962	03/06/06	03/09/06	
Dioctyl phthalate	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
2,4-Dimethylphenol	EPA 625	6C06060	0.30	1.9	ND	0.962	03/06/06	03/09/06	
Dimethyl phthalate	EPA 625	6C06060	0.078	0.48	ND	0.962	03/06/06	03/09/06	
4,6-Dinitro-2-methylphenol	EPA 625	6C06060	0.37	4.8	ND	0.962	03/06/06	03/09/06	1.2
2,4-Dinitrophenol	EPA 625	6C06060	2.6	4.8	ND	0.962	03/06/06	03/09/06	
2,4-Dinitrotoluene	EPA 625	6C06060	0.22	4.8	ND	0.962	03/06/06	03/09/06	
2,6-Dinitrotoluene	EPA 625	6C06060	0.23	4.8	ND	0.962	03/06/06	03/09/06	
Di-n-octyl phthalate	EPA 625	6C06060	0.16	4.8	ND	0.962	03/06/06	03/09/06	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	6C06060	0.084	0.96	ND	0.962	03/06/06	03/09/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2643 <Page 10 of 58>



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MWH-Pasadena/Bocing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Fluoranthene	EPA 625	6C06060	0.086	0.48	ND	0.962	03/06/06	03/09/06	
Fluorene	EPA 625	6C06060	0.072	0.48	ND	0.962	03/06/06	03/09/06	
Hexachlorobenzene	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
Hexachlorobutadiene	EPA 625	6C06060	0.37	1.9	ND	0.962	03/06/06	03/09/06	
Hexachlorocyclopentadiene	EPA 625	6C06060	1.7	4.8	ND	0.962	03/06/06	03/09/06	
Hexachloroethane	EPA 625	6C06060	0.49	2.9	ND	0.962	03/06/06	03/09/06	
Indeno(1,2,3-cd)pyrene	EPA 625	6C06060	0.18	1.9	ND	0.962	03/06/06	03/09/06	
Isophorone	EPA 625	6C06060	0.057	0.96	ND	0.962	03/06/06	03/09/06	
2-Methylnaphthalene	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
2-Methylphenol	EPA 625	6C06060	0.27	1.9	ND	0.962	03/06/06	03/09/06	
4-Methylphenol	EPA 625	6C06060	0.19	4.8	ND	0.962	03/06/06	03/09/06	
Naphthalene	EPA 625	6C06060	0.12	0.96	ND	0.962	03/06/06	03/09/06	
2-Nitroaniline	EPA 625	6C06060	0.17	4.8	ND	0.962	03/06/06	03/09/06	
3-Nitroaniline	EPA 625	6C06060	0.34	4.8	ND	0.962	03/06/06	03/09/06	
4-Nitroaniline	EPA 625	6C06060	0.47	4.8	ND	0.962	03/06/06	03/09/06	
Nitrobenzene	EPA 625	6C06060	0.096	0.96	ND	0.962	03/06/06	03/09/06	
2-Nitrophenol	EPA 625	6C06060	0.22	1.9	ND	0.962	03/06/06	03/09/06	
4-Nitrophenol	EPA 625	6C06060	0.70	4.8	ND	0.962	03/06/06	03/09/06	
N-Nitrosodimethylamine	EPA 625	6C06060	0.21	1.9	ND	0.962	03/06/06	03/09/06	
N-Nitroso-di-n-propylamine	EPA 625	6C06060	0.17	1.9	ND	0.962	03/06/06	03/09/06	
N-Nitrosodiphenylamine	EPA 625	6C06060	0.074	0.96	ND	0.962	03/06/06	03/09/06	
Pentachlorophenol	EPA 625	6C06060	0.75	1.9	ND	0.962	03/06/06	03/09/06	
Phenanthrene	EPA 625	6C06060	0.068	0.48	ND	0.962	03/06/06	03/09/06	
Phenol	EPA 625	6C06060	0.13	0.96	ND	0.962	03/06/06	03/09/06	
Pyrene	EPA 625	6C06060	0.057	0.48	ND	0.962	03/06/06	03/09/06	
1,2,4-Trichlorobenzene	EPA 625	6C06060	0.096	0.96	ND	0.962	03/06/06	03/09/06	
2,4,5-Trichlorophenol	EPA 625	6C06060	0.072	1.9	ND	0.962	03/06/06	03/09/06	
2,4,6-Trichlorophenol	EPA 625	6C06060	0.096	0.96	ND	0.962	03/06/06	03/09/06	
Surrogate: 2-Fluorophenol (35-120%)					54 %				
Surrogate: Phenol-d6 (45-120%)					64 %				
Surrogate: 2,4,6-Tribromophenol (30-125%)					66 %				
Surrogate: Nitrobenzene-d5 (45-120%)					75 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					62 %				
Surrogate: Terphenyl-d14 (45-135%)					72 %				

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

LEVEL I

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IPB2643 <Page 11 of 58>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4TF7
 Task Order: 1261.001D.01
 SDG No.: IPB2643

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: EFH/GRO

Date: April 7, 2006
 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	
COMMENTS ^b	Acceptable as reviewed.
^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

NPDES Monitoring Program
Annual Outfall 018

ANALYSIS: TOTAL FUEL HYDROCARBONS

SAMPLE DELIVERY GROUP IPB2643

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: TFH/EFH
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 8, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Levels C and D Total Fuel Hydrocarbons (DVP-8, Rev. 0), EPA Method 8015B, and the National Functional Guidelines For Organic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPB2643-01	Water	8015B & 8015M

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C at 5°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analyses presented in this SDG. As the samples were couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The water sample was analyzed within 14 days of collection for the gasoline range organics analysis (GRO). The sample for extractable fuel hydrocarbons (EFH) was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 CALIBRATION

Three initial calibrations, two for EFH analyzed 02/22/06 and 02/23/06, and one for GRO analyzed 01/28/06, were associated with the samples in this SDG. The %RSDs for target compounds GRO (C4-C12) and EFH (C13-C22) were ≤20%. An initial calibration verification (ICV) was analyzed following each initial calibration, with %Ds for the target compounds within the QC limit of ≤15%. The continuing calibrations bracketing the sample analyses had %Ds of ≤15% for both GRO and EFH analyses. No qualifications were required.

2.3 BLANKS

Two method blanks, one GRO (606046-BLK1) and one EFH (607098-BLK1) were associated with this SDG. Target compounds GRO (C4-C12) and EFH (C13-C22) were not detected above the MDLs in the respective method blanks. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One GRO blank spike (606046-BS1) and one EFH blank spike/blank spike duplicate pair (607098-BS1/BSD1) were associated with this SDG. All recoveries were within the laboratory-established QC limits, and the RPD for the EFH BS/BSD pair was within the QC limit of $\leq 25\%$. No qualifications were required.

2.5 SURROGATE RECOVERY

The samples for GRO analysis were fortified with the surrogate compound 4-BFB, and for EFH analysis, n-octacosane. Surrogate recoveries were within the laboratory-established QC limits of 65-140% for 4-BFB and 40-125% for n-octacosane. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the samples of this SDG. Evaluation of method accuracy and precision was based on the blank spike and blank spike/blank spike duplicate results. No qualifications were required.

2.7 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 sample. Following are findings associated with field QC samples:

2.7.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.7.2 Trip Blanks

There was no trip blank associated with the GRO analysis of site sample Outfall 018. As GRO (C4-C12) was not detected above the MDL in Outfall 018, trip blank review was not necessary. No qualifications were required.

2.7.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.8 COMPOUND IDENTIFICATION

The laboratory analyzed for target compounds GRO (C4-C12) and EFH (C13-C22). Review of the sample chromatograms, retention times, and patterns indicated no problems with target compound identification. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limit was supported by the low point of the initial calibrations and the laboratory MDLs. Results were reported in mg/L (ppm). No qualifications were required.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Bar Qual	Qual Code
Sample ID: IPB2643-01RE1 (Outfall 018 - Water) - cont.										
Reporting Units: mg/l										
EFH (C13 - C22)	EPA 8015B	6C07098	0.043	0.48	ND	0.952	03/07/06	03/08/06	U	
Surrogate: n-Octacosane (40-125%)					84 %					

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2643 <Page 4 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06

Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	6C06046	0.050	0.10	ND	1	03/06/06	03/06/06	0
Surrogate: 4-BFB (FID) (65-140%)					88 %				

Raw Data
 Qual Code

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID B4VO41
 Task Order 1261.001D.01
 SDG No. IPB2643
 No. of Analyses 2

Laboratory Del Mar - Irvine
 Reviewer E. Wessling
 Analysis/Method Volatiles

Date: April 10, 2006
 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: - calibration outlier - TICs qualified as estimated nondetects
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

NPDES Monitoring Program
Annual Outfall 018

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPB2643

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 10, 2006

The samples listed in Table 1 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)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPB2643-01	Water	624
Trip Blank	IPB2643-02	Water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C, at 5°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved. Unpreserved aliquots of the samples were also provided for the analysis of target compound 2-chloroethyl vinyl ether; however, the instrument run log indicated the pH of sample Trip Blank was five rather than seven, indicating some acidification. The result for 2-chloroethyl vinyl ether in sample Trip Blank was not qualified; however detection of that compound may have been affected. Information regarding lack of headspace in the VOA vials was not provided. No further qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The unpreserved aliquots of the water samples were analyzed for all target compounds within seven days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 624. No qualifications were required.

2.3 CALIBRATION

Two initial calibrations were associated with the sample analyses, dated 03/01/06 (acrolein and acrylonitrile only), 02/06/06 (all remaining target compounds). The average RRFs were ≥0.05 for all target compounds. The r^2 value was <0.995 for 2-chloroethyl vinyl ether. The nondetect result for 2-chloroethyl vinyl ether was qualified as estimated, "UJ," in sample Outfall 018. Sample Trip Blank was a field QC sample and required no qualification. The %RSDs were ≤35% or r^2 values ≥0.995 for the remaining target compounds listed on the sample result summary forms.

Two continuing calibrations were associated with the sample analyses (one for acrolein and acrylonitrile and one for the remaining target compounds). The RRFs for were ≥0.05 and all %Ds were within the QC limit of ≤20%, with the exception of the %D for 2-chloroethyl vinyl ether. The nondetect result for 2-chloroethyl vinyl ether was qualified as estimated, "UJ," in sample Outfall

DATA VALIDATION REPORT

018. Sample Trip Blank was a field QC sample and required no qualification. No further qualifications were required.

2.4 BLANKS

One method blank (6C02019-BLK1) was analyzed with this SDG. No target compounds were detected above the MDLs in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6C02019-BS1) was analyzed with this SDG. Target compounds acrolein and acrylonitrile were not included in the blank spike. The recovery for 1,1,2,2-tetrachloroethane was above the QC limits in the blank spike; however, the compound was not detected in the site sample of this SDG. The remaining recoveries were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the site sample in this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

2.8 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:

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 018. No target compounds were detected in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compounds by EPA Method 624. For two of the requested target compounds, 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane, only a TIC search was performed. Calibration was performed for 1,2-dichloro-1,1,2-trifluoroethane but was not utilized, and no calibration was performed for cyclohexane. Neither compound was identified in the site sample. Nondetect results for both compounds were qualified as estimated, "UJ," in the site sample. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No further qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Results were reported in $\mu\text{g/L}$ (ppb). No qualifications were required.

2.12 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 section 2.10). No qualifications were required.

Project: NPDES
SDG: IPB2643
Analysis: VOCs

DATA VALIDATION REPORT

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Benzene	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06	
Bromodichloromethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06	
Bromoform	EPA 624	6C02019	0.32	5.0	ND	1	03/02/06	03/03/06	
Bromomethane	EPA 624	6C02019	0.42	5.0	ND	1	03/02/06	03/03/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C02019	1.2	5.0	ND	1	03/02/06	03/03/06	
Carbon tetrachloride	EPA 624	6C02019	0.28	5.0	ND	1	03/02/06	03/03/06	
Chlorobenzene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/03/06	
Chloroethane	EPA 624	6C02019	0.40	5.0	ND	1	03/02/06	03/03/06	
Chloroform	EPA 624	6C02019	0.33	2.0	ND	1	03/02/06	03/03/06	
Chloromethane	EPA 624	6C02019	0.30	5.0	ND	1	03/02/06	03/03/06	
Dibromochloromethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06	
1,2-Dichlorobenzene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06	
1,3-Dichlorobenzene	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/03/06	
1,4-Dichlorobenzene	EPA 624	6C02019	0.37	2.0	ND	1	03/02/06	03/03/06	
1,1-Dichloroethane	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/03/06	
1,2-Dichloroethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/03/06	
1,1-Dichloroethene	EPA 624	6C02019	0.32	3.0	ND	1	03/02/06	03/03/06	
trans-1,2-Dichloroethene	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/03/06	
1,2-Dichloropropane	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/03/06	
cis-1,3-Dichloropropene	EPA 624	6C02019	0.22	2.0	ND	1	03/02/06	03/03/06	
trans-1,3-Dichloropropene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06	
Ethylbenzene	EPA 624	6C02019	0.25	2.0	ND	1	03/02/06	03/03/06	
Methylene chloride	EPA 624	6C02019	0.70	5.0	ND	1	03/02/06	03/03/06	
1,1,2,2-Tetrachloroethane	EPA 624	6C02019	0.24	2.0	ND	1	03/02/06	03/03/06	
Tetrachloroethene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/03/06	
Toluene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/03/06	
1,1,1-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06	
1,1,2-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/03/06	
Trichloroethene	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/03/06	
Trichlorofluoromethane	EPA 624	6C02019	0.34	5.0	ND	1	03/02/06	03/03/06	
Vinyl chloride	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/03/06	
Xylenes, Total	EPA 624	6C02019	0.52	4.0	ND	1	03/02/06	03/03/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					90 %				

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

LEVEL IV

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IPB2643 <Page 6 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2643-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	pH
Bromodichloromethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
Bromoform	EPA 624	6C02019	0.32	5.0	ND	1	03/02/06	03/02/06	
Bromomethane	EPA 624	6C02019	0.42	5.0	ND	1	03/02/06	03/02/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C02019	1.2	5.0	ND	1	03/02/06	03/02/06	
Carbon tetrachloride	EPA 624	6C02019	0.28	5.0	ND	1	03/02/06	03/02/06	
Chlorobenzene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/02/06	
Chloroethane	EPA 624	6C02019	0.40	5.0	ND	1	03/02/06	03/02/06	
Chloroform	EPA 624	6C02019	0.33	2.0	ND	1	03/02/06	03/02/06	
Chloromethane	EPA 624	6C02019	0.30	5.0	ND	1	03/02/06	03/02/06	
Dibromochloromethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichlorobenzene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
1,3-Dichlorobenzene	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/02/06	
1,4-Dichlorobenzene	EPA 624	6C02019	0.37	2.0	ND	1	03/02/06	03/02/06	
1,1-Dichloroethane	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichloroethane	EPA 624	6C02019	0.28	2.0	ND	1	03/02/06	03/02/06	
1,1-Dichloroethene	EPA 624	6C02019	0.32	3.0	ND	1	03/02/06	03/02/06	
trans-1,2-Dichloroethene	EPA 624	6C02019	0.27	2.0	ND	1	03/02/06	03/02/06	
1,2-Dichloropropane	EPA 624	6C02019	0.35	2.0	ND	1	03/02/06	03/02/06	
cis-1,3-Dichloropropene	EPA 624	6C02019	0.22	2.0	ND	1	03/02/06	03/02/06	
trans-1,3-Dichloropropene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
Ethylbenzene	EPA 624	6C02019	0.25	2.0	ND	1	03/02/06	03/02/06	
Methylene chloride	EPA 624	6C02019	0.70	5.0	ND	1	03/02/06	03/02/06	
1,1,2,2-Tetrachloroethane	EPA 624	6C02019	0.24	2.0	ND	1	03/02/06	03/02/06	
Tetrachloroethene	EPA 624	6C02019	0.32	2.0	ND	1	03/02/06	03/02/06	
Toluene	EPA 624	6C02019	0.36	2.0	ND	1	03/02/06	03/02/06	
1,1,1-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
1,1,2-Trichloroethane	EPA 624	6C02019	0.30	2.0	ND	1	03/02/06	03/02/06	
Trichloroethene	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/02/06	
Trichlorofluoromethane	EPA 624	6C02019	0.34	5.0	ND	1	03/02/06	03/02/06	
Vinyl chloride	EPA 624	6C02019	0.26	5.0	ND	1	03/02/06	03/02/06	
Xylenes, Total	EPA 624	6C02019	0.52	4.0	ND	1	03/02/06	03/02/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					108 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

