CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX		Package ID:	B4VO49		
12269 East Vassar Drive			1261.001D.01		
Aurora, CO 80014		SDG No.:			
		No. of Analyses:	2		
Laboratory: Del Ma		Date: April 11	2006		
Reviewer: <u>L. Cal</u>	<u>vin</u>	Reviewerjs Si	gnatyfre.		
Analysis/Method: Volatile	es by Method 624	L/XIC	Lalvar		
		Y			
ACTION ITEMS					
. Case Narrative					
Deficiencies					
2. Out of Scope Analyses					
3. Analyses Not Conducted					
A Straine Handana					
4. Missing Hardcopy Deliverables					
Deliverables					
5. Incorrect Hardcopy					
Deliverables					

6. Deviations from Analysis					
Protocol, e.g.,					
Holding Times					
GC/MS Tune/Inst, Performance					
Calibration					
Method blanks					
Surrogates					
Matrix Spike/Dup LCS					
Field QC					
Internal Standard Performance		····			
Compound Identification					
Quantitation			· · · · · · · · · · · · · · · · · · ·		
System Performance					
COMMENTS ^b	Acceptable as review	ed.			
* Subcontracted analytical laboratory is not i	neeting contract and/or method r	equirements.			
Differences in protocol have been adopted	by the laboratory but no action a	against the laboratory is required.			

MECX



DATA VALIDATION REPORT

NPDES Monitoring Program Alfa Outfall 012

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC0941

Prepared by

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

Project: SDG: **NPDES**

Analysis:

IPC0941 VOCs

1. INTRODUCTION

Task Order Title:

NPDES

MEC^X Project Number:

DATA VALIDATION REPORT

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:

/Dilutions: 0 Reviewer: L.

L. Calvin

Date of Review:

April 11, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^x Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), EPA Method 624, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project:

NPDES

SDG: Analysis: IPC0941 VOCs

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPC0941-01	Water	624
Trip Blank	IPC0941-02	Water	624

VOCs

SDG: Analysis:

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C, at 5°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved. 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 ≥0.05, and the %RSDs were ≤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 ≤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.

Project: SDG:

NPDES IPC0941

DATA VALIDATION REPORT

Analysis: VOCs

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.

Project: NPDES SDG: IPC0941 Analysis: VOCs

DATA VALIDATION REPORT

2.9 INTERNAL STANDARDS PERFORMANCE

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

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for 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.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3292 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) 785-0051 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Alfa Outfall 012 - During Test

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC0941

Sampled: 03/08/06

Received: 03/08/06

PURGEABLES BY GC/MS (EPA 624)

Å malada	36.453	30.4.1	MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	
Sample ID: IPC0941-01 (Outfall 012 - W	ater)				Samok	:d: 03/08/0	36		Wal That
Reporting Units: ug/l									
1,2-Dibromoethane (EDB)	EPA 624	6C10013	0.32	2.0	ND	1	03/10/06	03/10/06	W.
Methyl-tert-butyl Ether (MTBE)	EPA 624	6C10013	0.32	5.0	ND	l	03/10/06	03/10/06	
1,2,3-Trichloropropane	EPA 624	6C10013	0.40	10	ND	1	03/10/06	03/10/06	Name Colores
Di-isopropyl Ether (DIPE)	EPA 624	6C10013	0.25	5.0	ND	1	03/10/06	03/10/06	1.
tert-Butanol (TBA)	EPA 624	6C10013	3.1	25	ND	1	03/10/06	03/10/06	V
Surrogate: Dibromofluoromethane (80-12	0%)				113%				
Surrogate: Toluene-d8 (80-120%)					106%				
Surrogate: 4-Bramofluorobenzene (80-120	1%)				101 %				saph Arcourse
Sample ID: IPC0941-02 (Trip Blank - W.	ater)				Sample	d: 03/08/0	16		
Reporting Units: ug/l	·				Name of the last		•		***
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	Ψ I
Surrogate: Dibromofluoromethane (80-120	1%)				110%				* 1
Surrogate: Toluene-d8 (80-120%)	-				100 %				
Surrogate: 4-Bromofluorobenzene (80-120	%)				101 %				

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

LwelT

IPC0941 <Page 5 of 21>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	C _x		Package ID:	B4VO50		
122	269 East Vassar Drive		Task Order:	1261.001D.01		
Aur	ora, CO 80014		SDG No.:	IPC0941		
			No of Analyses:	<u> 1</u>		
	Laboratory: Del Mar	Analytical-Phoenix	Date: April 11	2006		
	Reviewer: L. Calvin		Reviewer's Si	gnatylje .		
	Analysis/Method: 1,4-Diox	ane by Method 8260B	_ L-/W(aluru		
ACT	TION ITEMS*					
A0:	Case Narrative					
٠	Deficiencies					
2.	Out of Scope Analyses					
3.	Analyses Not Conducted	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
	##1			······································		
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					
CON	MMENTS ^b	Acceptable as reviewed.				
		<u></u>				
* Su	bcontracted analytical laboratory is not me	seting contract and/or method requ	irements.			

^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



DATA VALIDATION REPORT

NPDES Monitoring Program Outfall 012

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC0941

Prepared by

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

NPDES

Analysis:

IPC0941 **VOCs**

1. INTRODUCTION

Task Order Title:

NPDES

MEC^X Project Number:

DATA VALIDATION REPORT

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 0

No. of Reanalyses/Dilutions:

Reviewer:

L. Calvin

Date of Review:

April 11, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX 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.

Project:

NPDES

SDG: Analysis: IPC0941 VOCs

Table 1. Sample Identification

DATA VALIDATION REPORT

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPC0941-01	Water	8260B

SDG: IPC0941 Analysis: **VOCs**

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C, at 5°C 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 ≥0.05 and the %RSD was ≤15%. An ICV was analyzed following the initial calibration, with a %D within the QC limit of ≤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 ≥0.05 and the %D was within the QC limit of ≤20%. No qualifications were required.

Project:

NPDES

SDG: Analysis: IPC0941 VOCs

DATA VALIDATION REPORT

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 ≤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.

Project: NPDES SDG: IPC0941 Analysis: VOCs

DATA VALIDATION REPORT

2.8.2 Field Blanks and Equipment Rinsates

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

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

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



17461 Derian Ave., Suite 100, irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Cokon, CA 92324 (909) 370-4667 FAX (909) 370-1046 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 783-0043 FAX (480) 785-0851 2320 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Pasadena, CA 91101

Project ID: Alfa Outfall 012 - During Test

300 North Lake Avenue, Suite 1200

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 01: Reporting Units: ug/l	2 - Water) - cont.				Sample	d: 03/08/	06	*************	and the ode
1,4-Dioxane Surrogate: Dibromofluoromethane (7	EPA 8260B 70-130%)	P6C1707	0.49	1.0	ND 108 %	1	03/17/06	03/17/06	U.

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC		Package ID:	B4WCP6
12269 East Vassar Drive			1261.001D.01
Aurora, CO 80014			IPC0941
		No. of Analyses:	
Laboratory: Del I		Date: April 1	1, 2006
Reviewer: P. M		Reviewer's S	gnature
Analysis/Method: Gen	eral Minerals	P. Wes	
ACTION ITEMS			
. Case Narrative			
Deficiencies			
2. Out of Scope Analyses			
	·		
3. Analyses Not Conducted	<u> </u>		
4. Missing Hardcopy			<u></u>
Deliverables			
5. Incorrect Hardcopy			
Deliverables			
6. Deviations from Analysis		ied for a CCV outlier and an	nmonia detected below
Protocol, e.g.,	the reporting limit.		
Holding Times			
GC/MS Tune/Inst. Performand	X		
Calibration			
Method blanks			
Surrogates		·	
Matrix Spike/Dup LCS			
Field QC			
Internal Standard Performance	}		· · · · · · · · · · · · · · · · · · ·
Compound Identification Quantitation			······
****	w.m.		
System Performance			
COMMENTS			

" Subcontracted analytical laboratory is		A	
b Differences in protocol have been ado	nut inecung contract and/or me oted by the laboratory but no a	runou requirements.	nirod
			mvu.



DATA VALIDATION REPORT

NPDES Sampling Outfall 012

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC0941

Prepared by

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

Project:

NPDES

SDG:

IPC0941

Analysis:

Gen. Min.

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPC0941

Project Manager:

P. Costa

Matrix:

Water

Analysis:

General Minerals

QC Level:

Level IV

No. of Samples:

1 0

No. of Reanalyses/Dilutions:

P. Meeks

Reviewer: Date of Review:

April 10, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MECX 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.

Project:

NPDES

SDG:

IPC0941 Gen. Min.

Analysis:

Table 1. Sample Identification

DATA VALIDATION REPORT

Client ID	Laboratory ID	Matrix	COC Method
Outfall 012	IPC0941-01	Water	General Minerals

SDG: Analysis:

IPC0941 Gen. Min.

NPDES

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ± 2°C. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 **Holding Times**

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

2.2 CALIBRATION

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

Project:

Analysis.

NPDES

SDG:

IPC0941 Gen. Min.

DATA VALIDATION REPORT

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.

B4WCP6

4

Revision 0



17461 Derian Ave., Suite 100, invine, 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 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sursect Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

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	Dat: Qualif	
Sample ID: IPC0941-01 (Outfail 012	- Water) - cont.				Samale	d: 03/08/0	K		Rew	, Qual
Reporting Units: mg/l					Out of the		~	· ·	Qual	Code
Ammonia-N (Distilled)	EPA 350.2	6C13117	0.30	0.50	0.56	1	03/13/06	03/13/06	ゴ	R
Biochemical Oxygen Demand	EPA 405.1	6C09125	0.59	2.0	1.1	ì	03/09/06	03/14/06	<u> </u>	DNG
Oil & Grease	EPA 413.1	6C17049	0.90	4.8	ND	1	03/17/06	03/17/06	Ü	204
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 (Outfail 012 Reporting Units: mi//hr	- Water)				Sample	d: 03/08/0	6			A COLOR OF THE COL
Total Settleable Solids	EPA 160.5	6C08147	0.10	0.10	ND	1	03/08/06	03/08/06	U	
Sample ID: IPC0941-01 (Outfail 012 Reporting Units: NTU	- Water)				Sample	d: 03/08/ 0	6			***
Turbidity	EPA 180.1	6C09070	0.040	1.0	21	1	03/09/06	03/09/06		
Sample ID: IPC0941-01 (Outfall 012 Reporting Units: ug/l	- Water)				Sample	i: 03/08/0	6			
Perchlorate	EPA 314.0	6C10128	0.80	4.0	ND	1	03/10/06	03/11/06	U	

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

LEVEL IV



17461 Derian Ave., Suite 100, Invine, 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 R-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

Attention: Bronwyn Kelly

Pasadena, CA 91101

Project ID: Alfa Outfall 012 - During Test

300 North Lake Avenue, Suite 1200

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 - Reporting Units: mg/l	Water)				Sample	d: 0 3/08/(96		Rev Gual Gual Code
Total Recoverable Hydrocarbons	EPA 418.1	6C17052	0.31	1.0	ND	1	03/17/06	03/17/06)

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

LEVEL IV

APPENDIX G

Section 123

Outfall 018, March 21, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

MWH-Pasadena/Boeing Prepared For:

Project: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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, I 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:

Del Mar Analytical - Irvine Michele Chamberlin

Michile Chamberlin

Project Manager



Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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 - Wat	er)				·				
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%)	6)				110%				
Surrogate: Toluene-d8 (80-120%)	e je				98 %		en grande de la companya de la comp La companya de la co		
Surrogate: 4-Bromofluorobenzene (80-120%)				100 %		2*** * ********************************		
Sample ID: IPC2198-02 (Trip Blank - Wate	er)	•							
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-Dîchloroethane	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%,	F				99 %				

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager





Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2198

Sampled: 03/21/06

Received: 03/21/06

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

			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IPC2198-01 (Outfall 018 - Water	r)								
Reporting Units: ug/l									
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%)			*		<i>78</i> %				



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

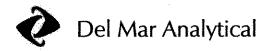
Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2198

Sampled: 03/21/06

Received: 03/21/06

ORGANOCHLORINE PESTICIDES (EPA 608)

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17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Łas Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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
Sample ID: IPC2198-01 (Outfall 018 - Wat	er) - cont.			•					
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	



Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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
Sample ID: IPC2198-01 (Outfall 018 - Wa	ter) - cont.								
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	
Sample ID: IPC2198-01 (Outfall 018 - Wa Reporting Units: ml/l/hr	ter)								
Total Settleable Solids	EPA 160.5	6C21137	0.10	0.10	0.10	1	03/21/06	03/21/06	
Sample ID: IPC2198-01 (Outfall 018 - Wa Reporting Units: NTU	·								
Turbidity	EPA 180.1	6C22103	0.040	1.0	17	1	03/22/06	03/22/06	
Sample ID: IPC2198-01 (Outfall 018 - Wa Reporting Units: ug/l	ter)								
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	
Sample ID: IPC2198-01 (Outfall 018 - Wa Reporting Units: umhos/cm	ter)								
Specific Conductance	EPA 120.1	6C28069	1.0	1.0	600	1	03/28/06	03/28/06	





Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2198

Sampled: 03/21/06

Received: 03/21/06

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 018 (IPC2198-01) - Wate	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
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



Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C27021 Extracted: 03/27	<u>/06</u>										
Blank Analyzed: 03/27/2006 (6C2702)	I-BLKI)										
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/i							
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/I	25.0		98	80-120			•
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			
LCS Analyzed: 03/27/2006 (6C27021-	BS1)										
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/i	25.0		94	70-130			
Ethylbenzene	24.3	2.0	0.25	ug/l	25.0		97	70-125			
Tetrachioroethene	22.8	2.0	0.32	ug/l	25.0		91	65-125			
Toluene	22.1	2.0	0.36	ug/I	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			

Del Mar Analytical - Irvine

Michele Chamberlin



Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2198

Sampled: 03/21/06

Received: 03/21/06

METHOD BLANK/QC DATA

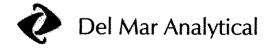
PURGEABLES BY GC/MS (EPA 624)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C27021 Extracted: 03/27/	<u>06</u>										
		•									
LCS Analyzed: 03/27/2006 (6C27021-F	BS1)										
Surrogate: Toluene-d8	25.0			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Matrix Spike Analyzed: 03/27/2006 (60	C27021-MS1)				Sou	rce: IPC2	183-05R	E1			
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			ΜI
Tetrachloroethene	32.7	2.0	0.32	ug/l	25.0	ND	131	60-130			ΜI
Toluene	29.9	2.0	0.36	ug/l	25.0	ND	120	65-125		1	
1,1,1-Trichloroethane	32.9	2.0	0.30	ug/i	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/I	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			٠
Surrogate: Toluene-d8	25.3			ug/l	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	26.3			ug/l	25.0		105	80-120			•
Matrix Spike Dup Analyzed: 03/27/200	6 (6C27021-MS	(D1)			Sour	ce: IPC2	183-05RI	E1			
Benzene	31.6	2.0	0.28	ug/l	25.0	ND	126	60-125	3	20	M1
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	13-1	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	ō	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)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C27021 Extracted: 03/27/0	<u>6</u>										
Matrix Spike Dup Analyzed: 03/27/2000	6 (6C27021-M	ISD1)	٠		Sou	rce: IPC	2183-05R	E1			
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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ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C22052 Extracted: 03/22/	06				٠						. •
Blank Analyzed: 03/28/2006 (6C22052-	·BLK1)										•
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			
LCS Analyzed: 03/28/2006 (6C22052-B	S1)					San Line					M-NR1
Bis(2-ethylhexyl)phthalate	9.92	5.0	1.1	ug/l	10.0		99	60-130			
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		٠	
Surrogate: 2-Fluorobiphenyl	7.34			ug/l	10.0		73	45-120			•
Surrogate: Terphenyl-d14	7.50	*		ug/l	10.0		75	45-120			
LCS Dup Analyzed: 03/28/2006 (6C220	52-BSD1)										
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	\boldsymbol{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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METHOD BLANK/QC DATA

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

Reporting Spike %REC **RPD** Source Data Limit Analyte Result Level Result %REC Limits RPD Limit **Qualifiers**

Batch: 6C22052 Extracted: 03/22/06

LCS Dup Analyzed: 03/28/2006 (6C22052-BSD1)

Surrogate: Terphenyl-d14 7.20

ug/l

10.0

45-120

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ORGANOCHLORINE PESTICIDES (EPA 608)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C24049 Extracted: 03/24/06	-										
Blank Analyzed: 03/24/2006 (6C24049-B)	LKI)										
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			
LCS Analyzed: 03/24/2006 (6C24049-BS1	1)						-				M-NR1
alpha-BHC	0.434	0.010	0.0010	ug/i	0.500		87	45-120			
Surrogate: Decachlorobiphenyl	0.457			ug/l	0.500		91	45-120			
Surrogate: Tetrachloro-m-xylene	0.400			ug/l	0.500		80	35-115			
LCS Dup Analyzed: 03/24/2006 (6C24049	-BSD1)										4
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		<i>73</i>	35-115			



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METALS

, in the second		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C22059 Extracted: 03/22/0	<u>)6</u>					٠					
Blank Analyzed: 03/22/2006 (6C22059-	BLK1)		•	,				•			
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/22/2006 (6C22059-B	S1)										
Mercury	7.16	0.20	0.050	ug/l	8.00		90	85-115			
Matrix Spike Analyzed: 03/22/2006 (6C	22059-MS1)				Sou	rce: IPC2	120-17		•		
Mercury	7.15	0.20	0.050	ug/l	8.00	ND	89	70-130			
Matrix Spike Dup Analyzed: 03/22/200	6 (6C22059-M	SD1)			Sou	rce: IPC2	120-17				
Mercury	7.18	0.20	0.050	ug/l	8.00	ND	90	70-130	0	20	
Batch: 6C22075 Extracted: 03/22/0	<u> 16</u>										
Blank Analyzed: 03/22/2006 (6C22075-	BLK1)										
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l				•			
LCS Analyzed: 03/22/2006 (6C22075-B	S1)						•				
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			
Matrix Spike Analyzed: 03/22/2006 (6C	22075-MS1)				Sour	ce: IPC2	111-01				
Copper	88.7	2.0	0.25	ug/Î	80.0	14	93	70-130			
Lead	77.1	1.0	0.040	ug/l	80.0	0.23	96	70-130			
Matrix Spike Dup Analyzed: 03/22/2006	6 (6C22075-MS	SD1)			Sour	ce: IPC2	111-01				
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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INORGANICS

]	Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C21047 Extracted: 03/21/06	-		•								
Blank Analyzed: 03/21/2006 (6C21047-Bl	LK1)							•			
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							
LCS Analyzed: 03/21/2006 (6C21047-BS1)										
Chloride	5.19	0.50	0.15	mg/I	5.00		104	90-110			M-3
Sulfate	9.34	0.50	0.45	mg/l	10.0		93	90-110			M-3
Batch: 6C21100 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21100-Bl	LK1)										
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 03/21/2006 (6C21100-BS1)			, esta		. •			**		w.
Surfactants (MBAS)	0.255	0.10	0.044	mg/l	0.250	* + =	102	90-110			
Matrix Spike Analyzed: 03/21/2006 (6C2)	100-MS1)				Sou	rce: IPC2	064-01				
Surfactants (MBAS)	0.352	0.10	0.044	mg/l	0.250	0.050	121	50-125			
Matrix Spike Dup Analyzed: 03/21/2006 (6C21100-MSD	1)			Sou	rce: IPC2	064-01				
Surfactants (MBAS)	0.362	0.10	0.044	mg/I	0.250	0.050	125	50-125	3	20	
Batch: 6C22065 Extracted: 03/22/06					٠						
Blank Analyzed: 03/22/2006 (6C22065-BI	.K1)										
Total Dissolved Solids	ND	10	10	mg/l							

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INORGANICS

•	I	Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C22065 Extracted: 03/22/06	·										
LCS Analyzed: 03/22/2006 (6C22065-BS1	i)										
Total Dissolved Solids	984	10	- 10	mg/l	1000		98	90-110			
Duplicate Analyzed: 03/22/2006 (6C22065	5-DUP1)	٠			Sou	rce: IPC2	169-01				
Total Dissolved Solids	1120	10	10	mg/l		1100			2	10	
Batch: 6C22067 Extracted: 03/22/06									,		
Blank Analyzed: 03/22/2006 (6C22067-BI	.K1)										
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 03/22/2006 (6C22067-BS1)										
Perchlorate	52.6	4.0	0.80	ug/l	50.0		105	85-115			
Matrix Spike Analyzed: 03/22/2006 (6C22	067-MS1)	4.55			Sour	rce: IPC1	803-01				
Perchlorate	53.6	4.0	0.80	ug/l	50.0	2.4	102	80-120		•	
Matrix Spike Dup Analyzed: 03/22/2006 (6C22067-MSD	1)			Sour	rce: IPC1	803-01				
Perchlorate	56.8	4.0	0.80	ug/l	50.0	2.4	109	80-120	6	20	
Batch: 6C22087 Extracted: 03/22/06							•				٠
Blank Analyzed: 03/27/2006 (6C22087-BL	K1)								*		:
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/27/2006 (6C22087-BS1))		**		-						
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115		•	



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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 6C22087 Extracted: 03/22/06		LAURIL	MDL	Cuits	Lievei	Kesun	/8REC	Lamits	KFD	LIMIL	Quanners
	_										
LCS Dup Analyzed: 03/27/2006 (6C2208 Biochemical Oxygen Demand	7-BSD1) 216	100	30	mg/l	198		109	85-115	1	20	
Batch: 6C22103 Extracted: 03/22/06			٥٠		170			00-110		20	
Blank Analyzed: 03/22/2006 (6C22103-B	LK1)										
Turbidity	ND	1.0	0.040	NTU							
Duplicate Analyzed: 03/22/2006 (6C2210	3-DUP1)				Sou	rce: IPC2	169-03				
Turbidity	1.33	1.0	0.040	NTU		1.4			5	20	
Batch: 6C22132 Extracted: 03/22/06	<u>.</u>										
Blank Analyzed: 03/23/2006 (6C22132-B	LK1)										
Total Cyanide	ND	5.0	2.2	ug/l				4.45,25.			
LCS Analyzed: 03/23/2006 (6C22132-BS)	1)	,	· .		• .			* *.			
Total Cyanide	185	5.0	2.2	ug/l	200		92	90-110			
Matrix Spike Analyzed: 03/23/2006 (6C2	2132-MS1)				Sou	rce: IPC2	169-04				
Total Cyanide	202	5.0	2.2	ug/l	200	ND	101	70-115			*.
Matrix Spike Dup Analyzed: 03/23/2006	(6C22132-M	SD1)			Sou	rce: IPC2	169-04				
Total Cyanide	209	5.0	2.2	ug/l	200	ND	104	70-115	3 .	15	4
Batch: 6C23099 Extracted: 03/23/06	<u>.</u>										·
Blank Analyzed: 03/23/2006 (6C23099-Bl	LK1)	,									
Total Suspended Solids	ND	10	10	mg/l							

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INORGANICS

	F	Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C23099 Extracted: 03/23/06											
LCS Analyzed: 03/23/2006 (6C23099-BS1)										
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115		•	
Duplicate Analyzed: 03/23/2006 (6C23099	-DUP1)				Sour	rce: IPC2	307-02				
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C24046 Extracted: 03/24/06											
Blank Analyzed: 03/24/2006 (6C24046-BI	.K1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/24/2006 (6C24046-BS1)										
Oil & Grease	18.0	5.0	0.94	mg/l	20.0		90	65-120			M-NRI
LCS Dup Analyzed: 03/24/2006 (6C24046	-BSD1)		,								
Oil & Grease	19.0	5.0	0.94	mg/l	20.0		95	65-120	5.	20	
Batch: 6C28069 Extracted: 03/28/06								,			
Duplicate Analyzed: 03/28/2006 (6C28069	-DUP1)				Sour	ce: IPC2	685-01				
Specific Conductance	600	1.0	1.0	umhos/cm		600			0	5	
Batch: 6C28104 Extracted: 03/28/06	·										
Blank Analyzed: 03/28/2006 (6C28104-BL	K1)							i i			
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							





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INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C28104 Extracted: 03/28/06	_	•									
LCS Analyzed: 03/28/2006 (6C28104-BS	1)										
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0		112	80-115			
Matrix Spike Analyzed: 03/28/2006 (6C2	8104-MS1)				Sou	rce: IPC2	198-01				
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	ND	112	70-120			
Matrix Spike Dup Analyzed: 03/28/2006	(6C28104-M	SD1)			Sou	rce: IPC2	198-01				
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	



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Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	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/I	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



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A. Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPC2198

Sampled: 03/21/06

Received: 03/21/06

DATA QUALIFIERS AND DEFINITIONS

Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

M1 The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

accepted based on acceptable recovery in the Blank Spike (LCS).

