


**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

MEC<sup>x</sup>  
 12269 East Vassar Drive  
 Aurora, CO 80014

Package ID: B4VO49  
 Task Order: 1261.001D.01  
 SDG No.: IPC0941

No. of Analyses: 2  
 Date: April 11 2006  
 Reviewer's Signature: 

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

<b>ACTION ITEMS<sup>a</sup></b>	
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	_____
<b>COMMENTS<sup>b</sup></b>	Acceptable as reviewed.
<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. <sup>b</sup> Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



# DATA VALIDATION REPORT

NPDES Monitoring Program  
Alfa Outfall 012

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC0941

Prepared by

MEC<sup>x</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES  
MEC<sup>X</sup> Project Number: 1261.001D.01  
Sample Delivery Group: IPC0941  
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<sup>X</sup> 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	IPC0941-01	Water	624
Trip Blank	IPC0941-02	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 5°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 03/07/06. 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 03/10/06. The %Ds were within the QC limit of  $\leq$ 20% for the target compounds. No qualifications were required.

### 2.4 BLANKS

One method blank (6C10013-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 (6C10013-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 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  $\pm 30$  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 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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MWH-Pasadena/Boeing  
 300 North Lake Avenue, Suite 1200  
 Pasadena, CA 91101  
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPC0941

Sampled: 03/08/06  
 Received: 03/08/06

### PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data	Qualifiers	
<b>Sample ID: IPC0941-01 (Outfall 012 - Water)</b>					<b>Sampled: 03/08/06</b>						
Reporting Units: ug/l											
1,2-Dibromoethane (EDB)	EPA 624	6C10013	0.32	2.0	ND	1	03/10/06	03/10/06	u	<i>Very good quality</i> <i>code</i> ↓	
Methyl-tert-butyl Ether (MTBE)	EPA 624	6C10013	0.32	5.0	ND	1	03/10/06	03/10/06			
1,2,3-Trichloropropane	EPA 624	6C10013	0.40	10	ND	1	03/10/06	03/10/06			
Di-isopropyl Ether (DIPE)	EPA 624	6C10013	0.25	5.0	ND	1	03/10/06	03/10/06			
tert-Butanol (TBA)	EPA 624	6C10013	3.1	25	ND	1	03/10/06	03/10/06			
Surrogate: Dibromofluoromethane (80-120%)					113 %						
Surrogate: Toluene-d8 (80-120%)					106 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					101 %						
<b>Sample ID: IPC0941-02 (Trip Blank - Water)</b>					<b>Sampled: 03/08/06</b>						
Reporting Units: ug/l											
1,2-Dibromoethane (EDB)	EPA 624	6C10013	0.32	2.0	ND	1	03/10/06	03/10/06	u	↓	
Methyl-tert-butyl Ether (MTBE)	EPA 624	6C10013	0.32	5.0	ND	1	03/10/06	03/10/06			
1,2,3-Trichloropropane	EPA 624	6C10013	0.40	10	ND	1	03/10/06	03/10/06			
Di-isopropyl Ether (DIPE)	EPA 624	6C10013	0.25	5.0	ND	1	03/10/06	03/10/06			
tert-Butanol (TBA)	EPA 624	6C10013	3.1	25	ND	1	03/10/06	03/10/06			
Surrogate: Dibromofluoromethane (80-120%)					110 %						
Surrogate: Toluene-d8 (80-120%)					100 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					101 %						

Del Mar Analytical - Irvine  
 Michele Chamberlin  
 Project Manager

*Lowel TO*

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**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

MEC<sup>x</sup>  
 12269 East Vassar Drive  
 Aurora, CO 80014

Package ID: B4VO50  
 Task Order: 1261.001D.01  
 SDG No.: IPC0941

No. of Analyses: 1

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

Date: April 11 2006  
 Reviewer's Signature: 

<b>ACTION ITEMS<sup>a</sup></b>	
<b>Case Narrative</b>	_____
<b>Deficiencies</b>	_____
<b>2. Out of Scope Analyses</b>	_____
<b>3. Analyses Not Conducted</b>	_____
<b>4. Missing Hardcopy Deliverables</b>	_____
<b>5. Incorrect Hardcopy Deliverables</b>	_____
<b>6. Deviations from Analysis Protocol, e.g.,</b>	_____
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	_____
<b>COMMENTS<sup>b</sup></b>	Acceptable as reviewed.
<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. <sup>b</sup> 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: IPC0941

Prepared by

MEC<sup>x</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES  
MEC<sup>X</sup> Project Number: 1261.001D.01  
Sample Delivery Group: IPC0941  
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: April 11, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC<sup>X</sup> 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	IPC0941-01	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  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , at  $5^{\circ}\text{C}$  at Del Mar-Irvine. The 1,4-dioxane analysis was subcontracted to Del Mar-Phoenix, and the sample was received within the temperature limits. 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. No qualifications were required.

#### 2.1.3 Holding Times

The preserved 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 02/17/05. The average RRF for target compound 1,4-dioxane was  $\geq 0.05$  and the %RSD was  $\leq 15\%$ . An ICV was analyzed following the initial calibration, with a %D within the QC limit of  $\leq 20\%$  for 1,4-dioxane. The continuing calibration associated with the sample in this SDG was dated 03/17/06. The RRF for 1,4-dioxane was  $\geq 0.05$  and the %D was within the QC limit of  $\leq 20\%$ . No qualifications were required.

## 2.4 BLANKS

One method blank (P6C1707-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 (P6C1707-BS1/BSD1) was analyzed with this SDG; however, as the blank spike was utilized as the CCV for the sample analysis, the blank spike duplicate 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 80-120% 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 performed on the sample of this SDG. Recoveries were within the laboratory QC limits of 65-125%, and the RPD was within the QC limit of  $\leq 20\%$ . 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.

## 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  $\pm 30$  seconds for retention times. The internal standard area 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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MWH-Pasadena/Boeing  
 300 North Lake Avenue, Suite 1200  
 Pasadena, CA 91101  
 Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IPC0941

Sampled: 03/08/06  
 Received: 03/08/06

## 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: IPC0941-01 (Outfall 012 - Water) - cont.					Sampled: 03/08/06					<i>rel. qual. code</i> u
Reporting Units: ug/l										
I,4-Dioxane	EPA 8260B	P6C1707	0.49	1.0	ND	1	03/17/06	03/17/06		
Surrogate: Dibromofluoromethane (70-130%)					108 %					

Del Mar Analytical - Irvine  
 Michele Chamberlin  
 Project Manager

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*Level IV*

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**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

MEC<sup>x</sup>  
 12269 East Vassar Drive  
 Aurora, CO 80014

Package ID: B4WCP6  
 Task Order: 1261.001D.01  
 SDG No.: IPC0941

No. of Analyses: 1

Laboratory: <u>Del Mar Analytical</u>	Date: <u>April 11, 2006</u>
Reviewer: <u>P. Meeks</u>	Reviewer's Signature 
Analysis/Method: <u>General Minerals</u>	

ACTION ITEMS <sup>a</sup>	
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 a CCV outlier and ammonia detected 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 <sup>b</sup>	
<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. <sup>b</sup> 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: IPC0941

Prepared by

MEC<sup>x</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES Sampling  
MEC<sup>x</sup> Project Number: 1261.001D.01  
Sample Delivery Group: IPC0941  
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<sup>x</sup> 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 *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 012	IPC0941-01	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  $\geq 0.995$  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 012 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, total recoverable hydrocarbons, and oil and grease only) recoveries and RPDs 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 analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Evaluation of all method accuracy and precision (for BOD, total recoverable hydrocarbons, and oil and grease) was based on LCS or 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. BOD 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 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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 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: IPC0941

Sampled: 03/08/06  
 Received: 03/08/06

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Raw Qual	Qual Code
Sample ID: IPC0941-01 (Outfall 012 - Water) - cont.					Sampled: 03/08/06						
Reporting Units: mg/l											
Ammonia-N (Distilled)	EPA 350.2	6C13117	0.30	0.50	0.56	1	03/13/06	03/13/06	J		R
Biochemical Oxygen Demand	EPA 405.1	6C09125	0.59	2.0	1.1	1	03/09/06	03/14/06	J J		DNQ
Oil & Grease	EPA 413.1	6C17049	0.90	4.8	ND	1	03/17/06	03/17/06	U		
Total Dissolved Solids	SM2540C	6C14070	10	10	270	1	03/14/06	03/14/06			
Total Suspended Solids	EPA 160.2	6C13121	10	10	11	1	03/13/06	03/13/06			
Sample ID: IPC0941-01 (Outfall 012 - Water)					Sampled: 03/08/06						
Reporting Units: ml/hr											
Total Settleable Solids	EPA 160.5	6C08147	0.10	0.10	ND	1	03/08/06	03/08/06	U		
Sample ID: IPC0941-01 (Outfall 012 - Water)					Sampled: 03/08/06						
Reporting Units: NTU											
Turbidity	EPA 180.1	6C09070	0.040	1.0	21	1	03/09/06	03/09/06			
Sample ID: IPC0941-01 (Outfall 012 - Water)					Sampled: 03/08/06						
Reporting Units: ug/l											
Perchlorate	EPA 314.0	6C10128	0.80	4.0	ND	1	03/10/06	03/11/06	U		

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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: IPC0941

Sampled: 03/08/06

Received: 03/08/06

## 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: IPC0941-01 (Outfall 012 - Water)					Sampled: 03/08/06				
Reporting Units: mg/l									
Total Recoverable Hydrocarbons	EPA 418.1	6C17052	0.31	1.0	ND	1	03/17/06	03/17/06	U

Rev	Qual
Qual	Code

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Project Manager

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**APPENDIX G**

**Section 123**

Outfall 018, March 21, 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 018

Sampled: 03/21/06  
Received: 03/21/06  
Issued: 03/29/06 20:13

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
IPC2198-01	Outfall 018	Water
IPC2198-02	Trip Blank	Water

Reviewed By:

*Michele Chamberlin*

Del Mar Analytical - Irvine  
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 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: ug/l									
Benzene	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/28/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C27021	1.2	5.0	ND	1	03/27/06	03/28/06	
Carbon tetrachloride	EPA 624	6C27021	0.28	5.0	ND	1	03/27/06	03/28/06	
Chloroform	EPA 624	6C27021	0.33	2.0	ND	1	03/27/06	03/28/06	
1,1-Dichloroethane	EPA 624	6C27021	0.27	2.0	ND	1	03/27/06	03/28/06	
1,2-Dichloroethane	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/28/06	
1,1-Dichloroethene	EPA 624	6C27021	0.42	3.0	ND	1	03/27/06	03/28/06	
Ethylbenzene	EPA 624	6C27021	0.25	2.0	ND	1	03/27/06	03/28/06	
Tetrachloroethene	EPA 624	6C27021	0.32	2.0	ND	1	03/27/06	03/28/06	
Toluene	EPA 624	6C27021	0.36	2.0	ND	1	03/27/06	03/28/06	
1,1,1-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/28/06	
1,1,2-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/28/06	
Trichloroethene	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/28/06	
Trichlorofluoromethane	EPA 624	6C27021	0.34	5.0	ND	1	03/27/06	03/28/06	
Vinyl chloride	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/28/06	
Xylenes, Total	EPA 624	6C27021	0.90	4.0	ND	1	03/27/06	03/28/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					98 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %				

### Sample ID: IPC2198-02 (Trip Blank - Water)

Reporting Units: ug/l

Benzene	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/27/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C27021	1.2	5.0	ND	1	03/27/06	03/27/06	
Carbon tetrachloride	EPA 624	6C27021	0.28	5.0	ND	1	03/27/06	03/27/06	
Chloroform	EPA 624	6C27021	0.33	2.0	ND	1	03/27/06	03/27/06	
1,1-Dichloroethane	EPA 624	6C27021	0.27	2.0	ND	1	03/27/06	03/27/06	
1,2-Dichloroethane	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/27/06	
1,1-Dichloroethene	EPA 624	6C27021	0.42	3.0	ND	1	03/27/06	03/27/06	
Ethylbenzene	EPA 624	6C27021	0.25	2.0	ND	1	03/27/06	03/27/06	
Tetrachloroethene	EPA 624	6C27021	0.32	2.0	ND	1	03/27/06	03/27/06	
Toluene	EPA 624	6C27021	0.36	2.0	ND	1	03/27/06	03/27/06	
1,1,1-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/27/06	
1,1,2-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/27/06	
Trichloroethene	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/27/06	
Trichlorofluoromethane	EPA 624	6C27021	0.34	5.0	ND	1	03/27/06	03/27/06	
Vinyl chloride	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/27/06	
Xylenes, Total	EPA 624	6C27021	0.90	4.0	ND	1	03/27/06	03/27/06	
Surrogate: Dibromofluoromethane (80-120%)					105 %				
Surrogate: Toluene-d8 (80-120%)					100 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					99 %				

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

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

## 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
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
<b>Reporting Units: ug/l</b>									
Bis(2-ethylhexyl)phthalate	EPA 625	6C22052	1.6	4.8	ND	0.952	03/22/06	03/28/06	
2,4-Dinitrotoluene	EPA 625	6C22052	0.19	8.6	ND	0.952	03/22/06	03/28/06	
N-Nitrosodimethylamine	EPA 625	6C22052	0.095	7.6	ND	0.952	03/22/06	03/28/06	
Pentachlorophenol	EPA 625	6C22052	0.095	7.6	ND	0.952	03/22/06	03/28/06	
2,4,6-Trichlorophenol	EPA 625	6C22052	0.095	5.7	ND	0.952	03/22/06	03/28/06	
Surrogate: 2-Fluorophenol (30-120%)					59 %				
Surrogate: Phenol-d6 (35-120%)					69 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					68 %				
Surrogate: Nitrobenzene-d5 (45-120%)					75 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					65 %				
Surrogate: Terphenyl-d14 (45-120%)					78 %				

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 018  Report Number: IPC2198	Sampled: 03/21/06 Received: 03/21/06
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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
<b>Sample ID: IPC2198-01 (Outfall 018 - Water) - cont.</b>									
Reporting Units: ug/l									
alpha-BHC	EPA 608	6C24049	0.00095	0.0095	ND	0.952	03/24/06	03/24/06	
Surrogate: Decachlorobiphenyl (45-120%)					55 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					49 %				

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

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
Received: 03/21/06

## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IPC2198-01 (Outfall 018 - Water) - cont.</b>									
Reporting Units: ug/l									
Copper	EPA 200.8	6C22075	0.25	2.0	4.7	1	03/22/06	03/22/06	
Lead	EPA 200.8	6C22075	0.040	1.0	1.3	1	03/22/06	03/22/06	
Mercury	EPA 245.1	6C22059	0.050	0.20	ND	1	03/22/06	03/22/06	