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 Michele Chamberlin
 Project Manager

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IPB2643 <Page 7 of 58>



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

PURGEABLES-- GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	6C02019	4.6	50	ND	1	03/02/06	03/03/06	
Acrylonitrile	EPA 624	6C02019	0.70	50	ND	1	03/02/06	03/03/06	
2-Chloroethyl vinyl ether	EPA 624	6C02019	1.8	5.0	ND	1	03/02/06	03/03/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					90 %				
Sample ID: IPB2643-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	6C02019	4.6	50	ND	1	03/02/06	03/02/06	pH
Acrylonitrile	EPA 624	6C02019	0.70	50	ND	1	03/02/06	03/02/06	
2-Chloroethyl vinyl ether	EPA 624	6C02019	1.8	5.0	ND	1	03/02/06	03/02/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					108 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL I

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IPB2643 <Page 8 of 58>



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 2520 E. Sunset Rd., #3, Las Vegas, NV 89120 (702) 798-1620 FAX (702) 798-1621

MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

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: IPB2643-01 (Outfall 018 - Water)									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/03/06	u2
Cyclohexane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/03/06	u3
Sample ID: IPB2643-02 (Trip Blank - Water)									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/02/06	u1
Cyclohexane	EPA 624 (MOD.)	6C02019	N/A	2.5	ND	1	03/02/06	03/02/06	u

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Qual. case

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2643 <Page 9 of 58>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

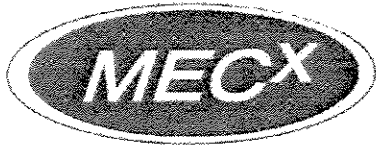
Package ID B4VO45
 Task Order 1261.001D.01
 SDG No. IPB2643

No. of Analyses 1

Laboratory Del Mar Analytical-Phoenix
 Reviewer K. Shadowlight
 Analysis/Method 1,4-Dioxane by Method 8260

Date: April 9, 2006
 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.,	The detect between the MDL and the reporting limit was qualified as estimated.
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	
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

NPDES Monitoring Program
Annual Outfall 018

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPB2643

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles (1,4-dioxane)
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 9, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0)*, *SW-846 Method 8260B*, and the *National Functional Guidelines for Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID (Irvine)	Laboratory ID (Phoenix)	Matrix	COC Method
Outfall 018	IPB2643-01	PPC0066-01	Water	8260B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received within the temperature limits of 4°C \pm 2°C, at 2°C at Del Mar–Irvine. The 1,4-dioxane analysis was subcontracted to Del Mar–Phoenix, and the temperature recorded upon receipt was 2°C. According to the case narrative for this SDG, the sample was received intact, on ice, and properly preserved. Information regarding lack of headspace in the VOA vials was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC from the field to the laboratory was signed and dated by both field and laboratory personnel, and the transfer COC from Del Mar–Irvine to Del Mar–Phoenix was signed by personnel from both laboratories. As the sample was couriered directly from the field to the laboratory, custody seals were not required. Custody seals were present on the cooler upon receipt at Del Mar–Phoenix. The Client ID was added to the result summary by the reviewer. No qualifications were required.

2.1.3 Holding Times

The water sample was analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tunes met the abundance criteria specified in SW-846 Method 8260, and the sample was analyzed within 12 hours of the BFB injection times. No qualifications were required.

2.3 CALIBRATION

One initial calibration, dated 02/17/06, was associated with the sample in this SDG. The average RRF for target compound 1,4-dioxane was ≥ 0.05 and the %RSD was $\leq 15\%$. The continuing calibration associated with the sample analysis was dated 03/03/06. The laboratory reported the continuing calibration and the blank spike (P6C0311-BS1) of the blank spike/blank spike duplicate pair from the same analysis. As a single analysis can not be reported as both a CCV and a blank spike, the reviewer reported the analysis as the continuing calibration. The RRF for 1,4-dioxane was ≥ 0.05 and the %D was within the QC limit of $\leq 20\%$. The average RRF and %RSD in the initial calibration and RRF and %D in the continuing calibration were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.4 BLANKS

One method blank (P6C0311-BLK1) was analyzed with this SDG. Target compound 1,4-dioxane was not detected above the MDL in the method blank. Review of the method blank raw data indicated no false negative. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory analyzed one blank spike/blank spike duplicate pair (P6C0311-BS1/BSD1) with this SDG. As P6C0311-BS1 was reported as a CCV (see section 2.3), P6C0311-BSD1 was evaluated as a single blank spike. The recovery for 1,4-dioxane was within the QC limits of 70-130%. The recovery was calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The surrogate recovery was within the laboratory QC limits of 70-130% for this SDG. The recovery was calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy was based on the blank spike result. No qualifications were required.

2.8 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 sample. Following are findings associated with field QC samples:

2.8.1 Trip Blanks

There was no trip blank sample associated with this SDG. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications were required.

DATA VALIDATION REPORT

2.8.3 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compound 1,4-dioxane by EPA Method 8260B. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limit was supported by the low point of the initial calibration and the laboratory MDL. 1,4-Dioxane detected between the MDL and the reporting limit was qualified as estimated, "J." No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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Del Mar Analytical - Irvine
 17461 Derian Ave. Suite 100
 Irvine, CA 92614
 Attention: Michele Chamberlin

Project ID: IPB2643

Report Number: PPC0066

Sampled: 02/28/06

Received: 03/02/06

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	
									Rev.	Qual
Sample ID: PPC0066-01 (IPB2643-01 - Water)		Outfall 018								
Reporting Units: ug/l										
1,4-Dioxane	EPA 8260B	P6C0311	0.49	1.0	0.60 112 %	1	03/03/06	03/04/06	J	DNQ
Surrogate: Dibromofluoromethane (70-130%)										

Level III

Del Mar Analytical - Phoenix
 Ken Baker
 Project Manager

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4WCP5
 Task Order: 1261.001D.01
 SDG No.: IPB2643

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: General Minerals

Date: April 10, 2006
 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.,	<i>Qualifications applied for detects below the reporting limit,</i>
Holding Times	<i>and CV recovery outlier</i>
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.	



DATA VALIDATION REPORT

NPDES Sampling
Outfall 018

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPB2643

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPB2643
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 10, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC^x *Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *USEPA Methods for Chemical Analysis of Water and Wastes Methods 120.1, 160.1, 160.2, 160.5, 180.1, 300.0, 314.0, 330.5, 335.2, 350.2, 405.1, 413.1, 415.1, and 418.1* and *Standard Methods for the Examination of Water and Wastewater Method SM2540-C*, and validation guidelines outlined in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPB2643-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. All analyses were performed within the method specified holding times. No qualifications were required.

2.2 CALIBRATION

For all applicable analyses, the initial calibration correlation coefficients were ≥ 0.995 and the ICV and CCV recoveries were within the control limits of 90-110%. For those methods requiring weight determinations, balance calibration logs were reviewed and found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, as the LCS recovery was above the calibration control limit, at 115%, ammonia detected in Outfall 018 was qualified as estimated, "J." No further qualifications were required.

2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS and LCSD (BOD and oil and grease only) recoveries and RPDs were within the laboratory-established control limits. No LCS recovery was listed for nitrate; however, the reviewer checked the raw data and found that nitrate was spiked into the LCS and was recovered acceptably. No qualifications were required.

2.5 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.6 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Evaluation of method accuracy and precision (for BOD and oil and grease) was based on LCS/LCSD results. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. Results reported by the laboratory between the MDL and reporting limit were qualified as estimated, "J," and annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C05021	0.30	0.50	0.56	1	03/05/06	03/05/06	J
Biochemical Oxygen Demand	EPA 405.1	6C01115	0.59	2.0	2.9	1	03/01/06	03/06/06	R
Chloride	EPA 300.0	6C01049	0.26	0.50	14	1	03/01/06	03/01/06	
Fluoride	EPA 300.0	6C01049	0.10	0.50	0.20	1	03/01/06	03/01/06	J J
Nitrate/Nitrite-N	EPA 300.0	6C01049	0.072	0.26	1.3	1	03/01/06	03/01/06	DNG
Oil & Grease	EPA 413.1	6C08046	0.91	4.9	ND	1	03/08/06	03/08/06	U
Residual Chlorine	EPA 330.5	6B28145	0.10	0.10	ND	1	02/28/06	02/28/06	U
Sulfate	EPA 300.0	6C01049	0.18	0.50	32	1	03/01/06	03/01/06	U
Surfactants (MBAS)	SM5540-C	6C01108	0.044	0.10	ND	1	03/01/06	03/01/06	U
Total Dissolved Solids	SM2540C	6C03069	10	10	180	1	03/03/06	03/03/06	
Total Organic Carbon	EPA 415.1	6C02064	0.25	1.0	9.8	1	03/01/06	03/01/06	
Total Suspended Solids	EPA 160.2	6C05025	10	10	39	1	03/05/06	03/05/06	

Raw	Qual	Code
J		R
J J		DNG
U		
U		
U		

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPB2643 <Page 16 of 58>



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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
Received: 02/28/06

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers						
Sample ID: IPB2643-01 (Outfall 018 - Water)															
Reporting Units: mg/l															
Total Recoverable Hydrocarbons	EPA 418.1	6C06047	0.30	0.96	ND	0.962	03/06/06	03/06/06	<table border="1"> <tr> <td>Raw</td> <td>Qual</td> </tr> <tr> <td>Qual</td> <td>Code</td> </tr> <tr> <td>U</td> <td></td> </tr> </table>	Raw	Qual	Qual	Code	U	
Raw	Qual														
Qual	Code														
U															

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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IPB2643 <Page 3 of 58>



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Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers				
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.													
Reporting Units: ml/l/hr													
Total Settleable Solids	EPA 160.5	6B28095	0.10	0.10	ND	1	02/28/06	02/28/06	<table border="1"> <tr> <td>Res Qual</td> <td>Qual Code</td> </tr> <tr> <td>U</td> <td></td> </tr> </table>	Res Qual	Qual Code	U	
Res Qual	Qual Code												
U													

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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IPB2643 <Page 17 of 58>



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 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers				
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.													
Reporting Units: NTU													
Turbidity	EPA 180.1	6C01122	0.080	2.0	62	2	03/01/06	03/01/06	<table border="1"> <tr> <td>Rev</td> <td>Qual</td> </tr> <tr> <td></td> <td>Code</td> </tr> </table>	Rev	Qual		Code
Rev	Qual												
	Code												

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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IPB2643 <Page 18 of 58>



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MWH-Pasadena/Boeing
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 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018
 Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Raw Qual	Qual Code
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.										
Reporting Units: ug/l										
Total Cyanide	EPA 335.2	6C02125	2.2	5.0	ND	1	03/02/06	03/02/06	U	
Perchlorate	EPA 314.0	6C02068	0.80	4.0	ND	1	03/02/06	03/03/06	↓	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Annual Outfall 018

Report Number: IPB2643

Sampled: 02/28/06
 Received: 02/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers				
Sample ID: IPB2643-01 (Outfall 018 - Water) - cont.													
Reporting Units: umhos/cm													
Specific Conductance	EPA 120.1	6C03067	1.0	1.0	230	1	03/03/06	03/03/06	<table border="1"> <tr> <td>Res</td> <td>Qual</td> </tr> <tr> <td>Qual</td> <td>Code</td> </tr> </table>	Res	Qual	Qual	Code
Res	Qual												
Qual	Code												

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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LEVEL IV

IPB2643 <Page 20 of 58>

APPENDIX G

Section 71

Outfall 001, March 29, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project: Routine Outfall 001

Sampled: 03/29/06
Received: 03/29/06
Issued: 04/07/06 10:47

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IPC2961-01	Outfall 001	Water
IPC2961-02	Trip Blank	Water

Reviewed By:

Michele Chamberlin

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 001 Report Number: IPC2961	Sampled: 03/29/06 Received: 03/29/06
--	---	---

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: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C30004	0.28	2.0	ND	1	03/30/06	03/30/06	
Carbon tetrachloride	EPA 624	6C30004	0.28	5.0	ND	1	03/30/06	03/30/06	
Chloroform	EPA 624	6C30004	0.33	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethane	EPA 624	6C30004	0.27	2.0	ND	1	03/30/06	03/30/06	C
1,2-Dichloroethane	EPA 624	6C30004	0.28	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethene	EPA 624	6C30004	0.42	3.0	ND	1	03/30/06	03/30/06	
Ethylbenzene	EPA 624	6C30004	0.25	2.0	ND	1	03/30/06	03/30/06	
Tetrachloroethene	EPA 624	6C30004	0.32	2.0	ND	1	03/30/06	03/30/06	
Toluene	EPA 624	6C30004	0.36	2.0	ND	1	03/30/06	03/30/06	
1,1,1-Trichloroethane	EPA 624	6C30004	0.30	2.0	ND	1	03/30/06	03/30/06	
1,1,2-Trichloroethane	EPA 624	6C30004	0.30	2.0	ND	1	03/30/06	03/30/06	
Trichloroethene	EPA 624	6C30004	0.26	5.0	ND	1	03/30/06	03/30/06	
Trichlorofluoromethane	EPA 624	6C30004	0.34	5.0	ND	1	03/30/06	03/30/06	
Vinyl chloride	EPA 624	6C30004	0.26	5.0	ND	1	03/30/06	03/30/06	
Xylenes, Total	EPA 624	6C30004	0.90	4.0	ND	1	03/30/06	03/30/06	
Surrogate: Dibromofluoromethane (80-120%)					114 %				
Surrogate: Toluene-d8 (80-120%)					107 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %				

Sample ID: IPC2961-02 (Trip Blank - Water)

Reporting Units: ug/l									
Benzene	EPA 624	6C30004	0.28	2.0	ND	1	03/30/06	03/30/06	
Carbon tetrachloride	EPA 624	6C30004	0.28	5.0	ND	1	03/30/06	03/30/06	
Chloroform	EPA 624	6C30004	0.33	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethane	EPA 624	6C30004	0.27	2.0	ND	1	03/30/06	03/30/06	C
1,2-Dichloroethane	EPA 624	6C30004	0.28	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethene	EPA 624	6C30004	0.42	3.0	ND	1	03/30/06	03/30/06	
Ethylbenzene	EPA 624	6C30004	0.25	2.0	ND	1	03/30/06	03/30/06	
Tetrachloroethene	EPA 624	6C30004	0.32	2.0	ND	1	03/30/06	03/30/06	
Toluene	EPA 624	6C30004	0.36	2.0	ND	1	03/30/06	03/30/06	
1,1,1-Trichloroethane	EPA 624	6C30004	0.30	2.0	ND	1	03/30/06	03/30/06	
1,1,2-Trichloroethane	EPA 624	6C30004	0.30	2.0	ND	1	03/30/06	03/30/06	
Trichloroethene	EPA 624	6C30004	0.26	5.0	ND	1	03/30/06	03/30/06	
Trichlorofluoromethane	EPA 624	6C30004	0.34	5.0	ND	1	03/30/06	03/30/06	
Vinyl chloride	EPA 624	6C30004	0.26	5.0	ND	1	03/30/06	03/30/06	
Xylenes, Total	EPA 624	6C30004	0.90	4.0	ND	1	03/30/06	03/30/06	
Surrogate: Dibromofluoromethane (80-120%)					104 %				
Surrogate: Toluene-d8 (80-120%)					106 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %				