M-NR1 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



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9830 South 51st St., Suite 8-120, 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

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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	\mathbf{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	\mathbf{X}	X
EPA 413.1	Water	X	X
EPA 425.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	$\mathbf{X}_{i,j}$	\mathbf{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

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

e 1 of 1		Field readings: Temp = ラどら	pH= 7.6			The state of the s															***************************************	1		J	7
Page		 NDMA, 	Trichloropher Trichluene, Bis(: Trichloropherie; Schlorophenol (E	Dinit ethyl														×		Turn around Time: (check) 24 Hours 5 Days	10 Days	Normal	Perchlorate Only 72 Hours	Menais Chiy /2 Hours	Intect in On tog
35/76	8	()	8081A	IqIA													×			n aroun fours	48 Hours	72 Hours	chlorate	also proper training the property of the prope	5
7	SIR		N-sinon		_									_		×	_			—	\$	2	g.	S S	
\mathcal{A}	REC	's	Mality, TDS, TSS ductivity												×					7/2					
\mathcal{L}	ANALYSIS REQUIRED	1N1-70	SO4, NO3+NC											×								Ky O	>		
H	¥ Y		SABM) atnetos										×									N			
	¥	())5(20 degrees	108								×										S			
		(elds1evo	nide (total reco	Cya							×						_			,	o -	BIZIO			
			A93) essenD &							×		<u> </u>					_		-	1		30			
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Ö			Pb, Hg,									-					-			Date/	Š				
<u>г</u>		:sisteM	Recoverable		×	×	,							ļ 						G	•	}			
CUSTODY FORM		4 - 31 et		Bottle *	1A	18	2	3A, 3B, 3C	4A, 4B	5A, 5B	9	_	8A,8B	9A,9B	10A, 10B	-	12A, 12B	13A, 13B	15A, 15B, 15C		\ \ \ \	8			
LL.		PDES 1 018		Preservative	HN03	HNO3	None	HĊI	None	고 도	NaOH	None	None	None	None	H2S04	None	None	HCJ	Reserved By	Received By		Keeked by		
CHAI	÷	Boeing-SSFL NPDES Routine Outfall 018 R-2 Spillway	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time													6	30-12	01	51/2/	, K.	20,00	Ġ		
on 03/1/06	Project:	Roufi R-2 S			~												ייני 	3,		Date/Time	Date/Time	7/0 V	emi /euen/		
Versic		200		# O	-	+-	****	્છ	ev.	C)	W	-	64	N	74	-	и	67	က	304	,	4			
ytical	Š	e, Suite 1	Str. A6	Container	Poly-1L	Poly-1L	Poly-11	VOAs	1L Amber	1L Amber	Poly-500 ml	Poly-1 L	Poly-500	Poly-500 mi	Poly-500	Poly-500	1L Amber	1L Amber	VOAs			\$			e e e e e e e e e e e e e e e e e e e
. Anal	e/Addres	Sadena ake Avenu XA 91101	Rick!	Sample	W	*	ÑÅ	×	Μ	3	8	*	*	*	3	3	3	3	3	ž k	, ₹ 0		À		and section of the se
Del Mar Analytical version 03/1/06 CHAIN O	Client Name/Address:	MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager: Bronwyn Kelly Sampler: Rich Strugge	Sample	Outfall 018	Outfall 018- Dup	Outfall Of B	Cutfall 018	Outfall 018	Outfall 018	Outfall 018	Outfall 018	Outfall 018	Outfall 018	Outfall 018	Outfall 018	Outfall 018	Outfall 018	Trip Blank	Relinquished By	Reinquished By	A D	reinquished by		



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. 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.



Page 1 of 242

Section I: Sample Inventory Report

Date Received:

3/23/2006

Client Sample ID

27454-001

IPC2198-01

SECTION II

Matrix: Sample Size:						
Sample Size:	Aqueous	QC Batch No.:	7893	Lab Sample: 0-MB001		
	1.00 L	Date Extracted:	3-Apr-06	Date Analyzed DB-5: 4-Apr-06	Date An	Date Analyzed DB+225: NA
Analyte	Conc. (ug/L)	DL a EMPC	C ^b Qualifiers	Labeled Standard	%R	LCL-UCL ^d Oualifiers
2,3,7,8-TCDD	92	0.000000744		IS 13C-2.3.7.8-TCDD	77.8	0.0
1,2,3,7,8-PeCDD	QX O	0.00000247			46.4	25 - 181
1,2,3,4,7,8-HxCDD	gn da	0.00000119		13C-1,2,3,4,7,8-HxCDD	80.7	32-141
1,2,3,6,7,8-HxCDD		0.00000116		13C-1,2,3,6,7,8-HxCDD	77.6	28 - 130
1,2,3,7,8,9-HxCDD	DD VD	0.00000113		13C-1,2,3,4,6,7,8-HpCDD	82.4	23 - 140
1,2,3,4,6,7,8-HpCDL		0.00000126		13C-OCDD	65.0	17 - 157
ag. 00		0.00000292		13C-2,3,7,8-TCDF	78.3	24 - 169
2,3,7,8-TCDF		0.000000786		13C-1,2,3,7,8-PeCDF	57.4	24 - 185
1.2,3,7,8-PeCDF	A PA	0.00000186		13C-2,3,4,7,8-PeCDF	46.8	21-178
2,3,4,7,8-PeCDF	Ð.	0.00000205		13C-1,2,3,4,7,8-HxCDF	80.8	26 - 152
1,2,3,4,7,8-HxCDF	DF ND	0.000000547		13C-1,2,3,6,7,8-HxCDF	74.4	26-123
1,2,3,6,7,8-HxCDF		0.000000523		13C-2,3,4,6,7,8-HxCDF	80.3	28 - 136
2,3,4,6,7,8-HxCDF	DF	0.000000572		13C-1,2,3,7,8,9-HXCDF	82.0	29-147
1,2,3,7,8,9-HxCDF	DF ND	0.000000731		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	978	26-138
1,2,3,4,7,8,9-HpCDF	CDF ND	0.000000528		13C-OCDF	68.7	17 - 157
OCDF	GN	0.00000148		CRS 37CI-2.3,7,8-TCDD	1.96	25_107
Totals				Footnotes		
Total TCDD	QX	0.000000744		a. Sample specific estimated detection limit.		
Total PeCDD	S	0.00000247		b. Estimated maximum possible concentration		
Total HxCDD	R	0,00000116		c. Method detection limit.		
Total HpCDD	2	0.00000126		d. Lower control limit - upper control limit.		
Total TCDF	9	0.000000786				
Total PeCDF	Q	0.00000195				
Total HxCDF	A	0.000000588				
Total HpCDF	QX	0.000000000				

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

Analyst:

OPP Results Matrix: Aqueous QC Batch No.: Sample Size: 1.00 L Date Extracted: Analyte Spike Conc. Conc. (ng/ml 2.3.7.8-TCDB 10.0 49.8 1.2.3.7.8-FCDB 50.0 48.9 1.2.3.4.7.8-HxCDB 50.0 49.5 1.2.3.7.8-HxCDB 50.0 48.6 1.2.3.7.8-FCDF 10.0 10.1 0.2.3.7.8-FCDF 50.0 48.6 2.3.7.8-FCDF 50.0 48.6 1.2.3.7.8-FCDF 50.0 48.6 1.2.3.4.7.8-FxCDF 50.0 48.6 2.3.4.7.8-FxCDF 50.0 48.6 1.2.3.4.7.8-HxCDF 50.0 48.9 1.2.3.4.7.8-HxCDF 50.0 48.9 1.2.3.4.5.8-HxCDF 50.0 48.9 1.2.3.4.6.7.8-HxCDF 50.0 50.0 2.3.4.6.7.8-HxCDF 50.0 50.0 2.3.4.6.7.8-HxCDF 50.0 50.0 2.3.4.6.7.8-HxCDF 50.0 50.0 2.3.4.6.7.8-	uch No.: Xtracted: (ng/mL) 0.0	7893 3-Apr-06 OPR Limits	Lab Sample: 0-OPR001 Date Analyzed DB-5: 4-Apr-06 Labeled Standard Labeled Standard	Date A	EPA Method 1613 Date Analyzed DB-225: NA
T 0	uch No.: 'xtracted: . (ng/mL) 0.0	7893 3-Apr-06 OPR Limits	Labeled Standard Labeled Standard 13C-2,3,7,8 TCDD		
Q. To	(ng/mL)	3-Apr-06 OPR Limits	Date Analyzed DB-5: 4-Apr Labeled Standard 1S 13C-2,3,7,8-TCDD		
Q	. (ng/mL) 0.0 9.8	OPR Limits		%R	
1000 50.0 50.0 50.0 50.0 10.0 10.0 50.0 5	0.0			5 64	TOD-TOT
50.0 50.0 50.0 50.0 10.0 10.0 50.0 50.0	8.6	6.7-15.8	•	いるというというないのできないというないというない	25 - 164
\$0.0 \$0.0 \$0.0 10.0 \$0.0 \$0.0 \$0.0 \$0.0 \$0.0 \$0.0 \$0.0		35 - 71	13C-1,2,3,7,8-PeCDD	42.4	25 - 181
50.0 50.0 10.0 10.0 30.0 50.0 50.0 50.0 50.0 50.0	6.8	35-82	13C-1.2.3.4.7.8-HxCDD	£ 69	127 - 25
50.0 100 10.0 50.0 50.0 50.0 50.0 50.0 5	5.6	38-67	13C-1,2,3,6,7,8-HxCDD	62.9	28 - 130
50.0 10.0 30.0 50.0 50.0 50.0 50.0 50.0	8.6	32-81	13C-1,2,3,4,6,7,8-HpCDD	5.29	23 - 140
100 10.0 50.0 50.0 50.0 50.0 50.0	1.8	35 - 70	13C-OCDD	52.7	17 - 157
10.0 50.0 50.0 50.0 50.0 50.0 50.0	E. 83	78-144	13C-2,3,7,8-TCDF	74.0	24-169
50.0 50.0 50.0 50.0 50.0 50.0	0.1	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	47.8	24 - 185
50.0 50.0 50.0 50.0 50.0		40 - 67	13C-2,3,4,7,8-PeCDF	40,2	21 - 178
50.0 50.0 50.0 50.0 F	0.2	34 - 80	13C-1,2,3,4,7,8-HxCDF	7.69	26 - 152
50.0 50.0 50.0 F	9.5	36-67	13C-1,2,3,6,7,8-HxCDF	58:1	26-123
50.0 50.0 F 50.0	8.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	8.89	28 - 136
50.0		35 - 78	13C-1,2,3,7,8,9-HxCDF	68.7	29 - 147
2000	0.2	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	62.9	28 - 143
140 tr 00 tr 00 tr	0.0	19-14	13C-1,2,3,4,7,8,9-HpCDF	70.8	26 - 138
1,2,3,4,7,8,9-HpCDF 50.0 48.6	8.6	39 - 69	13C-OCDF	56.1	17 - 157
100 to 105	02	63-170	CRS 37Cl-2,3,7,8-TCDD	676	35 - 197

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

Approved By:

Analyst: JMH

Committee Tibe						
10-86 F 141	1				EPAJ	EPA Method 1613
Data			Sample Data	Laboratory Data		
Name: Del Mar An	Del Mar Analytical, Irvine		Matrix: Aqueous	Lab Sample: 27454-001	Date Received:	23-Mar-06
lected:			Sample Size: 1.02 L	QC Batch No.: 7893	Date Extracted:	3-Apr-06
				Date Analyzed DB-5: 4-Apr-06	Date Analyzed DB-225:	AN
Analyte Conc.	(ng/L)	DL a	EMPC ^b Qualifiers	rs Labeled Standard	%R LCL-UCL ^d	Oualifiers
2,3,7,8-TCDD	QN	0.0000007	739	IS 13C-2,3,7,8-TCDD	67.4 25 - 164	
1,2,3,7,8-PeCDD	g	0.0000031	71	13C-1,2,3,7,8-PeCDD		
1,2,3,4,7,8-HXCDID	ND	0.0000021		13C-1.2.3.4.7.8-HxCDD		
1,2,3,6,7,8-HxCDD	£	0.00000225	25	13C-1,2,3,6,7,8-HxCDD	8	
1,2,3,7,8,9-HxCDD	QX	0.0000021	£1	13C-1,2,3,4,6,7,8-HpCDD		
1,2,3,4,6,7,8-HpCDD	0.0000164			13C-0CDD		
daso	0.000143			13C-2,3,7,8-TCDF	67.3 24-169	
23,7,8-TODF	0.00000400			13C-1,2,3,7,8-PeCDF) (
1,2,3,7,8 PeCDF	Q		0.00000257	13C-2,3,4,7,8-PeCDF		
2,3,4,7,8-PeCDF	0,00000271			13C-1,2,3,4,7,8-HxCDF		
1.2.3,4,7,8-HxCDF	0.00000171			13C-1,2,3,6,7,8-HxCDF		
1,2,3,6,7,8-HxCDF	2	0.000000740	740	13C-2,3,4,6,7,8-HxCDF		
2.3,4,6,7,8-HxCDF	Q	0.000000659	659	13C-1,2,3,7,8,9-HxCDF		
1,2,3,7,8,9-HxCDF	S	0.000000818	818	13C-1,2,3,4,6,7,8-HpCDF		
1,2,3,4,6,7,8-HpCDF	0.00000320		P	13C-1,2,3,4,7,8,9-HpCDF	70.5 26-138	
1,2,3,4,7,8,9-HpCDF	g	0.0000011	91	13C-OCDF		
OCDF	0.00000640		•	CRS 37Cl-2,3,7,8-TCDD		
Totals				Footnotes		
Total TCDD	Ð	0.000007	739	a. Sample specific estimated detection limit.		
Total PeCDD	æ	0.000003		b. Estimated maximum possible concentration		
Total HxCDD	Ð		0.00000258	c. Method detection limit.		
Townspicio	0.0000354			d. Lower control limit - upper control limit.		
Total TCDF	0.00000957	CONTROL OF THE PROPERTY OF THE	A CONTRACTOR OF THE SECOND STATES OF THE SECOND STA			
Total PecDF	0.00000271		0.00000528			
Total HxCDF Tatal HnCDF	0.00000275		Character C			
***************************************			nonnnnnn			
Analyst: JMH			9 .	Approved By: Martha M. M	Martha M. Maier 05-Apr-2006 09:22	2