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

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IPC2198-01 (Outfall 018 - Water) - cont.</b>									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C28104	0.30	0.50	ND	1	03/28/06	03/28/06	
Biochemical Oxygen Demand	EPA 405.1	6C22087	0.59	2.0	7.7	1	03/22/06	03/27/06	
Chloride	EPA 300.0	6C21047	3.0	10	43	20	03/21/06	03/22/06	
Nitrate/Nitrite-N	EPA 300.0	6C21047	0.080	0.15	ND	1	03/21/06	03/22/06	
Oil & Grease	EPA 413.1	6C24046	0.90	4.8	ND	1	03/24/06	03/24/06	
Sulfate	EPA 300.0	6C21047	9.0	10	93	20	03/21/06	03/22/06	
Surfactants (MBAS)	EPA 425.1	6C21100	0.088	0.20	0.11	2	03/21/06	03/21/06	RL-1, J
Total Dissolved Solids	EPA 160.1	6C22065	10	10	340	1	03/22/06	03/22/06	
Total Suspended Solids	EPA 160.2	6C23099	10	10	40	1	03/23/06	03/23/06	
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C21137	0.10	0.10	0.10	1	03/21/06	03/21/06	
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C22103	0.040	1.0	17	1	03/22/06	03/22/06	
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C22132	2.2	5.0	ND	1	03/22/06	03/23/06	
Perchlorate	EPA 314.0	6C22067	0.80	4.0	ND	1	03/22/06	03/22/06	
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C28069	1.0	1.0	600	1	03/28/06	03/28/06	

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 018  Report Number: IPC2198	Sampled: 03/21/06 Received: 03/21/06
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**SHORT HOLD TIME DETAIL REPORT**

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
<b>Sample ID: Outfall 018 (IPC2198-01) - Water</b>					
EPA 160.5	2	03/21/2006 10:48	03/21/2006 20:30	03/21/2006 20:45	03/21/2006 21:45
EPA 180.1	2	03/21/2006 10:48	03/21/2006 20:30	03/22/2006 13:00	03/22/2006 14:00
EPA 300.0	2	03/21/2006 10:48	03/21/2006 20:30	03/21/2006 23:30	03/22/2006 00:52
EPA 405.1	2	03/21/2006 10:48	03/21/2006 20:30	03/22/2006 20:00	03/27/2006 21:00
EPA 425.1	2	03/21/2006 10:48	03/21/2006 20:30	03/21/2006 15:43	03/21/2006 22:55

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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 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

## 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
<b>Batch: 6C27021 Extracted: 03/27/06</b>											
<b>Blank Analyzed: 03/27/2006 (6C27021-BLK1)</b>											
Benzene	ND	2.0	0.28	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	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	26.4			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	24.5			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			
<b>LCS Analyzed: 03/27/2006 (6C27021-BS1)</b>											
Benzene	22.8	2.0	0.28	ug/l	25.0		91	65-120			
Carbon tetrachloride	24.3	5.0	0.28	ug/l	25.0		97	65-140			
Chloroform	23.7	2.0	0.33	ug/l	25.0		95	65-130			
1,1-Dichloroethane	23.1	2.0	0.27	ug/l	25.0		92	65-130			
1,2-Dichloroethane	24.3	2.0	0.28	ug/l	25.0		97	60-140			
1,1-Dichloroethene	23.6	3.0	0.42	ug/l	25.0		94	70-130			
Ethylbenzene	24.3	2.0	0.25	ug/l	25.0		97	70-125			
Tetrachloroethene	22.8	2.0	0.32	ug/l	25.0		91	65-125			
Toluene	22.1	2.0	0.36	ug/l	25.0		88	70-125			
1,1,1-Trichloroethane	23.8	2.0	0.30	ug/l	25.0		95	65-135			
1,1,2-Trichloroethane	22.8	2.0	0.30	ug/l	25.0		91	65-125			
Trichloroethene	22.9	5.0	0.26	ug/l	25.0		92	70-125			
Trichlorofluoromethane	22.9	5.0	0.34	ug/l	25.0		92	60-140			
Vinyl chloride	21.5	5.0	0.26	ug/l	25.0		86	50-130			
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105	80-120			

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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: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

**METHOD BLANK/QC DATA**

**PURGEABLES BY GC/MS (EPA 624)**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C27021 Extracted: 03/27/06</b>											
<b>LCS Analyzed: 03/27/2006 (6C27021-BS1)</b>											
Surrogate: Toluene-d8	25.0			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
<b>Matrix Spike Analyzed: 03/27/2006 (6C27021-MS1)</b>											
						<b>Source: IPC2183-05RE1</b>					
Benzene	30.8	2.0	0.28	ug/l	25.0	ND	123	60-125			
Carbon tetrachloride	34.1	5.0	0.28	ug/l	25.0	ND	136	65-140			
Chloroform	32.0	2.0	0.33	ug/l	25.0	ND	128	65-135			
1,1-Dichloroethane	31.2	2.0	0.27	ug/l	25.0	ND	125	60-130			
1,2-Dichloroethane	28.9	2.0	0.28	ug/l	25.0	ND	116	60-140			
1,1-Dichloroethene	31.9	3.0	0.42	ug/l	25.0	0.52	126	60-135			
Ethylbenzene	34.2	2.0	0.25	ug/l	25.0	ND	137	65-130			MI
Tetrachloroethene	32.7	2.0	0.32	ug/l	25.0	ND	131	60-130			MI
Toluene	29.9	2.0	0.36	ug/l	25.0	ND	120	65-125			
1,1,1-Trichloroethane	32.9	2.0	0.30	ug/l	25.0	ND	132	65-140			
1,1,2-Trichloroethane	24.8	2.0	0.30	ug/l	25.0	ND	99	60-130			
Trichloroethene	50.6	5.0	0.26	ug/l	25.0	21	118	60-125			
Trichlorofluoromethane	32.2	5.0	0.34	ug/l	25.0	ND	129	55-145			
Vinyl chloride	29.1	5.0	0.26	ug/l	25.0	ND	116	40-135			
Surrogate: Dibromofluoromethane	25.3			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	25.3			ug/l	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	26.3			ug/l	25.0		105	80-120			
<b>Matrix Spike Dup Analyzed: 03/27/2006 (6C27021-MSD1)</b>											
						<b>Source: IPC2183-05RE1</b>					
Benzene	31.6	2.0	0.28	ug/l	25.0	ND	126	60-125	3	20	MI
Carbon tetrachloride	33.6	5.0	0.28	ug/l	25.0	ND	134	65-140	1	25	
Chloroform	32.9	2.0	0.33	ug/l	25.0	ND	132	65-135	3	20	
1,1-Dichloroethane	32.2	2.0	0.27	ug/l	25.0	ND	129	60-130	3	20	
1,2-Dichloroethane	32.8	2.0	0.28	ug/l	25.0	ND	131	60-140	13	20	
1,1-Dichloroethene	32.8	3.0	0.42	ug/l	25.0	0.52	129	60-135	3	20	
Ethylbenzene	33.5	2.0	0.25	ug/l	25.0	ND	134	65-130	2	20	MI
Tetrachloroethene	31.8	2.0	0.32	ug/l	25.0	ND	127	60-130	3	20	
Toluene	30.4	2.0	0.36	ug/l	25.0	ND	122	65-125	2	20	
1,1,1-Trichloroethane	33.0	2.0	0.30	ug/l	25.0	ND	132	65-140	0	20	
1,1,2-Trichloroethane	29.9	2.0	0.30	ug/l	25.0	ND	120	60-130	19	25	
Trichloroethene	50.0	5.0	0.26	ug/l	25.0	21	116	60-125	1	20	
Trichlorofluoromethane	32.3	5.0	0.34	ug/l	25.0	ND	129	55-145	0	25	

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

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
Received: 03/21/06

## METHOD BLANK/QC DATA

### PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C27021 Extracted: 03/27/06</b>										
<b>Matrix Spike Dup Analyzed: 03/27/2006 (6C27021-MSD1)</b>						<b>Source: IPC2183-05RE1</b>				
Vinyl chloride	31.6	5.0	0.26	ug/l	25.0	ND	126 40-135	8	30	
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105 80-120			
Surrogate: Toluene-d8	25.3			ug/l	25.0		101 80-120			
Surrogate: 4-Bromofluorobenzene	26.1			ug/l	25.0		104 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
<b>Batch: 6C22052 Extracted: 03/22/06</b>										
<b>Blank Analyzed: 03/28/2006 (6C22052-BLK1)</b>										
Bis(2-ethylhexyl)phthalate	ND	5.0	1.1	ug/l						
2,4-Dinitrotoluene	ND	9.0	0.23	ug/l						
N-Nitrosodimethylamine	ND	8.0	0.22	ug/l						
Pentachlorophenol	ND	8.0	0.78	ug/l						
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l						
Surrogate: 2-Fluorophenol	8.14			ug/l	20.0		41 30-120			
Surrogate: Phenol-d6	13.6			ug/l	20.0		68 35-120			
Surrogate: 2,4,6-Tribromophenol	12.0			ug/l	20.0		60 45-120			
Surrogate: Nitrobenzene-d5	7.94			ug/l	10.0		79 45-120			
Surrogate: 2-Fluorobiphenyl	7.06			ug/l	10.0		71 45-120			
Surrogate: Terphenyl-d14	8.28			ug/l	10.0		83 45-120			
<b>LCS Analyzed: 03/28/2006 (6C22052-BS1)</b>										
Bis(2-ethylhexyl)phthalate	9.92	5.0	1.1	ug/l	10.0		99 60-130			M-NR1
2,4-Dinitrotoluene	9.10	9.0	0.23	ug/l	10.0		91 60-120			
N-Nitrosodimethylamine	7.78	8.0	0.22	ug/l	10.0		78 40-120			J
Pentachlorophenol	6.88	8.0	0.78	ug/l	10.0		69 50-120			J
2,4,6-Trichlorophenol	7.40	6.0	0.10	ug/l	10.0		74 60-120			
Surrogate: 2-Fluorophenol	10.8			ug/l	20.0		54 30-120			
Surrogate: Phenol-d6	13.5			ug/l	20.0		68 35-120			
Surrogate: 2,4,6-Tribromophenol	13.8			ug/l	20.0		69 45-120			
Surrogate: Nitrobenzene-d5	7.78			ug/l	10.0		78 45-120			
Surrogate: 2-Fluorobiphenyl	7.34			ug/l	10.0		73 45-120			
Surrogate: Terphenyl-d14	7.50			ug/l	10.0		75 45-120			
<b>LCS Dup Analyzed: 03/28/2006 (6C22052-BSD1)</b>										
Bis(2-ethylhexyl)phthalate	9.66	5.0	1.1	ug/l	10.0		97 60-130	3	20	
2,4-Dinitrotoluene	8.62	9.0	0.23	ug/l	10.0		86 60-120	5	20	J
N-Nitrosodimethylamine	7.14	8.0	0.22	ug/l	10.0		71 40-120	9	20	J
Pentachlorophenol	7.58	8.0	0.78	ug/l	10.0		76 50-120	10	25	J
2,4,6-Trichlorophenol	6.78	6.0	0.10	ug/l	10.0		68 60-120	9	20	
Surrogate: 2-Fluorophenol	10.3			ug/l	20.0		52 30-120			
Surrogate: Phenol-d6	11.4			ug/l	20.0		57 35-120			
Surrogate: 2,4,6-Tribromophenol	13.1			ug/l	20.0		66 45-120			
Surrogate: Nitrobenzene-d5	7.06			ug/l	10.0		71 45-120			
Surrogate: 2-Fluorobiphenyl	6.72			ug/l	10.0		67 45-120			

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
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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
<b>Batch: 6C22052 Extracted: 03/22/06</b>											
<b>LCS Dup Analyzed: 03/28/2006 (6C22052-BSD1)</b>											
Surrogate: Terphenyl-d14	7.20			ug/l	10.0		72	45-120			

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## 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
<b>Batch: 6C24049 Extracted: 03/24/06</b>											
<b>Blank Analyzed: 03/24/2006 (6C24049-BLK1)</b>											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.420			ug/l	0.500		84	45-120			
Surrogate: Tetrachloro-m-xylene	0.299			ug/l	0.500		60	35-115			
<b>LCS Analyzed: 03/24/2006 (6C24049-BS1)</b>											
alpha-BHC	0.434	0.010	0.0010	ug/l	0.500		87	45-120			M-NR1
Surrogate: Decachlorobiphenyl	0.457			ug/l	0.500		91	45-120			
Surrogate: Tetrachloro-m-xylene	0.400			ug/l	0.500		80	35-115			
<b>LCS Dup Analyzed: 03/24/2006 (6C24049-BSD1)</b>											
alpha-BHC	0.406	0.010	0.0010	ug/l	0.500		81	45-120	7	30	
Surrogate: Decachlorobiphenyl	0.444			ug/l	0.500		89	45-120			
Surrogate: Tetrachloro-m-xylene	0.367			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	RPD Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C22059 Extracted: 03/22/06</b>											
<b>Blank Analyzed: 03/22/2006 (6C22059-BLK1)</b>											
Mercury	ND	0.20	0.050	ug/l							
<b>LCS Analyzed: 03/22/2006 (6C22059-BS1)</b>											
Mercury	7.16	0.20	0.050	ug/l	8.00		90	85-115			
<b>Matrix Spike Analyzed: 03/22/2006 (6C22059-MS1)</b>											
						<b>Source: IPC2120-17</b>					
Mercury	7.15	0.20	0.050	ug/l	8.00	ND	89	70-130			
<b>Matrix Spike Dup Analyzed: 03/22/2006 (6C22059-MSD1)</b>											
						<b>Source: IPC2120-17</b>					
Mercury	7.18	0.20	0.050	ug/l	8.00	ND	90	70-130	0	20	
<b>Batch: 6C22075 Extracted: 03/22/06</b>											
<b>Blank Analyzed: 03/22/2006 (6C22075-BLK1)</b>											
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
<b>LCS Analyzed: 03/22/2006 (6C22075-BS1)</b>											
Copper	80.7	2.0	0.25	ug/l	80.0		101	85-115			
Lead	80.5	1.0	0.040	ug/l	80.0		101	85-115			
<b>Matrix Spike Analyzed: 03/22/2006 (6C22075-MS1)</b>											
						<b>Source: IPC2111-01</b>					
Copper	88.7	2.0	0.25	ug/l	80.0	14	93	70-130			
Lead	77.1	1.0	0.040	ug/l	80.0	0.23	96	70-130			
<b>Matrix Spike Dup Analyzed: 03/22/2006 (6C22075-MSD1)</b>											
						<b>Source: IPC2111-01</b>					
Copper	90.3	2.0	0.25	ug/l	80.0	14	95	70-130	2	20	
Lead	78.9	1.0	0.040	ug/l	80.0	0.23	98	70-130	2	20	