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 Project Manager

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MWH-Pasadena/Boeing Project ID: Routine Outfall 001
300 North Lake Avenue, Suite 1200 Report Number: IPC2961
Pasadena, CA 91101
Attention: Bronwyn Kelly
Sampled: 03/29/06
Received: 03/29/06

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: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	6C31065	1.6	4.7	ND	0.943	03/31/06	04/04/06	
2,4-Dinitrotoluene	EPA 625	6C31065	0.19	8.5	ND	0.943	03/31/06	04/04/06	
N-Nitrosodimethylamine	EPA 625	6C31065	0.094	7.5	ND	0.943	03/31/06	04/04/06	
Pentachlorophenol	EPA 625	6C31065	0.094	7.5	ND	0.943	03/31/06	04/04/06	
2,4,6-Trichlorophenol	EPA 625	6C31065	0.094	5.7	ND	0.943	03/31/06	04/04/06	
Surrogate: 2-Fluorophenol (30-120%)					60 %				
Surrogate: Phenol-d6 (35-120%)					67 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					78 %				
Surrogate: Nitrobenzene-d5 (45-120%)					71 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					69 %				
Surrogate: Terphenyl-d14 (45-120%)					72 %				

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Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 001 Report Number: IPC2961	Sampled: 03/29/06 Received: 03/29/06
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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2961-01 (Outfall 001 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	6C30097	0.00094	0.0094	ND	0.943	03/30/06	03/31/06	
Surrogate: Decachlorobiphenyl (45-120%)					61 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					61 %				

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Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 001 Report Number: IPC2961	Sampled: 03/29/06 Received: 03/29/06
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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2961-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Iron	EPA 200.7	6C30081	0.015	0.040	0.87	1	03/30/06	03/30/06	
Sample ID: IPC2961-01RE1 (Outfall 001 - Water)									
Reporting Units: mg/l									
Iron	EPA 200.7	6D03078	0.015	0.040	0.85	1	03/30/06	04/03/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Copper	EPA 200.8	6C29141	0.49	2.0	3.0	1	03/29/06	03/30/06	
Lead	EPA 200.8	6C29141	0.13	1.0	0.91	1	03/29/06	03/30/06	J
Mercury	EPA 245.1	6C30065	0.050	0.20	ND	1	03/30/06	03/30/06	

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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 001 Report Number: IPC2961	Sampled: 03/29/06 Received: 03/29/06
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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2961-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C31112	0.30	0.50	0.56	1	03/31/06	03/31/06	
Biochemical Oxygen Demand	EPA 405.1	6C29138	0.59	2.0	1.3	1	03/29/06	04/03/06	J
Chloride	EPA 300.0	6C29052	0.26	0.50	28	1	03/29/06	03/29/06	
Nitrate/Nitrite-N	EPA 300.0	6C29052	0.072	0.26	3.1	1	03/29/06	03/29/06	
Oil & Grease	EPA 413.1	6C30048	0.89	4.7	ND	1	03/30/06	03/30/06	
Sulfate	EPA 300.0	6C29052	0.36	1.0	78	2	03/29/06	03/29/06	
Surfactants (MBAS)	SM5540-C	6C29127	0.044	0.10	0.057	1	03/29/06	03/29/06	J
Total Dissolved Solids	SM2540C	6C30063	10	10	300	1	03/30/06	03/30/06	
Total Suspended Solids	EPA 160.2	6C30086	10	10	ND	1	03/30/06	03/30/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C29122	0.10	0.10	ND	1	03/29/06	03/29/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C30113	0.040	1.0	18	1	03/30/06	03/30/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C30093	2.2	5.0	ND	1	03/30/06	03/30/06	
Perchlorate	EPA 314.0	6C30069	0.80	4.0	ND	1	03/30/06	03/30/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C30062	1.0	1.0	500	1	03/30/06	03/30/06	

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06
Received: 03/29/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 001 (IPC2961-01) - Water					
EPA 160.5	2	03/29/2006 13:33	03/29/2006 18:45	03/29/2006 19:30	03/29/2006 20:30
EPA 180.1	2	03/29/2006 13:33	03/29/2006 18:45	03/30/2006 15:59	03/30/2006 16:00
EPA 300.0	2	03/29/2006 13:33	03/29/2006 18:45	03/29/2006 20:30	03/29/2006 20:46
EPA 405.1	2	03/29/2006 13:33	03/29/2006 18:45	03/29/2006 22:45	04/03/2006 22:45
SM5540-C	2	03/29/2006 13:33	03/29/2006 18:45	03/29/2006 18:11	03/29/2006 22:12

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06

Received: 03/29/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C30004 Extracted: 03/30/06										
Blank Analyzed: 03/30/2006 (6C30004-BLK1)										
Benzene	0.340	2.0	0.28	ug/l						J
Carbon tetrachloride	ND	5.0	0.28	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	2.0	0.28	ug/l						
1,1-Dichloroethene	ND	3.0	0.42	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Tetrachloroethene	ND	2.0	0.32	ug/l						
Toluene	ND	2.0	0.36	ug/l						
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l						
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l						
Trichloroethene	ND	5.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	5.0	0.26	ug/l						
Xylenes, Total	ND	4.0	0.90	ug/l						
Surrogate: Dibromofluoromethane	22.6			ug/l	25.0		90	80-120		
Surrogate: Toluene-d8	25.6			ug/l	25.0		102	80-120		
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0		99	80-120		
LCS Analyzed: 03/30/2006 (6C30004-BS1)										
Benzene	24.2	2.0	0.28	ug/l	25.0		97	65-120		
Carbon tetrachloride	29.2	5.0	0.28	ug/l	25.0		117	65-140		
Chloroform	25.8	2.0	0.33	ug/l	25.0		103	65-130		
1,1-Dichloroethane	31.9	2.0	0.27	ug/l	25.0		128	65-130		
1,2-Dichloroethane	24.7	2.0	0.28	ug/l	25.0		99	60-140		
1,1-Dichloroethene	26.8	3.0	0.42	ug/l	25.0		107	70-130		
Ethylbenzene	24.5	2.0	0.25	ug/l	25.0		98	70-125		
Tetrachloroethene	23.2	2.0	0.32	ug/l	25.0		93	65-125		
Toluene	24.0	2.0	0.36	ug/l	25.0		96	70-125		
1,1,1-Trichloroethane	25.9	2.0	0.30	ug/l	25.0		104	65-135		
1,1,2-Trichloroethane	24.3	2.0	0.30	ug/l	25.0		97	65-125		
Trichloroethene	24.4	5.0	0.26	ug/l	25.0		98	70-125		
Trichlorofluoromethane	26.0	5.0	0.34	ug/l	25.0		104	60-140		
Vinyl chloride	23.2	5.0	0.26	ug/l	25.0		93	50-130		
Surrogate: Dibromofluoromethane	25.4			ug/l	25.0		102	80-120		
Surrogate: Toluene-d8	26.0			ug/l	25.0		104	80-120		

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06
 Received: 03/29/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30004 Extracted: 03/30/06											
LCS Analyzed: 03/30/2006 (6C30004-BS1)											
Surrogate: 4-Bromofluorobenzene	25.7			ug/l	25.0		103	80-120			
Matrix Spike Analyzed: 03/30/2006 (6C30004-MS1)											
Source: IPC2561-11											
Benzene	30.6	2.0	0.28	ug/l	25.0	ND	122	60-125			
Carbon tetrachloride	34.0	5.0	0.28	ug/l	25.0	ND	136	65-140			
Chloroform	35.2	2.0	0.33	ug/l	25.0	ND	141	65-135			MI
1,1-Dichloroethane	41.4	2.0	0.27	ug/l	25.0	ND	166	60-130			M7
1,2-Dichloroethane	31.2	2.0	0.28	ug/l	25.0	ND	125	60-140			
1,1-Dichloroethene	36.1	3.0	0.42	ug/l	25.0	ND	144	60-135			MI
Ethylbenzene	30.0	2.0	0.25	ug/l	25.0	ND	120	65-130			
Tetrachloroethene	27.3	2.0	0.32	ug/l	25.0	ND	109	60-130			
Toluene	30.3	2.0	0.36	ug/l	25.0	ND	121	65-125			
1,1,1-Trichloroethane	33.6	2.0	0.30	ug/l	25.0	ND	134	65-140			
1,1,2-Trichloroethane	33.2	2.0	0.30	ug/l	25.0	ND	133	60-130			MI
Trichloroethene	28.6	5.0	0.26	ug/l	25.0	ND	114	60-125			
Trichlorofluoromethane	35.8	5.0	0.34	ug/l	25.0	ND	143	55-145			
Vinyl chloride	31.8	5.0	0.26	ug/l	25.0	ND	127	40-135			
Surrogate: Dibromofluoromethane	29.1			ug/l	25.0		116	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	26.7			ug/l	25.0		107	80-120			
Matrix Spike Dup Analyzed: 03/30/2006 (6C30004-MSD1)											
Source: IPC2561-11											
Benzene	30.1	2.0	0.28	ug/l	25.0	ND	120	60-125	2	20	
Carbon tetrachloride	34.3	5.0	0.28	ug/l	25.0	ND	137	65-140	1	25	
Chloroform	34.6	2.0	0.33	ug/l	25.0	ND	138	65-135	2	20	MI
1,1-Dichloroethane	36.8	2.0	0.27	ug/l	25.0	ND	147	60-130	12	20	M7
1,2-Dichloroethane	31.6	2.0	0.28	ug/l	25.0	ND	126	60-140	1	20	
1,1-Dichloroethene	34.6	3.0	0.42	ug/l	25.0	ND	138	60-135	4	20	MI
Ethylbenzene	29.0	2.0	0.25	ug/l	25.0	ND	116	65-130	3	20	
Tetrachloroethene	26.3	2.0	0.32	ug/l	25.0	ND	105	60-130	4	20	
Toluene	29.6	2.0	0.36	ug/l	25.0	ND	118	65-125	2	20	
1,1,1-Trichloroethane	33.1	2.0	0.30	ug/l	25.0	ND	132	65-140	1	20	
1,1,2-Trichloroethane	32.9	2.0	0.30	ug/l	25.0	ND	132	60-130	1	25	MI
Trichloroethene	27.6	5.0	0.26	ug/l	25.0	ND	110	60-125	4	20	
Trichlorofluoromethane	33.8	5.0	0.34	ug/l	25.0	ND	135	55-145	6	25	
Vinyl chloride	29.7	5.0	0.26	ug/l	25.0	ND	119	40-135	7	30	

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 Michele Chamberlin
 Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 001 Report Number: IPC2961	Sampled: 03/29/06 Received: 03/29/06
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30004 Extracted: 03/30/06											
Matrix Spike Dup Analyzed: 03/30/2006 (6C30004-MSD1)											
Source: IPC2561-11											
Surrogate: Dibromofluoromethane	29.5			ug/l	25.0		118	80-120			
Surrogate: Toluene-d8	26.9			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	27.3			ug/l	25.0		109	80-120			

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06
 Received: 03/29/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting			Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
		Limit	MDL	Units							
Batch: 6C31065 Extracted: 03/31/06											
Blank Analyzed: 04/04/2006 (6C31065-BLK1)											
Bis(2-ethylhexyl)phthalate	ND	5.0	1.7	ug/l							
2,4-Dinitrotoluene	ND	9.0	0.20	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.10	ug/l							
Pentachlorophenol	ND	8.0	0.10	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l							
Surrogate: 2-Fluorophenol	13.3			ug/l	20.0		66	30-120			
Surrogate: Phenol-d6	13.5			ug/l	20.0		68	35-120			
Surrogate: 2,4,6-Tribromophenol	15.6			ug/l	20.0		78	45-120			
Surrogate: Nitrobenzene-d5	5.98			ug/l	10.0		60	45-120			
Surrogate: 2-Fluorobiphenyl	6.24			ug/l	10.0		62	45-120			
Surrogate: Terphenyl-d14	7.92			ug/l	10.0		79	45-120			
LCS Analyzed: 04/04/2006 (6C31065-BS1)											
M-NR1											
Bis(2-ethylhexyl)phthalate	10.6	5.0	1.7	ug/l	10.0		106	60-130			
2,4-Dinitrotoluene	11.1	9.0	0.20	ug/l	10.0		111	60-120			
N-Nitrosodimethylamine	9.24	8.0	0.10	ug/l	10.0		92	40-120			
Pentachlorophenol	10.9	8.0	0.10	ug/l	10.0		109	50-120			
2,4,6-Trichlorophenol	10.0	6.0	0.10	ug/l	10.0		100	60-120			
Surrogate: 2-Fluorophenol	12.5			ug/l	20.0		62	30-120			
Surrogate: Phenol-d6	14.2			ug/l	20.0		71	35-120			
Surrogate: 2,4,6-Tribromophenol	16.2			ug/l	20.0		81	45-120			
Surrogate: Nitrobenzene-d5	7.82			ug/l	10.0		78	45-120			
Surrogate: 2-Fluorobiphenyl	7.24			ug/l	10.0		72	45-120			
Surrogate: Terphenyl-d14	7.24			ug/l	10.0		72	45-120			
LCS Dup Analyzed: 04/04/2006 (6C31065-BSD1)											
Bis(2-ethylhexyl)phthalate	11.3	5.0	1.7	ug/l	10.0		113	60-130	6	20	
2,4-Dinitrotoluene	11.7	9.0	0.20	ug/l	10.0		117	60-120	5	20	
N-Nitrosodimethylamine	10.0	8.0	0.10	ug/l	10.0		100	40-120	8	20	
Pentachlorophenol	11.7	8.0	0.10	ug/l	10.0		117	50-120	7	25	
2,4,6-Trichlorophenol	10.3	6.0	0.10	ug/l	10.0		103	60-120	3	20	
Surrogate: 2-Fluorophenol	13.6			ug/l	20.0		68	30-120			
Surrogate: Phenol-d6	15.7			ug/l	20.0		78	35-120			
Surrogate: 2,4,6-Tribromophenol	16.8			ug/l	20.0		84	45-120			
Surrogate: Nitrobenzene-d5	8.28			ug/l	10.0		83	45-120			
Surrogate: 2-Fluorobiphenyl	7.32			ug/l	10.0		73	45-120			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C31065 Extracted: 03/31/06											
LCS Dup Analyzed: 04/04/2006 (6C31065-BSD1)											
Surrogate: Terphenyl-d14	7.82			ug/l	10.0		78	45-120			