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

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Suite A. Colton, CA 92324 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 9830 South 51st Street, Suite 8-120, Phoenix, AZ 85044

Ph (909) 370-4667 Fax (909) 370-1046
Ph (619) 505-9596 Fax (619) 505-9689
Ph (480) 785-0043 Fax (480) 785-0851
Ph (702) 798-3620 Fax (702) 798-3621

Ph (949) 261-1022

2520 E. Surnest Rd., Suite #3, Las Vegas, NV 89120

SUBCONTRACT ORDER - PROJECT # IPC2198

Del Mar Analytical - Irvi 17461 Derian Avenue. St Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele	e Chamberlin		Alta Analytical - St 1104 Windfield Wa El Dorado Hills, CA Phone :(916) 933-1 Fax: (916) 673-010	A 95762 640 /	ORY: 454 · O°C
Standard TAT is reques	sted unless specific due Expiration	e date is requested	Comments	<u>vyCCt</u>	initials:
Sample ID: IPC2198-01 1613-Dioxin-HR-Alta EDD + Level 4	Water Sampled: 03/28/06 10:48 04/18/06 10:48	03/21/06 10:48	Instant Nofication J flags, 17 congeners, no Excel EDD email to pm,	TEQ,ug/L,sub=Alta Include Std logs for Lvl IV	
Containers Supplied: 1 L Amber (IPC2198-01G 1 L Amber (IPC2198-01H					
			•		
•	•				
		SAMPLE mple labels/COC agree: mples Preserved Properly:	INTEGRITY: Yes No Yes No	Samples Received On Ice:: Samples Received at (temp):	☐ Yes ☐ No
11 01				-	

Released By Project 27454 Time

Time

Date

Date

utting of Duce

3.2206

O830

Date

Time **NPDES - 4**552

SAMPLE LOG-IN CHECKLIST

Alta Project #:	7454			
Samples Arrival:	Date/Time	0830	Initials:	Location: WR- 2
Logged In:	Date/Time	0904	Initials:	Location: WR-7

Preservation:	: Ice) Blu	ie Ice	· Dry I	ce No	one
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Logged In: D	ate/Time /23/00	090	Initials	SB	Location: WR	-8

					YES	NO	NA
Adequate Sample Volume Received?	•	•			V		
Holding Time Acceptable?					V		
Shipping Container(s) Intact?					V		
Shipping Custody Seals Intact?					V		
Shipping Documentation Present?					1/		
Airbill Trk# 79 \propto	69	<u>301 º</u>	<u> 2660 </u>		1/		<u> </u>
Sample Container Intact?					V	<u> </u>	
Sample Custody Seals Intact?		an in the second as the					
Chain of Custody / Sample Documer	tation P	resent?			1	/	
COC Anomaly/Sample Acceptance F	orm cor	npleted?				V	
If Chlorinated or Drinking Water Sam	ples, Ac	ceptable P	reservation?				V
Na ₂ S ₂ O ₃ Preservation Documented?			coc	San Cont	nple ainer	(No	ne)
Shipping Container	Alta	Client) Retain	Rel	um	Disp	ose

Comments:

APPENDIX G

Section 124

Outfall 018, March 21, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4DF63</u> Task Order 1261.001D.01 12260 East Vassar Drive SDG No. IPC2198 Suite 500 Lakewood, CO 80226 No. of Analyses 1 Laboratory Alta Analytical Date: April 12, 2006 Reviewer's Signature Reviewer E. Wessling Analysis/Method Dioxins/Furans by 1613 ACTION ITEMS* . Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy **Deliverables** Qualifications were assigned for the following: 6. Deviations from Analysis - results between the RL and the MDL were estimated Protocol, e.g., **Holding Times** GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field OC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS* * Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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

Project: SDG:

NPDES IPC2198

DATA VALIDATION REPORT

Analysis: D/F

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:

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 MECX 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.

Project: SDG: Analysis:

NPDES IPC2198

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 018	IPC2198-01	27454-001	Water	1613

DATA VALIDATION REPORT

Project:

NPDES

DATA VALIDATION REPORT

SDG: Analysis: IPC2198 D/F

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.

Project: NPDES SDG: IPC2198 Analysis: D/F

DATA VALIDATION REPORT

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 ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤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.

B4DF63

Project: NPDES SDG: IPC2198 Analysis: D/F

DATA VALIDATION REPORT

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.



Collective Del Mark Analytical, Fricol				よりう	نسبر ش	7					LYA	LFA Method 1013
Annitre Conc. (ugl.l.) DL. * EMPC ^b Qualifier Labeled Standard NR LCL-UCL ^d L21.78-FCDD ND 0.000000214 13C-1.23.78-FCDD 55.0 25-181 12.3.47-8-FCDD ND 0.00000214 13C-1.23.78-FCDD 56.0 22-181 12.3.47-8-FCDD ND 0.00000214 13C-1.23.78-FCDD 56.0 22-181 12.3.47-8-FCDD ND 0.00000215 13C-1.23.78-FCDD 56.0 22-181 12.3.78-FCDD ND 0.00000215 13C-1.23.78-FCDD 57.8 17-157 13C-1.23.78-FCDD 57.8 17-157 13C-1.23.78-FCDP 57.8 17-157	3		Del Mar Anu IPC2198 21-Mar-06 1048	llytical, Irvine		Sample Data Matrix: Sample Size:	Aqueous 1.02 L	Laboratury Data Lab Sample: QC Batch No.: Date Analyzed DB-5:	27454-001 7893 4-Apr-06	Date Roceiv Date Extrac	4 DB-225	23-Mar-06 3-Apr-06 NA
1.2.1.7.8.4 PCDD	3		Conc.	ug/L.)	•	EMPC	Qualifiers	Labeled Stand	lard.		Truct	8
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1,23,47,8-HxCDF 0,00000171 13C-12,3,6,7,8-HxCDF 60.6 1,23,4,7,8-HxCDF ND 0,00000659 13C-1,23,7,8-HxCDF 67.3 1,23,4,6,7,8-HxCDF ND 0,00000659 13C-1,23,7,8-HxCDF 67.3 1,23,4,6,7,8-HxCDF ND 0,00000818 13C-1,23,4,6,7,8-HyCDF 67.3 1,23,4,6,7,8-HyCDF ND 0,00000818 13C-1,23,4,7,8-HyCDF 67.3 1,23,4,7,8-HyCDF ND 0,0000016 1 CRS 37C1,23,7,8-HyCDF 61.4 1,23,4,7,8-HyCDF ND 0,00000739 1,8mmle specific contentation, contentation possible concentration possible concentration possible concentration possible concentration possible concentration from the control limit. 1 1 1 1 1 1 1 1 1	ζ' ^	-	L.	0.00000271) ;	13C-1,2,3,4,7,8-1	H CO H		6-152	•
1,23,6,7,8-HxCDF ND 0,00000040 13C-13,4,6,7,8-HxCDF 60,6 2,3,4,6,7,8-HxCDF ND 0,00000059 13C-1,23,7,8-HxCDF 67,7 1,2,3,4,6,7,8-HxCDF ND 0,00000018 13C-1,23,4,6,7,8-HyCDF 67,7 1,2,3,4,6,7,8-HyCDF ND 0,00000116 1 13C-1,23,4,7,8,9-HyCDF 67,7 1,2,3,4,5,8-HyCDF ND 0,00000116 1 13C-1,23,4,7,8,9-HyCDF 61,4 1,2,3,4,5,4,8,HyCDF ND 0,000000116 1 13C-1,23,4,8,1,8 1,2,3,4,5,4,8,HyC	30	· · ·	å	0,00000171				130-123,67,8-	E COM	- Q.	6-123	
2.3.4.6.7.8-HixCDF ND 0.00000659 13C-1.2.3.7.8.9-HixCDF 67.3 1.2.3.7.8.9-HixCDF ND 0.00000818 13C-1.2.3.4.6.7.8-HipCDF 67.7 1.2.3.4.7.8.9-HipCDF ND 0.00000116 13C-1.2.3.4.7.8.9-HipCDF 67.7 1.2.3.4.7.8.9-HipCDF ND 0.00000116 13C-1.2.3.4.7.8.9-HipCDF 67.7 1.2.3.4.7.8.9-HipCDF ND 0.00000116 13C-1.2.3.4.7.8.9-HipCDF 67.7 Total TCDB ND 0.000000739 1. Sample specific estimated detection limit. Total HipCDD ND 0.000000739 1. Sample specific estimated detection limit. Total HipCDD 0.00000354 0.000000258 1. Activate control limit - upper control limit. Total HipCDF 0.00000037 0.000000328 2. Activate control limit - upper control limit. Total HipCDF 0.00000037 0.000000328 2. Activate control limit - upper control limit. Total HipCDF 0.00000037 0.000000320 0.0000000000000000000000000	· · · · · · · · · · · · · · · · · · ·	1,2,3,6,7,8-HxC	Đ.	8	0.0000007	940		13C-23,4,6,7,8-1	E B	٠.	8 136	
DNG 1.2.3.7.8.9-HxCDF ND 0.00000818 13C-1.2.3.4.6.7.8.HpCDF 67.7 DNG 1.2.3.4.6.7.8-HpCDF 0.00000320 1 13C-1.2.3.4.7.8.9-HpCDF 70.5 DNG 0.00000640 0.00000116 1 CRS 37C1-2.3.7.8-TCDD 94.6 Total TCDF ND 0.000000739 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. Total HxCDD ND 0.000000354 b. Estimated maximum possible concentration limit. Total HxCDF 0.000000271 0.00000028 c. Method detection limit. Total HxCDF 0.00000271 0.00000028 c. Method detection limit. Total HxCDF 0.00000271 0.00000028 c. Method detection limit. Total HxCDF 0.00000275 0.000000276 d. Lower control limit.	· · ·	2,3.4,6,7,8-HxC	Å	9	0,000000	*		13C-1,2,3,7,8,9-1			9-147	
DNG 1.2.3.4.6.7.8. HpCDF 0.00000320 1 13C-12.3.4.7.8.9. HpCDF 70.5 DNG CCDF ND 0.00000116 1 CRS 37C1-2.3.7.8. TcDD 94.6 Portal Total ND 0.00000739 a. Sample specife estimated detection limit. Total PcDD ND 0.00000739 b. Estimated maximum possible concentration. Total HpCDD ND 0.00000354 c. Method detection limit. Total HpCDD 0.00000357 d. Lower control limit. d. Lower control limit. ** Total HpCDF 0.00000271 0.00000528 c. Method detection limit. *** Total HpCDF 0.00000271 0.00000528 d. Lower control limit. *** Total HpCDF 0.00000273 0.00000528 d. Lower control limit.	!	1,2,3,7,8,9-HxC	ħ	2	0.0000008	90		13C-1,2,3,4,6,7,8	THACON			
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DNG OCDF 0,00000640 1 CRS 37Cl-2,3,7,8-TCDD 94.6 Total Action of the control in the co			CDF	2	0.0000011	, vo		13C-OCD#			7-157	
Total CDD ND 0.00000739 Total PCDD ND 0.00000314 Total HxCDD ND 0.00000314 Total HyCDD ND 0.00000358 Total TCDF 0.00000354 Total HyCDF 0.00000271 0.00000528 ★ 10 Total HyCDF 0.00000271 0.00000528	000			0,00000640				285 37CH2,3,7,8-TCI	8		5-197	
Total TCDD ND 0.000000739 Total PeCDD ND 0.00000314 Total HxCDD ND 0.00000358 Total HyCDD 0.00000354 0.00000258 ★ 10 Total PeCDF 0.00000271 0.00000528 ★ 10 Total HxCDF 0.00000273 0.00000609		Totals			-			Footnotes	MANAGEMENT AND THE PROPERTY OF			
★ Last PeCDD ND 0.00000314 Total HyCDD ND 0.00000258 Total HyCDD 0.00000354 0.00000258 ★ 10 Total PeCDF 0.00000271 0.00000528 ★ 10 Total HyCDF 0.00000275 0.00000607	and the second	Total ACDO		Q	0.0000007.	3		a. Sample specific entrated	i detection limit.			
Total HyCDD ND 0.0000258 Total HpCDD 0.0000354 Total TCDF 0.00000271 ★ 10 Total PeCDF 0.00000271 Total HyCDF 0.00000275 ★ 10 Total HpCDF 0.00000275	*	******		2	0.0000031			b. Estimated maximum poss	tible concentration.		:.	
Total HpCDD 0.0000354 Total TCDF 0.00000271 0.00000528 Total PeCDF 0.00000273 0.00000528 Total HxCDF 0.00000320 0.00000600				g		0.000002	25	c. Method detection lend.				
Total TCDF 0.00000957 0.00000528 Total PeCDF 0.00000271 0.00000528 Total HxCDF 0.00000320 0.00000600	row/see stills	Total HpCDD		0.0000354				d. Lower control limit - uppe	er control limit.			
Total PeCDF 0.00000271 Total HxCDF 0.00000275 Total HpCDF 0.00000320	a Valencia de la	Total TCDF		0.00000057			· · · · · · · · · · · · · · · · · · ·					-
Total HxCDF	2	Total Pec DF		0.00000271		0.000005.	22					
Total HpcDF 0.00000320		Total HxCDF		0.00000275		. N						
	9 ¥	Total HpCDF		0.00000320		0.0000060	\$:

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

Project 27454

122	CONTRACT COMPI CX, LLC 60 East Vassar Drive e 500	LIANCE SCREENING FORM FOR HARDCOPY DATA Package ID B4VO47 Task Order 1261.001D.01 SDG No. IPC2198
Lak	ewood, CO 80226 Laboratory <u>Del Mar</u> - 1	
	Reviewer E. Wesslin Analysis/Method Volatiles	Reviewers Signature
AС	TION ITEMS!	
•	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	
	MMENTS*	Acceptable as reviewed necting contract and/or method requirements.

b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required



DATA VALIDATION REPORT

NPDES Monitoring Program Outfall 018

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC2198

Prepared by

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

Project:

NPDES

DATA VALIDATION REPORT

SOG: Analysis IPC2198 VOCs

1. INTRODUCTION

Task Order Title:

NPDES

MEC^X 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:

Reviewer:

E. Wessling

Date of Review:

April 12, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX 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.

Project:

NPDES

SDG: Analysis: IPC2198 VOCs

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPC2198-01	Water	624
Trip Blank	IPC2198-02	Water	624

Project: SDG: NPDES

Analysis:

VOCs

DATA VALIDATION REPORT

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 GC/MS TUNING

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

2.3 CALIBRATION

An initial calibration dated 3/24/2006 was associated with the sample analyses. The average RRFs were ≥0.05 and the %RSDs were ≤35% for all target compounds. One continuing calibration was associated with the sample analyses, dated 03/09/06. The RRFs were ≥0.05 and all %Ds were within the QC limit of ≤20%.

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

2.4 BLANKS

One method blank (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.

Revision 0

Project:

NPDES IPC2198

DATA VALIDATION REPORT

SDG: Analysis:

VOCs

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.

Project:	NPDES
SDG:	IPC2198
Analysis:	VOCs

DATA VALIDATION REPORT

2.9 INTERNAL STANDARDS PERFORMANCE

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

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

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

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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

2.13 SYSTEM PERFORMANCE

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



17461 Dorian Ave., Suite 100, Invine, CA 92614 (949) 261-1022 EAX 6949) 262-1297 1014 E. Cooley Dr., Suite A. Collon, CA 92324 (809) 370-4667 EAX (909) 370-1046 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 765-0042 EAX (480) 785-0051 2520 E. Sunnet Rd. #3, Las Vegas, NV 89120 1702) 798-3620 EAX (782) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Report Number: IPC2198

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

Pasadena, CA 91101 Attention: Bronwyn Kelly

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 - W Reporting Units: ug/l	aler)							ł	8-14 O.S.
Benzene	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/28/06	· Market in a market and the second s
Trichloretrifluoroethane (Freen 113)	EPA 624	6C27021	1.2	5.0	ND	i	03/27/06	03/28/06	4
Carbon tetrachloride	EPA 624	6C27021	0.28	5.0	ND	i	03/27/06	93/28/06	
Chioroform	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	î	03/27/06	03/28/06	
1,2-Dichloroethane	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/28/06	W
1,1-Dichioroethene	EPA 624	6C27021	0.42	3.0	ND	1	03/27/06	03/28/06	Ann an anni
Ethylbenzene	EPA 624	6C27021	0.25	2.0	ND	i	03/27/06	03/28/06	Ambaoocus;
Tetrachloroethene	EPA 624	6C27021	0.32	2.0	ND	1	03/27/06	03/28/06	· Proposition
Toluene	EPA 624	6C27021	0.36	2.0	ND	1	03/27/06	03/28/06	Na de la companya de
1,1,1-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	ì	03/27/06	03/28/06	Attacon out of the state of the
1,1,2-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	i	03/27/06	03/28/06	2 Br. 40.7
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	100 May 100 Ma
Vinyl chloride	EPA 624	6C27021	0.26	5.0	ND	i I	03/27/06		-Serfown:
Xylenes, Total	EPA 624	6C27021	0.90	4.0	ND ND	1		03/28/06	
Surrogate: Dibromofluoromethane (80-12)		002/021	0.70	4.0	110%	\$.	03/27/06	03/28/06	200
Surrogate: Toluene-d8 (80-120%)	109								Acceptance of the Control of the Con
Surrogate: 4-Bromofluorobenzene (80-120	%)				98 % 100 %	:			Section 1
Sample ID: IPC2198-02 (Trip Blank - W	ater)								SELTHAL COLUMN
Reporting Units: ug/l									W. Special State of S
Benzene	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/27/06	v i
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	Name of the last o
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	And the second s
1,2-Dichloroethane	EPA 624	6C27021	0.28	2.0	ND	1	03/27/06	03/27/06	The second secon
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	
Tetrachioroethene	EPA 624	6C27021	0.32	2.0	ND	ī	03/27/06	03/27/06	
Toluene	EPA 624	6C27021	0.36	2.0	ND	i.	03/27/06	03/27/06	age of the control of
1,1,1-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	1	03/27/06	03/27/06	and the state of t
I,1,2-Trichloroethane	EPA 624	6C27021	0.30	2.0	ND	i	03/27/06	03/27/06	Promonent of the second of the
Trichloroethene	EPA 624	6C27021	0.26	5.0	ND	ı.	03/27/06	03/27/06	And the second s
Trichlorofluoromethane	EPA 624	6C27021	0.34	5.0	ND	I	03/27/06	03/27/06	And Andrews
Vinyl chloride	EPA 624	6C27021	0.26	5.0	ND	1	03/27/06	03/27/06	tymo cou
Xylenes, Total	EPA 624	6C27021	0.90	4.0	ND	1	03/27/06	03/27/06	10-10-00-00-00-00-00-00-00-00-00-00-00-0
Surrogate: Dibromoftworomethane (80-126	-y	A-+ (A-1	<i>प•र्</i> ष	₹.₩	105 %		4-204-113 9 3	ANT IIIO	W i
Surrogate: Toluene-d8 (80-120%)	er, ayar :				100 %				*****

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager LIVEL



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Package ID: B4WC51

122	269 East Vassar Drive			Task Order:	1261.001D.01
Aur	ora, CO 80014			SDG No.:	
			No.	of Analyses:	1
	Laboratory: Del Mar	Analytical		Date: April 11	, 2006
	Reviewer: P. Meek			Reviewer's Si	gnature
	Analysis/Method: General	Minerals		I Y. MW	
	-				
ACT	TION ITEMS"		·		
	Case Narrative				
	Deficiencies				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
2.	Out of Scope Analyses				
3.	Analyses Not Conducted				
4.	Missing Hardcopy				
	Deliverables				
		<u> </u>	,		
5.	Incorrect Hardcopy			· · · · · · · · · · · · · · · · · · ·	
	Deliverables	<u></u>			
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				
	IMENTS ^b				
CUN	IMEN 187	Acceptable as reviewed.			
·····			·····		······································
* Su	bcontracted analytical laboratory is not	meeting contract and/or method n	equire	ments.	
	ferences in protocol have been adopted				uired.

MECX



DATA VALIDATION REPORT

NPDES Sampling Outfall 018

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC2198

Prepared by

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

Project:

NPDES

SDG:

IPC2198

Analysis:

Gen. Min.

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPC2198

Project Manager:

P. Costa

Matrix:

Water General Minerals

Analysis:

Gerieral Willieral

QC Level:

Level IV

No. of Samples:

- Enderthi

No. of Reanalyses/Dilutions:

0 P. Meeks

Reviewer: Date of Review:

April 12, 2006

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

Project:

NPDES

SDG:

IPC2198 Gen. Min.

Analysis:

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPC2198-01	Water	General Minerals

DATA VALIDATION REPORT

NPDES

SDG:

IPC2198

Analysis:

Gen. Min.

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

DATA VALIDATION REPORT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4° C \pm 2° 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.

B4WC51

3

Revision 0

Project:

NPDES

DATA VALIDATION REPORT

SDG: Analysis: IPC2198 Gen. Min.

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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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
Sample ID: IPC2198-01 (Outfall 018	- Water) - cont.								
Reporting Units: mg/l								*	
Ammonia-N (Distilled)	EPA 350.2	6C28104	0.30	0.50	ND	1	03/28/06	03/28/06	Ù
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	1
Nitrate/Nitrite-N	EPA 300.0	6C21047	0.080	0.15	ND	1	03/21/06	03/22/06	i
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	and
Sample ID: IPC2198-01 (Outfall 018 - Reporting Units: ml//hr	- Water)								**
Total Settleable Solids	EPA 160.5	6C21137	0.10	0.10	0.10	1	03/21/06	03/21/06	₩
Sample ID: IPC2198-01 (Outfail 018 - Reporting Units: NTU	-Water)								науниралык аймана ана а
Turbidity	EPA 180.1	6C22103	0.040	1.0	17	1	03/22/06	03/22/06	A
Sample ID: IPC2198-01 (Outfall 018 Reporting Units: ug/l	Water)								***************************************
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	X
Sample ID: IPC2198-01 (Outfall 018 - Reporting Units: umbos/cm	-Water)								er de militera de proposida
Specific Conductance	EPA 120.1	6C28069	1.0	1.0	600	1	03/28/06	03/28/06	
							•		
			$-\times \Lambda$	nalysis	met.	J. L. L. !	1		1

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

LEVEL IV

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, I 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 Outfall 018

MATRIX

IPC2820-01

Water

IPC2820-02

Trip Blank

Water

Reviewed By:

Del Mar Analytical - Irvine

Michele Chamberger

Michele Chamberlin Project Manager



Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

PURGEABLES BY GC/MS (EPA 624)

		~~~~~~~	<i>-</i>						
			MDL	Reporting	Sample		Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IPC2820-01 (Outfall 018 - Wat	ter)								
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 (80-1209	6)				122 %				A-01, ZX
Surrogate: Toluene-d8 (80-120%)					110 %				
Surrogate: 4-Bromofluorobenzene (80-120%	<b>)</b>				105 %				
Sample ID: IPC2820-02 (Trip Blank - Wat	er)								
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	
Trichleroethene	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%	5)				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

Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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
Sample ID: IPC2820-01 (Outfall 018 - Wat	ter)								
Reporting Units: ug/l									
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 %				



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

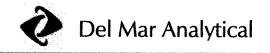
Pasadena, CA 91101 Report Number: IPC2820

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 - Wate Reporting Units: ug/l	er) - cont.								
alpha-BHC Surrogate: Decachlorobiphenyl (45-120%) Surrogate: Tetrachloro-m-xylene (35-115%)	EPA 608	6C29050	0.00099	0.0099	ND 43 % 43 %	0.99	03/29/06	03/29/06	Z



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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

### **METALS**

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



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

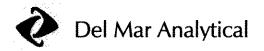
Attention: Bronwyn Kelly

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 - W	ater) - 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
<b>Total Dissolved Solids</b>	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 - W Reporting Units: ml//hr	ater)								
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 - W Reporting Units: NTU	ater)								
Turbidity	EPA 180.1	6C29118	0.040	1.0	15	1	03/29/06	03/29/06	
Sample ID: IPC2820-01 (Outfall 018 - W	ater)								
Reporting Units: ug/l	777. 227.2						0.00000	00/00/04	
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 - W Reporting Units: umhos/cm	ater)								
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

Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

### SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 018 (IPC2820-01) - Wate	Hold Time (in days) er	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
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



Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report

Attention: Bronwyn Kelly

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

# METHOD BLANK/QC DATA

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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30002 Extracted: 03/30/0	<u>6</u>										ě
Blank Analyzed: 03/30/2006 (6C30002-	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							
Trichloroftuoromethane	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			
LCS Analyzed: 03/30/2006 (6C30002-BS	61)										
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			

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager



Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

# METHOD BLANK/QC DATA

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

Amalinda	D14	Reporting	MANA	WY 44	Spike	Source	A/BEG	%REC	www.	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Kesuit	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30002 Extracted: 03/30/06	<u>.</u>										
LCS Analyzed: 03/30/2006 (6C30002-BS	1)										
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Matrix Spike Analyzed: 03/30/2006 (6C3	0002-MS1)				Sou	rce: IPC2	321-02				
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			41.7
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/i	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			
Matrix Spike Dup Analyzed: 03/30/2006	(6C30002-MS	SD1)			Sour	ce: IPC2	321-02				
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/i	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	

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager



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)**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30002 Extracted: 03/30/	<u>06</u>										
Matrix Spike Dup Analyzed: 03/30/200	•	<b>-</b>				rce: IPC2	321-02				
Vinyl chloride	26.0	5.0	0.26	ug/I	25.0	ND	104	40-135	3	30	
Surrogate: Dibromofluoromethane	31.0			ug/l	25.0		124	80-120			ZX
Surrogate: Toluene-d8	<i>26.8</i>			ug/l	25.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104	80-120			
Batch: 6C30026 Extracted: 03/30/0	<u>06</u>										
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/I							
Trichloroethene	ND	5.0	0.26	ug/i							
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			



300 North Lake Avenue, Suite 1200

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
•		*********		Carro	230101		, uxenc	***************************************	**** D	Ziiiii	Ammin
Batch: 6C30026 Extracted: 03/30/00	<u>y</u> .								•		
LCS Analyzed: 03/30/2006 (6C30026-BS	1)										
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/i	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			
Matrix Spike Analyzed: 03/30/2006 (6C3	0026-MS1)				Sou	rce: IPC2	562-02				
Benzene	21.6	2.0	0.28	ug/l	25.0	ND	86	60-125			
Carbon tetrachloride	27.0	5.0	0.28	ug/I	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/I	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-Bromostuorobenzene	27.5			ug/l	25.0		110	80-120			

Del Mar Analytical - Irvine

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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)**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30026 Extracted: 03/30/0	<u>16</u>										
Matrix Spike Dup Analyzed: 03/30/200	6 (6C30026-M	ISD1)			Sou	rce: IPC2	562-02				
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			



Attention: Bronwyn Kelly

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Pasadena, CA 91101

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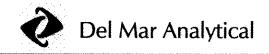
# METHOD BLANK/QC DATA

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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C28053 Extracted: 03/28	<u>/06</u>										
Blank Analyzed: 03/30/2006 (6C28053	5-BLK1)										
Bis(2-ethylhexyl)phthalate	ND	5.0	1.7	ug/l							
2,4-Dinitrotoluene	ND	9.0	0.20	ug/l							
N-Nitrosodimethylamine	ND	6.8	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			
LCS Analyzed: 03/30/2006 (6C28053-	BS1)				.1						M-NRI
Bis(2-ethylhexyl)phthalate	10.6	5.0	1.7	ug/l	10.0	*:	106	60-130			
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/i	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			
LCS Dup Analyzed: 03/30/2006 (6C28	053-BSD1)										
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/I	10.0		107	60-120	7	20	
N-Nitrosodimethylamine	9.28	8.0	0.10	ug/I	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			
				ug/l	10.0		84	45-120			

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

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Pasadena, CA 91101

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Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

## METHOD BLANK/QC DATA

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

Reporting Spike Source %REC RPD Data

Analyte Result Limit MDL Units Level Result %REC Limits RPD Limit Qualifiers

Batch: 6C28053 Extracted: 03/28/06

LCS Dup Analyzed: 03/30/2006 (6C28053-BSD1)

Surrogate: Terphenyl-d14

8.66

ug/l 10.0

87 45-120

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MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

# METHOD BLANK/QC DATA

## **ORGANOCHLORINE PESTICIDES (EPA 608)**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result		%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29050 Extracted: 03/29/06	<u>.</u>										
Blank Analyzed: 03/29/2006 (6C29050-B	LK1)										
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		<i>78</i>	35-115			
LCS Analyzed: 03/29/2006 (6C29050-BS	1)										
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			
Matrix Spike Analyzed: 03/29/2006 (6C2	9050-MS1)				Sou	rce: IPC2	322-01				
alpha-BHC	0.389	0.0094	0.00094	ug/I	0.472	ND	82	45-120			
Surrogate: Decachlorobiphenyl	0.435			ug/I	0.472		92	45-120			
Surrogate: Tetrachloro-m-xylene	0.385			ug/l	0.472		82	35-115			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29050-M	SD1)			Soul	rce: IPC2	322-01				
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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# METHOD BLANK/QC DATA

#### **METALS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29072 Extracted: 03/29/06	-										
Blank Analyzed: 03/29/2006 (6C29072-B	-										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/29/2006 (6C29072-BS	l)				•						
Mercury	7.90	0.20	0.050	ug/l	8.00		99	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C2	9072-MS1)				Sour	rce: IPC2	718-01				
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29072-MS)	D1)			Sour	rce: IPC2	718-01				
Mercury	7.82	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C29080 Extracted: 03/29/06	•										
Blank Analyzed: 03/29/2006 (6C29080-B)	LK1)										
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/29/2006 (6C29080-BS)	)										
Copper	79.3	2.0	0.25	ug/l	80.0		99	85-115			
Lead	81.8	1.0	0.040	ug/i	80.0		102	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C2	080-MS1)				Sour	rce: IPC2	585-01				
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	0.08	0.67	98	70-130			
Matrix Spike Dup Analyzed: 03/29/2006	6C29080-MSI	<b>D1</b> )			Sour	ce: IPC2	585-01				
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	



Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2820

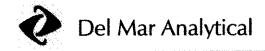
Sampled: 03/28/06 Received: 03/28/06

Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

### **INORGANICS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C28055 Extracted: 03/28/06	<u>.</u>										
Blank Analyzed: 03/28/2006 (6C28055-B	LK1)										
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							
LCS Analyzed: 03/28/2006 (6C28055-BS	1)										
Chloride	4.81	0.50	0.15	mg/l	5.00		96	90-110			M-3
Sulfate	9.7 <del>6</del>	0.50	0.45	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 03/28/2006 (6C2	8055-MS1)				Sou	rce: IPC	2694-01				
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120			
Matrix Spike Dup Analyzed: 03/28/2006	(6C28055-M	SD1)			Sou	rce: IPC	2694-01				
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20	
Batch: 6C29047 Extracted: 03/29/06			٠.	. 2			٠.				
					•						
Blank Analyzed: 03/29/2006 (6C29047-B											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/29/2006 (6C29047-BS	1)			-							M-NR1
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120			
LCS Dup Analyzed: 03/29/2006 (6C2904	7-BSD1)										
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120	2	20	
Batch: 6C29064 Extracted: 03/29/06	_										
Blank Analyzed: 04/03/2006 (6C29064-B	LK1)										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							



Project ID: Routine Outfall 018

Sampled: 03/28/06

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC2820

Received: 03/28/06

Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

### **INORGANICS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Oualifiers
•		FYREIT	WEDL	Chics	Dever	ACOUIC	/ <b>02</b> 000	AMERICA	M D		<b>********</b>
Batch: 6C29064 Extracted: 03/29/0	<u>6</u> _	•						er.			
LCS Analyzed: 04/03/2006 (6C29064-BS	S1)										M-NR1
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115			
LCS Dup Analyzed: 04/03/2006 (6C290	64-BSD1)										
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115	0	20	
Batch: 6C29076 Extracted: 03/29/0	<u>6</u>										
	<del></del>				_						
Duplicate Analyzed: 03/29/2006 (6C290)	-				Sou	rce: IPC2	2034-01			_	
Specific Conductance	195	1.0	1.0	umhos/cm		200			3	5	
Batch: 6C29077 Extracted: 03/29/0	<u>6</u>										
Blank Analyzed: 03/29/2006 (6C29077-I	BLK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/29/2006 (6C29077-BS	S1)										
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/29/2006 (6C290'	77-DUP1)				Sou	rce: IPC2	817-01				
Total Dissolved Solids	240	10	10	mg/l		240			0	10	
Batch: 6C29086 Extracted: 03/29/0	<u>6</u>										
Blank Analyzed: 03/29/2006 (6C29086-I	BLK1)										
Perchlorate	ND	4.0	0.80	ug/l							

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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2820

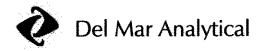
Sampled: 03/28/06

Received: 03/28/06

# METHOD BLANK/QC DATA

#### **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29086 Extracted: 03/29/06	-										
LCS Analyzed: 03/29/2006 (6C29086-BS)	D										
Perchlorate	50.4	4.0	0.80	ug/l	50.0		101	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C2)	9086-MS1)				Sou	rce: IPC2	840-01				
Perchlorate	57.1	4.0	0.80	ug/l	50.0	6.2	102	80-120			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29086-M	SD1)			Sou	rce: IPC2	840-01				
Perchlorate	56.3	4.0	0.80	ug/l	50.0	6.2	100	80-120	1	20	
Batch: 6C29092 Extracted: 03/29/06	•										
Blank Analyzed: 03/29/2006 (6C29092-Bl	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/29/2006 (6C29092-BS1	1)										
Total Suspended Solids	953	10	10	mg/l	1000		95	85-115			
Duplicate Analyzed: 03/29/2006 (6C29092	2-DUP1)				Sou	rce: IPC2	722-01				
Total Suspended Solids	22.0	10	10	mg/l		21			5	10	
Batch: 6C29109 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29109-BI	LK1)										
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/29/2006 (6C29109-BS1	)										
Total Cyanide	207	5.0	2.2	ug/l	200		104	90-110			



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPC2820

Sampled: 03/28/06

Received: 03/28/06

## METHOD BLANK/QC DATA

## **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29109 Extracted: 03/29/0	<u>6</u>										
Matrix Spike Analyzed: 03/29/2006 (6C	20189-MS1)				Son	rce: IPC2	2823-01				
Total Cyanide	194	5,0	2.2	ug/l	200	ND	97	70-115			
Matrix Spike Dup Analyzed: 03/29/2006	6 (6C29109-M	SD1)			Sou	rce: IPC2	823-01				
Total Cyanide	196	5.0	2.2	ug/l	200	ND	98	70-115	1	15	
Batch: 6C29118 Extracted: 03/29/0	<u>6</u>										
Blank Analyzed: 03/29/2006 (6C29118-I	BLK1)										
Turbidity	0.0500	1.0	0.040	NTU							J
Duplicate Analyzed: 03/29/2006 (6C291	18-DUP1)				Sou	rce: IPC2	867-01				
Turbidity	0.110	1.0	0.040	NTU		0.10			10	20	J
Batch: 6C29127 Extracted: 03/29/0	<u>6</u>										
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				a div	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			*	, , , ; :	
Blank Analyzed: 03/29/2006 (6C29127-I Surfactants (MBAS)	ND	0.10	0.044	mg/l			•				
LCS Analyzed: 03/29/2006 (6C29127-BS	21)			J							
Surfactants (MBAS)	0.269	0.10	0.044	mg/l	0.250		108	90-110			
Matrix Spike Analyzed: 03/29/2006 (6C	29127-MS1)				Sou	rce: IPC2	820-01				
Surfactants (MBAS)	0.345	0.10	0.044	mg/l	0.250	0.090	102	50-125			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29127-M	SD1)			Sou	rce: IPC2	820-01				
Surfactants (MBAS)	0.347	0.10	0.044	mg/l	0.250	0.090	103	50-125	1	20	



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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
Batch: 6C30104 Extracted: 03/30/06	<u>5</u>										
Blank Analyzed: 03/30/2006 (6C30104-E	LK1)										
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/30/2006 (6C30104-BS	1)										
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0		109	80-115			
Matrix Spike Analyzed: 03/30/2006 (6C3	0104-MS1)				Sou	rce: IPC2	2822-01				
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0	ND	106	70-120			
Matrix Spike Dup Analyzed: 03/30/2006	te Dup Analyzed: 03/30/2006 (6C30104-MSD1)					rce: IPC2	822-01				
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	



Project ID: Routine Outfall 018

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Attention: Bronwyn Kelly

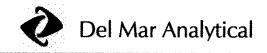
Report Number: IPC2820

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.

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	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 (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2820-01	624-Boeing 001/002 Q (Fr113+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/I	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 (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2820-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPC2820

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

Attention: Bronwyn Kelly

### **DATA QUALIFIERS AND DEFINITIONS**

A-01 Matrix interference confirmed GCMS #1 3/30/2006.

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-NR1 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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Report Number: IPC2820

Sampled: 03/28/06

Pasadena, CA 91101 Attention: Bronwyn Kelly 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	$\mathbf{x}$	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	$\mathbf{X}^{-}$	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

### **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

Temp =  $57^{\circ}$ Field readings: Comments IP(2820, age 1 of *`*~ pentachlorophenol (EPA 625) ethylhexyl)phthalate, NDMA × Dinitrotoluene, Bis(2-2,4,6 Trichlorophenol, 2,4 × (Ar808) OHE shqlA ANALYSIS REQUIRED × M-sinommA Conductivity × Turbidity, TDS. TSS, Perchlorate × Ch' 804' NO3+NO5-N' × Surfactants (MBAS) BOD2(S0 degrees C) × × Cyanide (total recoverable) Oil & Grease (EPA 413 1) × TCDD (suq sil congeners) AOCs 624 + xylenes × Del Mar Analytical version 03/1/06 CHAIN OF CUSTODY FORM Settleable Solids × Cn' bp' Ha' Total Recoverable Metals: 3A, 3B, 3C 13A, 13B 10A, 10B 12A, 12B 5A, 5B 94,9B 48 8A.8B Ξ ₹ 8 N ဖ Preservative | Bottle Project: Boeing-SSFL NPDES Routine Outfall 018 R-2 Spillway H2S04 HNO3 ESSE ENGS Na E None None None None None None None None 호 쟞 (626) 568-6691 Fax Number: (626) 568-6515 Phone Number Sampling Date/Time Sampler: Kick 13 Margeir Project Manager: Bronwyn Kelly 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 1L Amber | 2 11. Amber Container Type 1L Amber 1L Amber Poly-500 Poly 500 Poly-500 mi Poly-500 Poly-500 Poly-1 Poly-1L Poly-1 Poly-11 VOAs Client Name/Address MWH-Pasadena Sample Matrix ₹ ₹ ₹ ₹ ₹ 3 ₹ ₹ ≥ ₹ ₹ ≥ ≥ ≥ Description Outfall 018 Outfall 018-Outfall 018 Outfall 018 Sample

NPDES -	

Sample Integrity: (Check) intect

Perchiorate Only 72 Hours

72 Hours

5/81

3/82/50

Metals Only 72 Hours

10 Days

Turn around Time: (check)

24 Hours 48 Hours

B

1/34/8

Date/Time

15A, 15B, 15C

Received By

3-28-06 Date/Time:

VOAs

₹

Trip Blank

Relinquished By

Relinquished By

걒

Date/Time:



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. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier

Director of HRMS Services



Aha Analytical Laborator: 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**

Page 3 of 11

Matrix: Aqueous Sample Size: 1.00 L						
	sn	QC Batch No.:	7886	Lab Sample: 0-MB001		
	٦	Date Extracted:	: 31-Mar-06	Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225:	A A
Analyte (	Conc. (ug/L)	DF a	EMPC b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers	Ousliffers
2,3,7,8-TCDD	ND	0.00000000		1S 13C-2,3,7,8-TCDD	74.2 25 - 164	
1,2,3,7,8-PeCDD	Q	0.00000135		13C-1,2,3,7,8-PeCDD		
1,2,3,4,7,8-HxCDD	2	0.000000919		13C-1,2,3,4,7,8-HxCDD	75.1 32 - 141	
1,2.3,6,7,8-HxCDD	2	0.000000964		13C-1,2,3,6,7,8-HxCDD	75.0 28 - 130	
1,2,3,7,8,9-HxCDD	2	0.000000913		13C-1,2,3,4,6,7,8-HpCDD	76.6 23 - 140	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1,2,3,4,6,7,8-HpCDD	2	0.000000944		13C-OCDD	43.6 17 - 157	
OCDD	9.2	.00		13C-2,3,7,8-TCDF	79.1 24-169	
2,3,7,8-TCDF		0.000000845		13C-1,2,3,7,8-PeCDF	81.7 24 - 185	
I,2,3,7,8-PeCDF	2	ND 0,00000110		13C-2,3,4,7,8-PeCDF	83.8 21 - 178	
2,3,4,7,8-PeCDF	2	0.00000101		13C-1,2,3,4,7,8-HxCDF	75.0 26-152	
1,2,3,4,7,8-HxCDF	<b>9</b>	0.000000457	Alberta was gar dan awa ana awa sangaran gar	13C-1,2,3,6,7,8-HxCDF	76.8 26 123	13 25 47
1,2,3,6,7,8-HxCDF	Q	0.000000415		13C-2,3,4,6,7,8-HxCDF	76.4 28 - 136	
2,3,4,6,7,8-HxCDF		0.000000487	· · · · · · · · · · · · · · · · · · ·	13C-1,2,3,7,8,9-HxCDF	76.9 29 - 147	
1,2,3,7,8,9-HxCDF	S	0.000000630		13C-1,2,3,4,6,7,8-HpCDF	69.4 28 - 143	
12,3,4,6,7,8-HpCDF	2	0.000000489		13C-1,2,3,4,7,8,9-HpCDF	79.8 26 - 138	
1,2,3,4,7,8,9-HpCDF	2	0.000000435	٠.	13C-OCDF	50.1 17-157	
OCDF	QN	0.00000220	Company of the Compan	CRS 37Cl-2,3,7,8-TCDD	81.3 35 - 197	
Totals				Footnotes		
Total TCDD	2 5	0.000000077	(42)	a. Sample specific estimated detection limit.		
Total HxCDD	2 2			c. Method detection limit		
Total HpCDD	<b>QQ</b>			d. Lower control limit - upper control limit.		
	2	0.000000845				
Total PeCDF	Ð	§ 0.00000106				
Total HXCDF	2 5	0.000000491				
LOUAL FIDELLY		-				

OPR Results				EPA Method 1613	13
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:	X A
Analyte	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%R LCL-UCL	
2,3,7,8-1CDD	10.0	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	35-82	13C-1,2,3,4,7,8-HxCDD	63.7 32 - 141	
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	63.7 28 - 130	
1,2,3,7,8,9-HxCDD	\$0.0	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	35 - 70	13C-OCDD	31.1 17-157	
QQ20	100 100	78 - 144	13C-2,3,7,8-TCDF	63.0 24-169	**
2,3,7,8-TCDF	10.0	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	
	50.0 54.9	34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4 26 - 152	
	7.55 0.00 C	36-67	3C-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	20.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	63.2 29 - 147	
	50.0 54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.3 28 - 143	
	50.0	19.17 <b>(1)</b>	13C-1,2,3,4,7,8,9-HpCDF	56.4 26 - 138	97 24 25
	50.0 55.6		13C-OCDF	37.9 17-157	
8	901	63-170	CRS 37CI-2,3,7,8-TCDD	78.6 35 - 197	٠

Analyst: JMH

Martha M. Maier 03-Apr-2006 11:38

Approved By:

Samule 19: TPC 3450 01								
							EPA M	EPA Method 1613
Data		Sample Data		Laboratory Data			THE RESERVE THE PROPERTY OF THE PERSON OF TH	
Name: Del Mar Analylical, Irvine	<b></b>	Matrix	Aqueous	Lab Sample:	27497-001	Date Received:	ived:	30-Mar-06
llected.	· · · · · · · · · · · · · · · · · · ·	Sample Size:	0.995 L	QC Batch No.:	7886	Date Extracted	cled	31-Mar-06
Title Cutected 1248	-			Date Analyzed UB-5	1-Apr-06	Date Analy	Date Analyzed DB-225.	ΝΑ
Analyte Conc. (ug/L.)	DIT "	EMPCD	Qualifiers	Labeled Standard	lard	%R L	rcr-ncr _q (	Oualifiers
2,3,7,8-TCDD ND	0.00000000	00		1S 13C-2,3,7,8-1CDD	UU	67.4	25 - 164	
	0.00000223	_	T. V.	13C-1,2,3,7,8-PeCDD	eCDD.	65.2	25 - 181	
		0.00000039	39	13C-1,2,3,4,7,8-HxCDD	-HxCDD	<u>\$</u>	32 - 141	
				13C-1,2,3,6,7,8-HxCDD	-HxCDD	64.9	28 - 130	
	0.00000172	12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	v (*  %	13C-1,2,3,4,6,7,8-HpCDD	8-НрСDD	63.0	23 - 140	
6,7,8-HpCDD	7			13C-0CDD		40.0	17 - 157	
OCDD 0.000285				13C-2,3,7,8-TCDF	DF	66.2	24 - 169	
23,7,8-TCDF	0.00000123	<b>~</b>		13C-1,2,3,7,8-PeCDF	eCDF	69.5	24 - 185	
1,2,3,7,8-PeCDF	0.00000118	**************************************		13C-2,3,4,7,8-PeCDF	eCDF.	69.4	21 - 178	\$ 
23,4,7,8-PeCDF ND		*		13C-1,2,3,4,7,8-HxCDF	-H _x CDF	66.3	26 - 152	
1,2,3,4,7,844xCDF ************************************	0.000000694	***************************************		13C-1,2,3,6,7,8-HxCDF	-HxCDF	68.1	26-123	
1,2,3,6,7,8-HxCDF ND	0.000000597	76		13C-2,3,4,6,7,8-HxCDF	HXCDF	9.99	28 - 136	÷
2.3.4.6.7.8-HxCDF	0.0000007111			13C-1,2,3,7,8,9-HxCDF	HxCDF	9.99	29 - 147	
	<u>~</u>			13C-1,2,3,4,6,7,8-HpCDF	,8-HpCDF	6.09	28 - 143	
1,2,3,4,6,7,8-HpCDF	4		-	13C-1,2,3,4,7,8,9-HpCDF	9-HpCDF	66.5	26 - 138	wig and
9-HpCDF	0.000000578			13C-OCDF		46.9	17-157	
0.0000106				CRS 37CI-2,3,7,8-TCDD	ĵ.	\$6.9 8	35 - 197	
Totals				Footnotes				
Total TCDD ND 0	0.0000000900	8 .	HERO TO BARR	a. Sample specific estimated detection limit.	987	2:		
				c. Method detection limit				
Total HpCDD	Reserved to the second			d Lower control limit - upper control limit.	per control limit			
:	<u>~</u>			-				
	0.00000116					E S		3
Total HxCDF			33.4				18	
_						1		\$
TANK TO THE TANK THE TANK TO THE TANK T				Approved By:	Martha M. Maier		03-Apr-2006 11:38	

## APPENDIX

Project 27497 Page 7 of 11

#### **DATA QUALIFIERS & ABBREVIATIONS**

В	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.
1	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA.	Not applicable
RL	Reporting Limit – concentrations that corresponds to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

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

# **CERTIFICATIONS**

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



17461 Derien Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1226
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4867 Fax (909) 370-1045
9484 Chesspeake Drive, Suite 605, San Diago, CA 92123 Ph (619) 505-9586 Fax (619) 505-9688
9530 South 61st Street, Suite 8-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851

# SUBCONTRACT ORDER - PROJECT # IPC2820

rel Mar Analytical - Irvine 7461 Derian Avenue. Suite 1 vine, CA 92614 hone: (949) 261-1022 ax: (949) 261-1228 roject Manager: Michele Chat tandard TAT is requested to Analysis tample ID: IPC2820-01 Water 1613-Dioxin-HR-Alta	mberlin	RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106
Analysis  Imple ID: IPC2820-01 Water  1613-Dioxin-HR-Alta  EDD + Level 4  Intainers Supplied:  L Amber (IPC2820-01G)		⇒ Due Date: 4(5/06 Initials:
613-Dioxin-HR-Alta EDD + Level 4 ontainers Supplied: L Amber (IPC2820-01G)	unless specific due date is requested  Expiration	Due Date: 417106 Initials:
L Amber (IPC2820-01G)	Sampled: 03/28/06 12:48 04/ )4/06 12:48 04/25/06 12:48	Instant Nofication  J flags, 17 congeners, no TEQ, ug/L, sub=Alta  Excel EDD email to pm, Include Std logs for Lvl IV
lipe e		
÷		
	SAMPT F	INTEGRITY:
	No Sample labels/COC agree:	☐ Yes ☐ No Samples Received On loc:: ☐ Yes ☐ No
ustody Seals Present: Yes L	3/24/0 / X	Attina of Benedict 3/30/06 0900
leased By	Date Time R	leceived By Date Time

PReserve of 11

# SAMPLE LOG-IN CHECKLIST

17112

Alta Project #:	4/79	1				
Samples Arrival:	Date/Time	6 090	Initials	NB	Location:	-2-
Logged In:	Date/Time 3/30/00	6 112	Initials	SB	Location:	R-2
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	(ce	Blu	ue Ice	Dry	ce	None
Temp °C () 3	ا ع	Time: /C	523		Thermometer	ID: DT-20

					YES	NO	NA
Adequate Sample Volume Received?		•			/		
Holding Time Acceptable?					V		·
Shipping Container(s) Intact?					1		
Shipping Custody Seals Intact?		_					
Shipping Documentation Present?					~		
Airbill Trk# 79.	142	591	2912	•	-		
Sample Container Intact?							ļ.,
Sample Custody Seals Intact?							
Chain of Custody / Sample Documen	tation P	resent?			1	١.,	
COC Anomaly/Sample Acceptance F	973	Tatigate to a visit of the con-			<u></u>		
If Chlorinated or Drinking Water Sam	<del>(1915), 1839, 1849, 1</del>		reservation?				/
Na ₂ S ₂ O ₃ Preservation Documented?			coc		nple ainer	(No	ne)
Shipping Container	Alta	(Client)	Retain	Re	turn	Dis	oose

Comments:

# **APPENDIX G**

**Section 126** 

Outfall 018, March 28, 2006

AMEC Data Validation Reports

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4DF57</u> 12260 East Vassar Drive Task Order <u>1261.001D.01</u> Suite 500 SDG No. IPC2820 Lakewood, CO 80226 No. of Analyses 1 Laboratory Alta Analytical Date: April 10, 2006February 17, 2006 Reviewer E. Wessling Reviewer's Signature Analysis/Method Dioxins/ Furans by Method 1613 **ACTION ITEMS*** Case Narrative **Deficiencies** 2. Out of Scope Analyses **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 OC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS^b Subcontracted analytical laboratory is not meeting contract and/or method requirements.

⁶ 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^X, LLC 12269 East Vassar Drive Aurora, CO 80014

**NPDES** IPC2820 D/F

DATA VALIDATION REPORT

SDG: Analysis:

#### 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

Level IV

QC Level: No. of Samples:

No. of Reanalyses/Dilutions:

Reviewer.

E. Wessling

Date of Review:

April 10, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX 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.

Project: SDG: Analysis:

**NPDES** IPC2820 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 018	IPC2820-01	27497-001	Water	1613

SDG: Analysis:

**NPDES** IPC2820 D/F

#### 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.

Project: SDG: NPDES IPC2820

DATA VALIDATION REPORT

SDG: Analysis: 2820 D/F

#### 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 ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤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.

NPDES

DATA VALIDATION REPORT

SDG: Analysis: IPC2820 D/F

#### 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.

Martha M. Maier 03-Apr-2006 11:38

Semple ID: IPC2820-01	OFF	910		EPA	EPA Method 1613
Data	Del Mar Analytical, Irvine	Sample Data Matrix: Ameous	Laboratory Data  Lab Sample	Date Designation	
Project: IFC.2820 Date Collected: 28-Mar-06 Time Collected: 22-Mar-06		Size			30-Mar-06 31-Mar-06
¥7.1			Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225:	NA
Analyte Conc.	(ug/L)	EMPC ^D Qualiffers	Labeled Standard	%R LCL-UCL ^d	Oualifiers
2,3,7,8 TCDD		006	IS 13C-2,3,7,8-TCDD	67.4 25 - 164	
1,2,3,7,8-PeCDD	ND 0.0000023		13C-1,2,3,7,8-PeCDD	65.2 25 - 181	
U.S.O.A. 778-HXCDD		0.00000000	13C-1,23,47,8-Hccop	64.1 32 - 141	
1,2,3,6,7,8-HxCDD	3		13C-1,2,3,6,7,8-HxCDD		
123,7,8,9 HxCDD	Z(1000000 CN	/2	13C-123.4.6.7.8-Hp.CDD		
1,2,3,4,6,7,8-HpCDD	0.0000311		13C-OCDD		
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**NPDES** 

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## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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	Laboratory Del Mar Ana		Date: April	
	Reviewer K. Shadowli		Reviewer's	Signature
,	Analysis/Method Volatiles by	Method 624	Victoria	adowlert.
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2.	Out of Scope Analyses			
caracaca				
3.	Analyses Not Conducted			
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١.	Missing Hardcopy			
	Deliverables			
5.	Incorrect Hardcopy			
	Deliverables			
5.	Deviations from Analysis	Qualifications were assi	gned for the foll	lowing:
	Protocol, e.g.,	- a continuing calibration	in %D outlier	
	Holding Times	a surrogate outlier		
	GC/MS Tune/Inst. Performance			
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	Method blanks	as estimated.		
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# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 018

**ANALYSIS: VOLATILES** 

SAMPLE DELIVERY GROUP: IPC2820

Prepared by

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

**NPDES** IPC2820

Analysis:

**VOCs** 

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC^X Project Number:

DATA VALIDATION REPORT

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 MECX 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.

**NPDES** 

SDG: Analysis:

IPC2820 VOCs

DATA VALIDATION REPORT

### Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPC2820-01	Water	624
Trip Blank	IPC2820-02	Water	624

**NPDES** 

SDG: Analysis: IPC2820 VOCs

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C, at 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 ≥0.05 and the %RSDs were ≤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 ≥0.05 and all %Ds were within the QC limit of ≤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.

Project: SDG: NPDES

Analysis:

VOCs

## 2.4 BLANKS

DATA VALIDATION REPORT

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.

Project: SDG:

NPDES IPC2820

Analysis:

VOCs

#### 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

DATA VALIDATION REPORT

There were no field duplicate samples identified for this SDG.

#### 2.9 INTERNAL STANDARDS PERFORMANCE

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

#### 2.10 COMPOUND IDENTIFICATION

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

#### 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

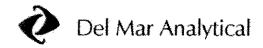
Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any detects reported between the MDL and the reporting limit were qualified as 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.



MWII-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadona, CA 91101

Attention: Bronwyn Kelly

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 Qualifie	rs
	·	paren	#2F651.K4	LANIIIS	242.2614	1 MC101	12111 2000	sammyaca	Rev	
Sample ID: IPC2820-01 (Outfall 018 - W	ater)								QUE!	Quei
Reporting Units: ug/l	monados — a de o								*****	- Paul
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		
Carbon tetrachloride	EPA 624	6C30026	0.28	5.0	ND	1	03/30/06	03/31/06	UJ	<u> </u>
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		1
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	Ł	03/30/06	03/31/06	- 1	
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		
I,1,1-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06		1
1,1,2-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	$\Psi$	1.00
Trichloroethene	EPA 624	6C30026	0.26	5.0	0.27	Ĭ	03/30/06	03/31/06	J	DIP,5
Trichlorofluoromethane	EPA 624	6C30026	0.34	5.0	ND	*# **	03/30/06	03/31/06	ч	
Vinyl chloride	EPA 624	6C30026	0.26	5.0	ND	1	03/30/06	03/31/06	1.	
Xylenes, Total	EPA 624	6C30026	0.90	4.0	ND	AN.	03/30/06	03/31/06	$\Psi$	1
Surrogate: Dibromoftworomethane (80-120	0%)				122%				A-01, ZX	( <b>1</b>
Surrogate: Toluene-d8 (80-120%)					110%					
Surragate: 4-Bromoflyorobenzene (80-126	196)	. *		e de la companya de l	105%		•		À	
Sample ID: IPC2820-02 (Trip Blank - W	ater)	· * · · · · · · · · · · · · · · · · · ·	•				•		Ker.	Just
Reporting Units: ug/l	Ť							.,,	Pust	-Cau
Benzene	EPA 624	6C30002	0.28	2.0	ND	Ī	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		
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-Diehloroethane	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	1 1	
Ethylbenzene	EPA 624	6C30002	0.25	2.0	ND	1	03/30/06	03/30/06		
Tetrachlomethene	EPA 624	6C30002	0.32	2.0	MĐ	ì	03/30/06	03/30/06		
Toluene	EPA 624	6C30002	0.36	2.0	ND	1	03/30/06	03/30/06		
L.I.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		
Friehlaroethene	EPA 624	6030002	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	i	03/30/06	03/30/06		
Xvlenes, Total	EPA 624	6C30002	0.90	4.0	ND	Î.	03/30/06	03/30/06		
Surrogate: Dibromofluoromethane (80-120				12.24	110%	***			7	
Surrogate: Toluene-d8 (80-170%)	•				102 %				ı	
Surrogate: 4-Bromofluorobenzene (80-120)	3 <u>6</u> )				95 %					
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Del Mar Analytical - Irvine

Michele Chamberlin Project Manager Leve (V

#### CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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12269 East Vassar Drive					1261.001D.01		
Aun	ora, CO 80014			SDG No.:	- Control of the Cont		
			No.	of Analyses:			
	Laboratory: Del Mar /		-	Date: April 1			
	Reviewer: P. Meeks			Reviewer's Si	gnature		
	Analysis/Method: General I	<b>Virierals</b>		Lr.mus			
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5.	Incorrect Hardcopy						
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6.	Deviations from Analysis						
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	Field QC						
	Internal Standard Performance		****				
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-							

^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required

MECX



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 018

**ANALYSIS: GENERAL MINERALS** 

SAMPLE DELIVERY GROUP: IPC2820

Prepared by

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

**NPDES** 

Gen. Min.

SDG: Analysis:

IPC2820

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title:

**NPDES Sampling** 

MECX 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:

No. of Reanalyses/Dilutions:

P. Meeks

Reviewer: Date of Review:

April 12, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MECX 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.

**NPDES** 

SDG:

IPC2820 Analysis: Gen. Min.

DATA VALIDATION REPORT

# Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPC2820-01	Water	General Minerals

**NPDES** 

SDG: Analysis: IPC2820 Gen. Min.

DATA VALIDATION REPORT

#### 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  $4^{\circ}$ C  $\pm$   $2^{\circ}$ 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.

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Project: NPDES SDG: IPC2820 Analysis: Gen. Min.

DATA VALIDATION REPORT

#### 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 Derian Ave., Suite 100, Iraine, CA 92614 (949) 261-1022 FAX (949) 260-1297 1014 E. Cooley Dr., Suite A. Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9830 South 51st St., Suite B-120, Phoenis, AZ 85044 (460) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vogas, NV-89120 (702) 796-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Report Number: IPC2820

Sampled: 03/28/06

Attention: Bronwyn Kelly

Received: 03/28/06

#### **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualific	
Sample ID: IPC2820-01 (Outfall 018 Reporting Units: mg/l	- Water) - cont.								Rev	( OC
Ammonia-N (Distilled)	EPA 350.2	6C30104	0.30	0.50	9.56	1	03/30/06	03/30/06		
Biochemical Oxygen Demand	EPA 405.1	6C29064	0.59	2.0	6.2	i	03/29/06	04/03/06	*	
Chloride	EPA 300.0	6C28055	0.75	2.5	38	5	03/28/06	03/28/06	î	
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	ND	1.5	03/28/06	03/28/06	1	ŀ
Oil & Grease	EPA 413.1	6C29047	0.90	4.8	ND	1	03/29/06	03/29/06		1
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		ŀ
Sample ID: IPC2820-01 (Outfall 018 Reporting Units: ml//hr Total Settleable Solids	- Water) EPA 160.5	6C28105	0.10	0.10	ND	1	03/28/06	03/28/06	<b>\</b>	
sample ID: IPC2820-01 (Outfall 018 Reporting Units: NTU	- Water)				,					
urbidity	EPA 180.1	6C29118	0.040	1.0	15	1	03/29/06	03/29/06		
Sample ID: IPC2820-01 (Outfall 018 Reporting Units: ug/l	- Water)									
otal Cyanide	EPA 335.2	6C29109	2.2	5.0	2.4	1	03/29/06	03/29/06	<b>→</b> j	
erchlorate	EPA 314.0	6C29086	0.80	4.0	ND	1	03/29/06	03/29/06	*	
ample ID: IPC2820-01 (Outfall 018	-Water)								e de la companya de l	
Reporting Units: umbos/cm			1.0	1.0	600	1	03/29/06	03/29/06	- 1	

LEVEL IV

Del Mar Analytical - Irvine Michele Chamberlin Project Manager