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C21047 Extracted: 03/21/06</b>										
<b>Blank Analyzed: 03/21/2006 (6C21047-BLK1)</b>										
Chloride	ND	0.50	0.15	mg/l						
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l						
Sulfate	ND	0.50	0.45	mg/l						
<b>LCS Analyzed: 03/21/2006 (6C21047-BS1)</b>										
Chloride	5.19	0.50	0.15	mg/l	5.00		104	90-110		M-3
Sulfate	9.34	0.50	0.45	mg/l	10.0		93	90-110		M-3
<b>Batch: 6C21100 Extracted: 03/21/06</b>										
<b>Blank Analyzed: 03/21/2006 (6C21100-BLK1)</b>										
Surfactants (MBAS)	ND	0.10	0.044	mg/l						
<b>LCS Analyzed: 03/21/2006 (6C21100-BS1)</b>										
Surfactants (MBAS)	0.255	0.10	0.044	mg/l	0.250		102	90-110		
<b>Matrix Spike Analyzed: 03/21/2006 (6C21100-MS1)</b>										
					<b>Source: IPC2064-01</b>					
Surfactants (MBAS)	0.352	0.10	0.044	mg/l	0.250	0.050	121	50-125		
<b>Matrix Spike Dup Analyzed: 03/21/2006 (6C21100-MSD1)</b>										
					<b>Source: IPC2064-01</b>					
Surfactants (MBAS)	0.362	0.10	0.044	mg/l	0.250	0.050	125	50-125	3	20
<b>Batch: 6C22065 Extracted: 03/22/06</b>										
<b>Blank Analyzed: 03/22/2006 (6C22065-BLK1)</b>										
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	RPD Limits	RPD Limit	Data Qualifiers
<b>Batch: 6C22065 Extracted: 03/22/06</b>										
<b>LCS Analyzed: 03/22/2006 (6C22065-BS1)</b>										
Total Dissolved Solids	984	10	10	mg/l	1000		98	90-110		
<b>Duplicate Analyzed: 03/22/2006 (6C22065-DUP1)</b>										
Total Dissolved Solids	1120	10	10	mg/l		1100			2	10
<b>Source: IPC2169-01</b>										
<b>Batch: 6C22067 Extracted: 03/22/06</b>										
<b>Blank Analyzed: 03/22/2006 (6C22067-BLK1)</b>										
Perchlorate	ND	4.0	0.80	ug/l						
<b>LCS Analyzed: 03/22/2006 (6C22067-BS1)</b>										
Perchlorate	52.6	4.0	0.80	ug/l	50.0		105	85-115		
<b>Matrix Spike Analyzed: 03/22/2006 (6C22067-MS1)</b>										
Perchlorate	53.6	4.0	0.80	ug/l	50.0	2.4	102	80-120		
<b>Source: IPC1803-01</b>										
<b>Matrix Spike Dup Analyzed: 03/22/2006 (6C22067-MSD1)</b>										
Perchlorate	56.8	4.0	0.80	ug/l	50.0	2.4	109	80-120	6	20
<b>Source: IPC1803-01</b>										
<b>Batch: 6C22087 Extracted: 03/22/06</b>										
<b>Blank Analyzed: 03/27/2006 (6C22087-BLK1)</b>										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l						
<b>LCS Analyzed: 03/27/2006 (6C22087-BS1)</b>										
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115		

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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
<b><u>Batch: 6C22087 Extracted: 03/22/06</u></b>										
<b>LCS Dup Analyzed: 03/27/2006 (6C22087-BSD1)</b>										
Biochemical Oxygen Demand	216	100	30	mg/l	198		109 85-115	1	20	
<b><u>Batch: 6C22103 Extracted: 03/22/06</u></b>										
<b>Blank Analyzed: 03/22/2006 (6C22103-BLK1)</b>										
Turbidity	ND	1.0	0.040	NTU						
<b>Duplicate Analyzed: 03/22/2006 (6C22103-DUP1)</b>										
Turbidity	1.33	1.0	0.040	NTU		Source: IPC2169-03 1.4		5	20	
<b><u>Batch: 6C22132 Extracted: 03/22/06</u></b>										
<b>Blank Analyzed: 03/23/2006 (6C22132-BLK1)</b>										
Total Cyanide	ND	5.0	2.2	ug/l						
<b>LCS Analyzed: 03/23/2006 (6C22132-BS1)</b>										
Total Cyanide	185	5.0	2.2	ug/l	200		92 90-110			
<b>Matrix Spike Analyzed: 03/23/2006 (6C22132-MS1)</b>										
Total Cyanide	202	5.0	2.2	ug/l	200	Source: IPC2169-04 ND	101 70-115			
<b>Matrix Spike Dup Analyzed: 03/23/2006 (6C22132-MSD1)</b>										
Total Cyanide	209	5.0	2.2	ug/l	200	Source: IPC2169-04 ND	104 70-115	3	15	
<b><u>Batch: 6C23099 Extracted: 03/23/06</u></b>										
<b>Blank Analyzed: 03/23/2006 (6C23099-BLK1)</b>										
Total Suspended Solids	ND	10	10	mg/l						

Del Mar Analytical - Irvine  
 Michele Chamberlin  
 Project Manager

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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 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

**METHOD BLANK/QC DATA**

**INORGANICS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
<b>Batch: 6C23099 Extracted: 03/23/06</b>										
<b>LCS Analyzed: 03/23/2006 (6C23099-BS1)</b>										
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115		
<b>Duplicate Analyzed: 03/23/2006 (6C23099-DUP1)</b>										
Total Suspended Solids	ND	10	10	mg/l		Source: IPC2307-02 ND			10	
<b>Batch: 6C24046 Extracted: 03/24/06</b>										
<b>Blank Analyzed: 03/24/2006 (6C24046-BLK1)</b>										
Oil & Grease	ND	5.0	0.94	mg/l						
<b>LCS Analyzed: 03/24/2006 (6C24046-BS1)</b>										
Oil & Grease	18.0	5.0	0.94	mg/l	20.0		90	65-120		M-NRI
<b>LCS Dup Analyzed: 03/24/2006 (6C24046-BSD1)</b>										
Oil & Grease	19.0	5.0	0.94	mg/l	20.0		95	65-120	5	20
<b>Batch: 6C28069 Extracted: 03/28/06</b>										
<b>Duplicate Analyzed: 03/28/2006 (6C28069-DUP1)</b>										
Specific Conductance	600	1.0	1.0	umhos/cm		Source: IPC2685-01 600			0	5
<b>Batch: 6C28104 Extracted: 03/28/06</b>										
<b>Blank Analyzed: 03/28/2006 (6C28104-BLK1)</b>										
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l						

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Pasadena, CA 91101  
Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
Received: 03/21/06

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C28104 Extracted: 03/28/06</b>											
<b>LCS Analyzed: 03/28/2006 (6C28104-BS1)</b>											
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0		112	80-115			
<b>Matrix Spike Analyzed: 03/28/2006 (6C28104-MS1) Source: IPC2198-01</b>											
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	ND	112	70-120			
<b>Matrix Spike Dup Analyzed: 03/28/2006 (6C28104-MSD1) Source: IPC2198-01</b>											
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	

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

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

## 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
IPC2198-01	413.1 Oil and Grease	Oil & Grease	mg/l	0	4.8	10.00
IPC2198-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0095	0.0100
IPC2198-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2198-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IPC2198-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPC2198-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.6	9.10
IPC2198-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.40	4.8	4.00
IPC2198-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.6	8.10
IPC2198-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.6	8.20
IPC2198-01	BOD	Biochemical Oxygen Demand	mg/l	7.70	2.0	20
IPC2198-01	Chloride - 300.0	Chloride	mg/l	43	10	150
IPC2198-01	Copper-200.8	Copper	ug/l	4.70	2.0	7.10
IPC2198-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	0.91	5.0	5.00
IPC2198-01	Lead-200.8	Lead	ug/l	1.30	1.0	2.60
IPC2198-01	MBAS - 425.1	Surfactants (MBAS)	mg/l	0.11	0.20	0.50
IPC2198-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPC2198-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0	0.15	8.00
IPC2198-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPC2198-01	Sulfate-300.0	Sulfate	mg/l	93	10	300
IPC2198-01	TDS - EPA 160.1	Total Dissolved Solids	mg/l	340	10	950
IPC2198-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2198-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical - Irvine  
 Michele Chamberlin  
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MWH-Pasadena/Boeing  
300 North Lake Avenue, Suite 1200  
Pasadena, CA 91101  
Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06

Received: 03/21/06

### 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.
- MI** 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).
- M-NRI** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- RL-1** Reporting limit raised due to sample matrix effects.
- 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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Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06

Received: 03/21/06

## Certification Summary

### Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.1	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 425.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	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](http://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: IPC2198-01

Analysis Performed: EDD + Level 4

Samples: IPC2198-01

Del Mar Analytical - Irvine  
Michele Chamberlin  
Project Manager

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IPC 2-198

Client Name/Address:		Project:				ANALYSIS REQUIRED												Field readings:	
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Routine Outfall 018 R-2 Spillway				Total Recoverable Metals:	Settleable Solids	VOCS 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	CH <sub>4</sub> , SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	2,4,6 Trichlorophenol, 2,4-Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Temp = 58.5 pH= 7.6	
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Cu, Pb, Hg	VOCS 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	CH <sub>4</sub> , SO <sub>4</sub> , NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	2,4,6 Trichlorophenol, 2,4-Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Comments	
Outfall 018	W	Poly-1L	1	3-27-06 10:45	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	3		HCl	3A, 3B, 3C			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													
Outfall 018	W	Poly-1 L	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	3-27-06 11:48	None	13A, 13B												X	
Trip Blank	W	VOAs	3		HCl	15A, 15B, 15C			X										
Relinquished By <i>Rich Long</i>				Date/Time: 3/21/06 1715	Received By <i>William Owen</i>									Date/Time: 3/21/06 1711	Turn around Time: (check) 24 Hours _____ 5 Days _____				
Relinquished By <i>William Owen</i>				Date/Time: 3/21/06 10:30	Received By <i>William Owen</i>									Date/Time: 3/21/06 10:30	48 Hours _____ 10 Days _____				
Relinquished By				Date/Time:	Received By									Date/Time:	72 Hours _____ Normal _____				
												Perchlorate Only 72 Hours _____	Metals Only 72 Hours _____	Sample Integrity: (Check) _____	On Ice: _____				





April 05, 2006

**Alta Project I.D.: 27454**

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 23, 2006 under your Project Name "IPC2198". 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](mailto:mmaier@altalab.com). Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier  
Director of HRMS Services



*Alta Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. This report should not be reproduced except in full without the written approval of ALTA.*



**Section I: Sample Inventory Report**

**Date Received: 3/23/2006**

Alta Lab. ID

Client Sample ID

27454-001

IPC2198-01

**SECTION II**

Method Blank		EPA Method 1613						
Matrix:	Aqueous	QC Batch No.:	7893	Lab Sample:	0-MB001			
Sample Size:	1.00 L	Date Extracted:	3-Apr-06	Date Analyzed DB-5:	4-Apr-06			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000744			13C-2,3,7,8-TCDD	77.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000247			13C-1,2,3,7,8-PeCDD	46.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000119			13C-1,2,3,4,7,8-HxCDD	80.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000116			13C-1,2,3,6,7,8-HxCDD	77.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000113			13C-1,2,3,4,6,7,8-HpCDD	82.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000126			13C-OCDD	65.0	17 - 157	
OCDD	ND	0.00000292			13C-2,3,7,8-TCDF	78.3	24 - 169	
2,3,7,8-TCDF	ND	0.00000786			13C-1,2,3,7,8-PeCDF	57.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000186			13C-2,3,4,7,8-PeCDF	46.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000205			13C-1,2,3,4,7,8-HxCDF	80.8	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000547			13C-1,2,3,6,7,8-HxCDF	74.4	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000523			13C-2,3,4,6,7,8-HxCDF	80.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000572			13C-1,2,3,7,8,9-HxCDF	82.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000731			13C-1,2,3,4,6,7,8-HpCDF	79.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000476			13C-1,2,3,4,7,8,9-HpCDF	84.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000528			13C-OCDF	68.7	17 - 157	
OCDF	ND	0.00000148			CRS 37Cl-2,3,7,8-TCDD	95.1	35 - 197	
<b>Totals</b>								
Total TCDD	ND	0.000000744						
Total PeCDD	ND	0.00000247						
Total HxCDD	ND	0.00000116						
Total HpCDD	ND	0.00000126						
Total TCDF	ND	0.00000786						
Total PeCDF	ND	0.00000195						
Total HxCDF	ND	0.00000588						
Total HpCDF	ND	0.00000500						
<b>Footnotes</b>								
a. Sample specific estimated detection limit.								
b. Estimated maximum possible concentration.								
c. Method detection limit.								
d. Lower control limit - upper control limit.								