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Received: 03/29/06

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30097 Extracted: 03/30/06											
Blank Analyzed: 03/31/2006 (6C30097-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.472			ug/l	0.500		94	45-120			
Surrogate: Tetrachloro-m-xylene	0.407			ug/l	0.500		81	35-115			
LCS Analyzed: 03/31/2006 (6C30097-BS1)											
alpha-BHC	0.434	0.010	0.0010	ug/l	0.500		87	45-120			M-NR1
Surrogate: Decachlorobiphenyl	0.441			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.377			ug/l	0.500		75	35-115			
LCS Dup Analyzed: 03/31/2006 (6C30097-BSD1)											
alpha-BHC	0.452	0.010	0.0010	ug/l	0.500		90	45-120	4	30	
Surrogate: Decachlorobiphenyl	0.452			ug/l	0.500		90	45-120			
Surrogate: Tetrachloro-m-xylene	0.398			ug/l	0.500		80	35-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29141 Extracted: 03/29/06											
Blank Analyzed: 03/30/2006 (6C29141-BLK1)											
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/30/2006 (6C29141-BS1)											
Copper	75.5	2.0	0.25	ug/l	80.0		94	85-115			
Lead	78.2	1.0	0.040	ug/l	80.0		98	85-115			
Matrix Spike Analyzed: 03/30/2006 (6C29141-MS1) Source: IPC2844-01											
Copper	384	2.0	0.25	ug/l	80.0	320	80	70-130			
Lead	76.3	1.0	0.040	ug/l	80.0	1.1	94	70-130			
Matrix Spike Analyzed: 03/30/2006 (6C29141-MS2) Source: IPC2911-01											
Copper	87.2	2.0	0.25	ug/l	80.0	8.8	98	70-130			
Lead	83.4	1.0	0.040	ug/l	80.0	0.35	104	70-130			
Matrix Spike Dup Analyzed: 03/30/2006 (6C29141-MSD1) Source: IPC2844-01											
Copper	403	2.0	0.25	ug/l	80.0	320	104	70-130	5	20	
Lead	82.3	1.0	0.040	ug/l	80.0	1.1	102	70-130	8	20	
Batch: 6C30065 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30065-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/30/2006 (6C30065-BS1)											
Mercury	7.87	0.20	0.050	ug/l	8.00		98	85-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30065 Extracted: 03/30/06											
Matrix Spike Analyzed: 03/30/2006 (6C30065-MS1)						Source: IPC2857-01					
Mercury	8.16	0.20	0.050	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 03/30/2006 (6C30065-MSD1)						Source: IPC2857-01					
Mercury	8.19	0.20	0.050	ug/l	8.00	ND	102	70-130	0	20	
Batch: 6C30081 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30081-BLK1)											
Iron	ND	0.040	0.0088	mg/l							
LCS Analyzed: 03/30/2006 (6C30081-BS1)											
Iron	0.509	0.040	0.0088	mg/l	0.500		102	85-115			
Matrix Spike Analyzed: 03/30/2006 (6C30081-MS1)						Source: IPC2685-03					
Iron	0.664	0.040	0.0088	mg/l	0.500	0.17	99	70-130			
Matrix Spike Dup Analyzed: 03/30/2006 (6C30081-MSD1)						Source: IPC2685-03					
Iron	0.672	0.040	0.0088	mg/l	0.500	0.17	100	70-130	1	20	
Batch: 6D03078 Extracted: 04/03/06											
Blank Analyzed: 04/03/2006 (6D03078-BLK1)											
Iron	ND	0.040	0.015	mg/l							
LCS Analyzed: 04/03/2006 (6D03078-BS1)											
Iron	0.511	0.040	0.015	mg/l	0.500		102	85-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D03078 Extracted: 04/03/06											
Matrix Spike Analyzed: 04/03/2006 (6D03078-MS1)						Source: IPC3017-01					
Iron	5.81	0.040	0.015	mg/l	0.500	5.2	122	70-130			
Matrix Spike Dup Analyzed: 04/03/2006 (6D03078-MSD1)						Source: IPC3017-01					
Iron	5.78	0.040	0.015	mg/l	0.500	5.2	116	70-130	1	20	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29052 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29052-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 03/29/2006 (6C29052-BS1)											
Chloride	4.80	0.50	0.26	mg/l	5.00		96	90-110			
Sulfate	10.0	0.50	0.18	mg/l	10.0		100	90-110			M-3
Matrix Spike Analyzed: 03/29/2006 (6C29052-MS1) Source: IPC2876-02											
Chloride	20.0	0.50	0.26	mg/l	5.00	16	80	80-120			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29052-MSD1) Source: IPC2876-02											
Chloride	20.4	0.50	0.26	mg/l	5.00	16	88	80-120	2	20	
Batch: 6C29127 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29127-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 03/29/2006 (6C29127-BS1)											
Surfactants (MBAS)	0.269	0.10	0.044	mg/l	0.250		108	90-110			
Matrix Spike Analyzed: 03/29/2006 (6C29127-MS1) Source: IPC2820-01											
Surfactants (MBAS)	0.345	0.10	0.044	mg/l	0.250	0.090	102	50-125			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29127-MSD1) Source: IPC2820-01											
Surfactants (MBAS)	0.347	0.10	0.044	mg/l	0.250	0.090	103	50-125	1	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29138 Extracted: 03/29/06											
Blank Analyzed: 04/03/2006 (6C29138-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 04/03/2006 (6C29138-BS1)											
Biochemical Oxygen Demand	186	100	30	mg/l	198		94	85-115			
LCS Dup Analyzed: 04/03/2006 (6C29138-BSD1)											
Biochemical Oxygen Demand	185	100	30	mg/l	198		93	85-115	1	20	
Batch: 6C30048 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30048-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/30/2006 (6C30048-BS1)											
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120			M-NRI
LCS Dup Analyzed: 03/30/2006 (6C30048-BSD1)											
Oil & Grease	19.4	5.0	0.94	mg/l	20.0		97	65-120	9	20	
Batch: 6C30062 Extracted: 03/30/06											
Duplicate Analyzed: 03/30/2006 (6C30062-DUP1)											
Specific Conductance	492	1.0	1.0	umhos/cm		Source: IPC2961-01 500			2	5	
Batch: 6C30063 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30063-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30063 Extracted: 03/30/06											
LCS Analyzed: 03/30/2006 (6C30063-BS1)											
Total Dissolved Solids	990	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/30/2006 (6C30063-DUP1)											
						Source: IPC2961-01					
Total Dissolved Solids	295	10	10	mg/l		300			2	10	
Batch: 6C30069 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30069-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 03/30/2006 (6C30069-BS1)											
Perchlorate	50.4	4.0	0.80	ug/l	50.0		101	85-115			M-3
Batch: 6C30086 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30086-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/30/2006 (6C30086-BS1)											
Total Suspended Solids	987	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 03/30/2006 (6C30086-DUP1)											
						Source: IPC2670-01					
Total Suspended Solids	216	10	10	mg/l		230			6	10	
Batch: 6C30093 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30093-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30093 Extracted: 03/30/06											
LCS Analyzed: 03/30/2006 (6C30093-BS1)											
Total Cyanide	190	5.0	2.2	ug/l	200		95	90-110			
Matrix Spike Analyzed: 03/30/2006 (6C30093-MS1) Source: IPC2962-01											
Total Cyanide	187	5.0	2.2	ug/l	200	ND	94	70-115			
Matrix Spike Dup Analyzed: 03/30/2006 (6C30093-MSD1) Source: IPC2962-01											
Total Cyanide	178	5.0	2.2	ug/l	200	ND	89	70-115	5	15	
Batch: 6C30113 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30113-BLK1)											
Turbidity	0.0400	1.0	0.040	NTU							J
Duplicate Analyzed: 03/30/2006 (6C30113-DUP1) Source: IPC2950-01											
Turbidity	3.02	1.0	0.040	NTU		3.0			1	20	
Duplicate Analyzed: 03/30/2006 (6C30113-DUP2) Source: IPC2948-06											
Turbidity	ND	1.0	0.040	NTU		ND				20	
Batch: 6C31112 Extracted: 03/31/06											
Blank Analyzed: 03/31/2006 (6C31112-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/31/2006 (6C31112-BS1)											
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0		112	80-115			

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C31112 Extracted: 03/31/06											
Matrix Spike Analyzed: 03/31/2006 (6C31112-MS1)						Source: IPC2824-01					
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0	ND	115	70-120			
Matrix Spike Dup Analyzed: 03/31/2006 (6C31112-MSD1)						Source: IPC2824-01					
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0	ND	115	70-120	0	15	

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Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC2961-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.094	4.7	10.00
IPC2961-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0094	0.0100
IPC2961-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2961-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IPC2961-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPC2961-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0.15	8.5	9.10
IPC2961-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.25	4.7	4.00
IPC2961-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.5	8.10
IPC2961-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.5	8.20
IPC2961-01	BOD	Biochemical Oxygen Demand	mg/l	1.30	2.0	20
IPC2961-01	Chloride - 300.0	Chloride	mg/l	28	0.50	150
IPC2961-01	Copper-200.8	Copper	ug/l	3.00	2.0	7.10
IPC2961-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	0.39	5.0	5.00
IPC2961-01	Iron-200.7	Iron	mg/l	0.87	0.040	0.30
IPC2961-01	Lead-200.8	Lead	ug/l	0.91	1.0	2.60
IPC2961-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.057	0.10	0.50
IPC2961-01	Mercury - 245.1	Mercury	ug/l	0.0069	0.20	0.20
IPC2961-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	3.10	0.26	8.00
IPC2961-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPC2961-01	Sulfate-300.0	Sulfate	mg/l	78	1.0	300
IPC2961-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	300	10	950
IPC2961-01RE1	Iron-200.7	Iron	mg/l	0.85	0.040	0.30
IPC2961-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2961-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical - Irvine
 Michele Chamberlin
 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 Del Mar Analytical.



MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06

Received: 03/29/06

DATA QUALIFIERS AND DEFINITIONS

- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M7** The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06

Received: 03/29/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
SM2540C	Water	X	X
SM5540-C	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC2961-01

Analysis Performed: EDD + Level 4

Samples: IPC2961-01

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager

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Del Mar Analytical

Version 03/07/06

CHAIN OF CUSTODY FORM

Page 1 of 1

IPC 296

Client Name/Address:			Project:			ANALYSIS REQUIRED												Field readings:						
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101			Boeing-SSFL NPDES Routine Outfall 001															Temp = 66° pH = 7.6						
Project Manager: Bronwyn Kelly Sampler: <i>Rick Barajas</i>			Phone Number: (626) 588-8891 Fax Number: (626) 588-6515			Total Recoverable Metals: Cu, Pb, Hg, Fe*	Settleable Solids	VOCS 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cl-, SO4, NO3+NO2-N, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Comments						
Sample Description	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	Sampling Date/Time	1A	1B	2	3A, 3B, 3C	4A, 4B	5A, 5B	6	7	8A, 8B	9A, 9B	10A, 10B	11	12A, 12B	13A, 13B	14A, 14B, 14C	24 TAT, *Fe Normal TAT	24 TAT	
Outfall 001	W	Poly-1L	1	HNO3	1A	3-29-06 13:33	X																	
Outfall 001-Dup	W	Poly-1L	1	HNO3	1B		X																	
Outfall 001	W	Poly-1L	1	None	2			X																
Outfall 001	W	VOAS	3	HCl	3A, 3B, 3C				X															
Outfall 001	W	1L Amber	2	None	4A, 4B				X															
Outfall 001	W	1L Amber	2	HCl	5A, 5B				X															
Outfall 001	W	Poly-500 ml	1	NaOH	6					X														
Outfall 001	W	Poly-1L	1	None	7						X													
Outfall 001	W	Poly-500 ml	2	None	8A, 8B											X								
Outfall 001	W	Poly-500 ml	2	None	9A, 9B												X							
Outfall 001	W	Poly-500 ml	2	None	10A, 10B													X						
Outfall 001	W	Poly-500 ml	1	H2SO4	11																			
Outfall 001	W	1L Amber	2	None	12A, 12B																			
Outfall 001	W	1L Amber	2	None	13A, 13B																			
Trip Blank	W	VOAS	3	HCl	14A, 14B, 14C																			

Relinquished By: <i>Bronwyn Kelly</i>	Date/Time: 3-29-06 1600	Received By: <i>Rick Barajas</i>	Date/Time: 3/29/06 1600
Relinquished By: <i>Rick Barajas</i>	Date/Time: 3/29/06 1845	Received By: <i>Bronwyn Kelly</i>	Date/Time: 3/29/06 1845
Relinquished By:	Date/Time:	Received By:	Date/Time:

Turn around Time: (check)	24 Hours	48 Hours	72 Hours	Perchlorate Only 72 Hours	Metals Only 72 Hours	Sample Integrity: (Check) Intact	On Ice: 4°C
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	



l, 2006

object I.D.: 27513

chele Chamberlin
r Analytical, Irvine
Derian Avenue, Suite 100
CA 92614

s. Chamberlin,

ed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 6 under your Project Name "IPC2961". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was requested for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current policies, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,


M. Maier
Director of HRMS Services



Alta Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. This report should not be reproduced except in full without the written approval of ALTA.



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

FAX (916) 673-0106
(916) 933-1640

Page 1 of 232

NPDES - 3390

Section I: Sample Inventory Report

Date Received: 3/31/2006

Alta Lab. ID

Client Sample ID

27513-001

IPC2961-01

SECTION II

Method Blank		EPA Method 1613						
Matrix:	Aqueous	QC Batch No.:	7889	Lab Sample:	0-MB001			
Sample Size:	1.00 L	Date Extracted:	1-Apr-06	Date Analyzed DB-5:	3-Apr-06			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000128			13C-2,3,7,8-TCDD	69.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000135			13C-1,2,3,7,8-PeCDD	75.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000138			13C-1,2,3,4,7,8-HxCDD	74.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000142			13C-1,2,3,6,7,8-HxCDD	76.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000135			13C-1,2,3,4,6,7,8-HpCDD	76.9	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.000000972			13C-OCDD	37.5	17 - 157	
OCDD	ND	0.00000275			13C-2,3,7,8-TCDF	70.7	24 - 169	
2,3,7,8-TCDF	ND	0.00000102			13C-1,2,3,7,8-PeCDF	75.7	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000106			13C-2,3,4,7,8-PeCDF	78.6	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000103			13C-1,2,3,4,7,8-HxCDF	74.4	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000440			13C-1,2,3,6,7,8-HxCDF	76.7	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000410			13C-2,3,4,6,7,8-HxCDF	76.4	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000469			13C-1,2,3,7,8,9-HxCDF	76.1	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000599			13C-1,2,3,4,6,7,8-HpCDF	65.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000722			13C-1,2,3,4,7,8,9-HpCDF	76.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000661			13C-OCDF	47.0	17 - 157	
OCDF	ND	0.000000405			CRS 37Cl-2,3,7,8-TCDD	83.8	35 - 197	
Totals								
Total TCDD	ND	0.00000128						
Total PeCDD	ND	0.00000135						
Total HxCDD	ND	0.00000138						
Total HpCDD	ND	0.000000972						
Total TCDF	ND	0.00000102						
Total PeCDF	ND	0.00000104						
Total HxCDF	ND	0.000000474						
Total HpCDF	ND	0.000000692						
Footnotes								
a. Sample specific estimated detection limit.								
b. Estimated maximum possible concentration.								
c. Method detection limit.								
d. Lower control limit - upper control limit.								

Analyst: DMS

Approved By: Martha M. Maier 04-Apr-2006 14:45

EPA Method 1613						
OPR Results		Matrix: Aqueous				
Lab Sample:	0-OPR001	QC Batch No.:	7889			
Date Analyzed DB-5:	3-Apr-06	Date Analyzed DB-225:	NA			
Sample Size:	1.00 L	Date Extracted:	1-Apr-06			
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	62.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	65.4	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	60.0	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	60.8	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	30.1	17 - 157	
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	61.7	24 - 169	
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	65.3	24 - 185	
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	68.0	21 - 178	
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	56.2	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	58.4	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	60.7	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	58.6	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	60.3	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	37.3	17 - 157	
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	75.6	35 - 197	

Analyst: DMS

Approved By: Martha M. Maier 04-Apr-2006 14:45

Sample ID: IPC2961-01

EPA Method 1613

Client Data		Sample Data		Laboratory Data	
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27513-001
Project:	IPC2961	Sample Size:	1.04 L	QC Batch No.:	7889
Date Collected:	29-Mar-06			Date Analyzed DB-5:	3-Apr-06
Time Collected:	1333			Date Analyzed DB-225:	NA

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000103			13C-2,3,7,8-TCDD	64.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000121			13C-1,2,3,7,8-PeCDD	67.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000134			13C-1,2,3,4,7,8-HxCDD	64.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000128			13C-1,2,3,6,7,8-HxCDD	66.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000127			13C-1,2,3,4,6,7,8-HpCDD	69.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000107			J	13C-OCDD	40.0	17 - 157	
OCDD	0.0000583				13C-2,3,7,8-TCDF	61.9	24 - 169	
2,3,7,8-TCDF	ND	0.000000951			13C-1,2,3,7,8-PeCDF	62.8	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000135			13C-2,3,4,7,8-PeCDF	64.7	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000127			13C-1,2,3,4,7,8-HxCDF	68.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000339			13C-1,2,3,6,7,8-HxCDF	68.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000326			13C-2,3,4,6,7,8-HxCDF	68.7	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000362			13C-1,2,3,7,8,9-HxCDF	70.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000470			13C-1,2,3,4,6,7,8-HpCDF	63.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000164			J	13C-1,2,3,4,7,8,9-HpCDF	72.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000519			13C-OCDF	48.6	17 - 157	
OCDF	0.00000415			J	CRS 37Cl-2,3,7,8-TCDD	86.6	35 - 197	

Totals					Footnotes
Total TCDD	ND	0.00000103			a. Sample specific estimated detection limit.
Total PeCDD	ND	0.00000121			b. Estimated maximum possible concentration.
Total HxCDD	0.00000133		0.00000297		c. Method detection limit.
Total HpCDD	0.00000228				d. Lower control limit - upper control limit.
Total TCDF	ND	0.000000951			
Total PeCDF	ND	0.00000131			
Total HxCDF	ND	0.000000370			
Total HpCDF	0.00000466				

Analyst: DMS
 Approved By: Martha M. Maier 04-Apr-2006 14:45

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q



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 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-8586 Fax (619) 505-9689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPC2961

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical - Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 <i>27513</i> <i>1.3°C</i>

Standard TAT is requested unless specific due date is requested => Due Date: 4/6/06 Initials: _____

Analysis	Expiration	Comments
Sample ID: IPC2961-01 Water	Sampled: 03/29/06 13:33	
1613-Dioxin-HR-Alta	04/05/06 13:33	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/26/06 13:33	Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC2961-01G)		
1 L Amber (IPC2961-01H)		

SAMPLE INTEGRITY:

All containers intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Sample labels/COC agree: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No
Custody Seals Present: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Preserved Properly: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received at (temp): _____

Released By: [Signature] Date: 3/30/06 Time: _____ Received By: Bethuna G. Benedict Date: 3/31/06 Time: 0905

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27513

Samples Arrival:	Date/Time 3/31/06 0905	Initials: BKB	Location: WR-2
Logged In:	Date/Time 3/31/06 1157	Initials: BKB	Location: WR-2
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	1.3°	Time:	1010
		Thermometer ID:	DT-20

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill			
Trk #	7919 02179339		
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?			<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			
Na ₂ S ₂ O ₃ Preservation Documented?			<input checked="" type="checkbox"/> None
Shipping Container	Alta	<input checked="" type="checkbox"/> Client	Retain
		<input checked="" type="checkbox"/> Return	Dispose

Comments:

APPENDIX G

Section 72

Outfall 001, March 29, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID B4DF72
 Task Order 1261.001D.01
 SDG No. IPC2961

No. of Analyses 1

Laboratory Alta Analytical

Date: April 14, 2006

Reviewer E. Wessling

Reviewer's Signature 

Analysis/Method Dioxins/Furans by 1613

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: - results between the RL and the MDL were estimated
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

NPDES Monitoring Program
Outfall 001

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC2961

Prepared by
MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001D.01
Sample Delivery Group: IPC2961
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 14, 2006

The samples listed in Table 1 were 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 for Chlorinated Dioxin/Furan Data Review (8/02)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 001	IPC2961-01	27513-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 1.3°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the sample was couriered directly to Del Mar Analytical-Irvine, custody seals were not required. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

2.1.3 Holding Times

The sample was extracted and analyzed within one year of collection. No qualifications were required.

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 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 (see section 2.3.2). 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%. No qualifications were required.

2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were 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 QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VER was 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. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

2.4 BLANKS

One method blank (0-7889-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7889-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualification of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were 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. Reported detects for total dioxin or total furan isomers containing both dioxin or furan and EMPC values were qualified as estimated detects, "J." No further qualifications were required.



Sample ID: IPC2961-01		EPA Method 1613			
Client Data		Sample Data		Laboratory Data	
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	DL ^a	EMPC ^b	Lab Sample: 27513-001	Date Received: 31-Mar-06
Project: IPC2961	Sample Size: 1.04 L	Conc. (ug/L)	Qualifiers	QC Batch No.: 7889	Date Extracted: 1-Apr-06
Date Collected: 29-Mar-06				Date Analyzed DB-5: 3-Apr-06	Date Analyzed DB-225: NA
Time Collected: 1333					
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.0000103		IS 13C-2,3,7,8-TCDD	64.7 25 - 164
1,2,3,7,8-PeCDD	ND	0.0000121		13C-1,2,3,7,8-PeCDD	67.5 25 - 181
1,2,3,4,7,8-HxCDD	ND	0.0000134		13C-1,2,3,4,7,8-HxCDD	64.1 32 - 141
1,2,3,6,7,8-HxCDD	ND	0.0000128		13C-1,2,3,6,7,8-HxCDD	66.7 28 - 130
1,2,3,7,8,9-HxCDD	ND	0.0000127		13C-1,2,3,4,6,7,8-HpCDD	69.4 23 - 140
1,2,3,4,6,7,8-HpCDD	0.0000107		J	13C-OCDD	40.0 17 - 157
OCDD	0.0000883			13C-2,3,7,8-TCDF	61.9 24 - 169
2,3,7,8-TCDF	ND	0.00000951		13C-1,2,3,7,8-PeCDF	62.8 24 - 185
1,2,3,7,8-PeCDF	ND	0.0000135		13C-2,3,4,7,8-PeCDF	64.7 21 - 178
2,3,4,7,8-PeCDF	ND	0.0000127		13C-1,2,3,4,7,8-HxCDF	68.1 26 - 152
1,2,3,4,7,8-HxCDF	ND	0.00000359		13C-1,2,3,6,7,8-HxCDF	68.0 26 - 123
1,2,3,6,7,8-HxCDF	ND	0.00000326		13C-2,3,4,6,7,8-HxCDF	68.7 28 - 136
2,3,4,6,7,8-HxCDF	ND	0.00000362		13C-1,2,3,7,8,9-HxCDF	70.0 29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000470		13C-1,2,3,4,6,7,8-HpCDF	63.7 28 - 143
1,2,3,4,6,7,8-HpCDF	0.0000164		J	13C-1,2,3,4,7,8,9-HpCDF	72.6 26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.00000519		13C-OCDF	48.6 17 - 157
OCDF	0.00000415		J	CRS 37Cl-2,3,7,8-TCDD	86.6 35 - 197
Totals					
Total TCDD	ND	0.0000103			
Total PeCDD	ND	0.0000121			
Total HxCDD	0.0000133		0.00000297		
Total HpCDD	0.0000228				
Total TCDF	ND	0.00000951			
Total PeCDF	ND	0.0000131			
Total HxCDF	ND	0.00000370			
Total HpCDF	0.00000466				

Out of 201

Handwritten notes and arrows pointing to specific rows in the table.

Footnotes

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

Approved By: Martha M. Maier 04-Apr-2006 14:45

LEVEL IV

Project 27513

Analyst: DMS

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

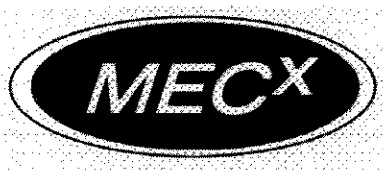
Package ID: B4MT55
 Task Order: 1261.001D.01
 SDG No.: IPC2961

No. of Analyses: 1 and 1 RE

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: Metals

Date: April 13, 2006
 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.,	<u>Reanalysis rejected in favor of original result.</u>
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	
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

NPDES Sampling
Outfall 001

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPC2961

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC2961
Project Manager: P. Costa
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 1
Reviewer: P. Meeks
Date of Review: April 13, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for ICP and ICP-MS Metals (DVP-5, Rev. 0)*, *EPA Methods 200.7*, and validation guidelines outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 001	IPC2961-01	Water	200.7
Outfall 001 RE1	IPC2961-01 RE1	Water	200.7

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. Outfall 001 was reanalyzed for iron. As the laboratory did not append the MWH ID for the reanalysis with "RE1," the reviewer added this information to the Form I. No sample qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP metals. No qualifications were required.

2.2 ICP-MS TUNING

ICP-MS was not used to analyze this sample; therefore, this criterion is not applicable.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP metals. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

2.4 BLANKS

Iron was not detected in the method blanks and CCBs associated with the ICP metals analyses. No qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICP ICSA and ICSAB analyses were performed in association with the sample in this SDG. All recoveries and results were determined to be acceptable. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.10 INTERNAL STANDARDS PERFORMANCE

ICP-MS was not used to analyze this sample; therefore, this criterion is not applicable.

2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified and the sample results reported on the Form Is were verified against the raw data. Per a request from MWH personnel, the laboratory reanalyzed sample Outfall 001 for iron. As the reanalysis result was similar to the original result, the reanalysis result, Outfall 001 RE1, was rejected, "R," in favor of the original result. No further qualifications were required.

2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06
 Received: 03/29/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Rev Qual	Qual Code
Sample ID: IPC2961-01 (Outfall 001 - Water) - cont.										
Reporting Units: mg/l										
Iron	EPA 200.7	6C30081	0.015	0.040	0.87	1	03/30/06	03/30/06		
Sample ID: IPC2961-01RE1 (Outfall 001 - Water)										
Reporting Units: mg/l										
Iron	EPA 200.7	6D03078	0.015	0.040	0.85	1	03/30/06	04/03/06	R	D
Sample ID: IPC2961-01 (Outfall 001 - Water)										
Reporting Units: ug/l										
Copper	EPA 200.8	6C29141	0.49	2.0	3.0	1	03/29/06	03/30/06	*	
Lead	EPA 200.8	6C29141	0.13	1.0	0.91	1	03/29/06	03/30/06	↓	J
Mercury	EPA 245.1	6C30065	0.050	0.20	ND	1	03/30/06	03/30/06	↓	

*Analysis not validated

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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

IPC2961 <Page 5 of 24>



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 001

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC2961

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC2961
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: April 11, 2006

The samples listed in Table 1 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)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 001	IPC2961-01	Water	624
Trip Blank	IPC2961-02	Water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C, at 4°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved. Information regarding lack of headspace in the VOA vials was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The preserved water samples were analyzed for all target compounds within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 624. No qualifications were required.

2.3 CALIBRATION

One initial calibration was associated with the sample analyses, dated 03/23/06. The average RRFs were ≥0.05, and the %RSDs were ≤35% or r^2 values ≥0.995 for all target compounds listed on the sample result summary forms. The continuing calibration associated with the sample analyses was dated 03/30/06. The %Ds exceeded the QC limit of ≤20% for 1,1-dichloroethane and carbon tetrachloride. Nondetect results for both compounds were qualified as estimated, "UJ," in sample Outfall 001. Sample Trip Blank was a field QC sample and required no qualification for the %D outliers. No further qualifications were required.

2.4 BLANKS

One method blank (6C30004-BLK1) was analyzed with this SDG. Benzene was detected between the MDL and the reporting limit at a concentration of 0.34 µg/L; however, benzene was not detected in either sample of this SDG. No other target compounds were detected above the

MDLs in the method blank. Review of the method blank raw data indicated no false positives or negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6C30004-BS1) was analyzed with this SDG. All recoveries were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the site sample in this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

2.8 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:

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 001. No target compounds were detected in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The internal standard areas were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compounds by EPA Method 624. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



DATA VALIDATION REPORT

**NPDES Sampling
Outfall 001**

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC2961

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPC2961
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 13, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC^x *Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *USEPA Methods for Chemical Analysis of Water and Wastes Methods 120.1, 180.1, and 350.2*, and validation guidelines outlined in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 001	IPC2961-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. All analyses were performed within the method specified holding times. No qualifications were required.

2.2 CALIBRATION

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, the ammonia LCS result was compared to the calibration control limits. As the ammonia LCS recovery was above the CCV control limit, ammonia detected in Outfall 001 was qualified as estimated, "J." No further qualifications were required.

2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported ammonia LCS recovery was within the laboratory-established control limits. LCS samples are not applicable to the turbidity and specific conductivity analyses. No qualifications were required.

2.5 LABORATORY DUPLICATES

Laboratory duplicate analyses were performed for conductivity only. The RPD was within the laboratory-established control limit of $\leq 5\%$. No qualifications were required.

2.6 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Evaluation of the ammonia method accuracy was based on the LCS result. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IPC2961

Sampled: 03/29/06

Received: 03/29/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2961-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C31112	0.30	0.50	0.56	1	03/31/06	03/31/06	J R
Biochemical Oxygen Demand	EPA 405.1	6C29138	0.59	2.0	1.3	1	03/29/06	04/03/06	J J
Chloride	EPA 300.0	6C29052	0.26	0.50	28	1	03/29/06	03/29/06	
Nitrate/Nitrite-N	EPA 300.0	6C29052	0.072	0.26	3.1	1	03/29/06	03/29/06	
Oil & Grease	EPA 413.1	6C30048	0.89	4.7	ND	1	03/30/06	03/30/06	
Sulfate	EPA 300.0	6C29052	0.36	1.0	78	2	03/29/06	03/29/06	
Surfactants (MBAS)	SM5540-C	6C29127	0.044	0.10	0.057	1	03/29/06	03/29/06	J
Total Dissolved Solids	SM2540C	6C30063	10	10	300	1	03/30/06	03/30/06	
Total Suspended Solids	EPA 160.2	6C30086	10	10	ND	1	03/30/06	03/30/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C29122	0.10	0.10	ND	1	03/29/06	03/29/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C30113	0.040	1.0	18	1	03/30/06	03/30/06	
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C30093	2.2	5.0	ND	1	03/30/06	03/30/06	*
Perchlorate	EPA 314.0	6C30069	0.80	4.0	ND	1	03/30/06	03/30/06	*
Sample ID: IPC2961-01 (Outfall 001 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C30062	1.0	1.0	500	1	03/30/06	03/30/06	

* Analysis not validated

LEVEL IV

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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APPENDIX G

Section 73

Outfall 002, March 07, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project: Routine Outfall 002

Sampled: 03/07/06
Received: 03/07/06
Issued: 03/24/06 10:35

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IPC0795-01	Outfall 002	Water
IPC0795-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

CORRECTIVE ACTION REPORT

Department: Extractions

Method: EPA 625

QC Batch: 6C12001

Date: 03/21/2006

Matrix: Water

Identification and Definition of Problem:

The percent recovery for several compounds and all surrogates in the LCS were below laboratory acceptance limits.

Determination of the Cause of the Problem:

A definitive cause for the QC failure has not been determined.

Corrective Action Taken:

All results reported for these compounds in the LCS are potentially biased low and can be considered estimates only.