Analyst:

Approved By: Martha M. Maier 05-Apr-2006 09:22

**EPA Method 1613**

Lab Sample: 0-OPR001  
 Date Analyzed DB-5: 4-Apr-06 Date Analyzed DB-225: NA

Matrix: Aqueous  
 Sample Size: 1.00 L  
 QC Batch No.: 7893  
 Date Extracted: 3-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	72.5	25 - 164
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	42.4	25 - 181
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	69.3	32 - 141
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	62.9	28 - 130
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	67.5	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	52.7	17 - 157
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	74.0	24 - 169
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	47.8	24 - 185
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	40.2	21 - 178
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	69.7	26 - 152
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	58.1	26 - 123
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	68.8	28 - 136
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	68.7	29 - 147
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	65.9	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	70.8	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	56.1	17 - 157
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	97.9	35 - 197

Analyst: JMH  
 Approved By: Martha M. Maier 05-Apr-2006 09:22

Sample ID: **IPC2198-01** EPA Method 1613

**Client Data**  
 Name: Del Mar Analytical, Irvine  
 Project: IPC2198  
 Date Collected: 21-Mar-06  
 Time Collected: 1048

**Sample Data**  
 Matrix: Aqueous  
 Sample Size: 1.02 L

**Laboratory Data**  
 Lab Sample: 27454-001  
 QC Batch No.: 7893  
 Date Analyzed DB-5: 4-Apr-06  
 Date Received: 23-Mar-06  
 Date Extracted: 3-Apr-06  
 Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Qualifiers	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000739			13C-2,3,7,8-TCDD	67.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000314			13C-1,2,3,7,8-PeCDD	35.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000214			13C-1,2,3,4,7,8-HxCDD	66.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000225			13C-1,2,3,6,7,8-HxCDD	59.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000213			13C-1,2,3,4,6,7,8-HpCDD	69.7	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000164			J	13C-OCDD	57.8	17 - 157	
OCDD	0.000143				13C-2,3,7,8-TCDF	67.3	24 - 169	
2,3,7,8-TCDF	0.00000400			J	13C-1,2,3,7,8-PeCDF	43.8	24 - 185	
1,2,3,7,8-PeCDF	ND		0.00000257		13C-2,3,4,7,8-PeCDF	33.2	21 - 178	
2,3,4,7,8-PeCDF	0.00000271			J	13C-1,2,3,4,7,8-HxCDF	62.2	26 - 152	
1,2,3,4,7,8-HxCDF	0.00000171			J	13C-1,2,3,6,7,8-HxCDF	49.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000740			13C-2,3,4,6,7,8-HxCDF	60.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000659			13C-1,2,3,7,8,9-HxCDF	67.3	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000818			13C-1,2,3,4,6,7,8-HpCDF	67.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000320			J	13C-1,2,3,4,7,8,9-HpCDF	70.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000116			13C-OCDF	61.4	17 - 157	
OCDF	0.00000640			J	<b>CBS</b> 37Cl-2,3,7,8-TCDD	94.6	35 - 197	
<b>Totals</b>								
Total TCDD	ND	0.000000739						
Total PeCDD	ND	0.00000314						
Total HxCDD	ND		0.00000258					
Total HpCDD	0.0000354							
Total TCDF	0.00000957							
Total PeCDF	0.00000271		0.00000528					
Total HxCDF	0.00000275							
Total HpCDF	0.00000320		0.00000600					

**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  
 05-Apr-2006 09:22

**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**

<b>Accrediting Authority</b>	<b>Certificate Number</b>
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  
 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 # IPC2198

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; font-family: cursive;">             27454              1.0°C           </div>

Standard TAT is requested unless specific due date is requested ⇒ Due Date: 2 Weeks Initials: \_\_\_\_\_

Analysis	Expiration	Comments
Sample ID: IPC2198-01 Water	Sampled: 03/21/06 10:48	Instant Notification
1613-Dioxin-HR-Alta	03/28/06 10:48	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/18/06 10:48	Excel EDD email to pm, Include Std logs for Lvl IV
<b>Containers Supplied:</b>		
1 L Amber (IPC2198-01G)		
1 L Amber (IPC2198-01H)		

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
Custody Seals Present:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Samples Preserved Properly:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
			Samples Received On Ice::	<input type="checkbox"/> Yes	<input type="checkbox"/> No
			Samples Received at (temp):	_____	

Released By: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: [Signature] Date: 3/22/06 Time: \_\_\_\_\_

Released By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: [Signature] Date: 3/23/06 Time: 0830

**SAMPLE LOG-IN CHECKLIST**

Alta Project #: 27454

Samples Arrival:	Date/Time 3/23/06 0830	Initials: BSB	Location: WR-2			
Logged In:	Date/Time 3/23/06 0904	Initials: BSB	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	1.0°C	Time:	0850	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 #	7926 9301 2660		
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 <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?		COC	Sample Container
			<u>None</u>
Shipping Container	Alta	<u>Client</u>	Retain
			<u>Return</u>
			Dispose

Comments:

# **APPENDIX G**

## **Section 124**

**Outfall 018, March 21, 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 B4DF63  
 Task Order 1261.001D.01  
 SDG No. IPC2198

No. of Analyses 1  
 Date: April 12, 2006  
 Reviewer's Signature [Handwritten Signature]

Laboratory Alta Analytical  
 Reviewer E. Wessling  
 Analysis/Method Dioxins/Furans by 1613

ACTION ITEMS <sup>a</sup>	
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 <sup>b</sup>	
<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. <sup>b</sup> 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: IPC2198

Prepared by

MEC<sup>X</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES  
Contract Task Order: 1261.001D.01  
Sample Delivery Group: IPC2198  
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 12, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC<sup>x</sup> 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	IPC2198-01	27454-001	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°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 03/22/2006 on instrument VG-5. 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 (0-7893-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 (0-7893-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. Peaks not meeting the ion ratio identification criterion were qualified as estimated nondetects, "UJ," for the Estimated Maximum Possible Concentration (EMPC) value. 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: IPC2198-01		outfall 019		EPA Method 1613	
Client Data		Sample Data		Laboratory Data	
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Matrix: Aqueous	Matrix: Aqueous	Lab Sample: 27454-001	Date Received: 23-Mar-06
Project: IPC2198	Sample Size: 1.02 L	Sample Size: 1.02 L	Sample Size: 1.02 L	QC Batch No.: 7893	Date Extracted: 3-Apr-06
Date Collected: 21-Mar-06	DL <sup>a</sup>	EMPC <sup>b</sup>	EMPC <sup>b</sup>	Date Analyzed DB-5: 4-Apr-06	Date Analyzed DB-225: NA
Time Collected: 1048	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Date Analyzed DB-5: 4-Apr-06	Date Analyzed DB-225: NA
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Labeled Standard	%R LCL-UCL <sup>d</sup> Qualifiers
2,3,7,8-TCDD	ND	0.00000739		IS 13C-2,3,7,8-TCDD	67.4 25-164
1,2,3,7,8-PeCDD	ND	0.00000314		13C-1,2,3,7,8-PeCDD	35.0 25-181
1,2,3,4,7,8-HxCDD	ND	0.00000214		13C-1,2,3,4,7,8-HxCDD	66.0 32-141
1,2,3,6,7,8-HxCDD	ND	0.00000225		13C-1,2,3,6,7,8-HxCDD	59.8 28-130
1,2,3,7,8,9-HxCDD	ND	0.00000213		13C-1,2,3,4,6,7,8-HpCDD	69.7 23-140
1,2,3,4,6,7,8-HpCDD	0.0000164			13C-OCDD	57.8 17-157
OCDD	0.000143			13C-2,3,7,8-TCDF	67.3 24-169
2,3,7,8-TCDF	0.00000400			13C-1,2,3,7,8-PeCDF	43.8 24-185
1,2,3,7,8-PeCDF	ND		0.00000257	13C-2,3,4,7,8-PeCDF	33.2 21-178
2,3,4,7,8-PeCDF	0.00000271			13C-1,2,3,4,7,8-HxCDF	62.2 26-152
1,2,3,4,7,8-HxCDF	0.00000171			13C-1,2,3,6,7,8-HxCDF	49.8 26-123
1,2,3,6,7,8-HxCDF	ND		0.000000740	13C-2,3,4,6,7,8-HxCDF	60.6 28-136
2,3,4,6,7,8-HxCDF	ND		0.000000659	13C-1,2,3,7,8,9-HxCDF	67.3 29-147
1,2,3,7,8,9-HxCDF	ND		0.000000818	13C-1,2,3,4,6,7,8-HpCDF	67.7 28-143
1,2,3,4,6,7,8-HpCDF	0.00000320			13C-1,2,3,4,7,8,9-HpCDF	70.5 26-138
1,2,3,4,7,8,9-HpCDF	ND		0.000001116	13C-OCDF	61.4 17-157
OCDF	0.00000640			CRS 37Cl-2,3,7,8-TCDD	94.6 35-197
Totals					
Total TCDD	ND	0.000000739			
Total PeCDD	ND	0.00000314			
Total HxCDD	ND		0.00000258		
Total HpCDD	0.0000354				
Total TCDF	0.00000957				
Total PeCDF	0.00000271		0.00000528		
Total HxCDF	0.00000275				
Total HpCDF	0.00000320		0.00000600		

Approved By: Martha M. Maier 05-Apr-2006 09:22

# LEVEL IV

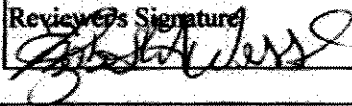
Analyst: JMH

Project 27454

**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

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

Package ID B4V047  
 Task Order 1261.001D.01  
 SDG No. IPC2198

No. of Analyses 12  
 Date: April 12, 2006  
 Reviewer's Signature 

Laboratory Del Mar - Irvine  
 Reviewer E. Wessling  
 Analysis/Method Volatiles

ACTION ITEMS <sup>a</sup>	
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 <sup>b</sup>	Acceptable as reviewed

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



# DATA VALIDATION REPORT

NPDES Monitoring Program  
Outfall 018

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC2198

Prepared by

MEC<sup>x</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES  
MEC<sup>X</sup> Project Number: 1261.001D.01  
Sample Delivery Group: IPC2198  
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<sup>X</sup> 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	IPC2198-01	Water	624
Trip Blank	IPC2198-02	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. 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 3/24/2006 was associated with the sample analyses. The average RRFs were  $\geq 0.05$  and the %RSDs were  $\leq 35\%$  for all target compounds. One continuing calibration was associated with the sample analyses, dated 03/09/06. The RRFs were  $\geq 0.05$  and all %Ds were within the QC limit of  $\leq 20\%$ .

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 (6C27021-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 (6C27021-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 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  $\pm 30$  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.



17461 Dorian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 261-1297  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-3146  
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 765-0043 FAX (480) 785-0851  
 2520 E. Sunset Rd., #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-1621

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

Project ID: Routine Outfall 018

Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

**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: IPC2198-01 (Outfall 018 - Water)										
Reporting Units: ug/l										
Benzene	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/28/06	<i>Rev. Qual. Audit Code</i> ↓	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C27021	1.2	5.0	ND	1	03/27/06	03/28/06		
Carbon tetrachloride	EPA 624	6C27021	0.28	5.0	ND	1	03/27/06	03/28/06		
Chloroform	EPA 624	6C27021	0.33	2.0	ND	1	03/27/06	03/28/06		
1,1-Dichloroethane	EPA 624	6C27021	0.27	2.0	ND	1	03/27/06	03/28/06		
1,2-Dichloroethane	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/28/06		
1,1-Dichloroethene	EPA 624	6C27021	0.42	3.0	ND	1	03/27/06	03/28/06		
Ethylbenzene	EPA 624	6C27021	0.25	2.0	ND	1	03/27/06	03/28/06		
Tetrachloroethene	EPA 624	6C27021	0.32	2.0	ND	1	03/27/06	03/28/06		
Toluene	EPA 624	6C27021	0.36	2.0	ND	1	03/27/06	03/28/06		
1,1,1-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/28/06		
1,1,2-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/28/06		
Trichloroethene	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/28/06		
Trichlorofluoromethane	EPA 624	6C27021	0.34	5.0	ND	1	03/27/06	03/28/06		
Vinyl chloride	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/28/06		
Xylenes, Total	EPA 624	6C27021	0.90	4.0	ND	1	03/27/06	03/28/06		
Surrogate: Dibromofluoromethane (80-120%)					110 %					
Surrogate: Toluene-d8 (80-120%)					98 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %					
Sample ID: IPC2198-02 (Trip Blank - Water)										
Reporting Units: ug/l										
Benzene	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/27/06	↓	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C27021	1.2	5.0	ND	1	03/27/06	03/27/06		
Carbon tetrachloride	EPA 624	6C27021	0.28	5.0	ND	1	03/27/06	03/27/06		
Chloroform	EPA 624	6C27021	0.33	2.0	ND	1	03/27/06	03/27/06		
1,1-Dichloroethane	EPA 624	6C27021	0.27	2.0	ND	1	03/27/06	03/27/06		
1,2-Dichloroethane	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/27/06		
1,1-Dichloroethene	EPA 624	6C27021	0.42	3.0	ND	1	03/27/06	03/27/06		
Ethylbenzene	EPA 624	6C27021	0.25	2.0	ND	1	03/27/06	03/27/06		
Tetrachloroethene	EPA 624	6C27021	0.32	2.0	ND	1	03/27/06	03/27/06		
Toluene	EPA 624	6C27021	0.36	2.0	ND	1	03/27/06	03/27/06		
1,1,1-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/27/06		
1,1,2-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/27/06		
Trichloroethene	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/27/06		
Trichlorofluoromethane	EPA 624	6C27021	0.34	5.0	ND	1	03/27/06	03/27/06		
Vinyl chloride	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/27/06		
Xylenes, Total	EPA 624	6C27021	0.90	4.0	ND	1	03/27/06	03/27/06		
Surrogate: Dibromofluoromethane (80-120%)					105 %					
Surrogate: Toluene-d8 (80-120%)					100 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					99 %					

Del Mar Analytical - Irvine  
 Michele Chamberlin  
 Project Manager


**LEVEL IV**

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**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

MEC<sup>x</sup>  
 12269 East Vassar Drive  
 Aurora, CO 80014

Package ID: B4WC51  
 Task Order: 1261.001D.01  
 SDG No.: IPC2198

No. of Analyses: 1  
 Date: April 11, 2006  
 Reviewer's Signature  


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

<b>ACTION ITEMS<sup>a</sup></b>	
<b>Case Narrative</b>	_____
<b>Deficiencies</b>	_____
<b>2. Out of Scope Analyses</b>	_____
<b>3. Analyses Not Conducted</b>	_____
<b>4. Missing Hardcopy Deliverables</b>	_____
<b>5. Incorrect Hardcopy Deliverables</b>	_____
<b>6. Deviations from Analysis Protocol, e.g.,</b>	_____
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	_____
<b>COMMENTS<sup>b</sup></b>	Acceptable as reviewed.
<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. <sup>b</sup> 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: IPC2198

Prepared by

MEC<sup>x</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES Sampling  
MEC<sup>x</sup> Project Number: 1261.001D.01  
Sample Delivery Group: IPC2198  
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 12, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC<sup>x</sup> 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 018	IPC2198-01	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%. As ammonia was not detected in Outfall 018, 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 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. 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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 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 018  
 Report Number: IPC2198

Sampled: 03/21/06  
 Received: 03/21/06

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IPC2198-01 (Outfall 018 - Water) - cont.</b>									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C28104	0.30	0.50	ND	1	03/28/06	03/28/06	U
Biochemical Oxygen Demand	EPA 405.1	6C22087	0.59	2.0	7.7	1	03/22/06	03/27/06	*
Chloride	EPA 300.0	6C21047	3.0	10	43	20	03/21/06	03/22/06	
Nitrate/Nitrite-N	EPA 300.0	6C21047	0.080	0.15	ND	1	03/21/06	03/22/06	
Oil & Grease	EPA 413.1	6C24046	0.90	4.8	ND	1	03/24/06	03/24/06	
Sulfate	EPA 300.0	6C21047	9.0	10	93	20	03/21/06	03/22/06	
Surfactants (MBAS)	EPA 425.1	6C21100	0.088	0.20	0.11	2	03/21/06	03/21/06	RL-1, J
Total Dissolved Solids	EPA 160.1	6C22065	10	10	340	1	03/22/06	03/22/06	
Total Suspended Solids	EPA 160.2	6C23099	10	10	40	1	03/23/06	03/23/06	
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C21137	0.10	0.10	0.10	1	03/21/06	03/21/06	
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C22103	0.040	1.0	17	1	03/22/06	03/22/06	
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C22132	2.2	5.0	ND	1	03/22/06	03/23/06	*
Perchlorate	EPA 314.0	6C22067	0.80	4.0	ND	1	03/22/06	03/22/06	*
<b>Sample ID: IPC2198-01 (Outfall 018 - Water)</b>									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C28069	1.0	1.0	600	1	03/28/06	03/28/06	

\* Analysis not validated

Del Mar Analytical - Irvine  
 Michele Chamberlin  
 Project Manager

LEVEL IV

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IPC2198 <Page 6 of 22>

**APPENDIX G**

**Section 125**

Outfall 018, March 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: Routine Outfall 018

Sampled: 03/28/06  
Received: 03/28/06  
Issued: 04/04/06 06:51

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.*

CASE NARRATIVE

- SAMPLE RECEIPT: Samples were received intact, at 2°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.

LABORATORY ID	CLIENT ID	MATRIX
IPC2820-01	Outfall 018	Water
IPC2820-02	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 018

Report Number: IPC2820

Sampled: 03/28/06  
 Received: 03/28/06

**PURGEABLES BY GC/MS (EPA 624)**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IPC2820-01 (Outfall 018 - Water)</b>									
Reporting Units: ug/l									
Benzene	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30026	1.2	5.0	ND	1	03/30/06	03/31/06	
Carbon tetrachloride	EPA 624	6C30026	0.28	5.0	ND	1	03/30/06	03/31/06	
Chloroform	EPA 624	6C30026	0.33	2.0	ND	1	03/30/06	03/31/06	
1,1-Dichloroethane	EPA 624	6C30026	0.27	2.0	ND	1	03/30/06	03/31/06	
1,2-Dichloroethane	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	
1,1-Dichloroethene	EPA 624	6C30026	0.42	3.0	ND	1	03/30/06	03/31/06	
Ethylbenzene	EPA 624	6C30026	0.25	2.0	ND	1	03/30/06	03/31/06	
Tetrachloroethene	EPA 624	6C30026	0.32	2.0	ND	1	03/30/06	03/31/06	
Toluene	EPA 624	6C30026	0.36	2.0	ND	1	03/30/06	03/31/06	
1,1,1-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	
1,1,2-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	
Trichloroethene	EPA 624	6C30026	0.26	5.0	0.27	1	03/30/06	03/31/06	J
Trichlorofluoromethane	EPA 624	6C30026	0.34	5.0	ND	1	03/30/06	03/31/06	
Vinyl chloride	EPA 624	6C30026	0.26	5.0	ND	1	03/30/06	03/31/06	
Xylenes, Total	EPA 624	6C30026	0.90	4.0	ND	1	03/30/06	03/31/06	
Surrogate: Dibromofluoromethane (80-120%)					122 %		A-01, ZX		
Surrogate: Toluene-d8 (80-120%)					110 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					105 %				

**Sample ID: IPC2820-02 (Trip Blank - Water)**

Reporting Units: ug/l

Benzene	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30002	1.2	5.0	ND	1	03/30/06	03/30/06	
Carbon tetrachloride	EPA 624	6C30002	0.28	5.0	ND	1	03/30/06	03/30/06	
Chloroform	EPA 624	6C30002	0.33	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethane	EPA 624	6C30002	0.27	2.0	ND	1	03/30/06	03/30/06	
1,2-Dichloroethane	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethene	EPA 624	6C30002	0.42	3.0	ND	1	03/30/06	03/30/06	
Ethylbenzene	EPA 624	6C30002	0.25	2.0	ND	1	03/30/06	03/30/06	
Tetrachloroethene	EPA 624	6C30002	0.32	2.0	ND	1	03/30/06	03/30/06	
Toluene	EPA 624	6C30002	0.36	2.0	ND	1	03/30/06	03/30/06	
1,1,1-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	
1,1,2-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	
Trichloroethene	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	
Trichlorofluoromethane	EPA 624	6C30002	0.34	5.0	ND	1	03/30/06	03/30/06	
Vinyl chloride	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	
Xylenes, Total	EPA 624	6C30002	0.90	4.0	ND	1	03/30/06	03/30/06	
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					102 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

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 018

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

## 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
<b>Sample ID: IPC2820-01 (Outfall 018 - Water)</b>									
<b>Reporting Units: ug/l</b>									
Bis(2-ethylhexyl)phthalate	EPA 625	6C28053	1.6	4.8	ND	0.962	03/28/06	03/31/06	
2,4-Dinitrotoluene	EPA 625	6C28053	0.19	8.7	ND	0.962	03/28/06	03/31/06	
N-Nitrosodimethylamine	EPA 625	6C28053	0.096	7.7	ND	0.962	03/28/06	03/31/06	
Pentachlorophenol	EPA 625	6C28053	0.096	7.7	ND	0.962	03/28/06	03/31/06	
2,4,6-Trichlorophenol	EPA 625	6C28053	0.096	5.8	ND	0.962	03/28/06	03/31/06	
Surrogate: 2-Fluorophenol (30-120%)					65 %				
Surrogate: Phenol-d6 (35-120%)					71 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					82 %				
Surrogate: Nitrobenzene-d5 (45-120%)					73 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					74 %				
Surrogate: Terphenyl-d14 (45-120%)					89 %				

Del Mar Analytical - Irvine  
 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 018

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

## ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2820-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	6C29050	0.00099	0.0099	ND	0.99	03/29/06	03/29/06	
Surrogate: Decachlorobiphenyl (45-120%)					43 %				Z
Surrogate: Tetrachloro-m-xylene (35-115%)					43 %				

Del Mar Analytical - Irvine  
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 018 Report Number: IPC2820	Sampled: 03/28/06 Received: 03/28/06
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## METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2820-01 (Outfall 018 - Water) - cont.									
Reporting Units: ug/l									
Copper	EPA 200.8	6C29080	0.25	2.0	3.4	1	03/29/06	03/29/06	
Lead	EPA 200.8	6C29080	0.040	1.0	0.50	1	03/29/06	03/29/06	J
Mercury	EPA 245.1	6C29072	0.050	0.20	ND	1	03/29/06	03/29/06	

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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: Routine Outfall 018

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

## INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IPC2820-01 (Outfall 018 - Water) - cont.</b>									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C30104	0.30	0.50	0.56	1	03/30/06	03/30/06	
Biochemical Oxygen Demand	EPA 405.1	6C29064	0.59	2.0	6.2	1	03/29/06	04/03/06	
Chloride	EPA 300.0	6C28055	0.75	2.5	38	5	03/28/06	03/28/06	
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	ND	1	03/28/06	03/28/06	
Oil & Grease	EPA 413.1	6C29047	0.90	4.8	ND	1	03/29/06	03/29/06	
Sulfate	EPA 300.0	6C28055	2.2	2.5	87	5	03/28/06	03/28/06	
Surfactants (MBAS)	EPA 425.1	6C29127	0.044	0.10	0.090	1	03/29/06	03/29/06	J
Total Dissolved Solids	EPA 160.1	6C29077	10	10	330	1	03/29/06	03/29/06	
Total Suspended Solids	EPA 160.2	6C29092	10	10	17	1	03/29/06	03/29/06	
<b>Sample ID: IPC2820-01 (Outfall 018 - Water)</b>									
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	6C28105	0.10	0.10	ND	1	03/28/06	03/28/06	
<b>Sample ID: IPC2820-01 (Outfall 018 - Water)</b>									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C29118	0.040	1.0	15	1	03/29/06	03/29/06	
<b>Sample ID: IPC2820-01 (Outfall 018 - Water)</b>									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C29109	2.2	5.0	2.4	1	03/29/06	03/29/06	J
Perchlorate	EPA 314.0	6C29086	0.80	4.0	ND	1	03/29/06	03/29/06	
<b>Sample ID: IPC2820-01 (Outfall 018 - Water)</b>									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C29076	1.0	1.0	600	1	03/29/06	03/29/06	

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

Project ID: Routine Outfall 018

Report Number: IPC2820

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Received: 03/28/06

**SHORT HOLD TIME DETAIL REPORT**

	<b>Hold Time (in days)</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>	<b>Date/Time Extracted</b>	<b>Date/Time Analyzed</b>
<b>Sample ID: Outfall 018 (IPC2820-01) - Water</b>					
EPA 160.5	2	03/28/2006 12:48	03/28/2006 18:15	03/28/2006 19:15	03/28/2006 20:15
EPA 180.1	2	03/28/2006 12:48	03/28/2006 18:15	03/29/2006 14:45	03/29/2006 15:45
EPA 300.0	2	03/28/2006 12:48	03/28/2006 18:15	03/28/2006 19:00	03/28/2006 19:49
EPA 405.1	2	03/28/2006 12:48	03/28/2006 18:15	03/29/2006 18:30	04/03/2006 18:30
EPA 425.1	2	03/28/2006 12:48	03/28/2006 18:15	03/29/2006 18:11	03/29/2006 22:12

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 Pasadena, CA 91101  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

## 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
<b>Batch: 6C30002 Extracted: 03/30/06</b>											
<b>Blank Analyzed: 03/30/2006 (6C30002-BLK1)</b>											
Benzene	ND	2.0	0.28	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	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	25.5			ug/l	25.0		102	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	23.7			ug/l	25.0		95	80-120			
<b>LCS Analyzed: 03/30/2006 (6C30002-BS1)</b>											
Benzene	23.0	2.0	0.28	ug/l	25.0		92	65-120			
Carbon tetrachloride	24.1	5.0	0.28	ug/l	25.0		96	65-140			
Chloroform	23.8	2.0	0.33	ug/l	25.0		95	65-130			
1,1-Dichloroethane	23.7	2.0	0.27	ug/l	25.0		95	65-130			
1,2-Dichloroethane	24.5	2.0	0.28	ug/l	25.0		98	60-140			
1,1-Dichloroethene	23.6	3.0	0.42	ug/l	25.0		94	70-130			
Ethylbenzene	25.1	2.0	0.25	ug/l	25.0		100	70-125			
Tetrachloroethene	22.9	2.0	0.32	ug/l	25.0		92	65-125			
Toluene	23.7	2.0	0.36	ug/l	25.0		95	70-125			
1,1,1-Trichloroethane	23.7	2.0	0.30	ug/l	25.0		95	65-135			
1,1,2-Trichloroethane	25.0	2.0	0.30	ug/l	25.0		100	65-125			
Trichloroethene	23.6	5.0	0.26	ug/l	25.0		94	70-125			
Trichlorofluoromethane	23.2	5.0	0.34	ug/l	25.0		93	60-140			
Vinyl chloride	20.0	5.0	0.26	ug/l	25.0		80	50-130			
Surrogate: Dibromofluoromethane	27.0			ug/l	25.0		108	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 018

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

## 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
<b>Batch: 6C30002 Extracted: 03/30/06</b>											
<b>LCS Analyzed: 03/30/2006 (6C30002-BS1)</b>											
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
<b>Matrix Spike Analyzed: 03/30/2006 (6C30002-MS1) Source: IPC2321-02</b>											
Benzene	26.6	2.0	0.28	ug/l	25.0	ND	106	60-125			
Carbon tetrachloride	26.9	5.0	0.28	ug/l	25.0	ND	108	65-140			
Chloroform	30.7	2.0	0.33	ug/l	25.0	ND	123	65-135			
1,1-Dichloroethane	31.0	2.0	0.27	ug/l	25.0	ND	124	60-130			
1,2-Dichloroethane	28.8	2.0	0.28	ug/l	25.0	ND	115	60-140			
1,1-Dichloroethene	28.9	3.0	0.42	ug/l	25.0	0.43	114	60-135			
Ethylbenzene	28.0	2.0	0.25	ug/l	25.0	ND	112	65-130			
Tetrachloroethene	24.2	2.0	0.32	ug/l	25.0	ND	97	60-130			
Toluene	27.0	2.0	0.36	ug/l	25.0	ND	108	65-125			
1,1,1-Trichloroethane	30.0	2.0	0.30	ug/l	25.0	ND	120	65-140			
1,1,2-Trichloroethane	29.3	2.0	0.30	ug/l	25.0	ND	117	60-130			
Trichloroethene	26.8	5.0	0.26	ug/l	25.0	ND	107	60-125			
Trichlorofluoromethane	28.6	5.0	0.34	ug/l	25.0	ND	114	55-145			
Vinyl chloride	25.2	5.0	0.26	ug/l	25.0	ND	101	40-135			
Surrogate: Dibromofluoromethane	30.9			ug/l	25.0		124	80-120			ZX
Surrogate: Toluene-d8	26.9			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	26.6			ug/l	25.0		106	80-120			
<b>Matrix Spike Dup Analyzed: 03/30/2006 (6C30002-MSD1) Source: IPC2321-02</b>											
Benzene	26.5	2.0	0.28	ug/l	25.0	ND	106	60-125	0	20	
Carbon tetrachloride	26.7	5.0	0.28	ug/l	25.0	ND	107	65-140	1	25	
Chloroform	30.4	2.0	0.33	ug/l	25.0	ND	122	65-135	1	20	
1,1-Dichloroethane	30.9	2.0	0.27	ug/l	25.0	ND	124	60-130	0	20	
1,2-Dichloroethane	28.6	2.0	0.28	ug/l	25.0	ND	114	60-140	1	20	
1,1-Dichloroethene	29.1	3.0	0.42	ug/l	25.0	0.43	115	60-135	1	20	
Ethylbenzene	27.6	2.0	0.25	ug/l	25.0	ND	110	65-130	1	20	
Tetrachloroethene	23.9	2.0	0.32	ug/l	25.0	ND	96	60-130	1	20	
Toluene	26.7	2.0	0.36	ug/l	25.0	ND	107	65-125	1	20	
1,1,1-Trichloroethane	29.5	2.0	0.30	ug/l	25.0	ND	118	65-140	2	20	
1,1,2-Trichloroethane	28.8	2.0	0.30	ug/l	25.0	ND	115	60-130	2	25	
Trichloroethene	26.0	5.0	0.26	ug/l	25.0	ND	104	60-125	3	20	
Trichlorofluoromethane	28.7	5.0	0.34	ug/l	25.0	ND	115	55-145	0	25	

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

Report Number: IPC2820

Sampled: 03/28/06  
 Received: 03/28/06

## 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
<b>Batch: 6C30002 Extracted: 03/30/06</b>											
<b>Matrix Spike Dup Analyzed: 03/30/2006 (6C30002-MSD1)</b>						<b>Source: IPC2321-02</b>					
Vinyl chloride	26.0	5.0	0.26	ug/l	25.0	ND	104	40-135	3	30	
Surrogate: Dibromofluoromethane	31.0			ug/l	25.0		124	80-120			ZX
Surrogate: Toluene-d8	26.8			ug/l	25.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104	80-120			

### Batch: 6C30026 Extracted: 03/30/06

#### Blank Analyzed: 03/30/2006 (6C30026-BLK1)

Benzene	ND	2.0	0.28	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	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	29.2			ug/l	25.0		117	80-120			
Surrogate: Toluene-d8	28.0			ug/l	25.0		112	80-120			
Surrogate: 4-Bromofluorobenzene	26.5			ug/l	25.0		106	80-120			

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Report Number: IPC2820

Sampled: 03/28/06  
 Received: 03/28/06

## 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
<b>Batch: 6C30026 Extracted: 03/30/06</b>											
<b>LCS Analyzed: 03/30/2006 (6C30026-BS1)</b>											
Benzene	21.4	2.0	0.28	ug/l	25.0		86	65-120			
Carbon tetrachloride	26.6	5.0	0.28	ug/l	25.0		106	65-140			
Chloroform	23.1	2.0	0.33	ug/l	25.0		92	65-130			
1,1-Dichloroethane	22.7	2.0	0.27	ug/l	25.0		91	65-130			
1,2-Dichloroethane	23.6	2.0	0.28	ug/l	25.0		94	60-140			
1,1-Dichloroethene	22.7	3.0	0.42	ug/l	25.0		91	70-130			
Ethylbenzene	22.7	2.0	0.25	ug/l	25.0		91	70-125			
Tetrachloroethene	22.4	2.0	0.32	ug/l	25.0		90	65-125			
Toluene	22.2	2.0	0.36	ug/l	25.0		89	70-125			
1,1,1-Trichloroethane	23.9	2.0	0.30	ug/l	25.0		96	65-135			
1,1,2-Trichloroethane	24.0	2.0	0.30	ug/l	25.0		96	65-125			
Trichloroethene	20.1	5.0	0.26	ug/l	25.0		80	70-125			
Trichlorofluoromethane	21.9	5.0	0.34	ug/l	25.0		88	60-140			
Vinyl chloride	20.0	5.0	0.26	ug/l	25.0		80	50-130			
Surrogate: Dibromofluoromethane	28.9			ug/l	25.0		116	80-120			
Surrogate: Toluene-d8	27.4			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	27.6			ug/l	25.0		110	80-120			
<b>Matrix Spike Analyzed: 03/30/2006 (6C30026-MS1)</b>					<b>Source: IPC2562-02</b>						
Benzene	21.6	2.0	0.28	ug/l	25.0	ND	86	60-125			
Carbon tetrachloride	27.0	5.0	0.28	ug/l	25.0	ND	108	65-140			
Chloroform	23.9	2.0	0.33	ug/l	25.0	0.59	93	65-135			
1,1-Dichloroethane	23.3	2.0	0.27	ug/l	25.0	ND	93	60-130			
1,2-Dichloroethane	23.8	2.0	0.28	ug/l	25.0	ND	95	60-140			
1,1-Dichloroethene	27.1	3.0	0.42	ug/l	25.0	4.7	90	60-135			
Ethylbenzene	23.6	2.0	0.25	ug/l	25.0	ND	94	65-130			
Tetrachloroethene	23.1	2.0	0.32	ug/l	25.0	ND	92	60-130			
Toluene	22.6	2.0	0.36	ug/l	25.0	ND	90	65-125			
1,1,1-Trichloroethane	24.4	2.0	0.30	ug/l	25.0	ND	98	65-140			
1,1,2-Trichloroethane	23.3	2.0	0.30	ug/l	25.0	ND	93	60-130			
Trichloroethene	20.9	5.0	0.26	ug/l	25.0	1.1	79	60-125			
Trichlorofluoromethane	46.9	5.0	0.34	ug/l	25.0	29	72	55-145			
Vinyl chloride	20.9	5.0	0.26	ug/l	25.0	ND	84	40-135			
Surrogate: Dibromofluoromethane	28.7			ug/l	25.0		115	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	27.5			ug/l	25.0		110	80-120			

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 Project Manager

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

Report Number: IPC2820

Sampled: 03/28/06  
Received: 03/28/06

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
<b>Batch: 6C30026 Extracted: 03/30/06</b>											
<b>Matrix Spike Dup Analyzed: 03/30/2006 (6C30026-MSD1)</b>						<b>Source: IPC2562-02</b>					
Benzene	22.1	2.0	0.28	ug/l	25.0	ND	88	60-125	2	20	
Carbon tetrachloride	27.4	5.0	0.28	ug/l	25.0	ND	110	65-140	1	25	
Chloroform	23.8	2.0	0.33	ug/l	25.0	0.59	93	65-135	0	20	
1,1-Dichloroethane	23.8	2.0	0.27	ug/l	25.0	ND	95	60-130	2	20	
1,2-Dichloroethane	24.5	2.0	0.28	ug/l	25.0	ND	98	60-140	3	20	
1,1-Dichloroethene	27.7	3.0	0.42	ug/l	25.0	4.7	92	60-135	2	20	
Ethylbenzene	24.5	2.0	0.25	ug/l	25.0	ND	98	65-130	4	20	
Tetrachloroethene	24.1	2.0	0.32	ug/l	25.0	ND	96	60-130	4	20	
Toluene	22.8	2.0	0.36	ug/l	25.0	ND	91	65-125	1	20	
1,1,1-Trichloroethane	24.3	2.0	0.30	ug/l	25.0	ND	97	65-140	0	20	
1,1,2-Trichloroethane	24.2	2.0	0.30	ug/l	25.0	ND	97	60-130	4	25	
Trichloroethene	21.1	5.0	0.26	ug/l	25.0	1.1	80	60-125	1	20	
Trichlorofluoromethane	46.0	5.0	0.34	ug/l	25.0	29	68	55-145	2	25	
Vinyl chloride	21.5	5.0	0.26	ug/l	25.0	ND	86	40-135	3	30	
Surrogate: Dibromofluoromethane	28.4			ug/l	25.0		114	80-120			
Surrogate: Toluene-d8	27.6			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	27.9			ug/l	25.0		112	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 018

Report Number: IPC2820

Sampled: 03/28/06  
 Received: 03/28/06

## 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	RPD Limit	Data Qualifiers
<b>Batch: 6C28053 Extracted: 03/28/06</b>											
<b>Blank Analyzed: 03/30/2006 (6C28053-BLK1)</b>											
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	11.5			ug/l	20.0		58	30-120			
Surrogate: Phenol-d6	13.6			ug/l	20.0		68	35-120			
Surrogate: 2,4,6-Tribromophenol	14.5			ug/l	20.0		72	45-120			
Surrogate: Nitrobenzene-d5	6.94			ug/l	10.0		69	45-120			
Surrogate: 2-Fluorobiphenyl	6.96			ug/l	10.0		70	45-120			
Surrogate: Terphenyl-d14	8.24			ug/l	10.0		82	45-120			
<b>LCS Analyzed: 03/30/2006 (6C28053-BS1)</b>											
Bis(2-ethylhexyl)phthalate	10.6	5.0	1.7	ug/l	10.0	106		60-130			M-NRI
2,4-Dinitrotoluene	9.94	9.0	0.20	ug/l	10.0	99		60-120			
N-Nitrosodimethylamine	7.86	8.0	0.10	ug/l	10.0	79		40-120			J
Pentachlorophenol	11.4	8.0	0.10	ug/l	10.0	114		50-120			
2,4,6-Trichlorophenol	9.10	6.0	0.10	ug/l	10.0	91		60-120			
Surrogate: 2-Fluorophenol	12.9			ug/l	20.0	64		30-120			
Surrogate: Phenol-d6	14.1			ug/l	20.0	70		35-120			
Surrogate: 2,4,6-Tribromophenol	17.4			ug/l	20.0	87		45-120			
Surrogate: Nitrobenzene-d5	7.12			ug/l	10.0	71		45-120			
Surrogate: 2-Fluorobiphenyl	7.26			ug/l	10.0	73		45-120			
Surrogate: Terphenyl-d14	7.88			ug/l	10.0	79		45-120			
<b>LCS Dup Analyzed: 03/30/2006 (6C28053-BSD1)</b>											
Bis(2-ethylhexyl)phthalate	11.4	5.0	1.7	ug/l	10.0	114		60-130	7	20	
2,4-Dinitrotoluene	10.7	9.0	0.20	ug/l	10.0	107		60-120	7	20	
N-Nitrosodimethylamine	9.28	8.0	0.10	ug/l	10.0	93		40-120	17	20	
Pentachlorophenol	10.9	8.0	0.10	ug/l	10.0	109		50-120	4	25	
2,4,6-Trichlorophenol	8.42	6.0	0.10	ug/l	10.0	84		60-120	8	20	
Surrogate: 2-Fluorophenol	12.4			ug/l	20.0	62		30-120			
Surrogate: Phenol-d6	15.3			ug/l	20.0	76		35-120			
Surrogate: 2,4,6-Tribromophenol	17.3			ug/l	20.0	86		45-120			
Surrogate: Nitrobenzene-d5	8.30			ug/l	10.0	83		45-120			
Surrogate: 2-Fluorobiphenyl	8.38			ug/l	10.0	84		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 018

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

## METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD RPD	Limit	Data Qualifiers
<b>Batch: 6C28053 Extracted: 03/28/06</b>											
<b>LCS Dup Analyzed: 03/30/2006 (6C28053-BSD1)</b>											
Surrogate: Terphenyl-d14	8.66			ug/l	10.0		87	45-120			

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**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
<b>Batch: 6C29050 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29050-BLK1)</b>											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.466			ug/l	0.500		93	45-120			
Surrogate: Tetrachloro-m-xylene	0.388			ug/l	0.500		78	35-115			
<b>LCS Analyzed: 03/29/2006 (6C29050-BS1)</b>											
alpha-BHC	0.425	0.010	0.0010	ug/l	0.500		85	45-120			
Surrogate: Decachlorobiphenyl	0.473			ug/l	0.500		95	45-120			
Surrogate: Tetrachloro-m-xylene	0.413			ug/l	0.500		83	35-115			
<b>Matrix Spike Analyzed: 03/29/2006 (6C29050-MS1) Source: IPC2322-01</b>											
alpha-BHC	0.389	0.0094	0.00094	ug/l	0.472	ND	82	45-120			
Surrogate: Decachlorobiphenyl	0.435			ug/l	0.472		92	45-120			
Surrogate: Tetrachloro-m-xylene	0.385			ug/l	0.472		82	35-115			
<b>Matrix Spike Dup Analyzed: 03/29/2006 (6C29050-MSD1) Source: IPC2322-01</b>											
alpha-BHC	0.339	0.0094	0.00094	ug/l	0.472	ND	72	45-120	14	30	
Surrogate: Decachlorobiphenyl	0.356			ug/l	0.472		75	45-120			
Surrogate: Tetrachloro-m-xylene	0.347			ug/l	0.472		74	35-115			

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 018 Report Number: IPC2820	Sampled: 03/28/06 Received: 03/28/06
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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
<b>Batch: 6C29072 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29072-BLK1)</b>											
Mercury	ND	0.20	0.050	ug/l							
<b>LCS Analyzed: 03/29/2006 (6C29072-BS1)</b>											
Mercury	7.90	0.20	0.050	ug/l	8.00		99	85-115			
<b>Matrix Spike Analyzed: 03/29/2006 (6C29072-MS1)</b>											
						<b>Source: IPC2718-01</b>					
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
<b>Matrix Spike Dup Analyzed: 03/29/2006 (6C29072-MSD1)</b>											
						<b>Source: IPC2718-01</b>					
Mercury	7.82	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
<b>Batch: 6C29080 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29080-BLK1)</b>											
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
<b>LCS Analyzed: 03/29/2006 (6C29080-BS1)</b>											
Copper	79.3	2.0	0.25	ug/l	80.0		99	85-115			
Lead	81.8	1.0	0.040	ug/l	80.0		102	85-115			
<b>Matrix Spike Analyzed: 03/29/2006 (6C29080-MS1)</b>											
						<b>Source: IPC2585-01</b>					
Copper	82.8	2.0	0.25	ug/l	80.0	8.6	93	70-130			
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	70-130			
<b>Matrix Spike Dup Analyzed: 03/29/2006 (6C29080-MSD1)</b>											
						<b>Source: IPC2585-01</b>					
Copper	82.7	2.0	0.25	ug/l	80.0	8.6	93	70-130	0	20	
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	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	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C28055 Extracted: 03/28/06</b>										
<b>Blank Analyzed: 03/28/2006 (6C28055-BLK1)</b>										
Chloride	ND	0.50	0.15	mg/l						
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l						
Sulfate	ND	0.50	0.45	mg/l						
<b>LCS Analyzed: 03/28/2006 (6C28055-BS1)</b>										
Chloride	4.81	0.50	0.15	mg/l	5.00		96	90-110		M-3
Sulfate	9.76	0.50	0.45	mg/l	10.0		98	90-110		
<b>Matrix Spike Analyzed: 03/28/2006 (6C28055-MS1)</b>										
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120		
						<b>Source: IPC2694-01</b>				
<b>Matrix Spike Dup Analyzed: 03/28/2006 (6C28055-MSD1)</b>										
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20
						<b>Source: IPC2694-01</b>				
<b>Batch: 6C29047 Extracted: 03/29/06</b>										
<b>Blank Analyzed: 03/29/2006 (6C29047-BLK1)</b>										
Oil & Grease	ND	5.0	0.94	mg/l						
<b>LCS Analyzed: 03/29/2006 (6C29047-BS1)</b>										
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120		M-NR1
<b>LCS Dup Analyzed: 03/29/2006 (6C29047-BSD1)</b>										
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120	2	20
<b>Batch: 6C29064 Extracted: 03/29/06</b>										
<b>Blank Analyzed: 04/03/2006 (6C29064-BLK1)</b>										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l						

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 018 Report Number: IPC2820	Sampled: 03/28/06 Received: 03/28/06
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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
<b>Batch: 6C29064 Extracted: 03/29/06</b>											
<b>LCS Analyzed: 04/03/2006 (6C29064-BS1)</b>											
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115			M-NR1
<b>LCS Dup Analyzed: 04/03/2006 (6C29064-BSD1)</b>											
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115	0	20	
<b>Batch: 6C29076 Extracted: 03/29/06</b>											
<b>Duplicate Analyzed: 03/29/2006 (6C29076-DUP1)</b>											
Specific Conductance	195	1.0	1.0	umhos/cm		Source: IPC2034-01 200			3	5	
<b>Batch: 6C29077 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29077-BLK1)</b>											
Total Dissolved Solids	ND	10	10	mg/l							
<b>LCS Analyzed: 03/29/2006 (6C29077-BS1)</b>											
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
<b>Duplicate Analyzed: 03/29/2006 (6C29077-DUP1)</b>											
Total Dissolved Solids	240	10	10	mg/l		Source: IPC2817-01 240			0	10	
<b>Batch: 6C29086 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29086-BLK1)</b>											
Perchlorate	ND	4.0	0.80	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
<b>Batch: 6C29086 Extracted: 03/29/06</b>											
<b>LCS Analyzed: 03/29/2006 (6C29086-BS1)</b>											
Perchlorate	50.4	4.0	0.80	ug/l	50.0		101	85-115			
<b>Matrix Spike Analyzed: 03/29/2006 (6C29086-MS1) Source: IPC2840-01</b>											
Perchlorate	57.1	4.0	0.80	ug/l	50.0	6.2	102	80-120			
<b>Matrix Spike Dup Analyzed: 03/29/2006 (6C29086-MSD1) Source: IPC2840-01</b>											
Perchlorate	56.3	4.0	0.80	ug/l	50.0	6.2	100	80-120	1	20	
<b>Batch: 6C29092 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29092-BLK1)</b>											
Total Suspended Solids	ND	10	10	mg/l							
<b>LCS Analyzed: 03/29/2006 (6C29092-BS1)</b>											
Total Suspended Solids	953	10	10	mg/l	1000		95	85-115			
<b>Duplicate Analyzed: 03/29/2006 (6C29092-DUP1) Source: IPC2722-01</b>											
Total Suspended Solids	22.0	10	10	mg/l		21			5	10	
<b>Batch: 6C29109 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29109-BLK1)</b>											
Total Cyanide	ND	5.0	2.2	ug/l							
<b>LCS Analyzed: 03/29/2006 (6C29109-BS1)</b>											
Total Cyanide	207	5.0	2.2	ug/l	200		104	90-110			

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C29109 Extracted: 03/29/06</b>											
<b>Matrix Spike Analyzed: 03/29/2006 (6C29109-MS1)</b>						<b>Source: IPC2823-01</b>					
Total Cyanide	194	5.0	2.2	ug/l	200	ND	97	70-115			
<b>Matrix Spike Dup Analyzed: 03/29/2006 (6C29109-MSD1)</b>						<b>Source: IPC2823-01</b>					
Total Cyanide	196	5.0	2.2	ug/l	200	ND	98	70-115	1	15	
<b>Batch: 6C29118 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29118-BLK1)</b>											
Turbidity	0.0500	1.0	0.040	NTU							J
<b>Duplicate Analyzed: 03/29/2006 (6C29118-DUP1)</b>						<b>Source: IPC2867-01</b>					
Turbidity	0.110	1.0	0.040	NTU		0.10			10	20	J
<b>Batch: 6C29127 Extracted: 03/29/06</b>											
<b>Blank Analyzed: 03/29/2006 (6C29127-BLK1)</b>											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
<b>LCS Analyzed: 03/29/2006 (6C29127-BS1)</b>											
Surfactants (MBAS)	0.269	0.10	0.044	mg/l	0.250		108	90-110			
<b>Matrix Spike Analyzed: 03/29/2006 (6C29127-MS1)</b>						<b>Source: IPC2820-01</b>					
Surfactants (MBAS)	0.345	0.10	0.044	mg/l	0.250	0.090	102	50-125			
<b>Matrix Spike Dup Analyzed: 03/29/2006 (6C29127-MSD1)</b>						<b>Source: IPC2820-01</b>					
Surfactants (MBAS)	0.347	0.10	0.044	mg/l	0.250	0.090	103	50-125	1	20	

Del Mar Analytical - Irvine  
 Michele Chamberlin  
 Project Manager

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# Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 251-1022 FAX (949) 260-3297  
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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 018 Report Number: IPC2820	Sampled: 03/28/06 Received: 03/28/06
--	---	---

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 6C30104 Extracted: 03/30/06</b>											
<b>Blank Analyzed: 03/30/2006 (6C30104-BLK1)</b>											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
<b>LCS Analyzed: 03/30/2006 (6C30104-BS1)</b>											
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0		109	80-115			
<b>Matrix Spike Analyzed: 03/30/2006 (6C30104-MS1)</b>											
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0	ND	106	70-120			
<b>Matrix Spike Dup Analyzed: 03/30/2006 (6C30104-MSD1)</b>											
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	

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

Project ID: Routine Outfall 018

Report Number: IPC2820

Sampled: 03/28/06  
 Received: 03/28/06

## 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
IPC2820-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.57	4.8	10.00
IPC2820-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0099	0.0100
IPC2820-01	624-Boeing 001/002 Q (Fri13+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2820-01	624-Boeing 001/002 Q (Fri13+X)	Trichloroethene	ug/l	0.27	5.0	5.00
IPC2820-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.8	6.50
IPC2820-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.7	9.10
IPC2820-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	1.10	4.8	4.00
IPC2820-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.7	8.10
IPC2820-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.7	8.20
IPC2820-01	BOD	Biochemical Oxygen Demand	mg/l	6.20	2.0	20
IPC2820-01	Chloride - 300.0	Chloride	mg/l	38	2.5	150
IPC2820-01	Copper-200.8	Copper	ug/l	3.40	2.0	7.10
IPC2820-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	2.40	5.0	5.00
IPC2820-01	Lead-200.8	Lead	ug/l	0.50	1.0	2.60
IPC2820-01	MBAS - 425.1	Surfactants (MBAS)	mg/l	0.090	0.10	0.50
IPC2820-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPC2820-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0	0.15	8.00
IPC2820-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPC2820-01	Sulfate-300.0	Sulfate	mg/l	87	2.5	300
IPC2820-01	TDS - EPA 160.1	Total Dissolved Solids	mg/l	330	10	950
IPC2820-02	624-Boeing 001/002 Q (Fri13+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2820-02	624-Boeing 001/002 Q (Fri13+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 018

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

### DATA QUALIFIERS AND DEFINITIONS

- A-01** Matrix interference confirmed GCMS #1 3/30/2006.
- 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-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).
- M-NRI** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- Z** Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
- 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

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 018

Report Number: IPC2820

Sampled: 03/28/06  
Received: 03/28/06

### Certification Summary

#### Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.1	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 425.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	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](http://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: IPC2820-01

Analysis Performed: EDD + Level 4

Samples: IPC2820-01

Del Mar Analytical - Irvine  
Michele Chamberlin  
Project Manager

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Del Mar Analytical Version 03/1/06 CHAIN OF CUSTODY FORM

**Client Name/Address:**  
 MWH-Pasadena  
 300 North Lake Avenue, Suite 1200  
 Pasadena, CA 91101

**Project:**  
 Boeing-SSFL NPDES  
 Routine Outfall 018  
 R-2 Spillway

**Project Manager:** Bronwyn Kelly  
 Phone Number:  
 (626) 568-6691  
 Fax Number:  
 (626) 568-6515

**Sampler:** Rick Bannister  
 RICK BANNISTER

Sample Description		Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Botlle #	Total Recoverable Metals: Cu, Pb, Hg,	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	Alpha BHC (8081A)	2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Field readings: Temp = 57 °C pH = 7.0	Comments
Outfall 018	W	Poly-1L	1	1	3-28-06 12:48	HNO3	1A	X														
Outfall 018-Dup	W	Poly-1L	1	1		HNO3	1B	X														
Outfall 018	W	Poly-1L	1	1		None	2		X													
Outfall 018	W	VOAs	3	3		HCl	3A, 3B, 3C			X												
Outfall 018	W	1L Amber	2	2		None	4A, 4B				X											
Outfall 018	W	1L Amber	2	2		HCl	5A, 5B					X										
Outfall 018	W	Poly-500 ml	1	1		NaOH	6						X									
Outfall 018	W	Poly-1 L	1	1		None	7							X								
Outfall 018	W	Poly-500 ml	2	2		None	8A, 8B								X							
Outfall 018	W	Poly-500 ml	2	2		None	9A, 9B									X						
Outfall 018	W	Poly-500 ml	2	2		None	10A, 10B										X					
Outfall 018	W	Poly-500 ml	1	1		H2SO4	11											X				
Outfall 018	W	1L Amber	2	2		None	12A, 12B															
Outfall 018	W	1L Amber	2	2	3-28-06 12:48	None	13A, 13B															
Trip Blank	W	VOAs	3	3		HCl	15A, 15B, 15C			X												

Turn around Time: (check)  
 24 Hours \_\_\_\_\_ 5 Days \_\_\_\_\_  
 48 Hours \_\_\_\_\_ 10 Days \_\_\_\_\_  
 72 Hours \_\_\_\_\_ Normal \_\_\_\_\_  
 Perchlorate Only 72 Hours \_\_\_\_\_  
 Metals Only 72 Hours \_\_\_\_\_  
 Sample Integrity: (Check)  On Ice: 2 °C

Received By: *B. Bannister* Date/Time: 3/28/06 1500  
 Received By: *Amey Ann* Date/Time: 3/28/06 1815  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished By: *B. Bannister* Date/Time: 3-28-06 1500  
 Relinquished By: *B. Bannister* Date/Time: 3/28/06 1815  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

3/28/06  
 1920



April 03, 2006

**Alta Project I.D.: 27497**

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 30, 2006 under your Project Name "IPC2820". 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](mailto:mmaier@altalab.com). Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha 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.*



**Section I: Sample Inventory Report**

**Date Received: 3/30/2006**

Alta Lab. ID

Client Sample ID

27497-001

IPC2820-01

**SECTION II**



Method Blank		EPA Method 1613					
Matrix:	Aqueous	QC Batch No.:	7886	Lab Sample:	0-MB001		
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-06		
				Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000977		13C-2,3,7,8-TCDD	74.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000135		13C-1,2,3,7,8-PeCDD	74.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.000000919		13C-1,2,3,4,7,8-HxCDD	75.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.000000964		13C-1,2,3,6,7,8-HxCDD	75.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.000000913		13C-1,2,3,4,6,7,8-HpCDD	76.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.000000944		13C-OCDD	43.6	17 - 157	
OCDD	ND	0.00000222		13C-2,3,7,8-TCDF	79.1	24 - 169	
2,3,7,8-TCDF	ND	0.000000845		13C-1,2,3,7,8-PeCDF	81.7	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000110		13C-2,3,4,7,8-PeCDF	83.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000101		13C-1,2,3,4,7,8-HxCDF	75.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000457		13C-1,2,3,6,7,8-HxCDF	76.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000415		13C-2,3,4,6,7,8-HxCDF	76.4	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000487		13C-1,2,3,7,8,9-HxCDF	76.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000630		13C-1,2,3,4,6,7,8-HpCDF	69.4	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000489		13C-1,2,3,4,7,8,9-HpCDF	79.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000435		13C-OCDF	50.1	17 - 157	
OCDF	ND	0.00000220		CRS 37Cl-2,3,7,8-TCDD	81.3	35 - 197	
<b>Totals</b>							
Total TCDD	ND	0.000000977					
Total PeCDD	ND	0.00000135					
Total HxCDD	ND	0.000000932					
Total HpCDD	ND	0.000000944					
Total TCDF	ND	0.000000845					
Total PeCDF	ND	0.00000106					
Total HxCDF	ND	0.000000491					
Total HpCDF	ND	0.000000463					

**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 03-Apr-2006 11:38

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No:	7886	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-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	11.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	63.0	25 - 164
1,2,3,7,8-PeCDD	50.0	59.5	35 - 71	13C-1,2,3,7,8-PeCDD	63.9	25 - 181
1,2,3,4,7,8-HxCDD	50.0	56.2	35 - 82	13C-1,2,3,4,7,8-HxCDD	63.7	32 - 141
1,2,3,6,7,8-HxCDD	50.0	56.1	38 - 67	13C-1,2,3,6,7,8-HxCDD	63.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	54.5	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	52.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	56.0	35 - 70	13C-OCDD	31.1	17 - 157
OCDD	100	113	78 - 144	13C-2,3,7,8-TCDF	63.0	24 - 169
2,3,7,8-TCDF	10.0	11.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	67.1	24 - 185
1,2,3,7,8-PeCDF	50.0	53.9	40 - 67	13C-2,3,4,7,8-PeCDF	68.4	21 - 178
2,3,4,7,8-PeCDF	50.0	54.9	34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4	26 - 152
1,2,3,4,7,8-HxCDF	50.0	55.7	36 - 67	13C-1,2,3,6,7,8-HxCDF	64.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	57.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	65.5	28 - 136
2,3,4,6,7,8-HxCDF	50.0	55.0	35 - 78	13C-1,2,3,7,8,9-HpCDF	63.2	29 - 147
1,2,3,7,8,9-HpCDF	50.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.3	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	54.8	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	56.4	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.6	39 - 69	13C-OCDF	37.9	17 - 157
OCDF	100	106	63 - 170	CRS 37Cl-2,3,7,8-TCDD	78.6	35 - 197

Analyst: JMH  
 Approved By: Martha M. Maier 03-Apr-2006 11:38

Sample ID: <b>IPC2820-01</b>		EPA Method 1613					
Client Data		Sample Data		Laboratory Data			
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 27497-001	Date Received: 30-Mar-06				
Project: IPC2820	Sample Size: 0.995 L	QC Batch No: 7886	Date Extracted: 31-Mar-06				
Date Collected: 28-Mar-06		Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225: NA				
Time Collected: 1248							
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000900		13C-2,3,7,8-TCDD	67.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000223		13C-1,2,3,7,8-PeCDD	65.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND		0.000000939	13C-1,2,3,4,7,8-HxCDD	64.1	32 - 141	
1,2,3,6,7,8-HxCDD	0.00000163			13C-1,2,3,6,7,8-HxCDD	64.9	28 - 130	J
1,2,3,7,8,9-HxCDD	ND	0.00000172		13C-1,2,3,4,6,7,8-HpCDD	63.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000311			13C-OCDD	40.0	17 - 157	
OCDD	0.000285			13C-2,3,7,8-TCDF	66.2	24 - 169	
2,3,7,8-TCDF	ND	0.00000123		13C-1,2,3,7,8-PeCDF	69.5	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000118		13C-2,3,4,7,8-PeCDF	69.4	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000114		13C-1,2,3,4,7,8-HxCDF	66.3	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000694		13C-1,2,3,6,7,8-HxCDF	68.1	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000597		13C-2,3,4,6,7,8-HxCDF	66.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000711		13C-1,2,3,7,8,9-HxCDF	66.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000878		13C-1,2,3,4,6,7,8-HpCDF	60.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000464			13C-1,2,3,4,7,8,9-HpCDF	66.5	26 - 138	J
1,2,3,4,7,8,9-HpCDF	ND	0.00000578		13C-OCDF	46.9	17 - 157	
OCDF	0.0000106			CRS 37Cl-2,3,7,8-TCDD	86.9	35 - 197	
<b>Totals</b>							
Total TCDD	ND	0.000000900					
Total PeCDD	ND	0.00000223					
Total HxCDD	0.0000126		0.00000135				
Total HpCDD	0.0000661						
Total TCDF	0.00000332						
Total PeCDF	ND	0.00000116					
Total HxCDF	0.00000490						
Total HpCDF	0.0000130						

**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 03-Apr-2006 11:38

**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**

<b>Accrediting Authority</b>	<b>Certificate Number</b>
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) 370-4867 Fax (909) 370-1046  
 9484 Chesapeake Drive, Suite 605, San Diego, CA 92123 Ph (619) 505-9586 Fax (619) 505-9588  
 9830 South 61st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0051  
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89130 Ph (702) 798-3820 Fax (702) 798-3821

**SUBCONTRACT ORDER - PROJECT # IPC2820**

<p><b>SENDING LABORATORY:</b>          Del Mar Analytical - Irvine          17461 Derian Avenue, Suite 100          Irvine, CA 92614          Phone: (949) 261-1022          Fax: (949) 261-1228          Project Manager: Michele Chamberlin</p>	<p><b>RECEIVING LABORATORY:</b>          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; text-align: right;">27497</p> <p style="font-size: 1.5em; text-align: right;">0.3°C</p>
---	---

Standard TAT is requested unless specific due date is requested => Due Date: 4/5/06 Initials: \_\_\_\_\_

Analysis	Expiration	Comments
Sample ID: IPC2820-01 Water	Sampled: 03/28/06 12:48	Instant Notification
1613-Dioxin-HR-Alta	04/14/06 12:48	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/25/06 12:48	Excel EDD email to pm, include Std logs for Lvl IV
<b>Containers Supplied:</b>		
1 L Amber (IPC2820-01G)		
<del>1 L Amber (IPC2820-01H)</del>		

**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 loc: <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: 3/24/06 Time: \_\_\_\_\_ Received By: [Signature] Date: 3/30/06 Time: 0900

Released By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**SAMPLE LOG-IN CHECKLIST**

Alta Project #: 27497

Samples Arrival:	Date/Time 3/30/06 0900	Initials: JBB	Location: WR-2
Logged In:	Date/Time 3/30/06 1112	Initials: JBB	Location: WR-2
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> DHL	<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	0.3°C	Time: 1023	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 #	7914 2591 2912		
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 <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented?		COC	Sample Container
			None
Shipping Container	Alta	Client	Retain
			Return
			Dispose

Comments:



**APPENDIX G**

**Section 126**

**Outfall 018, March 28, 2006**

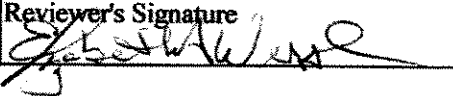
**AMEC Data Validation Reports**

**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

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

Package ID B4DF57  
 Task Order 1261.001D.01  
 SDG No. IPC2820  
 No. of Analyses 1

Laboratory Alta Analytical  
 Reviewer E. Wessling  
 Analysis/Method Dioxins/ Furans by Method 1613

Date: April 10, 2006 February 17, 2006  
 Reviewer's Signature  


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

<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements.  
<sup>b</sup> 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: IPC2820

Prepared by  
MEC<sup>x</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES  
Contract Task Order: 1261.001D.01  
Sample Delivery Group: IPC2820  
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 10, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC<sup>X</sup> 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	IPC2820-01	27497-001	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 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 (0-7886-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 (0-7886-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. Peaks which did not meet the ion abundance criteria for identification were qualified as estimated nondetects as the values presented by the laboratory were the Estimated Possible Maximum Concentrations, EMPCs. No further qualifications were required.





EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Sample ID: IFC2820-01	Outfall 018	Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 27497-001	Date Received: 30-Mar-06		
Project: IPC2820		Sample Size: 0.995 L		QC Batch No.: 7886	Date Extracted: 31-Mar-06		
Date Collected: 28-Mar-06				Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225: NA		
Time Collected: 12:48							
Analyte	Conc. (ug/L)	DL <sup>a</sup>	EMPC <sup>b</sup>	Labeled Standard	%R	LCL-UCL <sup>d</sup>	Qualifiers
2,3,7,8-TCDD	ND	0.000000900		13C-2,3,7,8-TCDD	67.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000223		13C-1,2,3,7,8-PeCDD	65.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND		0.000009939	13C-1,2,3,4,7,8-HxCDD	64.1	32 - 141	
1,2,3,6,7,8-HxCDD	0.00000163			13C-1,2,3,6,7,8-HxCDD	64.9	28 - 130	J
1,2,3,7,8,9-HxCDD	ND	0.00000172		13C-1,2,3,4,6,7,8-HpCDD	63.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000311			13C-OCDD	40.0	17 - 157	
OCDD	0.000285			13C-2,3,7,8-TCDF	66.2	24 - 169	
2,3,7,8-TCDF	ND	0.00000123		13C-1,2,3,7,8-PeCDF	69.5	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000118		13C-2,3,4,7,8-PeCDF	69.4	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000114		13C-1,2,3,4,7,8-HxCDF	66.3	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000694		13C-1,2,3,6,7,8-HxCDF	68.1	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000597		13C-2,3,4,6,7,8-HxCDF	66.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000711		13C-1,2,3,7,8,9-HxCDF	66.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000878		13C-1,2,3,4,6,7,8-HpCDF	60.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000064			13C-1,2,3,4,7,8,9-HpCDF	66.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000578		13C-OCDF	46.9	17 - 157	
OCDF	0.000106			CRS 37CL-2,3,7,8-TCDD	86.9	35 - 197	
<b>Totals</b>							
Total TCDD	ND	0.000000900					
Total PeCDD	ND	0.00000223					
Total HxCDD	0.0000126		0.0000135				
Total HpCDD	0.0000661						
Total TCDF	0.00000332						
Total PeCDF	ND	0.00000116					
Total HxCDF	0.00000490						
Total HpCDF	0.0000130						

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  
 Date: 03-Apr-2006 11:38

LEVEL IV

AM 4/10/06

Project 27497

**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

MEC<sup>x</sup>  
 12269 East Vassar Drive  
 Aurora, CO 80014

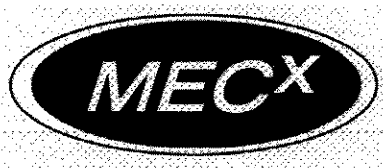
Package ID B4V052  
 Task Order 1261.001D.01  
 SDG No. IPC2820

No. of Analyses 2

Laboratory Del Mar Analytical-Irvine  
 Reviewer K. Shadowlight  
 Analysis/Method Volatiles by Method 624

Date: April 11, 2006  
 Reviewer's Signature  


ACTION ITEMS <sup>a</sup>	
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 : - a continuing calibration %D outlier - a surrogate outlier  The detect between the MDL and the reporting limit was qualified as estimated.
COMMENTS <sup>b</sup>	_____
_____	
_____	
_____	
<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. <sup>b</sup> 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 018

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC2820

Prepared by

MEC<sup>x</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES  
MEC<sup>X</sup> Project Number: 1261.001D.01  
Sample Delivery Group: IPC2820  
Project Manager: P. Costa  
Matrix: Water  
Analysis: Volatiles  
QC Level: Level IV  
No. of Samples: 2  
No. of Reanalyses/Dilutions: 0  
Reviewer: K. Shadowlight  
Date of Review: April 11, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC<sup>X</sup> 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	IPC2820-01	Water	624
Trip Blank	IPC2820-02	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 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

Four initial calibrations were associated with the sample analyses, dated 03/16/06 (trichlorotrifluoroethane only on instruments GC/MS #1 and GC/MS #36) and 03/28/06 (all remaining target compounds on GC/MS #1 and GC/MS #36). The average RRFs were  $\geq$ 0.05 and the %RSDs were  $\leq$ 35% for all target compounds listed on the sample result summary forms. Two continuing calibrations were associated with the sample analyses, dated 03/30/06 (instruments GC/MS #1 and GC/MS #36). The RRFs were  $\geq$ 0.05 and all %Ds were within the QC limit of  $\leq$ 20%, with the exception of the %D for carbon tetrachloride (instrument GC/MS#36). The nondetect result for carbon tetrachloride was qualified as estimated, "UJ," in sample Outfall 018.

A representative number of average RRFs and %RSDs for the initial calibrations and RRFs and %Ds for the continuing calibrations were calculated from the raw data and no calculation or transcription errors were found. No further qualifications were required.

## 2.4 BLANKS

Two method blanks (6C30002-BLK1 and 6C30026-BLK1) were analyzed with this SDG. No target compounds were detected above the MDLs in either of the method blanks. Review of the method blank raw data indicated no false negatives. No qualifications were required.

## 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spikes (6C30002-BS1 and 6C30026-BS1) were 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 dibromofluoromethane was recovered marginally above the laboratory QC limits. The sample was reanalyzed with similar results; therefore, the detect for trichloroethene was qualified as estimated, "J," in site sample Outfall 018. The remaining 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 further 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  $\pm 30$  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. Any detects reported between the MDL and the reporting limit were qualified as estimated, "J," and annotated with the "DNQ" qualifier code in accordance with the NPDES permit. 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.





# 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) 370-1946  
 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 018

Report Number: IPC2820

Sampled: 03/28/06  
 Received: 03/28/06

## PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IPC2820-01 (Outfall 018 - Water)</b>									
Reporting Units: ug/l									
Benzene	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	u
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30026	1.2	5.0	ND	1	03/30/06	03/31/06	u
Carbon tetrachloride	EPA 624	6C30026	0.28	5.0	ND	1	03/30/06	03/31/06	u, J, C
Chloroform	EPA 624	6C30026	0.33	2.0	ND	1	03/30/06	03/31/06	u
1,1-Dichloroethane	EPA 624	6C30026	0.27	2.0	ND	1	03/30/06	03/31/06	u
1,2-Dichloroethane	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	u
1,1-Dichloroethene	EPA 624	6C30026	0.42	3.0	ND	1	03/30/06	03/31/06	u
Ethylbenzene	EPA 624	6C30026	0.25	2.0	ND	1	03/30/06	03/31/06	u
Tetrachloroethene	EPA 624	6C30026	0.32	2.0	ND	1	03/30/06	03/31/06	u
Toluene	EPA 624	6C30026	0.36	2.0	ND	1	03/30/06	03/31/06	u
1,1,1-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	u
1,1,2-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	u
Trichloroethene	EPA 624	6C30026	0.26	5.0	0.27	1	03/30/06	03/31/06	J, u, DNP, S
Trichlorofluoromethane	EPA 624	6C30026	0.34	5.0	ND	1	03/30/06	03/31/06	u
Vinyl chloride	EPA 624	6C30026	0.26	5.0	ND	1	03/30/06	03/31/06	u
Xylenes, Total	EPA 624	6C30026	0.90	4.0	ND	1	03/30/06	03/31/06	u
Surrogate: Dibromofluoromethane (80-120%)					122 %	A-01, ZX			
Surrogate: Toluene-d8 (80-120%)					110 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					105 %				
<b>Sample ID: IPC2820-02 (Trip Blank - Water)</b>									
Reporting Units: ug/l									
Benzene	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	u
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30002	1.2	5.0	ND	1	03/30/06	03/30/06	u
Carbon tetrachloride	EPA 624	6C30002	0.28	5.0	ND	1	03/30/06	03/30/06	u
Chloroform	EPA 624	6C30002	0.33	2.0	ND	1	03/30/06	03/30/06	u
1,1-Dichloroethane	EPA 624	6C30002	0.27	2.0	ND	1	03/30/06	03/30/06	u
1,2-Dichloroethane	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	u
1,1-Dichloroethene	EPA 624	6C30002	0.42	3.0	ND	1	03/30/06	03/30/06	u
Ethylbenzene	EPA 624	6C30002	0.25	2.0	ND	1	03/30/06	03/30/06	u
Tetrachloroethene	EPA 624	6C30002	0.32	2.0	ND	1	03/30/06	03/30/06	u
Toluene	EPA 624	6C30002	0.36	2.0	ND	1	03/30/06	03/30/06	u
1,1,1-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	u
1,1,2-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	u
Trichloroethene	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	u
Trichlorofluoromethane	EPA 624	6C30002	0.34	5.0	ND	1	03/30/06	03/30/06	u
Vinyl chloride	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	u
Xylenes, Total	EPA 624	6C30002	0.90	4.0	ND	1	03/30/06	03/30/06	u
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					102 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

Level IV

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.

**CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA**

MEC<sup>x</sup>  
 12269 East Vassar Drive  
 Aurora, CO 80014

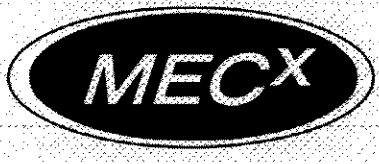
Package ID: B4WC53  
 Task Order: 1261.001D.01  
 SDG No.: IPC2820

No. of Analyses: 1

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

Date: April 11, 2006  
 Reviewer's Signature  


<b>ACTION ITEMS<sup>a</sup></b>	
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	
<b>COMMENTS<sup>b</sup></b>	Acceptable as reviewed.
<sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. <sup>b</sup> 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: IPC2820

Prepared by

MEC<sup>X</sup>, LLC  
12269 East Vassar Drive  
Aurora, CO 80014

## 1. INTRODUCTION

Task Order Title: NPDES Sampling  
MEC<sup>X</sup> Project Number: 1261.001D.01  
Sample Delivery Group: IPC2820  
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 12, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the *MEC<sup>X</sup> 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 018	IPC2820-01	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; however, as the ammonia LCS recovery was within the CCV control limits, 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 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. 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.



17461 Dorian 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 018

Report Number: IPC2820

Sampled: 03/28/06  
 Received: 03/28/06

**INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2820-01 (Outfall 018 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C30104	0.30	0.50	0.56	1	03/30/06	03/30/06	
Biochemical Oxygen Demand	EPA 405.1	6C29064	0.59	2.0	6.2	1	03/29/06	04/03/06	*
Chloride	EPA 300.0	6C28055	0.75	2.5	38	5	03/28/06	03/28/06	
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	ND	1	03/28/06	03/28/06	
Oil & Grease	EPA 413.1	6C29047	0.90	4.8	ND	1	03/29/06	03/29/06	
Sulfate	EPA 300.0	6C28055	2.2	2.5	87	5	03/28/06	03/28/06	
Surfactants (MBAS)	EPA 425.1	6C29127	0.044	0.10	0.090	1	03/29/06	03/29/06	J
Total Dissolved Solids	EPA 160.1	6C29077	10	10	330	1	03/29/06	03/29/06	
Total Suspended Solids	EPA 160.2	6C29092	10	10	17	1	03/29/06	03/29/06	
Sample ID: IPC2820-01 (Outfall 018 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C28105	0.10	0.10	ND	1	03/28/06	03/28/06	
Sample ID: IPC2820-01 (Outfall 018 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C29118	0.040	1.0	15	1	03/29/06	03/29/06	
Sample ID: IPC2820-01 (Outfall 018 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C29109	2.2	5.0	2.4	1	03/29/06	03/29/06	* J
Perchlorate	EPA 314.0	6C29086	0.80	4.0	ND	1	03/29/06	03/29/06	*
Sample ID: IPC2820-01 (Outfall 018 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C29076	1.0	1.0	600	1	03/29/06	03/29/06	

\* Analysis not validated

LEVEL IV

Del Mar Analytical - Irvine  
 Michele Chamberlin  
 Project Manager

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