Quality Assurance Approval:

Dave Dawes

Date: 03/23/2006 05:34 PM

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



Del Mar Analytical

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC0795	Sampled: 03/07/06 Received: 03/07/06
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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: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: ug/l									
Benzene	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	
Carbon tetrachloride	EPA 624	6C09004	0.28	5.0	ND	1	03/09/06	03/09/06	
Chloroform	EPA 624	6C09004	0.33	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethane	EPA 624	6C09004	0.27	2.0	ND	1	03/09/06	03/09/06	
1,2-Dichloroethane	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethene	EPA 624	6C09004	0.42	3.0	ND	1	03/09/06	03/09/06	
Ethylbenzene	EPA 624	6C09004	0.25	2.0	ND	1	03/09/06	03/09/06	
Tetrachloroethene	EPA 624	6C09004	0.32	2.0	ND	1	03/09/06	03/09/06	
Toluene	EPA 624	6C09004	0.36	2.0	ND	1	03/09/06	03/09/06	
1,1,1-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
1,1,2-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
Trichloroethene	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Trichlorofluoromethane	EPA 624	6C09004	0.34	5.0	ND	1	03/09/06	03/09/06	
Vinyl chloride	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Xylenes, Total	EPA 624	6C09004	0.90	4.0	ND	1	03/09/06	03/09/06	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					115 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					107 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					109 %				
Sample ID: IPC0795-02 (Trip Blank - Water)					Sampled: 03/07/06				
Reporting Units: ug/l									
Benzene	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	
Carbon tetrachloride	EPA 624	6C09004	0.28	5.0	ND	1	03/09/06	03/09/06	
Chloroform	EPA 624	6C09004	0.33	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethane	EPA 624	6C09004	0.27	2.0	ND	1	03/09/06	03/09/06	
1,2-Dichloroethane	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethene	EPA 624	6C09004	0.42	3.0	ND	1	03/09/06	03/09/06	
Ethylbenzene	EPA 624	6C09004	0.25	2.0	ND	1	03/09/06	03/09/06	
Tetrachloroethene	EPA 624	6C09004	0.32	2.0	ND	1	03/09/06	03/09/06	
Toluene	EPA 624	6C09004	0.36	2.0	ND	1	03/09/06	03/09/06	
1,1,1-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
1,1,2-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
Trichloroethene	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Trichlorofluoromethane	EPA 624	6C09004	0.34	5.0	ND	1	03/09/06	03/09/06	
Vinyl chloride	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Xylenes, Total	EPA 624	6C09004	0.90	4.0	ND	1	03/09/06	03/09/06	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					117 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					110 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					110 %				

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC0795	Sampled: 03/07/06 Received: 03/07/06
--	---	---

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: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	6C12001	1.0	4.7	ND	0.943	03/12/06	03/16/06	
2,4-Dinitrotoluene	EPA 625	6C12001	0.22	8.5	ND	0.943	03/12/06	03/16/06	
N-Nitrosodimethylamine	EPA 625	6C12001	0.21	7.5	ND	0.943	03/12/06	03/16/06	
Pentachlorophenol	EPA 625	6C12001	0.74	7.5	ND	0.943	03/12/06	03/16/06	L2
2,4,6-Trichlorophenol	EPA 625	6C12001	0.094	5.7	ND	0.943	03/12/06	03/16/06	L2
<i>Surrogate: 2-Fluorophenol (30-120%)</i>					71 %				
<i>Surrogate: Phenol-d6 (35-120%)</i>					71 %				
<i>Surrogate: 2,4,6-Tribromophenol (45-120%)</i>					70 %				
<i>Surrogate: Nitrobenzene-d5 (45-120%)</i>					75 %				
<i>Surrogate: 2-Fluorobiphenyl (45-120%)</i>					64 %				
<i>Surrogate: Terphenyl-d14 (45-120%)</i>					72 %				

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 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC0795	Sampled: 03/07/06 Received: 03/07/06
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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0795-01 (Outfall 002 - Water) - cont.					Sampled: 03/07/06				
Reporting Units: ug/l									
alpha-BHC	EPA 608	6C09044	0.00095	0.0095	ND	0.952	03/09/06	03/09/06	
Surrogate: Decachlorobiphenyl (45-120%)					80 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					77 %				

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0795-01 (Outfall 002 - Water) - cont.					Sampled: 03/07/06				
Reporting Units: ug/l									
Copper	EPA 200.8	6C07144	0.25	2.0	1.8	1	03/07/06	03/08/06	J
Lead	EPA 200.8	6C07144	0.040	1.0	0.091	1	03/07/06	03/08/06	J
Mercury	EPA 245.1	6C08072	0.050	0.20	0.074	1	03/08/06	03/08/06	J

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0795-01 (Outfall 002 - Water) - cont.					Sampled: 03/07/06				
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C13117	0.30	0.50	1.1	1	03/13/06	03/13/06	
Biochemical Oxygen Demand	EPA 405.1	6C08128	0.59	2.0	ND	1	03/08/06	03/13/06	
Chloride	EPA 300.0	6C07127	1.5	5.0	38	10	03/07/06	03/08/06	
Nitrate/Nitrite-N	EPA 300.0	6C07127	0.080	0.15	ND	1	03/07/06	03/08/06	
Oil & Grease	EPA 413.1	6C08046	0.89	4.7	ND	1	03/08/06	03/08/06	
Sulfate	EPA 300.0	6C07127	4.5	5.0	160	10	03/07/06	03/08/06	
Surfactants (MBAS)	SM5540-C	6C07129	0.044	0.10	0.090	1	03/07/06	03/07/06	J
Total Dissolved Solids	SM2540C	6C11037	10	10	490	1	03/11/06	03/11/06	
Total Suspended Solids	EPA 160.2	6C09147	10	10	ND	1	03/09/06	03/09/06	
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C07110	0.10	0.10	ND	1	03/07/06	03/07/06	
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: NTU									
Turbidity	EPA 180.1	6C09070	0.040	1.0	0.75	1	03/09/06	03/09/06	J
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C07146	2.2	5.0	2.6	1	03/07/06	03/08/06	J, B
Perchlorate	EPA 314.0	6C10128	0.80	4.0	ND	1	03/10/06	03/11/06	
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C11036	1.0	1.0	830	1	03/11/06	03/11/06	

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 Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (In days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 002 (IPC0795-01) - Water					
EPA 160.5	2	03/07/2006 11:35	03/07/2006 18:25	03/07/2006 19:30	03/07/2006 20:30
EPA 180.1	2	03/07/2006 11:35	03/07/2006 18:25	03/09/2006 07:00	03/09/2006 07:30
EPA 300.0	2	03/07/2006 11:35	03/07/2006 18:25	03/07/2006 20:15	03/08/2006 02:41
EPA 405.1	2	03/07/2006 11:35	03/07/2006 18:25	03/08/2006 18:00	03/13/2006 22:30
SM5540-C	2	03/07/2006 11:35	03/07/2006 18:25	03/07/2006 21:30	03/07/2006 22:12

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C09004 Extracted: 03/09/06											
Blank Analyzed: 03/09/2006 (6C09004-BLK1)											
Benzene	ND	2.0	0.28	ug/l							
Carbon tetrachloride	ND	5.0	0.28	ug/l							
Chloroform	ND	2.0	0.33	ug/l							
1,1-Dichloroethane	ND	2.0	0.27	ug/l							
1,2-Dichloroethane	ND	2.0	0.28	ug/l							
1,1-Dichloroethene	ND	3.0	0.42	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Tetrachloroethene	ND	2.0	0.32	ug/l							
Toluene	ND	2.0	0.36	ug/l							
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
Trichloroethene	ND	5.0	0.26	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Vinyl chloride	ND	5.0	0.26	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Surrogate: Dibromofluoromethane	29.0			ug/l	25.0		116	80-120			
Surrogate: Toluene-d8	27.1			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	27.0			ug/l	25.0		108	80-120			
LCS Analyzed: 03/09/2006 (6C09004-BS1)											
Benzene	25.0	2.0	0.28	ug/l	25.0		100	65-120			
Carbon tetrachloride	26.2	5.0	0.28	ug/l	25.0		105	65-140			
Chloroform	26.1	2.0	0.33	ug/l	25.0		104	65-130			
1,1-Dichloroethane	26.1	2.0	0.27	ug/l	25.0		104	65-130			
1,2-Dichloroethane	26.8	2.0	0.28	ug/l	25.0		107	60-140			
1,1-Dichloroethene	26.5	3.0	0.42	ug/l	25.0		106	70-130			
Ethylbenzene	25.5	2.0	0.25	ug/l	25.0		102	70-125			
Tetrachloroethene	26.6	2.0	0.32	ug/l	25.0		106	65-125			
Toluene	25.4	2.0	0.36	ug/l	25.0		102	70-125			
1,1,1-Trichloroethane	26.3	2.0	0.30	ug/l	25.0		105	65-135			
1,1,2-Trichloroethane	26.0	2.0	0.30	ug/l	25.0		104	65-125			
Trichloroethene	25.3	5.0	0.26	ug/l	25.0		101	70-125			
Trichlorofluoromethane	25.4	5.0	0.34	ug/l	25.0		102	60-140			
Vinyl chloride	24.3	5.0	0.26	ug/l	25.0		97	50-130			
Surrogate: Dibromofluoromethane	28.3			ug/l	25.0		113	80-120			
Surrogate: Toluene-d8	27.5			ug/l	25.0		110	80-120			

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Table with columns: Analyte, Result, Reporting Limit, MDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Data Qualifiers. Includes sections for Batch: 6C09004, LCS Analyzed: 03/09/2006, Matrix Spike Analyzed: 03/09/2006, and Matrix Spike Dup Analyzed: 03/09/2006.

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC0795	Sampled: 03/07/06 Received: 03/07/06
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C09004 Extracted: 03/09/06											
Matrix Spike Dup Analyzed: 03/09/2006 (6C09004-MSD1)						Source: IPC0267-10					
Surrogate: Dibromofluoromethane	28.6			ug/l	25.0		114	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	27.6			ug/l	25.0		110	80-120			

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MWH-Pasadena/Boeing
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 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C12001 Extracted: 03/12/06											
Blank Analyzed: 03/16/2006 (6C12001-BLK1)											
Bis(2-ethylhexyl)phthalate	ND	5.0	1.7	ug/l							
2,4-Dinitrotoluene	ND	9.0	0.20	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.10	ug/l							
Pentachlorophenol	ND	8.0	0.10	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l							
Surrogate: 2-Fluorophenol	12.6			ug/l	20.0		63	30-120			
Surrogate: Phenol-d6	12.8			ug/l	20.0		64	35-120			
Surrogate: 2,4,6-Tribromophenol	13.1			ug/l	20.0		66	45-120			
Surrogate: Nitrobenzene-d5	7.32			ug/l	10.0		73	45-120			
Surrogate: 2-Fluorobiphenyl	6.30			ug/l	10.0		63	45-120			
Surrogate: Terphenyl-d14	7.32			ug/l	10.0		73	45-120			
LCS Analyzed: 03/16/2006 (6C12001-BS1)											
Bis(2-ethylhexyl)phthalate	10.1	5.0	1.7	ug/l	10.0		101	60-130			
2,4-Dinitrotoluene	8.38	9.0	0.20	ug/l	10.0		84	60-120			J
N-Nitrosodimethylamine	6.48	8.0	0.10	ug/l	10.0		65	40-120			J
Pentachlorophenol	0.100	8.0	0.10	ug/l	10.0		1	50-120			L2, J
2,4,6-Trichlorophenol	0.200	6.0	0.10	ug/l	10.0		2	60-120			L2, J
Surrogate: 2-Fluorophenol	1.54			ug/l	20.0		8	30-120			Z6
Surrogate: Phenol-d6	5.82			ug/l	20.0		29	35-120			Z6
Surrogate: 2,4,6-Tribromophenol	1.16			ug/l	20.0		6	45-120			Z6
Surrogate: Nitrobenzene-d5	7.26			ug/l	10.0		73	45-120			
Surrogate: 2-Fluorobiphenyl	6.56			ug/l	10.0		66	45-120			
Surrogate: Terphenyl-d14	7.20			ug/l	10.0		72	45-120			
Matrix Spike Analyzed: 03/16/2006 (6C12001-MS1) Source: IPC0588-06											
Bis(2-ethylhexyl)phthalate	10.4	4.8	1.0	ug/l	9.52	ND	109	60-130			
2,4-Dinitrotoluene	7.96	8.6	0.22	ug/l	9.52	ND	84	60-120			J
N-Nitrosodimethylamine	5.87	7.6	0.21	ug/l	9.52	ND	62	40-120			J
Pentachlorophenol	8.13	7.6	0.74	ug/l	9.52	ND	85	45-130			
2,4,6-Trichlorophenol	8.23	5.7	0.095	ug/l	9.52	ND	86	60-120			
Surrogate: 2-Fluorophenol	13.4			ug/l	19.0		71	30-120			
Surrogate: Phenol-d6	13.7			ug/l	19.0		72	35-120			
Surrogate: 2,4,6-Tribromophenol	13.1			ug/l	19.0		69	45-120			
Surrogate: Nitrobenzene-d5	6.99			ug/l	9.52		73	45-120			
Surrogate: 2-Fluorobiphenyl	6.27			ug/l	9.52		66	45-120			

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C12001 Extracted: 03/12/06											
Matrix Spike Analyzed: 03/16/2006 (6C12001-MS1)						Source: IPC0588-06					
Surrogate: Terphenyl-d14	6.80			ug/l	9.52		71	45-120			
Matrix Spike Dup Analyzed: 03/16/2006 (6C12001-MSD1)						Source: IPC0588-06					
Bis(2-ethylhexyl)phthalate	10.0	4.9	1.1	ug/l	9.71	ND	103	60-130	4	20	
2,4-Dinitrotoluene	7.73	8.7	0.22	ug/l	9.71	ND	80	60-120	3	25	J
N-Nitrosodimethylamine	5.86	7.8	0.21	ug/l	9.71	ND	60	40-120	0	20	J
Pentachlorophenol	ND	7.8	0.76	ug/l	9.71	ND		45-130		25	M8
2,4,6-Trichlorophenol	0.369	5.8	0.097	ug/l	9.71	ND	4	60-120	183	20	M8, R-2, J
Surrogate: 2-Fluorophenol	2.97			ug/l	19.4		15	30-120			Z6
Surrogate: Phenol-d6	8.00			ug/l	19.4		41	35-120			
Surrogate: 2,4,6-Tribromophenol	2.66			ug/l	19.4		14	45-120			Z6
Surrogate: Nitrobenzene-d5	6.43			ug/l	9.71		66	45-120			
Surrogate: 2-Fluorobiphenyl	5.73			ug/l	9.71		59	45-120			
Surrogate: Terphenyl-d14	6.58			ug/l	9.71		68	45-120			

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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C09044 Extracted: 03/09/06											
Blank Analyzed: 03/09/2006 (6C09044-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.386			ug/l	0.500		77	45-120			
Surrogate: Tetrachloro-m-xylene	0.358			ug/l	0.500		72	35-115			
LCS Analyzed: 03/09/2006 (6C09044-BS1)											
alpha-BHC	0.468	0.010	0.0010	ug/l	0.500		94	45-120			M-NR1
Surrogate: Decachlorobiphenyl	0.435			ug/l	0.500		87	45-120			
Surrogate: Tetrachloro-m-xylene	0.367			ug/l	0.500		73	35-115			
LCS Dup Analyzed: 03/09/2006 (6C09044-BSD1)											
alpha-BHC	0.453	0.010	0.0010	ug/l	0.500		91	45-120	3	30	
Surrogate: Decachlorobiphenyl	0.409			ug/l	0.500		82	45-120			
Surrogate: Tetrachloro-m-xylene	0.366			ug/l	0.500		73	35-115			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C07144 Extracted: 03/07/06											
Blank Analyzed: 03/08/2006 (6C07144-BLK1)											
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/08/2006 (6C07144-BS1)											
Copper	84.9	2.0	0.25	ug/l	80.0		106	85-115			
Lead	85.0	1.0	0.040	ug/l	80.0		106	85-115			
Matrix Spike Analyzed: 03/08/2006 (6C07144-MS1) Source: IPC0795-01											
Copper	80.8	2.0	0.25	ug/l	80.0	1.8	99	70-130			
Lead	87.0	1.0	0.040	ug/l	80.0	0.091	109	70-130			
Matrix Spike Dup Analyzed: 03/08/2006 (6C07144-MSD1) Source: IPC0795-01											
Copper	82.4	2.0	0.25	ug/l	80.0	1.8	101	70-130	2	20	
Lead	85.3	1.0	0.040	ug/l	80.0	0.091	107	70-130	2	20	
Batch: 6C08072 Extracted: 03/08/06											
Blank Analyzed: 03/08/2006 (6C08072-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/08/2006 (6C08072-BS1)											
Mercury	8.08	0.20	0.050	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 03/08/2006 (6C08072-MS1) Source: IPC0532-01											
Mercury	8.40	0.20	0.050	ug/l	8.00	0.074	104	70-130			
Matrix Spike Dup Analyzed: 03/08/2006 (6C08072-MSD1) Source: IPC0532-01											
Mercury	8.41	0.20	0.050	ug/l	8.00	0.074	104	70-130	0	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C07127 Extracted: 03/07/06											
Blank Analyzed: 03/07/2006 (6C07127-BLK1)											
Chloride	0.162	0.50	0.15	mg/l							J
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/07/2006 (6C07127-BS1)											
Chloride	4.68	0.50	0.15	mg/l	5.00		94	90-110			
Sulfate	9.43	0.50	0.45	mg/l	10.0		94	90-110			
Matrix Spike Analyzed: 03/07/2006 (6C07127-MS1) Source: IPC0764-01											
Chloride	30.0	1.0	0.30	mg/l	5.00	25	100	80-120			
Sulfate	32.9	1.0	0.90	mg/l	10.0	23	99	80-120			
Matrix Spike Dup Analyzed: 03/07/2006 (6C07127-MSD1) Source: IPC0764-01											
Chloride	29.9	1.0	0.30	mg/l	5.00	25	98	80-120	0	20	
Sulfate	32.9	1.0	0.90	mg/l	10.0	23	99	80-120	0	20	
Batch: 6C07129 Extracted: 03/07/06											
Blank Analyzed: 03/07/2006 (6C07129-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 03/07/2006 (6C07129-BS1)											
Surfactants (MBAS)	0.246	0.10	0.044	mg/l	0.250		98	90-110			
Matrix Spike Analyzed: 03/07/2006 (6C07129-MS1) Source: IPC0748-01											
Surfactants (MBAS)	0.324	0.10	0.044	mg/l	0.250	ND	130	50-125			MI

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C07129 Extracted: 03/07/06											
Matrix Spike Dup Analyzed: 03/07/2006 (6C07129-MSD1)					Source: IPC0748-01						
Surfactants (MBAS)	0.290	0.10	0.044	mg/l	0.250	ND	116	50-125	11	20	
Batch: 6C07146 Extracted: 03/07/06											
Blank Analyzed: 03/08/2006 (6C07146-BLK1)											
Total Cyanide	2.38	5.0	2.2	ug/l							J
LCS Analyzed: 03/08/2006 (6C07146-BS1)											
Total Cyanide	203	5.0	2.2	ug/l	200		102	90-110			
Matrix Spike Analyzed: 03/08/2006 (6C07146-MS1)					Source: IPC0543-02						
Total Cyanide	206	5.0	2.2	ug/l	200	3.3	101	70-115			
Matrix Spike Dup Analyzed: 03/08/2006 (6C07146-MSD1)					Source: IPC0543-02						
Total Cyanide	203	5.0	2.2	ug/l	200	3.3	100	70-115	1	15	
Batch: 6C08046 Extracted: 03/08/06											
Blank Analyzed: 03/08/2006 (6C08046-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/08/2006 (6C08046-BS1)											
Oil & Grease	15.7	5.0	0.94	mg/l	20.0		78	65-120			M-NR1
LCS Dup Analyzed: 03/08/2006 (6C08046-BSD1)											
Oil & Grease	16.2	5.0	0.94	mg/l	20.0		81	65-120	3	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C08128 Extracted: 03/08/06											
Blank Analyzed: 03/13/2006 (6C08128-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/13/2006 (6C08128-BS1)											
Biochemical Oxygen Demand	177	100	30	mg/l	198		89	85-115			
LCS Dup Analyzed: 03/13/2006 (6C08128-BSD1)											
Biochemical Oxygen Demand	170	100	30	mg/l	198		86	85-115	4	20	
Batch: 6C09070 Extracted: 03/09/06											
Blank Analyzed: 03/09/2006 (6C09070-BLK1)											
Turbidity	ND	1.0	0.040	NTU							
Duplicate Analyzed: 03/09/2006 (6C09070-DUP1)											
Turbidity	ND	1.0	0.040	NTU		Source: IPC0785-03 ND				20	
Duplicate Analyzed: 03/09/2006 (6C09070-DUP2)											
Turbidity	ND	1.0	0.040	NTU		Source: IPC1005-01 ND				20	
Batch: 6C09147 Extracted: 03/09/06											
Blank Analyzed: 03/09/2006 (6C09147-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/09/2006 (6C09147-BS1)											
Total Suspended Solids	967	10	10	mg/l	1000		97	85-115			

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC0795	Sampled: 03/07/06 Received: 03/07/06
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C09147 Extracted: 03/09/06											
Duplicate Analyzed: 03/09/2006 (6C09147-DUP1)					Source: IPC0690-01						
Total Suspended Solids	60.0	10	10	mg/l		66			10	10	
Batch: 6C10128 Extracted: 03/10/06											
Blank Analyzed: 03/11/2006 (6C10128-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 03/11/2006 (6C10128-BS1)											
Perchlorate	52.1	4.0	0.80	ug/l	50.0		104	85-115			
Matrix Spike Analyzed: 03/11/2006 (6C10128-MS1)					Source: IPC0825-02						
Perchlorate	50.2	4.0	0.80	ug/l	50.0	1.7	97	80-120			
Matrix Spike Dup Analyzed: 03/11/2006 (6C10128-MSD1)					Source: IPC0825-02						
Perchlorate	50.9	4.0	0.80	ug/l	50.0	1.7	98	80-120	1	20	
Batch: 6C11036 Extracted: 03/11/06											
Duplicate Analyzed: 03/11/2006 (6C11036-DUP1)					Source: IPC0292-01						
Specific Conductance	275	1.0	1.0	umhos/cm		280			2	5	
Batch: 6C11037 Extracted: 03/11/06											
Blank Analyzed: 03/11/2006 (6C11037-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							

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 Michele Chamberlin
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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC0795	Sampled: 03/07/06 Received: 03/07/06
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C11037 Extracted: 03/11/06											
LCS Analyzed: 03/11/2006 (6C11037-BS1)											
Total Dissolved Solids	984	10	10	mg/l	1000		98	90-110			
Duplicate Analyzed: 03/11/2006 (6C11037-DUP1)											
						Source: IPC0651-01					
Total Dissolved Solids	1860	10	10	mg/l		1800			3	10	
Batch: 6C13117 Extracted: 03/13/06											
Blank Analyzed: 03/13/2006 (6C13117-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/13/2006 (6C13117-BS1)											
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0		115	80-115			
Matrix Spike Analyzed: 03/13/2006 (6C13117-MS1)											
						Source: IPC1159-01					
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120			
Matrix Spike Dup Analyzed: 03/13/2006 (6C13117-MSD1)											
						Source: IPC1159-01					
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	ND	112	70-120	3	15	

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 Michele Chamberlin
 Project Manager

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC0795-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	4.7	10.00
IPC0795-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0.00076	0.0095	0.0100
IPC0795-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC0795-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IPC0795-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPC0795-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.5	9.10
IPC0795-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.62	4.7	4.00
IPC0795-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.5	8.10
IPC0795-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.5	8.20
IPC0795-01	BOD	Biochemical Oxygen Demand	mg/l	0.57	2.0	20
IPC0795-01	Chloride - 300.0	Chloride	mg/l	38	5.0	150
IPC0795-01	Copper-200.8	Copper	ug/l	1.80	2.0	7.10
IPC0795-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	2.60	5.0	4.30
IPC0795-01	Lead-200.8	Lead	ug/l	0.091	1.0	2.60
IPC0795-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.090	0.10	0.50
IPC0795-01	Mercury - 245.1	Mercury	ug/l	0.074	0.20	0.20
IPC0795-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.041	0.15	8.00
IPC0795-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPC0795-01	Sulfate-300.0	Sulfate	mg/l	160	5.0	300
IPC0795-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	490	10	950
IPC0795-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC0795-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- L2** Laboratory Control Sample recovery was below method control limits.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M8** The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R** The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.
- R-2** The RPD exceeded the method control limit.
- Z6** Surrogate recovery was below acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06

Received: 03/07/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
SM2540C	Water	X	X
SM5540-C	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC0795-01

Analysis Performed: EDD + Level 4

Samples: IPC0795-01

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager

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200795

Del Mar Analytical Version 02/17/05 CHAIN OF CUSTODY FORM

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Routine Outfall 002		ANALYSIS REQUIRED														Field readings: Temp = 62.6 pH = 7.8																											
Project Manager: Bronwyn Kelly Sampler: <i>Brynn Kelly</i>		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Sample Description		Container Type		# of Cont.		Sampling Date/Time		Preservative		Bottle #		Total Recoverable Metals: Cu, Pb, Hg, X		Settleable Solids		VOCs 624 + xylenes		TCDD (and all congeners)		Oil & Grease (EPA 413.1)		Cyanide (total recoverable)		BOD5(20 degrees C)		Surfactants (MBAS)		C, SO4, NO3+NO2-N, Perchlorate		Turbidity, TDS, TSS, Conductivity		Ammonia-N		Alpha BHC (608)		2,4,6 Trichloropheno, 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)		Comments 24 TAT 24 TAT 24 TAT 24 TAT			
Outfall 002		Poly-1 liter		1		3-7-06 11:35		HNO3		1A		X																																	
Outfall 002-Dup		Poly-1 liter		1				HNO3		1B		X																																	
Outfall 002		Poly-1 liter		1				None		2		X																																	
Outfall 002		VOAs		3				HCl		3A, 3B, 3C																																			
Outfall 002		Glass-Amber		2				None		4A, 4B																																			
Outfall 002		1L Amber		2				HCl		5A, 5B		X																																	
Outfall 002		Poly-500 ml		1				NaOH		6																																			
Outfall 002		Poly-1 liter		1				None		7																																			
Outfall 002		Poly-500 ml		2				None		8A, 8B																																			
Outfall 002		Poly-500 ml		2				None		9A, 9B																																			
Outfall 002		Poly-500 ml		2				None		10A, 10B																																			
Outfall 002		Poly-500 ml		1				H2SO4		11																																			
Outfall 002		1L Amber		2				None		12A, 12B																																			
Outfall 002		1L Amber		2				None		13A, 13B																																			
Trip Blank		VOAs		3				HCl		14A, 14B, 14C		X																																	
Relinquished By: <i>Brynn Kelly</i>		3-7-06		Date/Time: 10:5		Received By: <i>Juniper</i>		3-7-06		Date/Time: 16:15																																			
Relinquished By: <i>Juniper</i>		3-7-06		Date/Time: 16:15		Received By: <i>Juniper</i>		3-7-06		Date/Time: 16:15																																			
Relinquished By: <i>Juniper</i>		3-7-06		Date/Time: 16:15		Received By: <i>Juniper</i>		3-7-06		Date/Time: 16:15																																			

2 weeks
3/10/06

2



March 15, 2006

Alta Project I.D.: 27385

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 09, 2006 under your Project Name "IPC0795". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

A handwritten signature in cursive script that reads "Martha M. Maier".

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/9/2006

Alta Lab. ID

Client Sample ID

27385-001

IPC0795-01

SECTION II

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7826	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	12-Mar-06	Date Analyzed DB-5:	14-Mar-06
				Date Analyzed DB-225:	NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.821		88.6	25 - 164
1,2,3,7,8-PeCDD	ND	0.736		82.7	25 - 181
1,2,3,4,7,8-HxCDD	ND	1.72		87.0	32 - 141
1,2,3,6,7,8-HxCDD	ND	1.70		82.6	28 - 130
1,2,3,7,8,9-HxCDD	ND	1.62		76.9	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	1.26		49.8	17 - 157
OCDD	ND	3.35		84.7	24 - 169
2,3,7,8-TCDF	ND	0.714		78.6	24 - 185
1,2,3,7,8-PeCDF	ND	0.810		79.7	21 - 178
2,3,4,7,8-PeCDF	ND	0.745		82.5	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.432		84.2	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.408		80.7	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.449		81.6	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.691		62.3	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.631		73.7	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.773		55.0	17 - 157
OCDF	ND	2.72		111	35 - 197
Totals					
Total TCDD	ND	0.821			
Total PeCDD	ND	0.736			
Total HxCDD	ND	1.68			
Total HpCDD	ND	1.26			
Total TCDF	ND	0.714			
Total PeCDF	ND	0.777			
Total HxCDF	ND	0.483			
Total HpCDF	ND	0.699			

Footnotes

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

Analyst: RAS

Approved By: Martha M. Maier 15-Mar-2006 11:39

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	7826	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	12-Mar-06	Date Analyzed DB-5:	14-Mar-06	
				Date Analyzed DB-225:	NA	
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	10.8	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	77.3	25 - 164
1,2,3,7,8-PeCDD	50.0	53.3	35 - 71	13C-1,2,3,7,8-PeCDD	70.9	25 - 181
1,2,3,4,7,8-HxCDD	50.0	53.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	70.9	32 - 141
1,2,3,6,7,8-HxCDD	50.0	54.2	38 - 67	13C-1,2,3,6,7,8-HxCDD	69.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	52.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	61.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	56.3	35 - 70	13C-OCDD	42.3	17 - 157
OCDD	100	112	78 - 144	13C-2,3,7,8-TCDF	77.2	24 - 169
2,3,7,8-TCDF	10.0	10.5	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	67.8	24 - 185
1,2,3,7,8-PeCDF	50.0	53.3	40 - 67	13C-2,3,4,7,8-PeCDF	70.4	21 - 178
2,3,4,7,8-PeCDF	50.0	53.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	68.0	26 - 152
1,2,3,4,7,8-HxCDF	50.0	54.1	36 - 67	13C-1,2,3,6,7,8-HxCDF	68.6	26 - 123
1,2,3,6,7,8-HxCDF	50.0	53.8	42 - 65	13C-2,3,4,6,7,8-HxCDF	68.9	28 - 136
2,3,4,6,7,8-HxCDF	50.0	54.4	35 - 78	13C-1,2,3,7,8,9-HxCDF	68.1	29 - 147
1,2,3,7,8,9-HxCDF	50.0	54.3	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	50.3	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	55.4	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	59.7	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	56.2	39 - 69	13C-OCDF	47.5	17 - 157
OCDF	100	110	63 - 170	CRS 37Cl-2,3,7,8-TCDD	108	35 - 197

Analyst: RAS

Approved By: Martha M. Maier 15-Mar-2006 11:39

EPA Method 1613

Sample ID: IPC0795-01

Client Data
 Name: Del Mar Analytical, Irvine
 Project: IPC0795
 Date Collected: 7-Mar-06
 Time Collected: 1135

Sample Data
 Matrix: Aqueous
 Sample Size: 1.02 L

Laboratory Data
 Lab Sample: 27385-001
 QC Batch No.: 7826
 Date Analyzed DB-5: 14-Mar-06
 Date Received: 9-Mar-06
 Date Extracted: 12-Mar-06
 Date Analyzed DB-225: NA

Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UC ^d	Qualifiers
2,3,7,8-TCDD	ND	0.756			13C-2,3,7,8-TCDD	80.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.800			13C-1,2,3,7,8-PeCDD	76.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.19			13C-1,2,3,4,7,8-HxCDD	78.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.08			13C-1,2,3,6,7,8-HxCDD	79.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.06			13C-1,2,3,4,6,7,8-HpCDD	70.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	2.26				13C-OCDD	52.4	17 - 157	
OCDD	18.0			J	13C-2,3,7,8-TCDF	79.4	24 - 169	
2,3,7,8-TCDF	ND	0.776		J	13C-1,2,3,7,8-PeCDF	72.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.699			13C-2,3,4,7,8-PeCDF	73.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.633			13C-1,2,3,4,7,8-HxCDF	77.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.289			13C-1,2,3,6,7,8-HxCDF	75.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.281			13C-2,3,4,6,7,8-HxCDF	73.1	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.307			13C-1,2,3,7,8,9-HxCDF	73.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.479			13C-1,2,3,4,6,7,8-HpCDF	62.3	28 - 143	
1,2,3,4,6,7,8,9-HpCDF	ND	0.532			13C-1,2,3,4,7,8,9-HpCDF	67.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.715			13C-OCDF	57.8	17 - 157	
OCDF	ND	3.17			CRS 37C1-2,3,7,8-TCDD	108	35 - 197	

Totals

Total TCDD	ND	0.756						
Total PeCDD	ND	0.800						
Total HxCDD	ND	1.10						
Total HpCDD	2.26							
Total TCDF	ND	0.776						
Total PeCDF	ND	0.665						
Total HxCDF	ND	0.331						
Total HpCDF	ND	1.10						

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

Analyst: RAS
 Approved By: Martha M. Maier
 15-Mar-2006 11:39

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-02
State of Arizona	AZ0639
State of Arkansas, DEQ	05-013-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cookley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4867 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 806, San Diego, CA 92123 Ph (619) 505-8986 Fax (619) 505-9809
 9830 South 51st Street, Suite B-126, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPC0795

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone : (916) 933-1640 Fax: (916) 673-0106 <div style="text-align: right; font-size: 1.5em;"> 27385 0.4°C </div>

Standard TAT is requested unless specific due date is requested => Due Date: _____ Initials: _____

Analysis	Expiration	Comments
Sample ID: IPC0795-01 Water	Sampled: 03/07/06 11:35	Instant Notification
1613-Dioxin-HR-Alta	03/14/06 11:35	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/04/06 11:35	Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC0795-01G)		
1 L Amber (IPC0795-01H)		

SAMPLE INTEGRITY:

All containers intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Sample labels/COC agree: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No
Custody Seals Present: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Preserved Properly: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received at (temp): _____

Released By: Col-U Date: _____ Time: _____ Received By: Fed-Ex Date: 3-8-06 Time: _____

Released By: _____ Date: _____ Time: _____ Received By: Bilina G. Benedict Date: 3/9/06 Time: 0900



17461 Dorian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Conley Dr., Suite A, Corona, CA 92724 Ph (909) 370-4867 Fax (909) 370-7048
 9484 Cheseapeake Drive, Suite 605, San Diego, CA 92123 Ph (619) 505-0266 Fax (619) 505-9629
 9530 South Star Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0003 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-4521

SUBCONTRACT ORDER - PROJECT # IPC0795

<p>SENDING LABORATORY: Del Mar Analytical, Irvine 17461 Dorian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin</p>	<p>RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106</p> <p style="font-size: 2em; color: red; transform: rotate(-15deg); opacity: 0.5;">Revised 27385 0.4°C</p>
--	---

Standard TAT is requested unless specific due date is requested => Due Date: 3/21/06 Initials: MC

Analysis	Expiration	Comments
Sample ID: IPC0795-01 Water	Sampled: 03/07/06 11:35	Instant Notification
1613-Dioxin-HR-Alta	03/14/06 11:35	Flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/04/06 11:35	Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC0795-01G)		
1 L Amber (IPC0795-01E)		

SAMPLE INTEGRITY:

All containers intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Sample labels/COC agree: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No
Custody Seals Present: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Preserved Properly: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received at (temp): _____

Released By: Cal. CL Date: _____ Time: _____ Received By: Bettina G. Benedict Date: 3/9/06 Time: 0900

Released By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27385

Samples Arrival:	Date/Time 3/9/06 0900	Initials: WLB	Location: WR-2			
Logged In:	Date/Time 3/9/06 0930	Initials: WLB	Location: WR-2			
Delivered By:	<u>FedEx</u>	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice	None		
Temp °C	0.4°C	Time:	0910	Thermometer ID:	DT-20	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7913 9986 2968		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			<u>None</u>
Shipping Container	Alta	<u>Client</u>	Retain
			<u>Return</u>
			Dispose

Comments:

APPENDIX G

Section 74

Outfall 002, March 07, 2006

AMEC Data Validation Reports

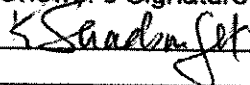
CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4DF54
 Task Order 1261.001D.01
 SDG No. IPC0795

No. of Analyses 1

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxin/Furan by Method 1613

Date: April 10, 2006
 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.,	Detects below the laboratory lower calibration level were qualified as estimated.
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	
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

NPDES Monitoring Program
Routine Outfall 002

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC0795

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001D.01
Sample Delivery Group: IPC0795
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 10, 2006

The samples listed in Table 1 were 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 for Chlorinated Dioxin/Furan Data Review (8/02)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 002	IPC0795-01	27385-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the sample was couriered directly to Del Mar Analytical-Irvine, custody seals were not required. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

2.1.3 Holding Times

The sample was extracted and analyzed within one year of collection. No qualifications were required.

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 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 (see section 2.3.2). 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%. No qualifications were required.

2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 02/02/2006 on instrument VG-8. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were 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 QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 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. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

2.4 BLANKS

One method blank (0-7826-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7826-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were 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. No further qualifications were required.

EPA Method 1613

Sample ID: **IPC0795-01 Outfall 002**

Client Data			Sample Data			Laboratory Data		
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27385-001	Date Received:	9-Mar-06	
Project:	IPC0795	Sample Size:	1.02 L	QC Batch No.:	7826	Date Extracted:	12-Mar-06	
Date Collected:	7-Mar-06			Date Analyzed DB-5:	14-Mar-06	Date Analyzed DB-225:	NA	
Time Collected:	1135							
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.756			13C-2,3,7,8-TCDD	80.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.800			13C-1,2,3,7,8-PeCDD	76.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.19			13C-1,2,3,4,7,8-HxCDD	78.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.08			13C-1,2,3,6,7,8-HxCDD	79.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.06			13C-1,2,3,4,6,7,8-HpCDD	70.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	2.26			J	13C-OCDD	52.4	17 - 157	
OCDD	18.0			J	13C-2,3,7,8-TCDF	79.4	24 - 169	
2,3,7,8-TCDF	ND	0.776			13C-1,2,3,7,8-PeCDF	72.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.699			13C-2,3,4,7,8-PeCDF	73.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.633			13C-1,2,3,4,7,8-HxCDF	77.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.289			13C-1,2,3,6,7,8-HxCDF	75.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.281			13C-2,3,4,6,7,8-HxCDF	73.1	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.307			13C-1,2,3,7,8,9-HxCDF	73.5	29 - 149	
1,2,3,7,8,9-HxCDF	ND	0.479			13C-1,2,3,4,6,7,8-HpCDF	62.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.532			13C-1,2,3,4,7,8,9-HpCDF	67.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.715			13C-OCDF	57.8	17 - 157	
OCDF	ND	3.17			CRS 3701-2,3,7,8-TCDD	108	35 - 197	
Totals								
Total TCDD	ND	0.756						
Total PeCDD	ND	0.800						
Total HxCDD	ND	1.10						
Total HpCDD	2.26							
Total TCDF	ND	0.776						
Total PeCDF	ND	0.665						
Total HxCDF	ND	0.331						
Total HpCDF	ND	1.10						

Footnotes

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

Analyst: RAS
 Approved By: Martha M. Maier
 Date: 15-Mar-2006 11:39

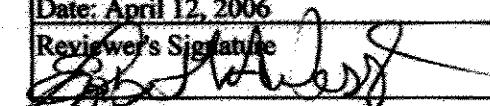
Level IV

Project 27385

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID B4V044
 Task Order 1261.001D.01
 SDG No. IPC0795

No. of Analyses 12
 Date: April 12, 2006
 Reviewer's Signature 

Laboratory Del Mar - Irvine
 Reviewer E. Wessling
 Analysis/Method Volatiles

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	_____
COMMENTS ^b	Acceptable as reviewed

^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

**NPDES Monitoring Program
Outfall 002**

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC0795

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC0795
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 12, 2006

The samples listed in Table 1 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)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 002	IPC0795-01	Water	624
Trip Blank	IPC0795-02	Water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved. Information regarding lack of headspace in the VOA vials was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The water samples were analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The BFB tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 624. No qualifications were required.

2.3 CALIBRATION

An initial calibration dated 2/28/2006 was associated with the sample analyses. The average RRFs were ≥0.05 and the %RSDs were ≤35% for all target compounds. One continuing calibration was associated with the sample analyses, dated 03/09/06. The RRFs were ≥0.05 and all %Ds were within the QC limit of ≤20%.

A representative number of average RRFs and %RSDs for the initial calibration and RRFs and %Ds for the continuing calibration were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.4 BLANKS

One method blank (6C09004-BLK1) was analyzed with this SDG. No target compounds were detected above the MDLs in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6C09004-BS1) was analyzed with this SDG. All recoveries were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were performed in association with the site samples in this SDG. Method accuracy was evaluated based upon the surrogate and blank spike recoveries. No qualifications were required.

2.8 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:

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 002. No target compounds were detected in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

DATA VALIDATION REPORT

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standard: -50%/+100% for internal standard areas and ± 30 seconds for retention times. The internal standard areas were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for a short list of volatile target compounds by EPA Method 624. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06
 Received: 03/07/06

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: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: ug/l									
Benzene	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	<i>Hand Analyzed</i> <i>Good Case</i> ↓
Carbon tetrachloride	EPA 624	6C09004	0.28	5.0	ND	1	03/09/06	03/09/06	
Chloroform	EPA 624	6C09004	0.33	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethane	EPA 624	6C09004	0.27	2.0	ND	1	03/09/06	03/09/06	
1,2-Dichloroethane	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethene	EPA 624	6C09004	0.42	3.0	ND	1	03/09/06	03/09/06	
Ethylbenzene	EPA 624	6C09004	0.25	2.0	ND	1	03/09/06	03/09/06	
Tetrachloroethene	EPA 624	6C09004	0.32	2.0	ND	1	03/09/06	03/09/06	
Toluene	EPA 624	6C09004	0.36	2.0	ND	1	03/09/06	03/09/06	
1,1,1-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
1,1,2-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
Trichloroethene	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Trichlorofluoromethane	EPA 624	6C09004	0.34	5.0	ND	1	03/09/06	03/09/06	
Vinyl chloride	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Xylenes, Total	EPA 624	6C09004	0.90	4.0	ND	1	03/09/06	03/09/06	

Surrogate: Dibromofluoromethane (80-120%)
 Surrogate: Toluene-d8 (80-120%)
 Surrogate: 4-Bromofluorobenzene (80-120%)

115 %
 107 %
 109 %

Sample ID: IPC0795-02 (Trip Blank - Water)
 Reporting Units: ug/l

Sampled: 03/07/06

Benzene	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	↓
Carbon tetrachloride	EPA 624	6C09004	0.28	5.0	ND	1	03/09/06	03/09/06	
Chloroform	EPA 624	6C09004	0.33	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethane	EPA 624	6C09004	0.27	2.0	ND	1	03/09/06	03/09/06	
1,2-Dichloroethane	EPA 624	6C09004	0.28	2.0	ND	1	03/09/06	03/09/06	
1,1-Dichloroethene	EPA 624	6C09004	0.42	3.0	ND	1	03/09/06	03/09/06	
Ethylbenzene	EPA 624	6C09004	0.25	2.0	ND	1	03/09/06	03/09/06	
Tetrachloroethene	EPA 624	6C09004	0.32	2.0	ND	1	03/09/06	03/09/06	
Toluene	EPA 624	6C09004	0.36	2.0	ND	1	03/09/06	03/09/06	
1,1,1-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
1,1,2-Trichloroethane	EPA 624	6C09004	0.30	2.0	ND	1	03/09/06	03/09/06	
Trichloroethene	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Trichlorofluoromethane	EPA 624	6C09004	0.34	5.0	ND	1	03/09/06	03/09/06	
Vinyl chloride	EPA 624	6C09004	0.26	5.0	ND	1	03/09/06	03/09/06	
Xylenes, Total	EPA 624	6C09004	0.90	4.0	ND	1	03/09/06	03/09/06	

Surrogate: Dibromofluoromethane (80-120%)
 Surrogate: Toluene-d8 (80-120%)
 Surrogate: 4-Bromofluorobenzene (80-120%)

117 %
 110 %
 110 %

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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IPC0795 <Page 3 of 23>



DATA VALIDATION REPORT

NPDES Sampling
Outfall 002

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC0795

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC0795
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 10, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *USEPA Methods for Chemical Analysis of Water and Wastes Methods 120.1, 180.1, and 350.2*, and validation guidelines outlined in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 002	IPC0795-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. All analyses were performed within the method specified holding times. No qualifications were required.

2.2 CALIBRATION

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, as the LCS recovery was compared to the CCV control limits and was found to be above the calibration control limit at 115%. Ammonia detected in Outfall 002 was qualified as estimated, "J." No further qualifications were required.

2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported ammonia LCS recovery was within the laboratory-established control limits. LCS samples are not applicable to the turbidity and specific conductivity analyses. No qualifications were required.

2.5 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.6 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Evaluation of the ammonia method accuracy was based on the LCS result. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. Turbidity detected below the reporting limit was qualified as estimated, "J," and annotated with "DNQ" in accordance with the NPDES permit. No further qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining defects are used to evaluate the associated sample. The following are findings associated with field QC samples:

2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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MWH-Pasadena/Boeing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC0795

Sampled: 03/07/06
 Received: 03/07/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0795-01 (Outfall 002 - Water) - cont.					Sampled: 03/07/06				
Reporting Units: mg/l									Rev Qual
Ammonia-N (Distilled)	EPA 350.2	6C13117	0.30	0.50	1.1	1	03/13/06	03/13/06	J R
Biochemical Oxygen Demand	EPA 405.1	6C08128	0.59	2.0	ND	1	03/08/06	03/13/06	*
Chloride	EPA 300.0	6C07127	1.5	5.0	38	10	03/07/06	03/08/06	
Nitrate/Nitrite-N	EPA 300.0	6C07127	0.080	0.15	ND	1	03/07/06	03/08/06	
Oil & Grease	EPA 413.1	6C08046	0.89	4.7	ND	1	03/08/06	03/08/06	
Sulfate	EPA 300.0	6C07127	4.5	5.0	160	10	03/07/06	03/08/06	
Surfactants (MBAS)	SM5540-C	6C07129	0.044	0.10	0.090	1	03/07/06	03/07/06	J
Total Dissolved Solids	SM2540C	6C11037	10	10	490	1	03/11/06	03/11/06	
Total Suspended Solids	EPA 160.2	6C09147	10	10	ND	1	03/09/06	03/09/06	
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C07110	0.10	0.10	ND	1	03/07/06	03/07/06	↓
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: NTU									
Turbidity	EPA 180.1	6C09070	0.040	1.0	0.75	1	03/09/06	03/09/06	J J DNC
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C07146	2.2	5.0	2.6	1	03/07/06	03/08/06	* J, B
Perchlorate	EPA 314.0	6C10128	0.80	4.0	ND	1	03/10/06	03/11/06	*
Sample ID: IPC0795-01 (Outfall 002 - Water)					Sampled: 03/07/06				
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C11036	1.0	1.0	830	1	03/11/06	03/11/06	

* Analysis not validated

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 Project Manager

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LEVEL IV

IPC0795 <Page 7 of 23>

APPENDIX G

Section 75

Outfall 002, March 18, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project: Routine Outfall 002

Sampled: 03/18/06
Received: 03/18/06
Issued: 03/28/06 19:20

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IPC2012-01	Outfall 002	Water
IPC2012-02	Trip Blank	Water

Reviewed By:

Michele Chamberlin

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager