SAMPLE LOG-IN CHECKLIST

Alta Project #:	27607	<u>.</u>			_					
	Date/Time		Initials	:	Loca	tion:	W	R- (}	
Samples Arrival:	4/18/06	0905	Box	\mathcal{B}	Shelf/Rack:					
	Date/Time	Date/Time Initials: Loc)—	
Logged In:	4/8/00	1455	Box	18	f/Rac	k:				
Delivered By:	FedEx U	PS	Cal	DHL		Hand Delive		Ot	her	
Preservation:	(Ice)	Blue Ice Dry Ice						one		
Temp °C 0.3	Tim	e: 09	35		Ther	mom	eter IC): DT-	-20	
				mmmm		ulli	VEC	NO	NI A	
							YES	NO	NA	
Adequate Sample		?					<u> </u>	<i>,</i>		
Holding Time Acce	ptable?						V			
Shipping Containe	r(s) Intact?									
Shipping Custody	Seals Intact?				·		V			
Shipping Docume:							V			
Airbill	Trk# 790	53969	1324	136			V			
Sample Container	Intact?						V			
Sample Custody S	Seals Intact?								V	
Chain of Custody	/ Sample Documer	ntation Pre	sent?				1			
COC Anomaly/Sample Acceptance Form completed?										
If Chlorinated or D	rinking Water Sam	nples, Acce	eptable P	reservatio	n?				V	
If Chlorinated or Drinking Water Samples, Acceptable Preservation? Na ₂ S ₂ O ₃ Preservation Documented? COC Sample Container								No	ne	
Shipping Containe	er e	Alta	Client	Retair		Retu	ırn	Disp	ose	

Comments:

APPENDIX G

Section 20

Outfall 005, April 15, 2006

MECX Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	CX, LLC	Package ID B4DF94
1226	60 East Vassar Drive	Task Order1261.001D.01
Suite	e 500	SDG No. IPD1608
Lake	ewood, CO 80226	No. of Analyses 1
	Laboratory Alta Analy	tical Date: July 5, 2006
	Reviewer E. Wesslin	
	Analysis/Method Dioxins/Fu	
		70
ACT	TION ITEMS ^a	
	Case Narrative	
	Deficiencies	
2.	Out of Scope	
	Analyses	
3.	Analyses Not Conducted	
	Timily 505 Trot Conducted	
4.	Missing Hardcopy	
	Deliverables	
	Denverables	
5.	Incorrect Hardcopy	
	Deliverables	
6.	Deviations from Analysis	Qualifications were assigned for the following:
	Protocol, e.g.,	- the result between the RL and the MDL was estimated
	Holding Times	- the EMPC value was an estimated nondetect
	GC/MS Tune/Inst. Performance	the Livin C value was an estimated nondetect
	Calibration	
	Method blanks	
	Surrogates	
	Matrix Spike/Dup LCS	
	Field QC	
	Internal Standard Performance	
	Compound Identification	
	Quantitation	
-	System Performance	1
CO	MMENTS ^b	
		meeting contract and/or method requirements. by the laboratory but no action against the laboratory is required.



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 005

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD1608

Prepared by

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

NPDES IPD1608

DATA VALIDATION REPORT

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD1608

Project Manager: Matrix: P. Costa Water

A makasia.

Dioxins/Furans

Analysis: QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

1

Reviewer:

0 E. Wessling

Date of Review:

July 5, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines 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.

NPDES IPD1608 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 005	IPD1608-01	27607-001	Water	1613

NPDES IPD1608 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 below 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 0.3°C. The sample containers were not noted to be damaged or frozen during transportation; therefore, 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.

D/F

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 (0-7968-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were 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 (0-7968-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 IPD1608 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. The detect below the laboratory lower calibration level was qualified as estimated, "J." This "J" value was annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. An EMPC value for OCDF was qualified as an estimated nondetect, "UJ." No further qualifications were required.

,d	Project: IPD	Apr-06		Sample Data Matrix: Sample Size:	Aqueous 1.02 L	Laboratory Data Lab Sample: QC Batch No.: Date Analyzed DB-5:	27607-001 7968 2-May-06		eceived: stracted: nalyzed DB-225:	18-Apr-00 26-Apr-00 NA
250	Analyte	Conc. (ug/L)	DL a	$\mathbf{EMPC}^{\mathrm{b}}$	Qualifiers	Labeled Stand	lard	%R	LCL-UCLd	Qualifiers
	2,3,7,8-TCDD	ND	0.000000	0612		IS 13C-2,3,7,8-TC	DD	93.1	25 - 164	
	1,2,3,7,8-PeCDD	ND	0.000000	757		13C-1,2,3,7,8-P	eCDD	76.6	25 - 181	
- 1	1,2,3,4,7,8-HxCDD	ND	0.000001	21		13C-1,2,3,4,7,8-	-HxCDD	95.3	32 - 141	
- 1	1,2,3,6,7,8-HxCDD	ND	0.000001	77		13C-1,2,3,6,7,8-	-HxCDD	87.3	28 - 130	
- 1	1,2,3,7,8,9-HxCDD	ND	0.000001	67		13C-1,2,3,4,6,7,	8-HpCDD	93.3	23 - 140	
	1,2,3,4,6,7,8-HpCDD	0.0000278				13C-OCDD		71.5	17 - 157	
	OCDD	0.000598				13C-2,3,7,8-TC	DF	90.0	24 - 169	
	2,3,7,8-TCDF	ND	0.000000	717		13C-1,2,3,7,8-P	eCDF	76.7	24 - 185	
	1,2,3,7,8-PeCDF	ND	0.000000	919		13C-2,3,4,7,8-P	eCDF	72.6	21 - 178	
	2,3,4,7,8-PeCDF	ND	0.000000	934		13C-1,2,3,4,7,8-	HxCDF	106	26 - 152	
	1,2,3,4,7,8-HxCDF	ND	0.000000	644		13C-1,2,3,6,7,8-	HxCDF	103	26 - 123	
	1,2,3,6,7,8-HxCDF	ND	0.000000	563		13C-2,3,4,6,7,8-	HxCDF	100	28 - 136	
	2,3,4,6,7,8-HxCDF	ND	0.000000	671		13C-1,2,3,7,8,9-	HxCDF	94.1	29 - 147	
	1,2,3,7,8,9-HxCDF	ND	0.000000	994		13C-1,2,3,4,6,7,	8-HpCDF	90.1	28 - 143	
10	1,2,3,4,6,7,8-HpCDF	0.00000191			J	13C-1,2,3,4,7,8,	9-HpCDF	93.2	26 - 138	
	1,2,3,4,7,8,9-HpCDF	ND	0.000000	926		13C-OCDF		75.8	17 - 157	
61	OCDF	ND		0.000004	110	CRS 37Cl-2,3,7,8-TC	DD	102	35 - 197	
	Totals					Footnotes				
ı	Total TCDD	ND	0.000000	612		a. Sample specific estimate	d detection limit.			
	Total PeCDD	ND	0.000001	76		b. Estimated maximum pos	sible concentration.			
	Total HxCDD	0.00000276		0.000004	183	c. Method detection limit.				
	Total HpCDD	0.0000594				d. Lower control limit - upp	per control limit.			
- 1	Total TCDF	ND	0.000000	717						
- 1	Total PeCDF	ND	0.000000	926						
	Total HxCDF	0.00000154								
	Total HpCDF	0.00000477								

Analyst:

Approved By:

William J. Luksemburg 03-May-2006 13:14



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Task Order: 1261.001D.01	MEC	Package ID: B4WC86
Laboratory: Del Mar Analytical Reviewer: P. Meeks Analysis/Method: General Minerals ACTION 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 Marks Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS* Acceptable as reviewed.		
Laboratory: Del Mar Analytical Reviewer: P. Meeks Analysis/Method: General Minerals ACTION 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 COMMENTS Acceptable as reviewed.	Aurora, CO 80014	
Reviewer: Analysis/Method: General Minerals ACTION 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 Compound Identification Quantitation System Performance COMMENTS* Acceptable as reviewed.		
ACTION 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 COMMENTS* Acceptable as reviewed.	Laboratory: Del Mar	
ACTION ITEMS ^a Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Protocol, e.g., Holding Times GCMS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Reviewer: P. Meeks	Reviewer's Signature
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 Compound Performance Compound Identification Quantitation System Performance COMMENTS Acceptable as reviewed.	Analysis/Method: General	Minerals Y . Mt
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 Compound Performance Compound Identification Quantitation System Performance COMMENTS Acceptable as reviewed.		
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4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	2. Out of Scope Analyses	
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5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.		
5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.		
5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	4. Missing Hardcopy	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.		
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	5. Incorrect Hardcopy	
Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Deliverables	
Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.		
Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Deviations from Analysis	
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Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Holding Times	
Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	GC/MS Tune/Inst. Performance	
Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Calibration	
Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Method blanks	
Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed.	Surrogates	
Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed. a Subcontracted analytical laboratory is not meeting contract and/or method requirements.	Matrix Spike/Dup LCS	
Compound Identification Quantitation System Performance COMMENTS ^b Acceptable as reviewed. a Subcontracted analytical laboratory is not meeting contract and/or method requirements.	Field QC	
Quantitation System Performance COMMENTS ^b Acceptable as reviewed. a Subcontracted analytical laboratory is not meeting contract and/or method requirements.	Internal Standard Performance	
COMMENTS ^b Acceptable as reviewed. **Acceptable as reviewed.** **Subcontracted analytical laboratory is not meeting contract and/or method requirements.**	Compound Identification	
COMMENTS ^b Acceptable as reviewed. a Subcontracted analytical laboratory is not meeting contract and/or method requirements.	Quantitation	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.	System Performance	
	COMMENTS ^b	Acceptable as reviewed.



DATA VALIDATION REPORT

NPDES Sampling Outfall 005

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPD1608

Prepared by

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

NPDES IPD1608

DATA VALIDATION REPORT

SDG: Analysis:

Gen. Min.

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MECX Project Number:

1261.001D.01

Sample Delivery Group:

IPD1608

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Reviewer:

General Minerals

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

P. Meeks

Date of Review:

July 5, 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, 300.0, and 413.1, and validation guidelines outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project:

NPDES

SDG: Analysis: IPD1608 Gen. Min.

DATA VALIDATION REPORT

Table 1. Sample Identification

015			
Client ID	Laboratory ID	Matrix	COC Method
Outfall 005	IPD1608-01	Water	General Minerals

Project:

NPDES

SDG: Analysis:

IPD1608 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 below the temperature limits of $4^{\circ}C \pm 2^{\circ}C$, at $1^{\circ}C$; however, as the sample was not noted to be frozen or damaged, no qualifications were required. 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 the analytes determined by method 300.0, the r^2 results were \geq 0.995 and the ICV and CCV results were within the control limits of 90-110%. For Oil and Grease, TDS, and TSS balance calibration logs provided by the laboratory were reviewed and found to be acceptable. 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.

Project:

NPDES IPD1608

SDG: Analysis:

Gen. Min.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS recoveries were within the laboratory-established control limits. The laboratory did not report an LCS recovery for nitrate/nitrite; however, the reviewer checked the raw data and found this result to be acceptable. No qualifications were required.

2.5 LABORATORY DUPLICATES

No 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

DATA VALIDATION REPORT

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

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form I 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.

B4WC86

Revision 0



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

Attention: Bronwyn Kelly

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPD1608

Sampled: 04/15/06

Received: 04/15/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifier	rs
Sample ID: IPD1608-01 (Outfall 00 Reporting Units: mg/l	5 - Water) - cont.								Qual	Code
Chloride	EPA 300.0	6D15028	0.15	0.50	20	1	04/15/06	04/15/06		
Nitrate/Nitrite-N	EPA 300.0	6D15028	0.80	1.5	22	10	04/15/06	04/15/06		
Oil & Grease	EPA 413.1	6D18050	0.89	4.7	ND	1	04/18/06	04/18/06	U	
Sulfate	EPA 300.0	6D15028	0.45	0.50	14	1	04/15/06	04/15/06		
Total Dissolved Solids	SM2540C	6D18055	10	10	330	1	04/18/06	04/18/06		
Total Suspended Solids	EPA 160.2	6D20128	10	10	130	1	04/20/06	04/20/06		

APPENDIX G

Section 21

Outfall 006, April 05, 2006 Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/05/06 Received: 04/05/06

Issued: 04/30/06 20:57

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX
IPD0423-01 Outfall 006 Water

Reviewed By:

Del Mar Analytical - IrvineMichele Chamberlin

Michele Chamberdin

Project Manager



Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0423 Pasadena, CA 91101 Received: 04/05/06

Attention: Bronwyn Kelly

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0423-01 (Outfall 006	- Water)								
Reporting Units: ug/l									
Antimony	EPA 200.8	6D06072	0.050	2.0	0.40	1	04/06/06	04/07/06	J
Cadmium	EPA 200.8	6D06072	0.025	1.0	0.029	1	04/06/06	04/07/06	J
Copper	EPA 200.8	6D06072	0.25	2.0	2.3	1	04/06/06	04/07/06	
Lead	EPA 200.8	6D06072	0.040	1.0	0.62	1	04/06/06	04/07/06	J
Mercury	EPA 245.1	6D06061	0.050	0.20	ND	1	04/06/06	04/06/06	
Thallium	EPA 200.8	6D06072	0.15	1.0	ND	1	04/06/06	04/07/06	



Pasadena, CA 91101

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0423 Received: 04/05/06

Attention: Bronwyn Kelly

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0423-01 (Outfall 006 - Wa	iter) - cont.								
Reporting Units: mg/l									
Chloride	EPA 300.0	6D06048	0.15	0.50	6.1	1	04/06/06	04/06/06	
Nitrate/Nitrite-N	EPA 300.0	6D06048	0.080	0.15	1.2	1	04/06/06	04/06/06	
Oil & Grease	EPA 413.1	6D06049	0.89	4.7	ND	1	04/06/06	04/06/06	
Sulfate	EPA 300.0	6D06048	0.45	0.50	3.3	1	04/06/06	04/06/06	
Total Dissolved Solids	SM2540C	6D06066	10	10	150	1	04/06/06	04/06/06	
Total Suspended Solids	EPA 160.2	6D11091	10	10	ND	1	04/11/06	04/11/06	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Sampled: 04/05/06

Report Number: IPD0423

Received: 04/05/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 006 (IPD0423-01) - Water	r				
EPA 300.0	2	04/05/2006 08:35	04/05/2006 18:50	04/06/2006 09:30	04/06/2006 12:15



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD0423

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D06061 Extracted: 04/06/06	-										
Blank Analyzed: 04/06/2006 (6D06061-Bl	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/06/2006 (6D06061-BS1	.)										
Mercury	8.10	0.20	0.050	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 04/06/2006 (6D00	6061-MS1)				Sour	rce: IPD0	320-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06061-MSI	D1)			Sour	rce: IPD0	320-01				
Mercury	8.17	0.20	0.050	ug/l	8.00	ND	102	70-130	2	20	
Batch: 6D06072 Extracted: 04/06/06	-										
Blank Analyzed: 04/06/2006-04/07/2006 (6D06072-BLK	1)									
Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.015	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.075	ug/l							
LCS Analyzed: 04/06/2006-04/07/2006 (61	D06072-BS1)										
Antimony	77.5	2.0	0.18	ug/l	80.0		97	85-115			
Cadmium	78.2	1.0	0.015	ug/l	80.0		98	85-115			
Copper	81.8	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.3	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	78.4	1.0	0.075	ug/l	80.0		98	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD0423

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06072 Extracted: 04/06/06	<u>;</u>										
Matrix Spike Analyzed: 04/06/2006-04/07/2006 (6D06072-MS1)					Sou	rce: IPD(0061-03				
Antimony	79.1	2.0	0.18	ug/l	80.0	ND	99	70-130			
Cadmium	77.5	1.0	0.015	ug/l	80.0	ND	97	70-130			
Copper	79.0	2.0	0.25	ug/l	80.0	ND	99	70-130			
Lead	80.0	1.0	0.040	ug/l	80.0	ND	100	70-130			
Thallium	81.7	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Analyzed: 04/07/2006 (6D0)6072-MS2)				Sou	rce: IPD(061-04				
Antimony	78.7	2.0	0.18	ug/l	80.0	ND	98	70-130			
Cadmium	78.4	1.0	0.015	ug/l	80.0	ND	98	70-130			
Copper	79.2	2.0	0.25	ug/l	80.0	1.3	97	70-130			
Lead	79.5	1.0	0.040	ug/l	80.0	0.060	99	70-130			
Thallium	81.6	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Dup Analyzed: 04/07/2006	(6D06072-MS	SD1)			Sou	rce: IPD(0061-03				
Antimony	76.9	2.0	0.18	ug/l	80.0	ND	96	70-130	3	20	
Cadmium	76.0	1.0	0.015	ug/l	80.0	ND	95	70-130	2	20	
Copper	76.0	2.0	0.25	ug/l	80.0	ND	95	70-130	4	20	
Lead	77.5	1.0	0.040	ug/l	80.0	ND	97	70-130	3	20	
Thallium	79.2	1.0	0.075	ug/l	80.0	ND	99	70-130	3	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD0423

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06048 Extracted: 04/06/06	_										
Blank Analyzed: 04/06/2006 (6D06048-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: 04/06/2006 (6D06048-BS	1)										
Chloride	4.78	0.50	0.15	mg/l	5.00		96	90-110			
Sulfate	9.63	0.50	0.45	mg/l	10.0		96	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	6048-MS1)				Sou	rce: IPD(0419-01				
Chloride	13.5	0.50	0.15	mg/l	5.00	8.7	96	80-120			
Sulfate	33.2	0.50	0.45	mg/l	10.0	23	102	80-120			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06048-MS	SD1)			Sou	rce: IPD(0419-01				
Chloride	13.7	0.50	0.15	mg/l	5.00	8.7	100	80-120	1	20	
Sulfate	33.9	0.50	0.45	mg/l	10.0	23	109	80-120	2	20	
Batch: 6D06049 Extracted: 04/06/06											
	_										
Blank Analyzed: 04/06/2006 (6D06049-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/06/2006 (6D06049-BS	1)										M-NR1
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			
LCS Dup Analyzed: 04/06/2006 (6D06049	9-BSD1)										
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120	19	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD0423

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06066 Extracted: 04/06/06	_										
Blank Analyzed: 04/06/2006 (6D06066-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/06/2006 (6D06066-BS	1)										
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 04/06/2006 (6D0606		Source: IPD0419-01									
Total Dissolved Solids	156	10	10	mg/l		160			3	10	
Batch: 6D11091 Extracted: 04/11/06	<u>-</u>										
Blank Analyzed: 04/11/2006 (6D11091-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/11/2006 (6D11091-BS	1)										
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 04/11/2006 (6D1109	1-DUP1)				Sou	rce: IPD(1412-01				
Total Suspended Solids	326	10	10	mg/l		340			4	10	



Pasadena, CA 91101

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0423 Received: 04/05/06

Attention: Bronwyn Kelly

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
IPD0423-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.094	4.7	15
IPD0423-01	Antimony-200.8	Antimony	ug/l	0.40	2.0	6.00
IPD0423-01	Cadmium-200.8	Cadmium	ug/l	0.029	1.0	4.00
IPD0423-01	Chloride - 300.0	Chloride	mg/l	6.10	0.50	150
IPD0423-01	Copper-200.8	Copper	ug/l	2.30	2.0	14
IPD0423-01	Lead-200.8	Lead	ug/l	0.62	1.0	5.20
IPD0423-01	Mercury - 245.1	Mercury	ug/l	0.019	0.20	0.20
IPD0423-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	1.20	0.15	10.00
IPD0423-01	Sulfate-300.0	Sulfate	mg/l	3.30	0.50	250
IPD0423-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	150	10	850
IPD0423-01	Thallium-200.8	Thallium	ug/l	0.0090	1.0	2.00

Sampled: 04/05/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD0423 Received: 04/05/06

Attention: Bronwyn Kelly

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. There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

M-NR1

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference



Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Pasadena, CA 91101 Report Number: IPD0423 Received: 04/05/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762 1613-Dioxin-HR-Alta Analysis Performed:

Samples: IPD0423-01

Analysis Performed: EDD + Level 4

Samples: IPD0423-01

IPDO423

1	RED	Field readings: Temp = <7°	pH=													Turn around Time: (check) 24 Hours 5 Days	48 Hours 10 Days		Perchlorate Only 72 Hours	Metals Only 72 Hours
	ANALYSIS REQUIRED		88T ,8	SOL						×						١,	(00)			2581
		(r.E14 A	0D (and all co 3. Grease (EP 504, NO3+N	110			×	×	×							Date/Time:	45.00	Date/Time:	Date/Time:	4-5-06
		: Metals: IT, fg	il Recoverable Cd, Cu, Pb, F	Bottle *	X X	18 ×	2A, 2B	3A, 3B	4A, 4B	5A, 5B						1	rought			\forall
		DES 006 3DF-2		Preservativ l	HNO3	HN03	None	НСІ	None	None						Received By	\	Received By	Received By	73
Del Mal Allalylical Version 03/01/06 Chall C	Project:	Boeing-SSFL NPDES Routine Outfall 006 Stormwater at FSDF-2	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	20/20				->	4/5/00						Lime:	4/5/cm (55)	Date/Time: ルペハ(i855	me:	
Version (elly	# of Cont	-	-	2	2	73	2		_	-		-	'	<i>"</i>	E. 6		
ylical	S:	e, Suite 1:	ronwyn k	Container	Poly-1L	Poly-1L	Glass- Amber	Glass- Amber	Poly-500	Poly-500 mi										
Allal	3/Addres	sadena ke Avenu A 91101	nager: B الأدركة	Sample	× ×	8	3	3	3	3					-	1 By	ار دور دور		S A A	
Jei Mai	Client Name/Address:	MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena. CA 91101	Project Manager: Bronwyn Kelly Sampler: 🎉 राज्यक्ष्य से	Sample	Outfall 006	Outfall 006-	Outfall 006	Outfall 006	Outfall 006	Outfall 006						Relinquished By	Berrasa,	Relinquished B	Relinquished By	



April 13, 2006

Alta Project I.D.: 27563

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 April 07, 2006 under your Project Name "IPD0423". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

HRMS Services Director

Wasyla Mare



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



Section I: Sample Inventory Report Date Received: 4/7/2006

Alta Lab. ID Client Sample ID

27563-001 IPD0423-01

SECTION II

NPDES - 533

Method Blank	k					ł				EPA Method 161
Matrix:	Aqueous		QC Batch No.:	7	918	Lab	Sample:	0-MB001		
Sample Size:	1.00 L		Date Extracted:	10	0-Apr-06	Date	Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225: NA
					1		•	1		•
Analyte	Conc. (u	g/L)	DL a	EMPC b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD		ND	0.000000788			<u>IS</u>	13C-2,3,7,8-TCI)D	72.2	25 - 164
1,2,3,7,8-PeCD	DD	ND	0.000000469				13C-1,2,3,7,8-Pe	CDD	73.0	25 - 181
1,2,3,4,7,8-HxQ	CDD	ND	0.00000114				13C-1,2,3,4,7,8-1	HxCDD	75.7	32 - 141
1,2,3,6,7,8-HxC	CDD	ND	0.00000120				13C-1,2,3,6,7,8-1	HxCDD	67.3	28 - 130
1,2,3,7,8,9-HxO	CDD	ND	0.00000113				13C-1,2,3,4,6,7,8	8-HpCDD	69.6	23 - 140
1,2,3,4,6,7,8-H	pCDD	ND	0.00000167				13C-OCDD		44.8	17 - 157
OCDD		ND	0.0000150				13C-2,3,7,8-TCI	DF	77.0	24 - 169
2,3,7,8-TCDF		ND	0.000000832				13C-1,2,3,7,8-Pe	CDF	72.9	24 - 185
1,2,3,7,8-PeCD	F	ND	0.000000866				13C-2,3,4,7,8-Pe	CDF	77.1	21 - 178
2,3,4,7,8-PeCD)F	ND	0.000000754				13C-1,2,3,4,7,8-1	HxCDF	70.7	26 - 152
1,2,3,4,7,8-HxC	CDF	ND	0.000000479				13C-1,2,3,6,7,8-1	HxCDF	66.8	26 - 123
1,2,3,6,7,8-HxC	CDF	ND	0.000000466				13C-2,3,4,6,7,8-1	HxCDF	70.2	28 - 136
2,3,4,6,7,8-HxQ	CDF	ND	0.000000465				13C-1,2,3,7,8,9-1	HxCDF	68.4	29 - 147
1,2,3,7,8,9-HxC	CDF	ND	0.000000684				13C-1,2,3,4,6,7,8	8-HpCDF	61.1	28 - 143
1,2,3,4,6,7,8-H	pCDF	ND	0.000000806				13C-1,2,3,4,7,8,9	9-HpCDF	67.5	26 - 138
1,2,3,4,7,8,9-H		ND	0.000000832				13C-OCDF		49.1	17 - 157
OCDF	=	ND	0.00000337			CRS	37Cl-2,3,7,8-TC	DD	86.2	35 - 197
Totals						Foot	notes			
Total TCDD		ND	0.000000788			a. San	nple specific estimated of	detection limit.		
Total PeCDD		ND	0.00000120				imated maximum possib			
Total HxCDD		ND	0.00000116				thod detection limit.			
Total HpCDD		ND	0.00000167			d. Lov	wer control limit - upper	control limit.		
Total TCDF		ND	0.000000832							
Total PeCDF		ND	0.000000808							
Total HxCDF		ND	0.000000515							
Total HpCDF		ND	0.000000818							

William J. Luksemburg 13-Apr-2006 07:30 **NPDES - 534** Analyst: MAS Approved By:

OPR Results				EPA	Method 1613
Matrix: Aqueous Sample Size: 1.00 L	QC Batch No.: Date Extracted:	7918 10-Apr-06	Lab Sample: 0-OPR001 Date Analyzed DB-5: 11-Apr-06	Date Analyze	d DB-225: NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0 9.88	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	72.6	25 - 164
1,2,3,7,8-PeCDD	50.0 49.8	35 - 71	13C-1,2,3,7,8-PeCDD	75.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0 48.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	81.2	32 - 141
1,2,3,6,7,8-HxCDD	50.0 47.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.4	28 - 130
1,2,3,7,8,9-HxCDD	50.0 45.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.0	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0 49.2	35 - 70	13C-OCDD	50.8	17 - 157
OCDD	100 99.7	78 - 144	13C-2,3,7,8-TCDF	75.2	24 - 169
2,3,7,8-TCDF	10.0 9.58	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	79.0	24 - 185
1,2,3,7,8-PeCDF	50.0 46.3	40 - 67	13C-2,3,4,7,8-PeCDF	78.4	21 - 178
2,3,4,7,8-PeCDF	50.0 45.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.1	26 - 152
1,2,3,4,7,8-HxCDF	50.0 48.1	36 - 67	13C-1,2,3,6,7,8-HxCDF	78.7	26 - 123
1,2,3,6,7,8-HxCDF	50.0 48.3	42 - 65	13C-2,3,4,6,7,8-HxCDF	77.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0 46.7	35 - 78	13C-1,2,3,7,8,9-HxCDF	80.4	29 - 147
1,2,3,7,8,9-HxCDF	50.0 48.4	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	69.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0 47.2	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	76.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0 47.9	39 - 69	13C-OCDF	59.3	17 - 157
OCDF	100 96.8	63 - 170	CRS 37C1-2,3,7,8-TCDD	79.2	35 - 197

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:30

Sample ID:	IPD0423-0	1								EPA I	Method 1613
Client Data Name: Project:	Del Mar Analytical, Irvine roject: IPD0423			Sample Data Matrix: Aqueous Sample Size: 1.03 L			oratory Data Sample: Batch No.:	27563-001 7918	Date Re	7-Apr-06 10-Apr-06	
Date Collected: Time Collected:	5-Apr-06 0835			-	1.00 2	Date	e Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225:	NA NA
Analyte	Conc.	(ug/L)	D L a	EMPC ^b	Qualifiers		Labeled Stand	lard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD		ND	0.000000	799		<u>IS</u>	13C-2,3,7,8-TC		63.7	25 - 164	
1,2,3,7,8-PeCD	D	ND	0.000000	839			13C-1,2,3,7,8-P	eCDD	66.4	25 - 181	
1,2,3,4,7,8-HxO	CDD	ND	0.000000	785			13C-1,2,3,4,7,8	-HxCDD	69.5	32 - 141	
1,2,3,6,7,8-HxO	CDD	ND	0.000000	796			13C-1,2,3,6,7,8	-HxCDD	66.5	28 - 130	
1,2,3,7,8,9-HxO	CDD	ND	0.000000	763			13C-1,2,3,4,6,7	,8-HpCDD	69.5	23 - 140	
1,2,3,4,6,7,8-H	pCDD	0.00000497			J		13C-OCDD		48.6	17 - 157	
OCDD		0.0000730					13C-2,3,7,8-TC	DF	67.4	24 - 169	
2,3,7,8-TCDF		ND	0.000000	652			13C-1,2,3,7,8-P	eCDF	66.7	24 - 185	
1,2,3,7,8-PeCD	F	ND	0.000000	786			13C-2,3,4,7,8-P	eCDF	68.9	21 - 178	
2,3,4,7,8-PeCD	F	ND	0.000000	754			13C-1,2,3,4,7,8	-HxCDF	68.9	26 - 152	
1,2,3,4,7,8-HxC	CDF	ND	0.000000	415			13C-1,2,3,6,7,8	-HxCDF	65.7	26 - 123	
1,2,3,6,7,8-HxC	CDF	ND	0.000000	398			13C-2,3,4,6,7,8	-HxCDF	68.0	28 - 136	
2,3,4,6,7,8-HxC	CDF	ND	0.000000	402			13C-1,2,3,7,8,9	-HxCDF	66.8	29 - 147	
1,2,3,7,8,9-HxO	CDF	ND	0.000000	601			13C-1,2,3,4,6,7	,8-HpCDF	61.5	28 - 143	
1,2,3,4,6,7,8-H	pCDF	ND	0.000000	775			13C-1,2,3,4,7,8	,9-HpCDF	65.6	26 - 138	
1,2,3,4,7,8,9-H	pCDF	ND	0.000000	489			13C-OCDF		54.5	17 - 157	
OCDF		ND	0.000003	04		CRS	37Cl-2,3,7,8-TC	CDD	75.3	35 - 197	
Totals						Foo	otnotes				
Total TCDD		ND	0.000000	799		a. Sa	ample specific estimate	ed detection limit.			
Total PeCDD		ND	0.000000	839		b. Es	stimated maximum po	ssible concentration.			
Total HxCDD		0.000000858				c. M	lethod detection limit.				
Total HpCDD		0.0000135				d. Le	ower control limit - up	per control limit.			
Total TCDF		ND	0.000000	652							
Total PeCDF		ND	0.000000	769							
Total HxCDF		ND	0.000000	652							
Total HpCDF		ND	0.000000								

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:30

APPENDIX

NPDES - 537

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	02102011
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



Released By

Project 27563

Date

Time

Received By

Date

Page 10 of 233

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 B-120, Phoenix, AZ 85044

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

Ph (949) 261-1022 Fax (949) 261-1228 Ph (909) 370-4667

Fax (909) 370-1046 Fax (619) 505-9689

Ph (619) 505-9596 Ph (480) 785-0043 Fax (480) 785-0851 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPD0423

	G LABORATORY:			RECEIVING LABORATO	
Del Mar Analytical - Irvine	4.0.0		Alta Analytical -	<i>x</i> + -	563
17461 Derian Avenue. Suite	100		1104 Windfield V	Vay	
Irvine, CA 92614			El Dorado Hills, (CA 95762	
Phone: (949) 261-1022			Phone :(916) 933	-1640 $\int \cdot \mathcal{O}$	/n
Fax: (949) 261-1228			Fax: (916) 673-01	106	
Project Manager: Michele Ch	amberlin				
Standard TAT is requested	unless specific due d	ate is requested =	=> Due Date:	Ib	nitials:
Analysis	Expiration		Comments		
Sample ID: IPD0423-01 Wat 1613-Dioxin-HR-Alta EDD + Level 4	er Sampled: 04/ 04/12/06 08:35 05/03/06 08:35		J flags,17 congeners,no Excel EDD email to pr	o TEQ,ug/L,sub=Alta n,Include Std logs for Lvl IV	
Containers Supplied: 1 L Amber (IPD0423-01C) 1 L Amber (IPD0423-01D)					
		•			
				•	
					•
	•				
					•
	·			·	
				•	
		•	•		
					,
		SAMPLE	INTEGRITY:		
All containers intact: Yes Custody Seals Present: Yes	-	le labels/COC agree: es Preserved Properly:	☐ Yes ☐ No ☐ Yes ☐ No	Samples Received On Ice:: Samples Received at (temp):	☐ Yes ☐ No
at M			Bettina O	1. Benedict 1	17/06 (910)
Released By	Date	Time F	Received By	Date	Time
·					NPDES - 540

SAMPLE LOG-IN CHECKLIST

Alta Project #:	27563				_		
	Date/Time	Initials	s:	Locat	ion: WR-	-2	
Samples Arrival:	4/7/06	0900	B	SB	Shelf/	Rack:	
	Date/Time		Initials	s:	Locat	ion: W1	2-2
Logged In:	4/10/06 C	722	BIB		Shelf/	Rack: C	-3
Delivered By:	(FedEx UF	PS	Cal	DHL	1	Hand elivered	Other
Preservation:	Ice	Blue l	ce	Dry Id	е	No	ne
Temp °C .()	Tim	e: ()97	30		Thern	nometer ID	: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	V		
Holding Time Acceptable?	V		
Shipping Container(s) Intact?	<u> </u>		
Shipping Custody Seals Intact?	/		
Shipping Documentation Present?	V		
Airbill Trk# 7914 3458 8280	V		
Sample Container Intact?	V		
Sample Custody Seals Intact?			
Chain of Custody / Sample Documentation Present?			
COC Anomaly/Sample Acceptance Form completed?		1	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			V
Na ₂ S ₂ O ₃ Preservation Documented? COC Sam	•	No	ne
Shipping Container Alta Client Retain Ret	urn	Disp	ose

Comments:

APPENDIX G

Section 22

Outfall 006, April 05, 2006

MECX Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID B4DF78 12260 East Vassar Drive Task Order __1261.001D.01 SDG No. IPD0423 Suite 500 Lakewood, CO 80226 No. of Analyses 1 Date: May 30, 2006 Laboratory Alta Analytical Reviewer E. Wessling Reviewer's Signature Analysis/Method Dioxin/Furans ACTION ITEMS^a Case Narrative Deficiencies 2. Out of Scope Analyses Analyses Not Conducted Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Qualifications were assigned for the following: - 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 QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS^b ^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 006

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD0423

Prepared by

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

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD0423

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

0

No. of Reanalyses/Dilutions: Reviewer:

E. Wessling

Date of Review:

May 30, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG:

NPDES IPD0423

D/F

Analysis:

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 006	IPD0423-01	27563-001	Water	1613

DATA VALIDATION REPORT

D/F

Analysis:

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 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 1.0°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 IPD0423

D/F

DATA VALIDATION REPORT

Analysis:

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.

CALIBRATION 2.3

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 The VER was acceptable with the concentrations within the each analytical sequence. 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 (0-7918-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were detected in the method blank. No qualifications were required. 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 (0-7918-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.

Project: SDG: Analysis: NPDES IPD0423 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. A detect below the laboratory lower calibration level was qualified as estimated, "J." This "J" value was annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

Luc	Sample ID: IPD0423 Client Data Name: Del Mar A Project: IPD0423 Date Collected: 5-Apr-06 Time Collected: 0835	Analytical, Irvine	sll	Sample Data Matrix: Sample Size:	Aqueous 1.03 L	Lab QC	oratory Data Sample: Batch No.: Analyzed DB-5:	27563-001 7918 11-Apr-06	Date Re Date Ex Date An	ceived: tracted: alyzed DB-225:	7-Apr-06 10-Apr-06 NA
code	Analyte Conc	c. (ug/L)	DL a	$EMPC^b$	Qualifiers		Labeled Stand	lard	%R	LCL-UCLd	Qualifiers
	2,3,7,8-TCDD	ND	0.000000	799		IS	13C-2,3,7,8-TC	DD	63.7	25 - 164	
	1,2,3,7,8-PeCDD	ND	0.000000	839			13C-1,2,3,7,8-P	eCDD	66.4	25 - 181	
	1,2,3,4,7,8-HxCDD	ND	0.000000	785			13C-1,2,3,4,7,8-	HxCDD	69.5	32 - 141	
	1,2,3,6,7,8-HxCDD	ND	0.000000	796			13C-1,2,3,6,7,8-	HxCDD	66.5	28 - 130	
	1,2,3,7,8,9-HxCDD	ND	0.000000	763			13C-1,2,3,4,6,7,	8-HpCDD	69.5	23 - 140	
DNO	1,2,3,4,6,7,8-HpCDD	0.00000497			J		13C-OCDD		48.6	17 - 157	
	OCDD	0.0000730					13C-2,3,7,8-TC	DF	67.4	24 - 169	
	2,3,7,8-TCDF	ND	0.000000	652			13C-1,2,3,7,8-P	eCDF	66.7	24 - 185	
	1,2,3,7,8-PeCDF	ND	0.000000	786			13C-2,3,4,7,8-P	eCDF	68.9	21 - 178	
	2,3,4,7,8-PeCDF	ND	0.000000	754			13C-1,2,3,4,7,8-	HxCDF	68.9	26 - 152	
	1,2,3,4,7,8-HxCDF	ND	0.000000	415			13C-1,2,3,6,7,8-	HxCDF	65.7	26 - 123	
	1,2,3,6,7,8-HxCDF	ND	0.000000	398			13C-2,3,4,6,7,8-	HxCDF	68.0	28 - 136	
	2,3,4,6,7,8-HxCDF	ND	0.000000	402			13C-1,2,3,7,8,9-	HxCDF	66.8	29 - 147	
	1,2,3,7,8,9-HxCDF	ND	0.000000	601			13C-1,2,3,4,6,7,	8-HpCDF	61.5	28 - 143	
	1,2,3,4,6,7,8-HpCDF	ND	0.000000	775			13C-1,2,3,4,7,8,	9-HpCDF	65.6	26 - 138	
	1,2,3,4,7,8,9-HpCDF	ND	0.000000	489			13C-OCDF		54.5	17 - 157	
	OCDF	ND	0.000003	04		CRS	37Cl-2,3,7,8-TC	DD	75.3	35 - 197	
	Totals					Foo	tnotes				
	Total TCDD	ND	0.000000	799		a. Sa	mple specific estimate	d detection limit.			
	Total PeCDD	ND	0.000000	839		b. Es	timated maximum pos	sible concentration.			
	Total HxCDD	0.000000858				c. Me	ethod detection limit.				
	Total HpCDD	0.0000135				d. Lo	wer control limit - upp	per control limit.			
	Total TCDF	ND	0.000000	652							
	Total PeCDF	ND	0.000000	769							
	Total HxCDF	ND	0.000000	652							
	Total HpCDF	ND	0.000000	370							

LIVEL

Approved By:

Analyst: MAS

APPENDIX G

Section 23

Outfall 006, April 15, 2006 Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/15/06 Received: 04/15/06

Issued: 06/12/06 12:30

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX
IPD1609-01 Outfall 006 Water

Reviewed By:

Del Mar Analytical - IrvineMichele Chamberlin

Michele Chamberdin

Project Manager



Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 04/15/06 Report Number: IPD1609 Pasadena, CA 91101 Received: 04/15/06

Attention: Bronwyn Kelly

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1609-01 (Outfall 006 -	Water)								
Reporting Units: ug/l									
Antimony	EPA 200.8	6D20092	0.050	2.0	1.0	1	04/20/06	04/21/06	B, J
Cadmium	EPA 200.8	6D20092	0.025	1.0	0.029	1	04/20/06	04/21/06	J
Copper	EPA 200.8	6D20092	0.25	2.0	0.65	1	04/20/06	04/21/06	J
Lead	EPA 200.8	6D20092	0.040	1.0	0.40	1	04/20/06	04/21/06	J
Mercury	EPA 245.1	6D17063	0.050	0.20	ND	1	04/17/06	04/17/06	
Thallium	EPA 200.8	6D20092	0.15	1.0	ND	1	04/20/06	04/21/06	



Pasadena, CA 91101

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Report Number: IPD1609 Sampled: 04/15/06
Received: 04/15/06

Attention: Bronwyn Kelly

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1609-01 (Outfall 006 - V	Vater) - cont.								
Reporting Units: mg/l									
Chloride	EPA 300.0	6D15028	0.15	0.50	7.2	1	04/15/06	04/15/06	
Nitrate/Nitrite-N	EPA 300.0	6D15028	0.080	0.15	1.1	1	04/15/06	04/15/06	
Oil & Grease	EPA 413.1	6D18050	0.89	4.7	ND	1	04/18/06	04/18/06	
Sulfate	EPA 300.0	6D15028	0.45	0.50	7.4	1	04/15/06	04/15/06	
Total Dissolved Solids	SM2540C	6D18055	10	10	140	1	04/18/06	04/18/06	
Total Suspended Solids	EPA 160.2	6D20128	10	10	ND	1	04/20/06	04/20/06	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Sampled: 04/15/06 Received: 04/15/06

Report Number: IPD1609

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 006 (IPD1609-01) - Water	r				
EPA 300.0	2	04/15/2006 09:20	04/15/2006 15:20	04/15/2006 16:40	04/15/2006 17:19



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD1609

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D17063 Extracted: 04/17/06											
	=										
Blank Analyzed: 04/17/2006 (6D17063-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/17/2006 (6D17063-BS)	1)										
Mercury	8.25	0.20	0.050	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 04/17/2006 (6D1	7063-MS1)				Sou	rce: IPD1	1477-13				
Mercury	8.39	0.20	0.050	ug/l	8.00	ND	105	70-130			
Matrix Spike Dup Analyzed: 04/17/2006	(6D17063-MS	SD1)			Sou	rce: IPD1	1477-13				
Mercury	8.52	0.20	0.050	ug/l	8.00	ND	106	70-130	2	20	
Batch: 6D20092 Extracted: 04/20/06	_										
Blank Analyzed: 04/21/2006 (6D20092-B.	I K 1)										
Antimony	0.101	2.0	0.050	ug/l							J
Cadmium	ND	1.0	0.025	ug/l							v
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 04/21/2006 (6D20092-BS	1)										
Antimony	81.3	2.0	0.050	ug/l	80.0		102	85-115			
Cadmium	79.0	1.0	0.025	ug/l	80.0		99	85-115			
Copper	81.7	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.7	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	82.2	1.0	0.15	ug/l	80.0		103	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD1609

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D20092 Extracted: 04/20/06	_										
Matrix Spike Analyzed: 04/21/2006 (6D20092-MS1)					Sou	rce: IPD1	586-01				
Antimony	85.4	2.0	0.050	ug/l	80.0	0.12	107	70-130			
Cadmium	77.8	1.0	0.025	ug/l	80.0	0.055	97	70-130			
Copper	83.2	2.0	0.25	ug/l	80.0	7.7	94	70-130			
Lead	78.1	1.0	0.040	ug/l	80.0	0.60	97	70-130			
Thallium	78.1	1.0	0.15	ug/l	80.0	ND	98	70-130			
Matrix Spike Analyzed: 04/21/2006 (6D2	0092-MS2)				Sou	rce: IPD1	586-02				
Antimony	82.1	2.0	0.050	ug/l	80.0	0.098	103	70-130			
Cadmium	75.7	1.0	0.025	ug/l	80.0	0.058	95	70-130			
Copper	73.5	2.0	0.25	ug/l	80.0	1.5	90	70-130			
Lead	75.6	1.0	0.040	ug/l	80.0	0.13	94	70-130			
Thallium	76.0	1.0	0.15	ug/l	80.0	0.21	95	70-130			
Matrix Spike Dup Analyzed: 04/21/2006	(6D20092-M	SD1)			Sou	rce: IPD1	586-01				
Antimony	83.9	2.0	0.050	ug/l	80.0	0.12	105	70-130	2	20	
Cadmium	77.5	1.0	0.025	ug/l	80.0	0.055	97	70-130	0	20	
Copper	80.8	2.0	0.25	ug/l	80.0	7.7	91	70-130	3	20	
Lead	76.9	1.0	0.040	ug/l	80.0	0.60	95	70-130	2	20	
Thallium	77.5	1.0	0.15	ug/l	80.0	ND	97	70-130	1	20	

Sampled: 04/15/06

Received: 04/15/06



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD1609

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D15028 Extracted: 04/15/06	: <u> </u>										
	_										
Blank Analyzed: 04/15/2006 (6D15028-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: 04/15/2006 (6D15028-BS	1)										
Chloride	4.82	0.50	0.15	mg/l	5.00		96	90-110			
Sulfate	10.1	0.50	0.45	mg/l	10.0		101	90-110			
Matrix Spike Analyzed: 04/15/2006 (6D1	5028-MS1)				Sou	rce: IPD1	1578-01				
Chloride	10.4	0.50	0.15	mg/l	5.00	5.1	106	80-120			
Sulfate	18.8	0.50	0.45	mg/l	10.0	7.7	111	80-120			
Matrix Spike Dup Analyzed: 04/15/2006	(6D15028-MS	5 D 1)			Sou	rce: IPD1	1578-01				
Chloride	10.1	0.50	0.15	mg/l	5.00	5.1	100	80-120	3	20	
Sulfate	18.3	0.50	0.45	mg/l	10.0	7.7	106	80-120	3	20	
Batch: 6D18050 Extracted: 04/18/06	<u>.</u>										
Blank Analyzed: 04/18/2006 (6D18050-B	· ·										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/18/2006 (6D18050-BS	1)										M-NR1
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120			
LCS Dup Analyzed: 04/18/2006 (6D1805)	0-BSD1)										
Oil & Grease	17.9	5.0	0.94	mg/l	20.0		90	65-120	7	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 006

Report Number: IPD1609

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D18055 Extracted: 04/18/06	_										
Blank Analyzed: 04/18/2006 (6D18055-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/18/2006 (6D18055-BS	1)										
Total Dissolved Solids	990	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 04/18/2006 (6D1805	5-DUP1)				Sou	rce: IPD1	326-01				
Total Dissolved Solids	5080	10	10	mg/l		5100			0	10	
Batch: 6D20128 Extracted: 04/20/06	<u>-</u>										
Blank Analyzed: 04/20/2006 (6D20128-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/20/2006 (6D20128-BS	1)										
Total Suspended Solids	990	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/20/2006 (6D2012	8-DUP1)				Sou	rce: IPD1	603-01				
Total Suspended Solids	356	10	10	mg/l		350			2	10	



Pasadena, CA 91101

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 04/15/06 Report Number: IPD1609 Received: 04/15/06

Attention: Bronwyn Kelly

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
IPD1609-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	4.7	15
IPD1609-01	Antimony-200.8	Antimony	ug/l	1.00	2.0	6.00
IPD1609-01	Cadmium-200.8	Cadmium	ug/l	0.029	1.0	4.00
IPD1609-01	Chloride - 300.0	Chloride	mg/l	7.20	0.50	150
IPD1609-01	Copper-200.8	Copper	ug/l	0.65	2.0	14
IPD1609-01	Lead-200.8	Lead	ug/l	0.40	1.0	5.20
IPD1609-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPD1609-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	1.10	0.15	10.00
IPD1609-01	Sulfate-300.0	Sulfate	mg/l	7.40	0.50	250
IPD1609-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	140	10	850
IPD1609-01	Thallium-200.8	Thallium	ug/l	0.032	1.0	2.00



Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD1609 Sampled: 04/15/06
Received: 04/15/06

Attention: Bronwyn Kelly

DATA QUALIFIERS AND DEFINITIONS

B Analyte was detected in the associated Method Blank.

Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the

Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference

Sampled: 04/15/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPD1609 Received: 04/15/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

Subcontracted Laboratories

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: IPD1609-01

Analysis Performed: EDD + Level 4

Samples: IPD1609-01

Client Name/Address: Project:	/Addres	· v.		Project:						ANALYS	ANALYSIS REQUIRED		
anehesed-H/////	מקסקים	į		Boeing-SSFL NPDES Routine Outfall 006	90e 90e		:sı	ļ					Field readings:
300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	ce Avenua 91101	ie, Suite 12		Stormwater at FSDF-2	SDF-2		etaNeta IT ,p	ngener A 413.				Tem	Temp = 57 C
Project Manager: Bronwyn Kelly	ager: E	ronwyn K		Phone Number: (626) 568-6691			erable Pb, H		N+EC			⊒Hd	1,1
Sampler: Serrasik	Caroar	Ş		Fax Number:			ovoo Juj			S			
th	Hnys			(626) 568-6515			al Re			ST ,8			Comments
Sample	Sample	Container	# of Cont.	Sampling Date/Time	Preservativ e	Bottle *	Tota Sb,			TDS			
	3	Poly-1L	-	4/15/66	HNO3	1A	×						
Outfall 006- Dup	3	Poly-1L	-	\	HN03	18	×						
all 006	3	Glass- Amber	2		None	2A, 2B		×					
Outfall 006	3	Glass- Amber	2		- FG	3A, 3B		×					
Outfall 006	*	Poly-500 ml	2	->	None	4A, 4B			×				
Outfall 006	>	Poly-500	2	sofsilh	None	5A, 5B				×			
									-				FI
													1630
			_										
Relinquished By	By		Date/	Date/Time: Section Se	Received By	1	13	Date/Time:	1	(300 (3	\$ 25.0	Id Time:	[호
Relinguished By	7		Date/	Date/Time:	Received B			Date/Time:	.e.			48 Hours 72 Hours	10 Days
Relinquished	To See			Date/Time:	Received By	3y		Date/Time:	Je:			Perchlorate Only 72 Hours	2 Hours
												Metals Only 72 Hours	urs



May 03, 2006

Alta Project I.D.: 27608

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 April 18, 2006 under your Project Name "IPD1609". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

Director of HRMS Services

Malle Mour



Alto 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.



(916) 933-1640

Section I: Sample Inventory Report Date Received: 4/18/2006

Alta Lab. ID Client Sample ID

27608-001 IPD1609-01

SECTION II

Page 3 of 230 **NPDES - 566** Project 27608

Method Blank				E	EPA Method 1613
Matrix: Aqueous	QC Batch No.:	8962	Lab Sample: 0-MB001		
Sample Size. 1.00 L.	Date Extracted:	26-Apr-06	Date Analyzed DB-5: 2-May-06	Date Analyzed DB-225:	DB-225: NA
Analyte Conc. (ug/L)	DL ^a EMPC ^b	c ^b Qualifiers	Labeled Standard	%R LCL	LCL-UCL ^d Qualifiers
2.3.7.8-TCDD ND	0.0000000767		IS 13C-2.3.7.8-TCDD	77.8	25 - 161
1,2,3,7,8-PeCDD ND	0.00000068		13C-1,2,3,7,8-PeCDD	6.69	25 - 181
1,2,3,4,7,8-HxCDD ND	0.00000195		13C-1,2,3,4,7,8-HxCDD	78.1	32 - 141
	0.00000219		13C-1,2,3,6,7,8-HxCDD	67.4	28 - 130
1,2,3,7,8,9-HxCDD ND	0.00000000		13C-1,2,3,4,6,7,8-11pCDD	62.1	23 - 140
6,7,8-HpCDD	0.00000273	-	13C-OCDD	42.7	17 - 157
OCDD ND	0.00000703		13C-2,3,7,8-TCDF	77.2	24 - 169
2,3,7,8-TCDF ND	0.000000483		13C-1,2,3,7,8-PeCDF	67.2	24 - 185
1,2,3,7,8-PeCDF ND	0.000000001		13C-2,3,4,7,8-PeCDF	66.6	21 - 178
2,3,4,7,8-PeCDF ND	0.0000000876		13C-1,2,3,4,7,8-HxCDF	87.3	26 - 152
1,2,3,4,7,8-HxCDF ND	0.000000096		13C-1,2,3,6,7,8-HxCDF	85.4	26 - 123
1,2,3,6,7,8-HxCDF ND	0.000000446	:	13C-2,3,4,6,7,8-HxCDF	81.4	28 - 136
2,3,4,6,7,8-HxCDF ND	0.000000546		13C-1,2,3,7,8,9-HxCDF	8.69	29 - 147
1,2,3,7,8,9-HxCDF ND	0.000000922		13C-1,2,3,4,6,7,8-HpCDF	60.1	28 - 143
1,2,3,4,6,7,8-HpCDF ND	0.000000818		13C-1,2,3,4,7,8,9-HpCDF	59.6	26 - 138
1,2,3,4,7,8,9-HpCDF ND	0.000000869		13C-OCDF	44.2	17 - 157
OCDF ND	0.00000249		CRS 37CI-2,3,7,8-TCDD	89.1	35 - 197
Totals			Footnotes		
Total TCDD ND	0.000000767		a. Sample specific estimated detection limit.	د د د د د د د د د د د د د د د د د د د	
Total PeCDD ND	0.000000968		b. Estimated maximum possible concentration.		* 1
Total HxCDD ND	0.00000205		c. Method detection limit.		
Total HpCDD ND	0.00000273		d. Lower control limit - upper control limit.		
Total TCDF ND	0.000000483				
Total PeCDF ND	0.000000889				
Total HxCDF ND	0.000000786				
Total HpCDF ND	0.000000841				

Analyst:

William J. Luksemburg 03-May-2006 13:14 Approved By:

OPR Results					EPA	EPA Method 1613
Matrix: Aqueous		QC Batch Ne.:	7968	Lab Sample: 0-OPR001		
Sample Size. 1 00 L.		Date Extracted.	26-Apr-06	Date Analyzed DB-5: 2-May-06	Date Analyzed DB-225;	ed DB-225: NA
Analyte	Spike Conc	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%aR	TCP-ACT
2,3,7,8-TCDD	10.0	10.8	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	0.07	25 - 164
1,2,3,7,8-PeCDD	50.0	51.5	35 - 71	13C-1,2,3,7,8-PeCDD	71.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0	53.1	35 - 82	13C-1,2,3,4,7,8-HxCDD	79.9	32 - 141
1,2,3,6,7,8-HxCDD	50.0	53.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	9.99	28 - 130
1,2,3,7,8,9-HxCDD	50.0	51.6	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	63.6	23 - 140
1.2.3,4,6,7,8-HpCDD	50.0	55.1	35 - 70	13C-OCDD	44.0	17 - 157
ОСДД	100	105	78 - 144	13C-2,3,7,8-TCDF	78.4	24 - 169
2,3,7,8-TCDF	10.0	10.7	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	65.0	24 - 185
1,2,3,7,8-PeCDF	50.0	54.8	40 - 67	13C-2,3,4,7,8-PeCDF	65.1	21 - 178
2,3,4,7,8-PeCDF	50.0	55.8	34 - 80	13C-1,2,3,4,7,8-HxCDF	87.5	26 - 152
1,2,3,4,7,8-HxCDF	50.0	52.6	36 - 67	13C-1,2,3,6,7,8-HxCDF	88.1	26 - 123
1,2,3,6,7,8-HxCDF	50.0	53.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	83.1	28 - 136
2,3,4,6,7,8-HxCDF	50.0	52.2	35 - 78	13C-1,2,3,7,8,9-HxCDF	66.3	29 - 147
1,2,3,7,8,9-HxCDF	50.0	52.6	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	62.0	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	53.6	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	61.6	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	52.5	39 - 68	13C-OCDF	45.7	17 - 157
OCDF	100	110	63 - 170	CRS 37CI-2,3,7,8-TCDD	95.0	35 - 197

William J. Luksemburg 03-May-2006 13:14 Approved By:

Analyst: MAS

Sample ID: IPD1	IPD1609-01							EPA M	EPA Method 1613
Data			Sample Data		Laboratory Data				
	Del Mar Analytical, Irvine		Matrix	Aqueous	Lab Sample:	27608-001	Date Received;	ived;	18-Apr-06
Date Collected: 15-A Time Collected: 0920	15-Apr-06 0920		Sample Size:	1.02 L	QC Batch No.: Date Analyzed DB-5:	7968 2-May-06	Date Extracted. Date Analyzed.	Date Extracted. Date Analyzed DB-225;	26-Apt-06 NA
Analyte	Conc. (ug/L)	DL a	EMPC ^b	Qualifiers	Labeled Standard	ard	%R L	TCT-TCT _q	Qualifiers
2.3.7.8-TCDD	ND	0.000000636	636		18 13C-2,3,7,8-TCDD	de	91.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000488	488		13C-1,2,3,7,8-PeCDD	CDD	82.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000126	56		13C-1,2,3,4,7,8-HxCDD	HxCDD	93.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000136	36		13C-1,2,3,6,7,8-HxCDD	HxCDD	82.6	28 - 130	
1,2,3,7,8,9-IIxCDD	ND ON	0.00000127	27		13C-1,2,3,4,6,7,8-HpCDD	8-HpCDD	86.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000248			ſ	13C-0CDD		71.0	17 - 157	
ОСДД	0.0000371			ſ	13C-2,3,7,8-TCDF)F	89.7	24 - 169	
2,3,7,8-TCDF	ND	0.000000483	483		13C-1,2,3,7,8-PeCDF	•CDF	75.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000621	621		13C-2,3,4,7,8-PeCDF	CDF	76.3	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000593	593	-	13C-1,2,3,4,7,8-HxCDF	HxCDF	102	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000417	417		13C-1,2,3,6,7,8-HxCDF	HxCDF	99.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000366	998		13C-2,3,4,6,7,8-HxCDF	HxCDF	0.79	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000436	436		13C-1,2,3,7,8,9-HxCDF	HxCDF	92.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000628	628		13C-1,2,3,4,6,7,8-HpCDF	8-HpCDF	86.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000601	501		13C-1,2,3,4,7,8,9-HpCDF	9-HpCDF	87.3	26 - 138	
1.2,3,4,7,8,9-HpCDF	ND	0.000000661	961		13C-OCDF		73.6	17 - 157	
OCDF	ND	0.00000349	49	.*	CRS 37CI-2,3,7,8-TCDD	DD	97.6	35 - 197	
Totals					Footnotes				
Total TCDD	ND	0.000000636	636		a. Sample specific estimated detection limit.	d detection limit.			
Total PeCDD	ND	0.000000939	939		b. Estimated maximum possible concentration.	sible concentration.			
Total HxCDD	ND	0.00000187	87		c. Method detection limit.				
Total HpCDD	0.00000628				d. Lower control limit - upper control limit.	er control limit.			
Total TCDF	ND	0.000000483	483						
Total PeCDF	ND	0.0000000607	209						
Total HxCDF	ND	0.000000450	450						
Total HpCDF	ND	0.000000629	629						

Analyst:

William J. Luksemburg 03-May-2006 13:14 Approved By:

APPENDIX

Project 27608

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.
Н	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
DI	
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.
	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater
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.
MDL EMPC	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. Estimated Maximum Possible Concentration
MDL EMPC NA	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. Estimated Maximum Possible Concentration Not applicable

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, Cotton, CA 92324

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 9830 South 51st Street, Suite 8-120, Phoenix, AZ 85044 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120

Ph (909) 370-4667 Fa
Ph (619) 505-9596 Fa
Ph (480) 785-0043 55

Fax (909) 370-1046 Fax (619) 505-9689

Ph (480) 785-0043 Fax (480) 785-0851
Ph (702) 798-3620 Fax (702) 798-3621

Ph (949) 261-1022 Fax (949) 261-1228

SUBCONTRACT ORDER - PROJECT # IPD1609

SEN	DING LABORATORY:	<u> </u>	RECEIVING LABORATORY:							
Del Mar Analytical - Irv			Alta Analytical - SUB							
17461 Derian Avenue. S			1104 Windfield Way		otag					
Irvine, CA 92614	100		El Dorado Hills, CA	α	0					
Phone: (949) 261-1022			Phone :(916) 933-164							
Fax: (949) 261-1228			Fax: (916) 673-0106							
	Project Manager: Michele Chamberlin			0.50						
-,										
Standard TAT is reque	ested unless specific du	e date is requested =	> Due Date:	In	itials:					
Analysis	Expiration		Comments							
Sample ID: IPD1609-01	Water Sampled:	04/15/06 09:20								
1613-Dioxin-HR-Alta	04/22/06 09:20		J flags,17 congeners,no TE							
EDD + Level 4	05/13/06 09:20		Excel EDD email to pm,Inc	clude Std logs for Lvl IV						
Containers Supplied:										
1 L Amber (IPD1609-010	•									
1 L Amber (IPD1609-01)	D)									
•				•						
				•						
		•								
•										
		SAMPLE I	NTEGRITY:	 						
All containers intact:	Yes □ No Sa	unple labels/COC agree:	☐ Yes ☐ No	Samples Received On Ice::	☐ Yes ☐ No					
		naples Preserved Properly:	Yes No	Samples Received at (temp):	- 103 LI 110					
		,								
Edwards Kuin	4/17/06	Bot	tina of Bened	doit 4/18/24	0905					
Released By	Date	Time R	eceived By	Date 770/00	Time					
J	,,, and	imic K	Source Dy	Date	imic					

Date

Time

Received By

Date

SAMPLE LOG-IN CHECKLIST

Alta Project #: Location: WR-2 Date/Time Initials: Samples Arrival: Shelf/Rack: Date/Time Initials: Location: Logged In: Shelf/Rack:

Hand FedEx Delivered By: **UPS** Cal DHL Other Delivered lce/ Preservation: Blue Ice Dry Ice None Temp °C ∅.

Time:

	YES	NO	NA
Adequate Sample Volume Received?	$\sqrt{}$,	
Holding Time Acceptable?	$\sqrt{}$		
Shipping Container(s) Intact?	V		
Shipping Custody Seals Intact?	V		
Shipping Documentation Present?	V		
Airbill Trk # 7903 9693 2436	V		
Sample Container Intact?	V		
Sample Custody Seals Intact?			V
Chain of Custody / Sample Documentation Present?	1	1	
COC Anomaly/Sample Acceptance Form completed?		/	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			V
Na ₂ S ₂ O ₃ Preservation Documented? COC Sam		No	ne)
Shipping Container Alta Client Retain Ret	urn	Disp	ose

Comments:

Thermometer ID: DT-20

APPENDIX G

Section 24

Outfall 006, April 15, 2006

MECX Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	CX, LLC	Package ID B4DF102
1220	60 East Vassar Drive	Task Order1261.001D.01
Suit	e 500	SDG No. IPD1609
Lak	ewood, CO 80226	No. of Analyses 1
	Laboratory Alta Analy	tical Date: July 5, 2006
	Reviewer E. Wesslin	g Reviewer's Signature
	Analysis/Method Dioxins/Fu	irans Desta Color
ACT	TION ITEMS ^a	
	Case Narrative	
	Deficiencies	
2.	Out of Scope	
	Analyses	
3.	Analyses Not Conducted	
4.	Missing Hardcopy	
	Deliverables	
5.	Incorrect Hardcopy	
	Deliverables	

6.	Deviations from Analysis	Qualifications were assigned for the following:
	Protocol, e.g.,	- the results between the RL and the MDL were estimated
	Holding Times	
	GC/MS Tune/Inst. Performance	
	Calibration	
	Method blanks	
	Surrogates	
	Matrix Spike/Dup LCS	
	Field QC	
	Internal Standard Performance	
	Compound Identification	
	Compound Identification Quantitation	
	Quantitation System Performance	
со	Quantitation	
со	Quantitation System Performance	
со	Quantitation System Performance	
	Quantitation System Performance MMENTS ^b	meeting contract and/or method requirements.



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 006

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD1609

Prepared by

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

Project: SDG: NPDES IPD1609 D/F

DATA VALIDATION REPORT

SDG: Analysis:

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD1609

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

Leveliv

No. of Reanalyses/Dilutions:

'n

Reviewer:

0

Date of Review:

E. Wessling July 5, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines 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:

NPDES

IPD1609 DATA VALIDATION REPORT Analysis: D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 006	IPD1609-01	27608-001	Water	1613

Analysis:

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 Del Mar Analytical below 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 0.3°C. The sample containers were not noted to be damaged or frozen during transportation; therefore, 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: Analysis:

NPDES IPD1609 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 03/22/2006 on instrument VG-5. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs \leq 20% for the 16 native compounds (calibration by isotope dilution) and \leq 35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VER was acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

2.4 BLANKS

One method blank (0-7968-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were 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 (0-7968-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.

B4DF102 4 Revision 0

Project: SDG: Analysis: NPDES IPD1609 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. The detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

Project: IPD	pr-06		Sample Data Matrix: Sample Size:	Aqueous 1.02 L	Lab QC	oratory Data Sample: Batch No.: Analyzed DB-5:	27608-001 7968 2-May-06	Date Ex	eceived: stracted: nalyzed DB-225:	18-Apr-0 26-Apr-0 NA
Analyte	Conc. (ug/L)	DL a	EMPC ^b	Qualifiers		Labeled Stand	dard	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	ND	0.000000	636		<u>IS</u>	13C-2,3,7,8-TC	DD	91.2		
1,2,3,7,8-PeCDD	ND	0.000000	488			13C-1,2,3,7,8-P	PeCDD	82.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.000001	26			13C-1,2,3,4,7,8	-HxCDD	93.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.000001	36			13C-1,2,3,6,7,8	-HxCDD	82.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.000001	27			13C-1,2,3,4,6,7	,8-HpCDD	86.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000248			J		13C-OCDD		71.0	17 - 157	
OCDD	0.0000371			J		13C-2,3,7,8-TC	DF	89.7	24 - 169	
2,3,7,8-TCDF	ND	0.000000	483			13C-1,2,3,7,8-P	eCDF	75.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000	621			13C-2,3,4,7,8-P	eCDF	76.3	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000	593			13C-1,2,3,4,7,8	-HxCDF	102	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000	417			13C-1,2,3,6,7,8	-HxCDF	99.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000	366			13C-2,3,4,6,7,8	-HxCDF	97.0	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000	436			13C-1,2,3,7,8,9	-HxCDF	92.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000	628			13C-1,2,3,4,6,7	,8-HpCDF	86.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000	601			13C-1,2,3,4,7,8	,9-HpCDF	87.3	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000	661			13C-OCDF		73.6	17 - 157	
OCDF	ND	0.000003	49		CRS	37C1-2,3,7,8-TC	CDD	97.6	35 - 197	
Totals					Foo	otnotes				
Total TCDD	ND	0.000000	636		of the state of the	ample specific estimat				
Total PeCDD	ND	0.000000	939		b. Es	stimated maximum po	ssible concentration.			
Total HxCDD	ND	0.000001	87		c. M	lethod detection limit.				
Total HpCDD	0.00000628				d. L	ower control limit - up	per control limit.			
Total TCDF	ND	0.000000	483							
Total PeCDF	ND	0.000000	607							
Total HxCDF	ND	0.000000	450							
Total HpCDF	ND	0.000000	629		100					

Analyst:

Approved By:

William J. Luksemburg 03-May-2006 13:14

Level II

UUU

U

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX		Package ID:	B4MT86
12269 East Vassar Drive		Task Order:	
Aurora, CO 80014		SDG No.:	
	No	. of Analyses:	1
Laboratory: Del Mar A		Date: June 2	
Reviewer: P. Meeks		Reviewer's Si	THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN
Analysis/Method: Metals		Y. Mu	
			7
ACTION ITEMS ^a			
. Case Narrative			
Deficiencies			
2. Out of Scope Analyses			
3. Analyses Not Conducted			
4. Missing Hardcopy			
Deliverables			
Incorrect Hardcopy			
Deliverables			
6. Deviations from Analysis	Qualifications were applied f		
Protocol, e.g.,	Recoveries and detects belo	w the reporting I	imit.
Holding Times			
GC/MS Tune/Inst. Performance			
Calibration			
Method blanks	-		
Surrogates			
Matrix Spike/Dup LCS			
Field QC			
Internal Standard Performance			
Compound Identification			
Quantitation			
System Performance			
COMMENTS ^b			
^a Subcontracted analytical laboratory is no	t meeting contract and/or mathed sage	iramente	
b Differences in protocol have been adopte			required



DATA VALIDATION REPORT

NPDES Sampling Outfall 006

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPD1609

Prepared by

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

Project: SDG: Analysis: NPDES IPD1609 Metals

DATA VALIDATION REPORT

1. INTRODUCTION

Task Order Title: NPDES Sampling MEC^x Project Number: 1261.001D.01

Sample Delivery Group: IPD1609
Project Manager: P. Costa

Matrix: Water
Analysis: Metals
QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Reviewer: P. Meeks

Date of Review: June 23, 2006

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

Project:

NPDES

SDG: Analysis: IPD1609 Metals

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 006	IPD1609-01	Water	200.8, 245.1

DATA VALIDATION REPORT

Analysis:

NPDES

IPD1609

Metals

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 below the temperature limits of 4°C ±2°C at 1°C; however as the sample was not noted to be frozen or damaged, no qualifications were required. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

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

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 85-115% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG. Antimony, cadmium, lead and thallium were recovered above 130% in the 0.2 ppb reporting limit check standard. Cadmium, which was detected below 0.2 ppb, and lead which was detected within 3x the concentration of the 0.2 ppb check standard, were qualified as estimated, "J." Antimony was detected at a concentration greater than 3x the 0.2 ppb check standard and thallium was not detected; therefore, no qualifications were required for these analytes. All other recoveries were considered to be acceptable. No further qualifications were required.

Project: SDG: NPDES IPD1609

Metals

DATA VALIDATION REPORT

SDG: Analysis:

2.4 BLANKS

Antimony was detected in the associated method blank, but not at sufficient concentration to qualify the site sample. There were no other detects in the method blanks or CCBs associated with the sample in this SDG. No qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were not performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

All recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKES

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

2.9 ICP/MS AND ICP SERIAL DILUTION

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

2.10 INTERNAL STANDARDS PERFORMANCE

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

B4MT86

1

Revision 0

Project: NPDES SDG: IPD1609 Analysis: Metals

DATA VALIDATION REPORT

2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified and the sample results reported on the Form I were verified against the raw data. Sample results reported between the MDL and the reporting limit were qualified as estimated detects, "J." These qualifications were annotated with "DNQ" according to the NPDES program specifications. No transcription errors or calculation errors were noted. No further qualifications were required.

2.12 FIELD QC SAMPLES

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

2.12.1 Field Blanks and Equipment Rinsates

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

2.12.2 Field Duplicates

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPD1609

Sampled: 04/15/06 Received: 04/15/06

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifier	rs
Sample ID: IPD1609-01 (Outfall 00 Reporting Units: ug/l	06 - Water)								Rev	Code
Antimony Cadmium Copper Lead	EPA 200.8 EPA 200.8 EPA 200.8 EPA 200.8	6D20092 6D20092 6D20092 6D20092	0.050 0.025 0.25 0.040	2.0 1.0 2.0 1.0	1.0 0.029 0.65 0.40	1 1 1	04/20/06 04/20/06 04/20/06 04/20/06	04/21/06 04/21/06 04/21/06 04/21/06	J B, J J J J	DNQ 3*3 12*3
Mercury Thallium	EPA 245.1 EPA 200.8	6D17063 6D20092	0.050 0.15	0.20	ND ND	1	04/17/06 04/20/06	04/17/06 04/21/06	Ü	V)#3

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Package ID: B4WC66

12269 East Vassar Drive	Task Order: 1261.001D.01
Aurora, CO 80014	SDG No.: IPD1609
	No. of Analyses: 1
Laboratory: Del Mar A	
Reviewer: P. Meeks	Reviewer's Signature
Analysis/Method: General I	
ACTION ITEMS ^a	
. Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy	
Deliverables	
5. Incorrect Hardcopy	
Deliverables	
6. Deviations from Analysis	
Protocol, e.g.,	
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS ^b	Acceptable as reviewed.
9	
 Subcontracted analytical laboratory is not Differences in protocol have been adopted 	meeting contract and/or method requirements. by the laboratory but no action against the laboratory is required.

 MEC^{X}



DATA VALIDATION REPORT

NPDES Sampling Outfall 006

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPD1609

Prepared by

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

NPDES

SDG: Analysis:

IPD1609 Gen. Min.

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPD1609

Project Manager:

P. Costa

Matrix:

Water

Analysis:

General Minerals

QC Level:

Level IV

No. of Samples:

0

No. of Reanalyses/Dilutions:

Reviewer:

P. Meeks

Date of Review:

July 5, 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, 300.0, and 413.1, and validation guidelines outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project:

NPDES

SDG: Analysis: IPD1609 Gen. Min.

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 006	IPD1609-01	Water	General Minerals

Project:

NPDES

SDG:

Analysis:

IPD1609 Gen. Min.

2. DATA VALIDATION FINDINGS

SAMPLE MANAGEMENT 2.1

DATA VALIDATION REPORT

Following are findings associated with sample management:

Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory below the temperature limits of 4°C ± 2°C, at 1°C; however, as the sample was not noted to be frozen or damaged, no qualifications were required. 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 the analytes determined by method 300.0, the r² results were ≥0.995 and the ICV and CCV results were within the control limits of 90-110%. For Oil and Grease, TDS, and TSS balance calibration logs provided by the laboratory were reviewed and found to be acceptable. 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.

Project: SDG: I

NPDES IPD1609

DATA VALIDATION REPORT

Analysis: Gen. Min.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS recoveries were within the laboratory-established control limits. The laboratory did not report an LCS recovery for nitrate/nitrite; however, the reviewer checked the raw data and found this result to be acceptable. No qualifications were required.

2.5 LABORATORY DUPLICATES

No 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 method accuracy was based on the LCS results. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form I were verified against the raw data. The reviewer was not able to exactly reproduce the chloride, nitrate/nitrite, or sulfate results; however, as the difference between the calculated results and reported results were less than 5%, the reviewer considered the reported results to be acceptable. 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, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

Report Number: IPD1609

Sampled: 04/15/06

Received: 04/15/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifier	s
Sample ID: IPD1609-01 (Outfall 00	6 - Water) - cont.								Reval	(Qua)
Reporting Units: mg/l									dou	Com
Chloride	EPA 300.0	6D15028	0.15	0.50	7.2	1	04/15/06	04/15/06		
Nitrate/Nitrite-N	EPA 300.0	6D15028	0.080	0.15	1.1	1	04/15/06	04/15/06		
Oil & Grease	EPA 413.1	6D18050	0.89	4.7	ND	1	04/18/06	04/18/06	U	
Sulfate	EPA 300.0	6D15028	0.45	0.50	7.4	1	04/15/06	04/15/06		
Total Dissolved Solids	SM2540C	6D18055	10	10	140	1	04/18/06	04/18/06		
Total Suspended Solids	EPA 160.2	6D20128	10	10	ND	1	04/20/06	04/20/06	U	

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced,

except in full, without written permission from Del Mar Analytical.

APPENDIX G

Section 25

Outfall 007, April 05, 2006 Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/05/06 Received: 04/05/06

Issued: 05/07/06 17:21

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX
IPD0424-01 Outfall 007 Water

Reviewed By:

Del Mar Analytical - IrvineMichele Chamberlin

Michele Chamberdin

Project Manager



Pasadena, CA 91101

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0424 Received: 04/05/06

Attention: Bronwyn Kelly

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0424-01 (Outfall 007 - Wa	ater)								
Reporting Units: ug/l									
Antimony	EPA 200.8	6D06072	0.050	2.0	1.1	1	04/06/06	04/07/06	J
Cadmium	EPA 200.8	6D06072	0.025	1.0	0.38	1	04/06/06	04/07/06	J
Copper	EPA 200.8	6D06072	0.25	2.0	25	1	04/06/06	04/07/06	
Lead	EPA 200.8	6D06072	0.040	1.0	18	1	04/06/06	04/07/06	
Mercury	EPA 245.1	6D06061	0.050	0.20	0.058	1	04/06/06	04/06/06	J
Thallium	EPA 200.8	6D06072	0.15	1.0	0.34	1	04/06/06	04/07/06	J
Sample ID: IPD0424-01RE1 (Outfall 007	- Water)								
Reporting Units: ug/l									
Copper	EPA 200.8	6E01070	0.25	2.0	20	1	05/01/06	05/02/06	
Lead	EPA 200.8	6E01070	0.040	1.0	25	1	05/01/06	05/02/06	



Pasadena, CA 91101

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0424 Received: 04/05/06

Attention: Bronwyn Kelly

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0424-01 (Outfall 007 - V	Vater) - cont.								
Reporting Units: mg/l									
Chloride	EPA 300.0	6D06048	0.15	0.50	3.2	1	04/06/06	04/06/06	
Nitrate/Nitrite-N	EPA 300.0	6D06048	0.080	0.15	0.15	1	04/06/06	04/06/06	
Oil & Grease	EPA 413.1	6D06049	0.90	4.8	ND	1	04/06/06	04/06/06	
Sulfate	EPA 300.0	6D06048	0.45	0.50	2.3	1	04/06/06	04/06/06	
Total Dissolved Solids	SM2540C	6D06066	10	10	130	1	04/06/06	04/06/06	
Total Suspended Solids	EPA 160.2	6D11091	10	10	360	1	04/11/06	04/11/06	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 007

Sampled: 04/05/06 Received: 04/05/06

Report Number: IPD0424

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 007 (IPD0424-01) - Wate	r				
EPA 300.0	2	04/05/2006 08:55	04/05/2006 18:50	04/06/2006 09:30	04/06/2006 12:30



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 007

Report Number: IPD0424

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D06061 Extracted: 04/06/06	<u>-</u>										
Blank Analyzed: 04/06/2006 (6D06061-Bl	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/06/2006 (6D06061-BS)	D										
Mercury	8.10	0.20	0.050	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 04/06/2006 (6D0	6061-MS1)				Sour	rce: IPD(320-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06061-MS)	D1)			Sour	rce: IPD(320-01				
Mercury	8.17	0.20	0.050	ug/l	8.00	ND	102	70-130	2	20	
Batch: 6D06072 Extracted: 04/06/06	_										
Blank Analyzed: 04/06/2006-04/07/2006 (annan to di k	1)									
Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.15	ug/l							
Copper	ND	2.0	0.013	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.075	ug/l							
LCS Analyzed: 04/06/2006-04/07/2006 (6)	D06072-BS1)										
Antimony	77.5	2.0	0.18	ug/l	80.0		97	85-115			
Cadmium	78.2	1.0	0.015	ug/l	80.0		98	85-115			
Copper	81.8	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.3	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	78.4	1.0	0.075	ug/l	80.0		98	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 007

Report Number: IPD0424

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06072 Extracted: 04/06/06	:										
Division of the contract of th	_										
Matrix Spike Analyzed: 04/06/2006-04/0	7/2006 (6D06	072-MS1)			Sou	rce: IPD(0061-03				
Antimony	79.1	2.0	0.18	ug/l	80.0	ND	99	70-130			
Cadmium	77.5	1.0	0.015	ug/l	80.0	ND	97	70-130			
Copper	79.0	2.0	0.25	ug/l	80.0	ND	99	70-130			
Lead	80.0	1.0	0.040	ug/l	80.0	ND	100	70-130			
Thallium	81.7	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Analyzed: 04/07/2006 (6D0	6072-MS2)				Sou	rce: IPD(0061-04				
Antimony	78.7	2.0	0.18	ug/l	80.0	ND	98	70-130			
Cadmium	78.4	1.0	0.015	ug/l	80.0	ND	98	70-130			
Copper	79.2	2.0	0.25	ug/l	80.0	1.3	97	70-130			
Lead	79.5	1.0	0.040	ug/l	80.0	0.060	99	70-130			
Thallium	81.6	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Dup Analyzed: 04/07/2006	(6D06072-M	SD1)			Sou	rce: IPD(0061-03				
Antimony	76.9	2.0	0.18	ug/l	80.0	ND	96	70-130	3	20	
Cadmium	76.0	1.0	0.015	ug/l	80.0	ND	95	70-130	2	20	
Copper	76.0	2.0	0.25	ug/l	80.0	ND	95	70-130	4	20	
Lead	77.5	1.0	0.040	ug/l	80.0	ND	97	70-130	3	20	
Thallium	79.2	1.0	0.075	ug/l	80.0	ND	99	70-130	3	20	
Batch: 6E01070 Extracted: 05/01/06	_										
Blank Analyzed: 05/02/2006 (6E01070-B	LK1)										
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 05/02/2006 (6E01070-BS	1)										
Copper	85.7	2.0	0.25	ug/l	80.0		107	85-115			
Lead	90.7	1.0	0.040	ug/l	80.0		113	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 007

Report Number: IPD0424

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6E01070 Extracted: 05/01/06	_										
A	1000 3504)					IDDA					
Matrix Spike Analyzed: 05/02/2006 (6E0)	1070-MS1)				Sou	rce: IPD2	2699-01				
Copper	97.9	2.0	0.25	ug/l	80.0	21	96	70-130			
Lead	92.2	1.0	0.040	ug/l	80.0	6.1	108	70-130			
Matrix Spike Dup Analyzed: 05/02/2006	(6E01070-MS	D1)			Sou	rce: IPD2	2699-01				
Copper	97.8	2.0	0.25	ug/l	80.0	21	96	70-130	0	20	
Lead	91.1	1.0	0.040	ug/l	80.0	6.1	106	70-130	1	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 007

Report Number: IPD0424

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06048 Extracted: 04/06/06	: <u> </u>										
	_										
Blank Analyzed: 04/06/2006 (6D06048-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: 04/06/2006 (6D06048-BS	1)										
Chloride	4.78	0.50	0.15	mg/l	5.00		96	90-110			
Sulfate	9.63	0.50	0.45	mg/l	10.0		96	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	6048-MS1)				Sou	rce: IPD(0419-01				
Chloride	13.5	0.50	0.15	mg/l	5.00	8.7	96	80-120			
Sulfate	33.2	0.50	0.45	mg/l	10.0	23	102	80-120			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06048-MS	SD1)			Sou	rce: IPD(0419-01				
Chloride	13.7	0.50	0.15	mg/l	5.00	8.7	100	80-120	1	20	
Sulfate	33.9	0.50	0.45	mg/l	10.0	23	109	80-120	2	20	
Batch: 6D06049 Extracted: 04/06/06	<u>.</u>										
Blank Analyzed: 04/06/2006 (6D06049-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/06/2006 (6D06049-BS	1)										M-NR1
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			
LCS Dup Analyzed: 04/06/2006 (6D0604	9-BSD1)										
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120	19	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 007

Report Number: IPD0424

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06066 Extracted: 04/06/06	-										
Blank Analyzed: 04/06/2006 (6D06066-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/06/2006 (6D06066-BS)	1)										
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 04/06/2006 (6D0606	6-DUP1)				Sou	rce: IPD0	419-01				
Total Dissolved Solids	156	10	10	mg/l		160			3	10	
Batch: 6D11091 Extracted: 04/11/06	_										
Blank Analyzed: 04/11/2006 (6D11091-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/11/2006 (6D11091-BS	1)										
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 04/11/2006 (6D1109	1-DUP1)				Sou	rce: IPD0	412-01				
Total Suspended Solids	326	10	10	mg/l		340			4	10	



Pasadena, CA 91101

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0424 Received: 04/05/06

Attention: Bronwyn Kelly

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
LauNullibei	Allalysis	Analyte	Units	Result	WIKL	Lillit
IPD0424-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.096	4.8	15
IPD0424-01	Antimony-200.8	Antimony	ug/l	1.10	2.0	6.00
IPD0424-01	Cadmium-200.8	Cadmium	ug/l	0.38	1.0	4.00
IPD0424-01	Chloride - 300.0	Chloride	mg/l	3.20	0.50	150
IPD0424-01	Copper-200.8	Copper	ug/l	25	2.0	14
IPD0424-01	Lead-200.8	Lead	ug/l	18	1.0	5.20
IPD0424-01	Mercury - 245.1	Mercury	ug/l	0.058	0.20	0.20
IPD0424-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.15	0.15	10.00
IPD0424-01	Sulfate-300.0	Sulfate	mg/l	2.30	0.50	250
IPD0424-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	130	10	850
IPD0424-01	Thallium-200.8	Thallium	ug/l	0.34	1.0	2.00
IPD0424-01RE1	Copper-200.8	Copper	ug/l	20	2.0	14
IPD0424-01RE1	Lead-200.8	Lead	ug/l	25	1.0	5.20



Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD0424 Sampled: 04/05/06
Received: 04/05/06

Attention: Bronwyn Kelly

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.

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference



Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Pasadena, CA 91101 Report Number: IPD0424 Received: 04/05/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

Matrix	Nelac	California
Water		
Water		
Water	X	X
	Water Water Water Water Water Water Water	Water Water Water 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 1613-Dioxin-HR-Alta Analysis Performed:

Samples: IPD0424-01

Analysis Performed: EDD + Level 4

Samples: IPD0424-01

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

TPDOGIT
Alytical Version 03/01/06 CHAIN OF CUSTODY FORM

Del Mar A	ınal	ytical	Version	Del Mar Analytical version 03/01/06 CHAIN OF CUSTODY FORM	N OF C	USTO	DY F	ORN		h	501 丁	ナンナ	Page 1 of 1
Client Name/Address:	ddres	S:		Project:						Ą	ANALYSIS REQUIRED	JIRED	
MWH-Pasadena 300 North Lake Avenue, Pasadena CA 91101	dena Avenu	e, Suite 1200	200	Boeing-SSFL NPDES Routine Outfall 007 Stormwater at Building	PDES I 007 suilding 100	<u> </u>	:Metals: IT ,p						Field readings:
Project Manager: Bronwyn Kelly Sampler: Recest, R	Jer. B	ronwyn h	(elly	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			al Recoverable Cd, Cu, Pb, H	oo lis bns) (IC	& Grease (EPA SO4, NO3+NG				pH= 4.9
Sample Sa Description M	Sample Matrix	Container Type	# of Cont.	0.0	Preservative HNO3	Bottle *	toT ,dS ×						
,		Poly-1L		وشكار	HNO3	18	×						
Outfall 007 W		Giass- Amber	2		None	2A, 2B		×					
Outfall 007 W		Glass- Amber	2		HCI	3A, 3B			×				
Outfall 007 W		Poly-500	7	->	None	4A, 4B			×				
Outfall 007 W		Poly-500 ml	2	45/06	None	5A, 5B				×			
										_			
			+-										
			_										
			+										
						,							
Relinquished By	0		1/4	Date/Time: 4/~/06 /555	Received By			Date/T	Date/Time: 4506		555)	Turn aroun 24 Hours	nd Time: (cl
Relinquished By			45	ime:		***		Date/Time	ime:			48 Hours	10 Days Normal
Relinquished By				Date/Time:	Received By	1		Date/Time:	ime:			Perchlorat	Perchlorate Only 72 Hours
						<i>\(\)</i>	_ <i>j</i>	7	4506		(258)	Metals On	
NDI)			>				Sample In Intact	Sample Integrity: (Check) Sample Integrity: (Check)
						CO							



April 13, 2006

Alta Project I.D.: 27564

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 April 07, 2006 under your Project Name "IPD0424". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

HRMS Services Director



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



Section I: Sample Inventory Report Date Received: 4/7/2006

Alta Lab. ID Client Sample ID

27564-001 IPD0424-01

SECTION II

NPDES - 615

Method Blank	k					ł				EPA Method 1613
Matrix:	Aqueous		QC Batch No.:	79	918	Lab	Sample:	0-MB001		
Sample Size:	1.00 L		Date Extracted:	: 10	0-Apr-06	Date	Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225: NA
					1		•	1		•
Analyte	Conc. (u	g/L)	DL a	EMPC b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD		ND	0.000000788			<u>IS</u>	13C-2,3,7,8-TCI)D	72.2	25 - 164
1,2,3,7,8-PeCD	DD	ND	0.000000469				13C-1,2,3,7,8-Pe	CDD	73.0	25 - 181
1,2,3,4,7,8-HxQ	CDD	ND	0.00000114				13C-1,2,3,4,7,8-1	HxCDD	75.7	32 - 141
1,2,3,6,7,8-HxC	CDD	ND	0.00000120				13C-1,2,3,6,7,8-1	HxCDD	67.3	28 - 130
1,2,3,7,8,9-HxO	CDD	ND	0.00000113				13C-1,2,3,4,6,7,8	3-HpCDD	69.6	23 - 140
1,2,3,4,6,7,8-H	pCDD	ND	0.00000167				13C-OCDD		44.8	17 - 157
OCDD		ND	0.0000150				13C-2,3,7,8-TCI	DF	77.0	24 - 169
2,3,7,8-TCDF		ND	0.000000832				13C-1,2,3,7,8-Pe	CDF	72.9	24 - 185
1,2,3,7,8-PeCD	F	ND	0.000000866				13C-2,3,4,7,8-Pe	CDF	77.1	21 - 178
2,3,4,7,8-PeCD)F	ND	0.000000754				13C-1,2,3,4,7,8-1	HxCDF	70.7	26 - 152
1,2,3,4,7,8-HxC	CDF	ND	0.000000479				13C-1,2,3,6,7,8-1	HxCDF	66.8	26 - 123
1,2,3,6,7,8-HxC	CDF	ND	0.000000466				13C-2,3,4,6,7,8-1	HxCDF	70.2	28 - 136
2,3,4,6,7,8-HxQ	CDF	ND	0.000000465				13C-1,2,3,7,8,9-1	HxCDF	68.4	29 - 147
1,2,3,7,8,9-HxC	CDF	ND	0.000000684				13C-1,2,3,4,6,7,8	8-HpCDF	61.1	28 - 143
1,2,3,4,6,7,8-H	pCDF	ND	0.000000806				13C-1,2,3,4,7,8,9	9-HpCDF	67.5	26 - 138
1,2,3,4,7,8,9-H		ND	0.000000832				13C-OCDF		49.1	17 - 157
OCDF		ND	0.00000337			CRS	37Cl-2,3,7,8-TC	DD	86.2	35 - 197
Totals						Foot	notes			
Total TCDD		ND	0.000000788			a. San	nple specific estimated of	letection limit.		
Total PeCDD		ND	0.00000120				imated maximum possib			
Total HxCDD		ND	0.00000116				thod detection limit.			
Total HpCDD		ND	0.00000167			d. Lov	wer control limit - upper	control limit.		
Total TCDF		ND	0.000000832							
Total PeCDF		ND	0.000000808							
Total HxCDF		ND	0.000000515							
Total HpCDF		ND	0.000000818							

William J. Luksemburg 13-Apr-2006 07:31 **NPDES - 616** Analyst: MAS Approved By:

OPR Results				EPA	Method 1613
Matrix: Aqueous Sample Size: 1.00 L	QC Batch No.: Date Extracted:	7918 10-Apr-06	Lab Sample: 0-OPR001 Date Analyzed DB-5: 11-Apr-06	Date Analyze	d DB-225: NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0 9.88	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	72.6	25 - 164
1,2,3,7,8-PeCDD	50.0 49.8	35 - 71	13C-1,2,3,7,8-PeCDD	75.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0 48.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	81.2	32 - 141
1,2,3,6,7,8-HxCDD	50.0 47.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.4	28 - 130
1,2,3,7,8,9-HxCDD	50.0 45.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.0	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0 49.2	35 - 70	13C-OCDD	50.8	17 - 157
OCDD	100 99.7	78 - 144	13C-2,3,7,8-TCDF	75.2	24 - 169
2,3,7,8-TCDF	10.0 9.58	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	79.0	24 - 185
1,2,3,7,8-PeCDF	50.0 46.3	40 - 67	13C-2,3,4,7,8-PeCDF	78.4	21 - 178
2,3,4,7,8-PeCDF	50.0 45.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.1	26 - 152
1,2,3,4,7,8-HxCDF	50.0 48.1	36 - 67	13C-1,2,3,6,7,8-HxCDF	78.7	26 - 123
1,2,3,6,7,8-HxCDF	50.0 48.3	42 - 65	13C-2,3,4,6,7,8-HxCDF	77.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0 46.7	35 - 78	13C-1,2,3,7,8,9-HxCDF	80.4	29 - 147
1,2,3,7,8,9-HxCDF	50.0 48.4	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	69.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0 47.2	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	76.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0 47.9	39 - 69	13C-OCDF	59.3	17 - 157
OCDF	100 96.8	63 - 170	<u>CRS</u> 37C1-2,3,7,8-TCDD	79.2	35 - 197

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:31

Sample ID:	IPD0424-	01								EPA I	Method 1613
Client Data				Sample Data		Lab	oratory Data				
Name:		nalytical, Irvine		Matrix:	Aqueous	Lab	Sample:	27564-001	Date Re	ceived:	7-Apr-06
Project: Date Collected:	IPD0424 5-Apr-06			Sample Size:	1.03 L	QC	Batch No.:	7918	Date Ex	tracted:	10-Apr-06
Time Collected:	0855					Date	Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225:	NA
Analyte	Conc.	(ug/L)	DL a	EMPC ^b	Qualifiers		Labeled Stan	ıdard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD		ND	0.0000009	77		<u>IS</u>	13C-2,3,7,8-T0	CDD	60.4	25 - 164	
1,2,3,7,8-PeCD	D	ND	0.0000016	4			13C-1,2,3,7,8-	PeCDD	60.5	25 - 181	
1,2,3,4,7,8-HxC	CDD	ND	0.0000023	5			13C-1,2,3,4,7,8	8-HxCDD	59.4	32 - 141	
1,2,3,6,7,8-HxC	CDD	0.00000283			J		13C-1,2,3,6,7,8	8-HxCDD	56.5	28 - 130	
1,2,3,7,8,9-HxC	CDD	0.00000285			J		13C-1,2,3,4,6,7	7,8-HpCDD	58.7	23 - 140	
1,2,3,4,6,7,8-H _I	pCDD	0.0000693					13C-OCDD		43.3	17 - 157	
OCDD		0.000758					13C-2,3,7,8-T0	CDF	61.5	24 - 169	
2,3,7,8-TCDF		ND	0.0000008	79			13C-1,2,3,7,8-	PeCDF	60.9	24 - 185	
1,2,3,7,8-PeCD	F	ND	0.0000010	5			13C-2,3,4,7,8-	PeCDF	62.0	21 - 178	
2,3,4,7,8-PeCD	F	ND	0.0000009	66			13C-1,2,3,4,7,8	8-HxCDF	57.8	26 - 152	
1,2,3,4,7,8-HxC	CDF	ND	0.0000011	0			13C-1,2,3,6,7,8	8-HxCDF	52.2	26 - 123	
1,2,3,6,7,8-HxC	CDF	ND	0.0000012	0			13C-2,3,4,6,7,8	8-HxCDF	58.4	28 - 136	
2,3,4,6,7,8-HxC	CDF	ND	0.0000011	0			13C-1,2,3,7,8,9	9-HxCDF	57.7	29 - 147	
1,2,3,7,8,9-HxC	CDF	ND	0.0000015	9			13C-1,2,3,4,6,7	7,8-HpCDF	52.2	28 - 143	
1,2,3,4,6,7,8-H _I	pCDF	0.00000621			J		13C-1,2,3,4,7,8	8,9-HpCDF	57.5	26 - 138	
1,2,3,4,7,8,9-H _I	pCDF	ND	0.0000014	2			13C-OCDF		47.7	17 - 157	
OCDF		0.0000150			J	CRS	37Cl-2,3,7,8-T	CDD	80.1	35 - 197	
Totals						Foo	otnotes				
Total TCDD		ND	0.0000009	77		a. Sa	ample specific estima	ated detection limit.			
Total PeCDD		ND	0.0000016	4		b. E	stimated maximum p	ossible concentration.			
Total HxCDD		0.0000226				c. M	ethod detection limit				
Total HpCDD		0.000187				d. L	ower control limit - u	pper control limit.			
Total TCDF		ND	0.0000008	79							
Total PeCDF		ND		0.00000)119						
Total HxCDF		0.00000593									
Total HpCDF		0.00000621		0.00001	151						

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:31

APPENDIX

NPDES - 619

Project 27564 Page 7 of 240

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	02102011
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



Released By

Project 27564

Date

Time

Received By

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 B-120, Phoenix, AZ 85044

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

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 (949) 261-1022 Fax (949) 261-1228

Ph (480) 785-0043 Fax (480) 785-0851
Ph (702) 798-3620 Fax (702) 798-3621

NPDES - 622

Page 10 ρ f 240

Date

SUBCONTRACT ORDER - PROJECT # IPD0424

À.	SUBCONTRACT ORD	ER-FROJECT # IFD0424
SENDIN Del Mar Analytical - Irvine 17461 Derian Avenue. Suite Irvine, CA 92614 Phoné: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele C	e 100	RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106
Standard TAT is requeste Analysis	d unless specific due date is requested Expiration	=> Due Date: Initials:
Sample ID: IPD0424-01 Wa 1613-Dioxin-HR-Alta EDD + Level 4 Containers Supplied:	nter Sampled: 04/05/06 08:55 04/12/06 08:55 05/03/06 08:55	Instant Nofication J flags,17 congeners,no TEQ,ug/L,sub=Alta Excel EDD email to pm,Include Std logs for Lvl IV
1 L Amber (IPD0424-01C) 1 L Amber (IPD0424-01D)		·
·	·	
All containers intact:	☐ No Sample labels/COC agree:	INTEGRITY: ☐ Yes ☐ No Samples Received On Ice:: ☐ Yes ☐ No ☐ Yes ☐ No Samples Received at (temp):
Released By	Date Time	Bettine of Binedict 4/7/06 0900 Received By Date Time

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27564

	Date/Time			Initials	s:	Locat	ion: NR-	7
Samples Arrival:	4/7/06	0900)	W	WB		Rack:	
	Date/Time			Initial	s:	Locat	ion: WR	J
Logged In:	4/10/06	073	33	Œ	316	Shelf/	Rack:	<u>, - 3</u>
Delivered By:	FedEx	UPS		Cal	DHL	1	Hand elivered	Other
Preservation:	Ice	В	lue l	lce	Dry lo	e	No	ne
Temp °C \.\°(, <u>T</u>	me: <i>(</i>	94	2		Thern	nometer ID	: DT-20

					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?					$\sqrt{}$		
Airbill Trk # 79/	4 36	528	291		V		
Sample Container Intact?					V		
Sample Custody Seals Intact?							V
Chain of Custody / Sample Documer		1		1			
COC Anomaly/Sample Acceptance F			/				
If Chlorinated or Drinking Water Sam	ples, Acc	eptable P	reservation?				1
Na ₂ S ₂ O ₃ Preservation Documented?			coc	San Cont	nple ainer	(No	ne
Shipping Container	Alta (Client	Retain	(Re	urn	Disp	ose

Comments:

APPENDIX G

Section 26

Outfall 007, April 05, 2006

MECX Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID B4DF86 Task Order __1261.001D.01 12260 East Vassar Drive Suite 500 SDG No. IPD0424 Lakewood, CO 80226 No. of Analyses 1 Date: June 9, 2006 Laboratory Alta Analytical Reviewer's Signature Reviewer E. Wessling abelia Analysis/Method Dioxins/Furans ACTION ITEMS^a Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables Qualifications were assigned for the following: Deviations from Analysis - results between the RL and the MDL were estimated Protocol, e.g., Holding Times - EMPC values for total furans were estimated nondetects. GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS^b ^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 007

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD0424

Prepared by

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

Project: **NPDES** SDG: IPD0424 DATA VALIDATION REPORT Analysis: D/F

1. INTRODUCTION

Task Order Title: **NPDES**

Contract Task Order: 1261.001D.01 Sample Delivery Group: IPD0424 Project Manager: P. Costa

> Matrix: Water

Dioxins/Furans Analysis:

QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Reviewer: E. Wessling Date of Review: June 9, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG: NPDES IPD0424 Analysis: DATA VALIDATION REPORT D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 007	IPD0424-01	27564-001	Water	1613

 Project:
 NPDES

 SDG:
 IPD0424

 DATA VALIDATION REPORT
 Analysis:
 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 $\pm 2^{\circ}$ C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 1.1° 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.

NPDES Project: SDG: IPD0424 D/F

DATA VALIDATION REPORT Analysis:

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 The VER was acceptable with the concentrations within the each analytical sequence. 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 (0-7918-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were detected in the method blank. No qualifications were required. 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 (0-7918-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.

B4DF86 4
 Project:
 NPDES

 SDG:
 IPD0424

 DATA VALIDATION REPORT
 Analysis:
 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. 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. An EMPC value for total PeCDF was qualified as an estimated nondetect, "UJ." No further qualifications were required.

	Sample ID: IPD04	24-01	fall	007					EPA I	Method 1613
120	Client Data Name: Del Mar Analytical, Irvine Project: IPD0424 Date Collected: 5-Apr-06 Time Collected: 0855		N S	dample Data Matrix: dample Size:	Aqueous 1.03 L	Laboratory Data Lab Sample: 27564-0 QC Batch No.: 7918 Date Analyzed DB-5: 11-Apr-0		Date Received: Date Extracted: Date Analyzed DB-225:		7-Apr-06 10-Apr-06 NA
Car	Analyte Co	nc. (ug/L)	DL a	EMPC ^b	Qualifiers	Labeled Stand	ard	%R	LCL-UCLd	Qualifiers
	2,3,7,8-TCDD	ND	0.00000097	7		IS 13C-2,3,7,8-TC	DD	60.4	25 - 164	
	1,2,3,7,8-PeCDD	ND	0.00000164			13C-1,2,3,7,8-P	eCDD	60.5	25 - 181	
	1,2,3,4,7,8-HxCDD	ND	0.00000235			13C-1,2,3,4,7,8-	HxCDD	59.4	32 - 141	
DNO	1,2,3,6,7,8-HxCDD	0.00000283			J	13C-1,2,3,6,7,8-	HxCDD	56.5	28 - 130	
DNG		0.00000285			J	13C-1,2,3,4,6,7,	8-HpCDD	58.7	23 - 140	
1	1,2,3,4,6,7,8-HpCDD	0.0000693				13C-OCDD		43.3	17 - 157	
	OCDD	0.000758				13C-2,3,7,8-TC	DF	61.5	24 - 169	
	2,3,7,8-TCDF	ND	0.00000087	9		13C-1,2,3,7,8-Pe	eCDF	60.9	24 - 185	
	1,2,3,7,8-PeCDF	ND	0.00000105			13C-2,3,4,7,8-Pe		62.0	21 - 178	
	2,3,4,7,8-PeCDF	ND	0.00000096	6		13C-1,2,3,4,7,8-	HxCDF	57.8	26 - 152	
	1,2,3,4,7,8-HxCDF	ND	0.00000110			13C-1,2,3,6,7,8-		52.2	26 - 123	
	1,2,3,6,7,8-HxCDF	ND	0.00000120			13C-2,3,4,6,7,8-		58.4	28 - 136	
	2,3,4,6,7,8-HxCDF	ND	0.00000110			13C-1,2,3,7,8,9-		57.7	29 - 147	
	1,2,3,7,8,9-HxCDF	ND	0.00000159			13C-1,2,3,4,6,7,		52.2	28 - 143	
DIVE		0.00000621			J	13C-1,2,3,4,7,8,		57.5	26 - 138	
	1,2,3,4,7,8,9-HpCDF	ND	0.00000142			13C-OCDF		47.7	17 - 157	
DNQ		0.0000150			J	CRS 37Cl-2,3,7,8-TC	DD	80.1	35 - 197	
	Totals					Footnotes				
	Total TCDD	ND	0.00000097	7		a. Sample specific estimate	d detection limit.			
	Total PeCDD	ND	0.00000164			b. Estimated maximum pos	sible concentration.			
	Total HxCDD	0.0000226				c. Method detection limit.				
	Total HpCDD	0.000187				d. Lower control limit - upp	er control limit.			
	Total TCDF	ND	0.000000879)						
110	Total PeCDF	ND		0.0000011	19					
-	Total HxCDF	0.00000593								
	Total HpCDF	0.00000621		0.0000151	1					

Level IV

Approved By: William J. Luksemburg 13-Apr-2006 07:31

Analyst: MAS

: 4

U W

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC)	x	Package ID: B4MT67
	9 East Vassar Drive	Task Order: 1261.001D.01
	ra, CO 80014	SDG No.: IPD0424
, (3., 3.	, 2000	No. of Analyses: 1
	Laboratory: Del Mar A	nalytical Date: June 5, 2006
	Reviewer: P. Meeks	Reviewer's Signature
	Analysis/Method: Metals	V. Mil
ACTIO	ON ITEMS ^a	
. (Case Narrative	
	Deficiencies	
2.	Out of Scope Analyses	
	N 1 Completed	
3.	Analyses Not Conducted	
4.	Missing Hardcopy	
	Deliverables	
	Deliverables	
5.	Incorrect Hardcopy	
1	Deliverables	
6.	Deviations from Analysis	Qualifications were applied for detects below the reporting limit.
	Protocol, e.g.,	Reanalysis result rejected in favor of original result.
	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	
001	AMENTS ^b	
CON	NIVICIN I 3	
-		
a St	ubcontracted analytical laboratory is not	meeting contract and/or method requirements.
^b Di	fferences in protocol have been adopte	d by the laboratory but no action against the laboratory is required.



DATA VALIDATION REPORT

NPDES Sampling Outfall 007

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPD0424

Prepared by

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

Metals

SDG: Analysis:

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

1261.001D.01

Sample Delivery Group:

IPD0424

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

0 P. Meeks

1

Reviewer: Date of Review:

June 5, 2006

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

1

Project:

NPDES IPD0424

SDG: Analysis:

Metals

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 007	IPD0424-01	Water	200.8

DATA VALIDATION REPORT

SDG: Analysis:

Metals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. Outfall 007 was reanalyzed for copper lead. As the laboratory did not append the MWH IDs for the reanalyses with "RE1," the reviewed added this information to the Form I. No sample qualifications were required.

2.1.3 Holding Times

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

2.2 **ICP-MS TUNING**

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

2.3 **CALIBRATION**

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and the recoveries were considered to be acceptable. No qualifications were required.

Project:

NPDES IPD0424

SDG: Analysis:

Metals

2.4 BLANKS

DATA VALIDATION REPORT

There were no detects in the associated method blanks or CCBs associated with the sample in this SDG. The raw method blank data from which antimony, cadmium, and thallium were reported analyses was not provided by the laboratory; therefore, the reviewer was not able to confirm these results. No qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were performed for the copper and lead reanalyses only. Copper, which is not spiked into the ICSA solution, was detected above the reporting limit in the ICSA. The reviewer checked the sample analysis for the presence of known interferent. No interferents were noted at concentrations that would require sample qualification. All recoveries were acceptable. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS recoveries were within the laboratory-established control limits of 85-115%. The raw blank spike data from which antimony, cadmium, and thallium were reported analyses was not provided by the laboratory; therefore, the reviewer was not able to confirm these results. No qualifications were required.

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKES

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

2.9 ICP/MS AND ICP SERIAL DILUTION

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

Revision 0 NPDES - 638

Project: SDG: NPDES IPD0424

Analysis:

Metals

2.10 INTERNAL STANDARDS PERFORMANCE

DATA VALIDATION REPORT

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

2.11 SAMPLE RESULT VERIFICATION

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

Per a request from MWH personnel, the laboratory reanalyzed sample Outfall 007 for copper and lead. As the reanalyses yielded results similar to the original results, the reanalyses, Outfall 007 RE1, were rejected, "R," in favor of the original results. No further qualifications were required.

2.12 FIELD QC SAMPLES

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

2.12.1 Field Blanks and Equipment Rinsates

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

2.12.2 Field Duplicates

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



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

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: Routine Outfall 007

Report Number: IPD0424

Sampled: 04/05/06

Received: 04/05/06

METALS

Analyte Sample ID: IPD0424-01 (Outfall 007 - W	Method ater)	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifie Rev Qual	1 Qual
Reporting Units: ug/l								d		Code
Antimony	EPA 200.8	6D06072	0.050	2.0	1.1	1	04/06/06	04/07/06	J	DNG
Cadmium	EPA 200.8	6D06072	0.025	1.0	0.38	1	04/06/06	04/07/06	Ų J	1
Copper	EPA 200.8	6D06072	0.25	2.0	25	1	04/06/06	04/07/06		
Lead	EPA 200.8	6D06072	0.040	1.0	18	1	04/06/06	04/07/06		
Mercury	EPA 245.1	6D06061	0.050	0.20	0.058	1	04/06/06	04/06/06	* J	
Thallium	EPA 200.8	6D06072	0.15	1.0	0.34	1	04/06/06	04/07/06	JJ	DNG
Sample ID: IPD0424-01RE1 (Outfall 007 Reporting Units: ug/l Copper Lead	EPA 200.8 EPA 200.8	6E01070 6E01070	0.25 0.040	2.0 1.0	20 25	1	05/01/06 05/01/06	05/02/06 05/02/06	RR	D

* Analysis not validated

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

LEVEL IV

APPENDIX G

Section 27

Outfall 008, April 05, 2006 Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/05/06 Received: 04/05/06 Issued: 04/30/06 21:03

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX
IPD0425-01 Outfall 008 Water

Reviewed By:

Del Mar Analytical - IrvineMichele Chamberlin

Michele Chamberdin

Project Manager



Pasadena, CA 91101

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06
Report Number: IPD0425 Received: 04/05/06

Attention: Bronwyn Kelly

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0425-01 (Outfall 008 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6D06072	0.050	2.0	0.31	1	04/06/06	04/07/06	J
Cadmium	EPA 200.8	6D06072	0.025	1.0	0.045	1	04/06/06	04/07/06	J
Copper	EPA 200.8	6D06072	0.25	2.0	3.4	1	04/06/06	04/07/06	
Lead	EPA 200.8	6D06072	0.040	1.0	3.0	1	04/06/06	04/07/06	
Mercury	EPA 245.1	6D06061	0.050	0.20	ND	1	04/06/06	04/06/06	
Thallium	EPA 200.8	6D06072	0.15	1.0	ND	1	04/06/06	04/07/06	



Pasadena, CA 91101

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06

Report Number: IPD0425 Received: 04/05/06

Attention: Bronwyn Kelly

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IPD0425-01 (Outfall 008 - Wa	ter) - cont.									
Reporting Units: mg/l										
Chloride	EPA 300.0	6D06048	0.15	0.50	6.8	1	04/06/06	04/06/06		
Nitrate/Nitrite-N	EPA 300.0	6D06048	0.080	0.15	3.9	1	04/06/06	04/06/06		
Oil & Grease	EPA 413.1	6D06049	0.90	4.8	1.1	1	04/06/06	04/06/06	J	
Sulfate	EPA 300.0	6D06048	0.45	0.50	14	1	04/06/06	04/06/06		
Total Dissolved Solids	SM2540C	6D06066	10	10	170	1	04/06/06	04/06/06		
Total Suspended Solids	EPA 160.2	6D11091	10	10	46	1	04/11/06	04/11/06		
Sample ID: IPD0425-01 (Outfall 008 - Water) Reporting Units: ug/l										
Perchlorate	EPA 314.0	6D07070	0.80	4.0	1.4	1	04/07/06	04/07/06	B, J	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Sampled: 04/05/06

Report Number: IPD0425

Received: 04/05/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 008 (IPD0425-01) - Wate	r				
EPA 300.0	2	04/05/2006 08:48	04/05/2006 18:50	04/06/2006 09:30	04/06/2006 12:45



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD0425

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D06061 Extracted: 04/06/06	=										
Blank Analyzed: 04/06/2006 (6D06061-Bl	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/06/2006 (6D06061-BS1)										
Mercury	8.10	0.20	0.050	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 04/06/2006 (6D0	6061-MS1)				Sour	rce: IPD(320-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06061-MSI	D1)			Sour	rce: IPD0	320-01				
Mercury	8.17	0.20	0.050	ug/l	8.00	ND	102	70-130	2	20	
Batch: 6D06072 Extracted: 04/06/06	_										
Blank Analyzed: 04/06/2006-04/07/2006 (anaaaaa di k	1)									
Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.015	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.075	ug/l							
LCS Analyzed: 04/06/2006-04/07/2006 (6)	D06072-BS1)										
Antimony	77.5	2.0	0.18	ug/l	80.0		97	85-115			
Cadmium	78.2	1.0	0.015	ug/l	80.0		98	85-115			
Copper	81.8	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.3	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	78.4	1.0	0.075	ug/l	80.0		98	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD0425

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06072 Extracted: 04/06/06	<u>'</u>										
					~						
Matrix Spike Analyzed: 04/06/2006-04/0	//2006 (6D060)72-MS1)			Sou	rce: IPD0	0061-03				
Antimony	79.1	2.0	0.18	ug/l	80.0	ND	99	70-130			
Cadmium	77.5	1.0	0.015	ug/l	80.0	ND	97	70-130			
Copper	79.0	2.0	0.25	ug/l	80.0	ND	99	70-130			
Lead	80.0	1.0	0.040	ug/l	80.0	ND	100	70-130			
Thallium	81.7	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Analyzed: 04/07/2006 (6D0	6072-MS2)				Sou	rce: IPD0	061-04				
Antimony	78.7	2.0	0.18	ug/l	80.0	ND	98	70-130			
Cadmium	78.4	1.0	0.015	ug/l	80.0	ND	98	70-130			
Copper	79.2	2.0	0.25	ug/l	80.0	1.3	97	70-130			
Lead	79.5	1.0	0.040	ug/l	80.0	0.060	99	70-130			
Thallium	81.6	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Dup Analyzed: 04/07/2006	(6D06072-MS	SD1)			Sou	rce: IPD(061-03				
Antimony	76.9	2.0	0.18	ug/l	80.0	ND	96	70-130	3	20	
Cadmium	76.0	1.0	0.015	ug/l	80.0	ND	95	70-130	2	20	
Copper	76.0	2.0	0.25	ug/l	80.0	ND	95	70-130	4	20	
Lead	77.5	1.0	0.040	ug/l	80.0	ND	97	70-130	3	20	
Thallium	79.2	1.0	0.075	ug/l	80.0	ND	99	70-130	3	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD0425

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06048 Extracted: 04/06/06	: <u> </u>										
	_										
Blank Analyzed: 04/06/2006 (6D06048-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: 04/06/2006 (6D06048-BS	1)										
Chloride	4.78	0.50	0.15	mg/l	5.00		96	90-110			
Sulfate	9.63	0.50	0.45	mg/l	10.0		96	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	6048-MS1)				Sou	rce: IPD(0419-01				
Chloride	13.5	0.50	0.15	mg/l	5.00	8.7	96	80-120			
Sulfate	33.2	0.50	0.45	mg/l	10.0	23	102	80-120			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06048-MS	SD1)			Sou	rce: IPD(0419-01				
Chloride	13.7	0.50	0.15	mg/l	5.00	8.7	100	80-120	1	20	
Sulfate	33.9	0.50	0.45	mg/l	10.0	23	109	80-120	2	20	
Batch: 6D06049 Extracted: 04/06/06	<u>.</u>										
Blank Analyzed: 04/06/2006 (6D06049-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/06/2006 (6D06049-BS	1)										M-NR1
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			
LCS Dup Analyzed: 04/06/2006 (6D0604	9-BSD1)										
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120	19	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD0425

Sampled: 04/05/06 Received: 04/05/06

METHOD BLANK/QC DATA

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D06066 Extracted: 04/06/06		Dinit	MDL	Omes	Level	resure	70KLC	Limits	KI D	Limit	Quanners
District Of Colors	=										
Blank Analyzed: 04/06/2006 (6D06066-Bl	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/06/2006 (6D06066-BS1	1)										
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 04/06/2006 (6D06060	6-DUP1)				Sou	rce: IPD(0419-01				
Total Dissolved Solids	156	10	10	mg/l		160			3	10	
Batch: 6D07070 Extracted: 04/07/06	-										
Blank Analyzed: 04/07/2006 (6D07070-Bl	LK1)										
Perchlorate	0.920	4.0	0.80	ug/l							J
LCS Analyzed: 04/07/2006 (6D07070-BS1	1)										
Perchlorate	47.7	4.0	0.80	ug/l	50.0		95	85-115			
Matrix Spike Analyzed: 04/07/2006 (6D0'	7070-MS1)				Sou	rce: IPD()225-01				
Perchlorate	52.5	4.0	0.80	ug/l	50.0	1.8	101	80-120			
Matrix Spike Dup Analyzed: 04/07/2006	(6D07070-M	SD1)			Sou	rce: IPD()225-01				
Perchlorate	50.6	4.0	0.80	ug/l	50.0	1.8	98	80-120	4	20	
Batch: 6D11091 Extracted: 04/11/06	_										
Blank Analyzed: 04/11/2006 (6D11091-Bl	LK1)										
Total Suspended Solids	ND	10	10	mg/l							



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Sampled: 04/05/06 Received: 04/05/06

01 Report Number: IPD0425

METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D11091 Extracted: 04/11/	<u>′06</u>										
LCS Analyzed: 04/11/2006 (6D11091-	BS1)										
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 04/11/2006 (6D11	091-DUP1)				Sou	rce: IPD(0412-01				
Total Suspended Solids	326	10	10	mg/l		340			4	10	



Pasadena, CA 91101

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0425 Received: 04/05/06

Attention: Bronwyn Kelly

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.

Limit 15
15
6.00
4.00
150
14
5.20
0.20
8.00
6.00
300
950
2.00

Sampled: 04/05/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD0425 Received: 04/05/06

Attention: Bronwyn Kelly

DATA QUALIFIERS AND DEFINITIONS

B Analyte was detected in the associated Method Blank.

I Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the

Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference



Pasadena, CA 91101

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0425 Received: 04/05/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

Subcontracted Laboratories

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: IPD0425-01

Analysis Performed: EDD + Level 4

Samples: IPD0425-01

IPD0425Page 1 of 1

None 4A, 4B X X X X X X X X X
HNOS 18 X HCI 3A, 3B X None 5A, 5B X None 6A, 6B X Received By DateTime: Received By DateTime: Received By DateTime:
HCI 3A, 3B X None 4A, 4B X X None SA, 5B X X None SA, 5B X X None SA, 5B X None SA, 5B X None SA, 5B X None None SA, 5B X None None SA, 5B None
None 4A, 4B X X None 5A, 5B X X None 6A, 6B X X Received, 8W Date/Time: X 5 5 5 Received By Date/Time: X 5 5 5 Received By Date/Time: X 5 5 5 At 5 4 5 5 5 At 5 5 5
None 5A, 5B
Received By Date/Time: Received By Date/Time: Received By Date/Time: Received By Date/Time:
Received By Date/Time: Received By Date/Time: Received By Date/Time: Received By Date/Time:
Received By Date/Time: Received By Date/Time: Received By Date/Time:
Received By Date/Time: Received By Date/Time: Received By Date/Time: A S & S & S & S & S & S & S & S & S & S
Received By Date/Time: Received By Date/Time: Received By Date/Time: LLS OF 1852
Received By Date/Time: Received By Date/Time: Received By Date/Time: L.S. O. 1852
Received By Date/Time: CSS Received By Date/Time: Date
Received By Pate/Time: Received By Date/Time: LL-5 06 1852
Date/Time: (4.5.06 1852



April 13, 2006

Alta Project I.D.: 27565

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 April 07, 2006 under your Project Name "IPD0425". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

HRMS Services Director

Mallo Moro



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



Section I: Sample Inventory Report Date Received: 4/7/2006

Alta Lab. ID Client Sample ID

27565-001 IPD0425-01

SECTION II

NPDES - 657

Project 27565 Page 3 of 234

Method Blank					EPA Method 1613
Matrix: A	queous	QC Batch No.: 7918	Lab Sample: 0-MB001		
Sample Size:	1.00 L	Date Extracted: 10-Apr-06	Date Analyzed DB-5: 11-Apr-06	Date An	nalyzed DB-225: NA
					•
Analyte	Conc. (ug/L)	DL ^a EMPC ^b Qualifiers	Labeled Standard	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000788	<u>IS</u> 13C-2,3,7,8-TCDD	72.2	25 - 164
1,2,3,7,8-PeCDD	ND	0.000000469	13C-1,2,3,7,8-PeCDD	73.0	25 - 181
1,2,3,4,7,8-HxCD	D ND	0.00000114	13C-1,2,3,4,7,8-HxCDD	75.7	32 - 141
1,2,3,6,7,8-HxCD	D ND	0.00000120	13C-1,2,3,6,7,8-HxCDD	67.3	28 - 130
1,2,3,7,8,9-HxCD	D ND	0.00000113	13C-1,2,3,4,6,7,8-HpCDD	69.6	23 - 140
1,2,3,4,6,7,8-HpC	DD ND	0.00000167	13C-OCDD	44.8	17 - 157
OCDD	ND	0.0000150	13C-2,3,7,8-TCDF	77.0	24 - 169
2,3,7,8-TCDF	ND	0.00000832	13C-1,2,3,7,8-PeCDF	72.9	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000866	13C-2,3,4,7,8-PeCDF	77.1	21 - 178
2,3,4,7,8-PeCDF	ND	0.000000754	13C-1,2,3,4,7,8-HxCDF	70.7	26 - 152
1,2,3,4,7,8-HxCD	F ND	0.00000479	13C-1,2,3,6,7,8-HxCDF	66.8	26 - 123
1,2,3,6,7,8-HxCD	F ND	0.00000466	13C-2,3,4,6,7,8-HxCDF	70.2	28 - 136
2,3,4,6,7,8-HxCD	F ND	0.000000465	13C-1,2,3,7,8,9-HxCDF	68.4	29 - 147
1,2,3,7,8,9-HxCD	F ND	0.00000684	13C-1,2,3,4,6,7,8-HpCDF	61.1	28 - 143
1,2,3,4,6,7,8-HpC	DF ND	0.00000806	13C-1,2,3,4,7,8,9-HpCDF	67.5	26 - 138
1,2,3,4,7,8,9-HpC	DF ND	0.00000832	13C-OCDF	49.1	17 - 157
OCDF	ND	0.00000337	<u>CRS</u> 37Cl-2,3,7,8-TCDD	86.2	35 - 197
Totals			Footnotes		
Total TCDD	ND	0.00000788	a. Sample specific estimated detection limit.		
Total PeCDD	ND	0.00000120	b. Estimated maximum possible concentration.		
Total HxCDD	ND	0.00000116	c. Method detection limit.		
Total HpCDD	ND	0.00000167	d. Lower control limit - upper control limit.		
Total TCDF	ND	0.000000832			
Total PeCDF	ND	0.00000808			
Total HxCDF	ND	0.000000515			
Total HpCDF	ND	0.00000818			

William J. Luksemburg 13-Apr-2006 08:14 **NPDES - 658** Analyst: MAS Approved By:

OPR Results					EPA	Method 1613
Matrix: Aqueous Sample Size: 1.00 L		C Batch No.: Date Extracted:	7918 10-Apr-06	Lab Sample: 0-OPR001 Date Analyzed DB-5: 11-Apr-06	Date Analyze	d DB-225: NA
Analyte	Spike Conc. C	onc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	9.88	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	72.6	25 - 164
1,2,3,7,8-PeCDD	50.0	49.8	35 - 71	13C-1,2,3,7,8-PeCDD	75.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0	48.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	81.2	32 - 141
1,2,3,6,7,8-HxCDD	50.0	47.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.4	28 - 130
1,2,3,7,8,9-HxCDD	50.0	45.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.0	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	49.2	35 - 70	13C-OCDD	50.8	17 - 157
OCDD	100	99.7	78 - 144	13C-2,3,7,8-TCDF	75.2	24 - 169
2,3,7,8-TCDF	10.0	9.58	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	79.0	24 - 185
1,2,3,7,8-PeCDF	50.0	46.3	40 - 67	13C-2,3,4,7,8-PeCDF	78.4	21 - 178
2,3,4,7,8-PeCDF	50.0	45.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.1	26 - 152
1,2,3,4,7,8-HxCDF	50.0	48.1	36 - 67	13C-1,2,3,6,7,8-HxCDF	78.7	26 - 123
1,2,3,6,7,8-HxCDF	50.0	48.3	42 - 65	13C-2,3,4,6,7,8-HxCDF	77.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0	46.7	35 - 78	13C-1,2,3,7,8,9-HxCDF	80.4	29 - 147
1,2,3,7,8,9-HxCDF	50.0	48.4	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	69.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	47.2	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	76.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	47.9	39 - 69	13C-OCDF	59.3	17 - 157
OCDF	100	96.8	63 - 170	CRS 37Cl-2,3,7,8-TCDD	79.2	35 - 197

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:31

Sample ID:	IPD0425-0	01								EPA N	Method 1613
Client Data				Sample Data		Lab	oratory Data				
Name:		nalytical, Irvine		Matrix:	Aqueous	Lab	Sample:	27565-001	Date Re	ceived:	7-Apr-06
Project: Date Collected:	IPD0425 5-Apr-06			Sample Size:	1.02 L	QC	Batch No.:	7918	Date Ex	tracted:	10-Apr-06
Time Collected:	0848					Date	Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225:	NA
Analyte	Conc.	(ug/L)	DL a	EMPC ^b	Qualifiers		Labeled Stand	lard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD		ND	0.000000	665		<u>IS</u>	13C-2,3,7,8-TC	DD	62.9	25 - 164	
1,2,3,7,8-PeCD	D	ND	0.000000	636			13C-1,2,3,7,8-P	PeCDD	62.8	25 - 181	
1,2,3,4,7,8-HxC	CDD	ND	0.000001	21			13C-1,2,3,4,7,8	-HxCDD	67.9	32 - 141	
1,2,3,6,7,8-HxC	CDD	ND	0.000001	24			13C-1,2,3,6,7,8	-HxCDD	64.5	28 - 130	
1,2,3,7,8,9-HxC	CDD	ND	0.000001	18			13C-1,2,3,4,6,7	,8-HpCDD	69.7	23 - 140	
1,2,3,4,6,7,8-H _I	pCDD	0.00000323			J		13C-OCDD		50.0	17 - 157	
OCDD		0.0000366			J		13C-2,3,7,8-TC	DF	63.9	24 - 169	
2,3,7,8-TCDF		ND	0.000000	736			13C-1,2,3,7,8-P	eCDF	66.8	24 - 185	
1,2,3,7,8-PeCD	F	ND	0.000000	665			13C-2,3,4,7,8-P	eCDF	66.4	21 - 178	
2,3,4,7,8-PeCD	F	ND	0.000000	661			13C-1,2,3,4,7,8	-HxCDF	68.1	26 - 152	
1,2,3,4,7,8-HxC	CDF	ND	0.000000	430			13C-1,2,3,6,7,8	-HxCDF	62.4	26 - 123	
1,2,3,6,7,8-HxC	CDF	ND	0.000000	444			13C-2,3,4,6,7,8	-HxCDF	63.8	28 - 136	
2,3,4,6,7,8-HxC	CDF	ND	0.000000	476			13C-1,2,3,7,8,9	-HxCDF	65.1	29 - 147	
1,2,3,7,8,9-HxC	CDF	ND	0.000000	683			13C-1,2,3,4,6,7	,8-HpCDF	59.2	28 - 143	
1,2,3,4,6,7,8-H _I	pCDF	ND	0.000003	24			13C-1,2,3,4,7,8	,9-HpCDF	64.5	26 - 138	
1,2,3,4,7,8,9-H _I	pCDF	ND	0.000000	567			13C-OCDF		54.9	17 - 157	
OCDF		0.00000311			J	CRS	37C1-2,3,7,8-TC	CDD	79.4	35 - 197	
Totals						Foo	otnotes				
Total TCDD		ND	0.000000	665		a. Sa	ample specific estimate	ed detection limit.			
Total PeCDD		ND	0.000000	636		b. E	stimated maximum po	ssible concentration.			
Total HxCDD		ND	0.000001	64		c. M	ethod detection limit.				
Total HpCDD		0.00000768				d. L	ower control limit - up	pper control limit.			
Total TCDF		ND	0.000000	736							
Total PeCDF		ND	0.000000	663							
Total HxCDF		0.000000642									
Total HpCDF		ND	0.000003	26							

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:31

NPDES - 660

APPENDIX

NPDES - 661

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	02102011
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

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

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

Ph (909) 370-4667 Ph (619) 505-9596

Ph (949) 261-1022

Fax (909) 370-1046 Fax (619) 505-9689

Fax (949) 261-1228

Ph (480) 785-0043 Fax (480) 785-0851
Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPD0425

SUBCO	NIKACI OKD	PER - PROJECT # IPD0425	
SENDING LABORA Del Mar Analytical - Irvine 17461 Derian Avenue. Suite 100 rvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	TORY:	RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106	
Standard TAT is requested unless spec Analysis - Expiration	•	d => Due Date: Initials:	
1613-Dioxin-HR-Alta 04/12/06 0 EDD + Level 4 05/03/06 0		Instant Nofication J flags,17 congeners,no TEQ,ug/L,sub=Alta Excel EDD email to pm,Include Std logs for Lvl IV	
Containers Supplied: 1 L Amber (IPD0425-01C) 1 L Amber (IPD0425-01D)	•.		
All containers intact:	SAMPLI Sample labels/COC agree: Samples Preserved Properly:	E INTEGRITY: Yes No Samples Received On Ice:: Yes Yes No Samples Received at (temp):	□ No
Released By	Date Time	Bettma & Benedict 4/7/10 C Received By Date Ti	9900 me
account of the second of the s	Z IIIIO	Date III	110

Released By Project 27565

Date

Time

Received By

NPDES - 664

Date Time

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27565

	Date/Time		Initial	s:	Location: UR->			
Samples Arrival:	4/7/06) (9900	4	WB	Shelf/Rack:		
	Date/Time	,		Initial	s:	Locat	ion: ω	ピーン
Logged In:	1/10/0	Ø	0+48		525	Shelf/	Rack:	2-3
Delivered By:	FedEx	UF	rs	Cal	DHL	Hand Delivered		Other
Preservation:	servation: Ice Blue		lce	Dry Ic	ce None			
Temp °C /./	°C	Time	e: 090	42		Thern	nometer ID	: DT-20

	YEŞ	NO	NA
Adequate Sample Volume Received?	V		
Holding Time Acceptable?	V		
Shipping Container(s) Intact?	V		·
Shipping Custody Seals Intact?	V		
Shipping Documentation Present?	V		
Airbill Trk# 79/4 3658 8291	V		
Sample Container Intact?	V		
Sample Custody Seals Intact?			V
Chain of Custody / Sample Documentation Present?	1	<u> </u>	
COC Anomaly/Sample Acceptance Form completed?		/	ļ.
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			V
I No. S. O. Drocom/ation Documented?	nple tainer	No	ne
Shipping Container Alta Client Retain Re	turn	Disp	ose

Comments:

APPENDIX G

Section 28

Outfall 008, April 05, 2006

MECX Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4DF80</u> 12260 East Vassar Drive Task Order <u>1261.001D.01</u> Suite 500 SDG No. IPD0425 Lakewood, CO 80226 No. of Analyses 1 Date: May 30, 2006 Laboratory Alta Analytical Reviewer's Signature Reviewer E. Wessling Jose WV Analysis/Method Dioxin/Furans ACTION ITEMS^a Case Narrative Deficiencies 2. Out of Scope Analyses Analyses Not Conducted 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 Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS^b ^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 008

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD0425

Prepared by

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

Project: SDG: Analysis: NPDES IPD0425

DATA VALIDATION REPORT

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD0425

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Reviewer:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

0 E. Wessling

Date of Review:

May 30, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG: NPDES

SDG: Analysis: IPD0425 D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 008	IPD0425-01	27565-001	Water	1613

DATA VALIDATION REPORT

D/F

Analysis:

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 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 1.1°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: IPD0425 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 (0-7918-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were detected in the method blank. No qualifications were required. 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 (0-7918-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.

B4DF80

Project: SDG: I Analysis:

NPDES IPD0425 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. No further qualifications were required.

	Sample ID: IPD042	25-01 Out	ع الم	000						EPA I	Method 1613
P. W	Project: IPD042:	5		Sample Data Matrix: Sample Size:	Aqueous 1.02 L	Lab :	Sample: Batch No.:	27565-001 7918 11-Apr-06	Date Ex	tracted: alyzed DB-225:	7-Apr-06 10-Apr-06 NA
De la	Analyte Cor	nc. (ug/L)	DL a	$EMPC^b$	Qualifiers		Labeled Stand	lard	%R	LCL-UCLd	Qualifiers
	2,3,7,8-TCDD	ND	0.0000006	565		<u>IS</u>	13C-2,3,7,8-TC	DD	62.9	25 - 164	
	1,2,3,7,8-PeCDD	ND	0.0000006	536			13C-1,2,3,7,8-P	eCDD	62.8	25 - 181	
- 1	1,2,3,4,7,8-HxCDD	ND	0.0000012	21			13C-1,2,3,4,7,8-	HxCDD	67.9	32 - 141	
	1,2,3,6,7,8-HxCDD	ND	0.0000012	24			13C-1,2,3,6,7,8-	HxCDD	64.5	28 - 130	
	1,2,3,7,8,9-HxCDD	ND	0.0000011	8			13C-1,2,3,4,6,7,	8-HpCDD	69.7	23 - 140	
Na	1,2,3,4,6,7,8-HpCDD	0.00000323			J		13C-OCDD		50.0	17 - 157	
Na	OCDD	0.0000366			J		13C-2,3,7,8-TC	DF	63.9	24 - 169	
	2,3,7,8-TCDF	ND	0.0000007	36			13C-1,2,3,7,8-P	eCDF	66.8	24 - 185	
		ND	0.0000006	665					66.4	21 - 178	
		ND	0.0000006	661					68.1	26 - 152	
		ND	0.0000004	30					62.4	26 - 123	
		ND	0.0000004	144					63.8	28 - 136	
		ND	0.0000004	76					65.1	29 - 147	
- 1		ND	0.0000006	83						28 - 143	
- 1		ND									
- 1	그 사람이 있는 일하다는 사람들이 없는 사람들이 살아왔다면 하다.										
NQ	OCDF	0.00000311			J	CRS		DD	79.4	35 - 197	
	Totals					Foo	tnotes				
	Total TCDD	ND	0.0000006	65		a. Sar	mple specific estimate	d detection limit.			
- 1	Total PeCDD	ND	0.0000006	36							
	Total HxCDD	ND	0.0000016	4							
		0.00000768				d. Lo	wer control limit - upp	per control limit.			
		ND	0.0000007	36			,,				
		ND									
			0.0000032	6							
	50	Client Data Name: Del Mar Project: IPD042 Date Collected: 5-Apr-0 0848 Analyte Cor 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,4,6,7,8-HxCDD 1,2,3,7,8-PeCDF 1,2,3,4,7,8-PeCDF 1,2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HyCDF 1,2,3,4,6,7,8-HyCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8,9-HpCDF Totals Total TCDD Total PeCDD	Client Data Name: Del Mar Analytical, Irvine Project: IPD0425 Date Collected: 5-Apr-06 Time Collected: 5-Apr-06 1,2,3,7,8-PeCDD ND 1,2,3,7,8-PeCDD ND 1,2,3,4,7,8-HxCDD ND 1,2,3,4,6,7,8-HxCDD ND 1,2,3,4,6,7,8-HxCDD ND 1,2,3,7,8-PeCDF ND 1,2,3,7,8-PeCDF ND 1,2,3,4,7,8-HxCDF ND 1,2,3,4,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HyCDF ND 1,2,3,4,6,7,8-HyCDF ND 1,2,3,4,6,7,8-HyCDF ND 1,2,3,4,6,7,8-HyCDF ND 1,2,3,4,7,8,9-HyCDF ND 1,2,3,4,7,8,9-HyCDF	Client Data Name: Del Mar Analytical, Irvine Project: IPD0425 Date Collected: 5-Apr-06 Time Collected: 0848 Analyte Conc. (ug/L) DL a 2,3,7,8-TCDD ND 0.0000000 1,2,3,7,8-PeCDD ND 0.0000011 1,2,3,4,7,8-HxCDD ND 0.0000012 1,2,3,4,7,8-HxCDD ND 0.0000013 1,2,3,4,6,7,8-HpCDD 0.00000323 OCDD 0.0000366 2,3,7,8-TCDF ND 0.00000366 2,3,7,8-PeCDF ND 0.0000006 1,2,3,4,7,8-PeCDF ND 0.0000006 1,2,3,4,7,8-PeCDF ND 0.0000006 1,2,3,4,7,8-HxCDF ND 0.0000006 1,2,3,4,7,8-HxCDF ND 0.0000006 1,2,3,4,7,8-HxCDF ND 0.0000006 1,2,3,4,7,8-HxCDF ND 0.0000006 1,2,3,4,6,7,8-HyCDF ND 0.0000006 1,2,3,4,6,7,8-HyCDF ND 0.0000006 1,2,3,4,7,8,9-HyCDF ND 0.0000005 Total TCDD ND 0.0000005 Total TCDD ND 0.0000006 Total HxCDD ND 0.0000006 Total HyCDD 0.00000068 Total TCDF ND 0.000000642	Client Data Name: Del Mar Analytical, Irvine Project: Sample Data Matrix: Date Collected: 5-Apr-06 Time Collected: 5-Apr-06 0848 Analyte Conc. (ug/L) DL a EMPCb 2,3,7,8-TCDD ND 0.000000665 1,2,3,7,8-PeCDD ND 0.000000121 1,2,3,4,7,8-HxCDD ND 0.00000124 1,2,3,7,8-PeCDD ND 0.00000124 1,2,3,7,8-PhCDD ND 0.00000124 1,2,3,4,6,7,8-HpCDD 0.00000323 OCDD 0.00000366 2,3,7,8-PeCDF ND 0.000000736 1,2,3,7,8-PeCDF ND 0.000000655 2,3,4,7,8-PeCDF ND 0.000000665 2,3,4,7,8-PeCDF ND 0.000000444 1,2,3,4,7,8-HxCDF ND 0.000000444 2,3,4,6,7,8-HxCDF ND 0.000000444 2,3,4,6,7,8-HxCDF ND 0.000000444 1,2,3,4,6,7,8-HpCDF ND 0.00000044 1,2,3,4,6,7,8-HpCDF ND 0.000000657 1,2,3,4,6,7,8-HpCDF ND 0.000000665	Client Data Name: Del Mar Analytical, Irvine Project: IPD0425 Sample Size: 1.02 L	Client Data Name: Del Mar Analytical, Irvine Project: IPD0425 Sample Size: 1.02 L QCI Date Collected: 0848 Sample Size: 1.02 L QCI Date Collected: 1.23,47,8-HxCDD ND 0.000000665 ND 0.000000665 Sample Size: 1.02 L Date Collected: 1.23,47,8-HxCDF ND 0.000000665 ND 0.000000665 Sample Size: 1.02 L Date Date Collected: 1.23,47,8-HxCDF ND 0.000000665 ND 0.000000665 Sample Size: 1.02 L Date D	Client Data Name: Del Mar Analytical, Irvine Name: Del Mar Analytical, Irvine Sample Size: 1.02 L Date Analyzed DB-5: Date Collected: 5-Apr-06 Date Analyzed DB-5: Date Collected: 5-Apr-06 Date Analyzed DB-5: Date Collected: Date Analyzed DB-5: D	Client Data Name: PD0425 Sample Data Matrix: Aqueous Sample Size: 1.02 L QC Batch No: 7918 Date Collected: 5-Apr-0-66 Sad84 Sample Size: 1.02 L QC Batch No: 7918 Date Analyzed DB-5: 11-Apr-06 Date Analyz	Client Data Name: Del Mar Analytical, Irvine Project Date Collected: 5-Apr-06 Time Collec	Sample Data Marris: Pipolet: Pipolet

Analyst: MAS

Approved By:

William J. Luksemburg 13-Apr-2006 07:31

APPENDIX G

Section 29

Outfall 008, April 15, 2006 Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/15/06 Received: 04/15/06

Issued: 06/12/06 12:39

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 1°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar

Analytical Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: Results that fall between the MDL and RL are 'J' flagged.

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

LABORATORY ID CLIENT ID MATRIX
IPD1610-01 Outfall 008 Water

Reviewed By:

Del Mar Analytical - IrvineMichele Chamberlin

Michele Chamberdin

Michele Chamberlin Project Manager



Pasadena, CA 91101

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Sampled: 04/15/06 Report Number: IPD1610 Received: 04/15/06

Attention: Bronwyn Kelly

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1610-01 (Outfall 008 -	Water)								
Reporting Units: ug/l									
Antimony	EPA 200.8	6D20092	0.050	2.0	0.48	1	04/20/06	04/21/06	B, J
Cadmium	EPA 200.8	6D20092	0.025	1.0	0.16	1	04/20/06	04/21/06	J
Copper	EPA 200.8	6D20092	0.25	2.0	7.6	1	04/20/06	04/21/06	
Lead	EPA 200.8	6D20092	0.040	1.0	18	1	04/20/06	04/21/06	
Mercury	EPA 245.1	6D17063	0.050	0.20	ND	1	04/17/06	04/17/06	
Thallium	EPA 200.8	6D20092	0.15	1.0	ND	1	04/20/06	04/21/06	
Sample ID: IPD1610-01RE1 (Outfall 0 Reporting Units: ug/l	08 - Water)								
Lead	EPA 200.8	6D24081	0.040	1.0	18	1	04/24/06	04/27/06	



Pasadena, CA 91101

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Report Number: IPD1610 Sampled: 04/15/06
Received: 04/15/06

Attention: Bronwyn Kelly

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1610-01 (Outfall 008 - Wa	ter) – cont.								
Reporting Units: mg/l									
Chloride	EPA 300.0	6D15028	0.15	0.50	6.1	1	04/15/06	04/15/06	
Nitrate/Nitrite-N	EPA 300.0	6D15028	0.080	0.15	2.8	1	04/15/06	04/15/06	
Oil & Grease	EPA 413.1	6D18050	0.89	4.7	ND	1	04/18/06	04/18/06	
Sulfate	EPA 300.0	6D15028	0.45	0.50	14	1	04/15/06	04/15/06	
Total Dissolved Solids	SM2540C	6D18055	10	10	140	1	04/18/06	04/18/06	
Total Suspended Solids	EPA 160.2	6D20128	10	10	130	1	04/20/06	04/20/06	
Sample ID: IPD1610-01 (Outfall 008 - Wa	ter)								
Reporting Units: ug/l									
Perchlorate	EPA 314.0	6D20070	0.80	4.0	ND	1	04/20/06	04/20/06	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Sampled: 04/15/06 Report Number: IPD1610 Received: 04/15/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 008 (IPD1610-01) - Water	r				
EPA 300.0	2	04/15/2006 10:15	04/15/2006 15:20	04/15/2006 16:40	04/15/2006 17:31



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD1610

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D17063 Extracted: 04/17/06											
	-										
Blank Analyzed: 04/17/2006 (6D17063-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/17/2006 (6D17063-BS)	1)										
Mercury	8.25	0.20	0.050	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 04/17/2006 (6D1	7063-MS1)				Sou	rce: IPD1	1477-13				
Mercury	8.39	0.20	0.050	ug/l	8.00	ND	105	70-130			
Matrix Spike Dup Analyzed: 04/17/2006	(6D17063-MS	SD1)			Sou	rce: IPD1	1477-13				
Mercury	8.52	0.20	0.050	ug/l	8.00	ND	106	70-130	2	20	
Batch: 6D20092 Extracted: 04/20/06	_										
Blank Analyzed: 04/21/2006 (6D20092-B	LK1)										
Antimony	0.101	2.0	0.050	ug/l							J
Cadmium	ND	1.0	0.025	ug/l							•
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 04/21/2006 (6D20092-BS)	1)										
Antimony	81.3	2.0	0.050	ug/l	80.0		102	85-115			
Cadmium	79.0	1.0	0.025	ug/l	80.0		99	85-115			
Copper	81.7	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.7	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	82.2	1.0	0.15	ug/l	80.0		103	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD1610

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D20092 Extracted: 04/20/06)										
	_										
Matrix Spike Analyzed: 04/21/2006 (6D2	0092-MS1)				Sou	rce: IPD1	1586-01				
Antimony	85.4	2.0	0.050	ug/l	80.0	0.12	107	70-130			
Cadmium	77.8	1.0	0.025	ug/l	80.0	0.055	97	70-130			
Copper	83.2	2.0	0.25	ug/l	80.0	7.7	94	70-130			
Lead	78.1	1.0	0.040	ug/l	80.0	0.60	97	70-130			
Thallium	78.1	1.0	0.15	ug/l	80.0	ND	98	70-130			
Matrix Spike Analyzed: 04/21/2006 (6D2	0092-MS2)				Sou	rce: IPD1	1586-02				
Antimony	82.1	2.0	0.050	ug/l	80.0	0.098	103	70-130			
Cadmium	75.7	1.0	0.025	ug/l	80.0	0.058	95	70-130			
Copper	73.5	2.0	0.25	ug/l	80.0	1.5	90	70-130			
Lead	75.6	1.0	0.040	ug/l	80.0	0.13	94	70-130			
Thallium	76.0	1.0	0.15	ug/l	80.0	0.21	95	70-130			
Matrix Spike Dup Analyzed: 04/21/2006	(6D20092-MS	D1)			Sou	rce: IPD1	1586-01				
Antimony	83.9	2.0	0.050	ug/l	80.0	0.12	105	70-130	2	20	
Cadmium	77.5	1.0	0.025	ug/l	80.0	0.055	97	70-130	0	20	
Copper	80.8	2.0	0.25	ug/l	80.0	7.7	91	70-130	3	20	
Lead	76.9	1.0	0.040	ug/l	80.0	0.60	95	70-130	2	20	
Thallium	77.5	1.0	0.15	ug/l	80.0	ND	97	70-130	1	20	
Batch: 6D24081 Extracted: 04/24/06	<u>.</u>										
Blank Analyzed: 04/27/2006 (6D24081-B	LK1)										
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 04/27/2006 (6D24081-BS	1)										
Lead	83.3	1.0	0.040	ug/l	80.0		104	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD1610

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D24081 Extracted: 04/24/06	_										
Matrix Spike Analyzed: 04/27/2006 (6D2-	4081-MS1)				Soui	rce: IPD1	905-01				
Lead	80.7	1.0	0.040	ug/l	80.0	0.11	101	70-130			
Matrix Spike Analyzed: 04/27/2006 (6D24	4081-MS2)				Sour	rce: IPD1	905-02				
Lead	80.6	1.0	0.040	ug/l	80.0	0.098	101	70-130			
Matrix Spike Dup Analyzed: 04/27/2006	(6D24081-MS	5D1)			Sour	rce: IPD1	905-01				
Lead	82.3	1.0	0.040	ug/l	80.0	0.11	103	70-130	2	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD1610

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D15028 Extracted: 04/15/06	_										
Blank Analyzed: 04/15/2006 (6D15028-B)	,										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 04/15/2006 (6D15028-BS)	1)										
Chloride	4.82	0.50	0.15	mg/l	5.00		96	90-110			
Sulfate	10.1	0.50	0.45	mg/l	10.0		101	90-110			
Matrix Spike Analyzed: 04/15/2006 (6D1	5028-MS1)				Sou	rce: IPD1	1578-01				
Chloride	10.4	0.50	0.15	mg/l	5.00	5.1	106	80-120			
Sulfate	18.8	0.50	0.45	mg/l	10.0	7.7	111	80-120			
Matrix Spike Dup Analyzed: 04/15/2006	(6D15028-MS	D1)			Sou	rce: IPD1	1578-01				
Chloride	10.1	0.50	0.15	mg/l	5.00	5.1	100	80-120	3	20	
Sulfate	18.3	0.50	0.45	mg/l	10.0	7.7	106	80-120	3	20	
Batch: 6D18050 Extracted: 04/18/06											
	_										
Blank Analyzed: 04/18/2006 (6D18050-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/18/2006 (6D18050-BS)	1)										M-NR1
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120			
LCS Dup Analyzed: 04/18/2006 (6D1805)	0-BSD1)										
Oil & Grease	17.9	5.0	0.94	mg/l	20.0		90	65-120	7	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Report Number: IPD1610

Sampled: 04/15/06 Received: 04/15/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D18055 Extracted: 04/18/06	_										
Blank Analyzed: 04/18/2006 (6D18055-Bl	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/18/2006 (6D18055-BS)	1)										
Total Dissolved Solids	990	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 04/18/2006 (6D1805)	5-DUP1)				Sou	rce: IPD1	326-01				
Total Dissolved Solids	5080	10	10	mg/l		5100			0	10	
Batch: 6D20070 Extracted: 04/20/06											
	_										
Blank Analyzed: 04/20/2006 (6D20070-B	LK1)										
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 04/20/2006 (6D20070-BS1	1)										
Perchlorate	50.7	4.0	0.80	ug/l	50.0		101	85-115			
Matrix Spike Analyzed: 04/20/2006 (6D2	0070-MS1)				Sou	rce: IPD1	967-01				
Perchlorate	51.1	4.0	0.80	ug/l	50.0	2.9	96	80-120			
Matrix Spike Dup Analyzed: 04/20/2006	(6D20070-MS	SD1)			Sou	rce: IPD1	967-01				
Perchlorate	53.2	4.0	0.80	ug/l	50.0	2.9	101	80-120	4	20	
Batch: 6D20128 Extracted: 04/20/06	_										
Blank Analyzed: 04/20/2006 (6D20128-Bl	*										
Total Suspended Solids	ND	10	10	mg/l							



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 008

Sampled: 04/15/06
Report Number: IPD1610

Received: 04/15/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D20128 Extracted: 04/20/06	<u> </u>										
LCS Analyzed: 04/20/2006 (6D20128-BS	1)										
Total Suspended Solids	990	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/20/2006 (6D2012	28-DUP1)				Sou	rce: IPD1	1603-01				
Total Suspended Solids	356	10	10	mg/l		350			2	10	



Pasadena, CA 91101

Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Sampled: 04/15/06 Report Number: IPD1610 Received: 04/15/06

Attention: Bronwyn Kelly

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPD1610-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	4.7	15
IPD1610-01	Antimony-200.8	Antimony	ug/l	0.48	2.0	6.00
IPD1610-01	Cadmium-200.8	Cadmium	ug/l	0.16	1.0	4.00
IPD1610-01	Chloride - 300.0	Chloride	mg/l	6.10	0.50	150
IPD1610-01	Copper-200.8	Copper	ug/l	7.60	2.0	14
IPD1610-01	Lead-200.8	Lead	ug/l	18	1.0	5.20
IPD1610-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPD1610-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	2.80	0.15	8.00
IPD1610-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPD1610-01	Sulfate-300.0	Sulfate	mg/l	14	0.50	300
IPD1610-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	140	10	950
IPD1610-01	Thallium-200.8	Thallium	ug/l	0.068	1.0	2.00
IPD1610-01RE1	Lead-200.8	Lead	ug/l	18	1.0	5.20



Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Sampled: 04/15/06 Report Number: IPD1610 Received: 04/15/06

Attention: Bronwyn Kelly

DATA QUALIFIERS AND DEFINITIONS

B Analyte was detected in the associated Method Blank.

Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the

Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference



Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Sampled: 04/15/06 Pasadena, CA 91101 Report Number: IPD1610 Received: 04/15/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

Subcontracted Laboratories

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: IPD1610-01

Analysis Performed: EDD + Level 4

Samples: IPD1610-01

Client Name/Address:	\ddress	: -:		Project:			Client Name/Address: Project:			ANAL	ANALYSIS REQUIRED	ZED		
MWH-Pasadena 300 North Lake Avenue.	dena Avenué 91101	e, Suite 1200	00:	Boeing-SSFL NPDES Routine Outfall 008 Stormwater at Happy Valley	PDES 1 008 Iappy Valley		Metals: JT ,g			ıdeners)			Field readings: Temp = SB^c	
Sampler: 18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ger: Br	Bronwyn Kelly	elly	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			l Reoverable I	Grease (EPA 604, NO3+N0	hlorate SST ,	oo (snd all cor			pH= C 7 Comments	ıts
-	b b	Container	# of	Sampling	Preservative	Bottle *	stoT Sb, (CI-'	Perc	JOT				
Outfall 008 W	X activ	Poly-11	- 2	4115/6	HNO3	1A	×							
1.		Poly-1L	-		HNO3	18	×							
all 008	3	Glass- Amber	7		E HC	3A, 3B		×						ļ
Outfall 008	*	Poly-500 ml	2		None	4A, 4B			×					
Outfall 008	3	Poly-500	2	->	None	5A, 5B			×					
Outfall 008 V	3	Glass- Amber	2	10.5	None	6A, 6B				×				
			-						-					
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Relinquished By	34		'	/Time:	Received By	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Date/Time:			2/		Turn around Time: (check) 24 Hours 5 Days	
the rules	Act		1/12/01	101:		3/2/2		4.15-	90-5		2,0	48 Hours	ours 10 Days	
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												Metz	Metals Only 72 Hours	
												-		



May 03, 2006

Alta Project I.D.: 27609

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 April 18, 2006 under your Project Name "IPD1610". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

Director of HRMS Services

Marlha Maier



Alta Analytical Luboratory 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 4/18/2006 Date Received:

Client Sample ID Alta Lab. ID

27609-001 IPD1610-01

Page 2 of 239 NPDES - 691 Project 27609

SECTION II

Project 27609 Page 3 of 239

Method Blank					EPA Method 1613
Matrix: Aqueous	QC Batch No.:	8962	Lab Sample: 0-MB001		
Sample Size: 1.00 L	Date Extracted:	26-Apr-06	Date Analyzed DB-5: 2-May-06	Date Analyzed DB-225:	d DB-225: NA
Analyte Conc. (ug/L)	DL ^a EMPC ^b	b Qualifiers	Labeled Standard	%R LC	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD ND	0.0000000767		IS 13C-2,3,7,8-TCDD	77.8	25 - 164
1,2,3,7,8-PeCDD ND	0.000000068		13C-1,2,3,7,8-PeCDD	6.69	25 - 181
1,2,3,4,7,8-HxCDD ND	0.00000195		13C-1,2,3,4,7,8-HxCDD	78.1	32 - 141
1,2,3,6,7,8-HxCDD ND	0.00000219		13C-1,2,3,6,7,8-HxCDD	67.4	28 - 130
1,2,3,7,8,9-HxCDD ND	0.00000200		(3C-1,2,3,4,6,7,8-HpCDD	62.1	23 - 140
1,2,3,4,6,7,8-HpCDD ND	0.00000273		13C-OCDD	42.7	17 - 157
OCDD	0.00000703		13C-2,3,7,8-TCDF	77.2	24 - 169
2.3,7,8-TCDF ND	0.000000483		13C-1,2,3,7,8-PeCDF	67.2	24 - 185
1,2,3,7,8-PeCDF ND	0.000000001		13C-2,3,4,7,8-PeCDF	9.99	21 - 178
	0.000000876		13C-1,2,3,4,7,8-HxCDF	87.3	26 - 152
1,2,3,4,7,8-HxCDF	0.000000696		13C-1,2,3,6,7,8-HxCDF	85.4	26 - 123
1,2,3,6,7,8-HxCDF ND	0.000000446		13C-2,3,4,6,7,8-HxCDF	81.4	28 - 136
2,3,4,6,7,8-HxCDF ND	0.000000546		13C-1,2,3,7,8,9-HxCDF	8.69	29 - 147
1,2,3,7,8,9-HxCDF ND	0.000000922		13C-1,2,3,4,6,7,8-HpCDF	60.1	28 - 143
Ŧ	0.000000818		13C-1,2,3,4,7,8,9-HpCDF	59.6	26 - 138
1,2,3,4,7,8,9-HpCDF ND	0.000000869	1	13C-OCDF	44.2	17 - 157
OCDF CONTRACTOR OF THE STATE OF	0.00000249		CRS 37CI-2,3,7,8-TCDD	89.1	35 - 197
Totals			Footnotes		
Total TCDD ND	0.000000767		a. Sample specific estimated detection limit.		The state of the s
Total PeCDD	0.000000968		b. Estimated maximum possible concentration.		
Total HxCDD ND	0.00000205		c. Method detection limit.		
Total HpCDD	0.00000273		d. Lower control limit - upper control limit.		
Total TCDF ND	0.000000483				
Total PeCDF ND	0.000000889				
Total HxCDF ND	0.000000786				
Total HpCDF ND	0.000000841				
Analyst: MAS			Approved By: William J. Luksemburg		03-May-2006 13:13

OPR Results					EPA	EPA Method 1613
Matrix Aqueous	81	QC Batch No.:	7968	Lab Sample 0-OPR001		
Sample Size. 1 00 L		Date Extracted	26-Apr-06	Date Analyzed DB-5: 2-May-06	Date Analyzed DB-225:	ed DB-225: NA
Analyte	Spike Conc.	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%K	PCF-nCF
2,3,7,8-TCDD	10.0	10.8	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	79.0	25 - 164
1,2,3,7,8-PeCDD	50.0	51.5	35 - 71	13C-1,2,3,7,8-PeCDD	71.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0	53.1	35 - 82	13C-1,2,3,4,7,8-HxCDD	79.9	32 - 141
1,2,3,6,7,8-HxCDD	50.0	53.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	9:99	28 - 130
1,2,3,7,8,9-HxCDD	50.0	51.6	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	63.6	23 - 140
1.2,3,4,6,7,8-HpCDD	50.0	55.1	35 - 70	13C-0CDD	44.0	17 - 157
OCDD	100	201	78 - 144	13C-2,3,7,8-TCDF	78.4	24 - 169
2,3,7,8-TCDF	10.0	10.7	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	65.0	24 - 185
1,2,3,7,8-PeCDF	50.0	54.8	40 - 67	13C-2,3,4,7,8-PeCDF	65.1	21 - 178
2,3,4,7,8-PeCDF	50.0	55.8	34 - 80	13C-1,2,3,4,7,8-HxCDF	87.5	26 - 152
1,2,3,4,7,8-HxCDF	50.0	52.6	36 - 67	13C-1,2,3,6,7,8-HxCDF	88.1	26 - 123
1,2,3,6,7,8-HxCDF	50.0	53.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	83.1	28 - 136
2,3,4,6,7,8-HxCDF	50.0	52.2	35-78	13C-1,2,3,7,8,9-HxCDF	66.3	29 - 147
1,2,3,7,8,9-HxCDF	50.0	52.6	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	62.0	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	53.6	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	61.6	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	52.5	39 - 69	13C-OCDF	45.7	17 - 157
OCDF	100	110	63 - 170	CRS 37CI-2,3,7,8-TCDD	95.0	35 - 197

Analyst: MAS

William J. Luksemburg 03-May-2006 13:13 Approved By:

Sample ID: IPD	IPD1610-01							EPA M	EPA Method 1613
Data	Del Mar Analytical, Irvine		Sample Data Matrix	Aqueous	Laboratory Data I ab Sample	27609-001	Date Received.	ed.	18-106
Project H7D1 Date Collected. 15-A Time Collected: 1015	H2J1640 15-Apr-06 1015		Sample Size:	1.01 L	QC Batch No. Date Analyzed DB-5:	7968 2-May-06	Date Extracted: Date Analyzed DB-225	ed: ed DB-225:	26-Apr-06 NA
Analyte	Conc. (ug/L)	DL a	EMPC ^b	Qualifiers	Labeled Standard	lard	%R LC	rcr-ncr _q (Oualifiers
2.3.7.8-TCDD	ND	0.000000792	792		<u>IS</u> 13C-2,3,7,8-TCDD	DD	84.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000953	953		13C-1,2,3,7,8-PeCDD	eCDD		25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000198	86		13C-1,2,3,4,7,8-HxCDD	-HxCDD		32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000208	80		13C-1,2,3,6,7,8-HxCDD	-HxCDD	80.9	28 - 130	V 's-
1,2,3,7,8,9-HxCDD	ND	0.00000196	96		13C-1,2,3,4,6,7,8-HpCDD	8-HpCDD	84.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000640			ī	13C-OCDD			17 - 157	
OCDD a	0.0000367			ſ	13C-2,3,7,8-TCDF	DF	84.7	24 - 169	
2,3,7,8-TCDF	ND	0.000000749	749		13C-1,2,3,7,8-PeCDF	eCDF		24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000108	80		13C-2,3,4,7,8-PeCDF	eCDF	66.6 2	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000107	7(13C-1,2,3,4,7,8-HxCDF	·HxCDF	97.8	26 - 152	
1,2,3,4,7,8-HxCDF	QN	0.000000068	896		13C-1,2,3,6,7,8-HxCDF	HxCDF		26 - 123	
1,2,3,6,7,8-HxCDF	ND ON	0.000000921	121		13C-2,3,4,6,7,8-HxCDF	.HxCDF	93.1 2	28 - 136	
2,3,4,6,7,8-HxCDF	NO	0.000000733	733		13C-1,2,3,7,8,9-HxCDF	HxCDF	89.2	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000959	959		13C-1,2,3,4,6,7,8-HpCDF	8-HpCDF		28 - 143	
1,2,3,4,6,7,8-HpCDF	ND		0.00000163	63 %	13C-1,2,3,4,7,8,9-HpCDF	9-НрСDF	86.5 2	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000474	174		13C-OCDF		71.6	17 - 157	
OCDF	0.00000304			J	CRS 37CI-2,3,7,8-TCDD	QQ	96.2 3	35 - 197	
Totals					Footnotes				
Total TCDD	ND	0.000000873	873		a. Sample specific estimated detection limit.	d detection limit.			
Total PeCDD	ON a	0.000000953	53.		b. Estimated maximum possible concentration.	sible concentration.			
Total HxCDD	0.00000242				c. Method detection limit.				
Total HpCDD	0.0000154				d. Lower control limit - upper control limit.	er control limit			
Total TCDF	ND	0.00000163	33						
Total PeCDF	0.000000002								
Total HxCDF	0.00000138		0.00000172	72					
Total HpCDF	ND		0.00000163	63					

APPENDIX

Project 27609 Page 7 of 239

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. Е The reported value exceeds the calibration range of the instrument. Н 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 RLReporting Limit - concentrations that corresponds to low calibration point Not Detected ND 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 B-120, Phoenix, AZ 85044

Ph (949) 261-1022 Fax (949) 261-1228 Ph (909) 370-4667

Fax (909) 370-1046 Fax (619) 505-9689

Ph (619) 505-9596 Ph (480) 785-0043 Fax (480) 785-0851

SUBCONTRACT ORDER - PROJECT # IPD1610

	NG LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical - Irvine		Alta Analytical - SUB 97609
17461 Derian Avenue. Suit	e 100	1104 Windfield Way
Irvine, CA 92614		El Dorado Hills, CA 95762 Phone: (916) 933-1640
Phone: (949) 261-1022		Phone :(916) 933-1640
Fax: (949) 261-1228		Fax: (916) 673-0106
Project Manager: Michele C	Chamberlin	
Standard TAT is requeste Analysis	d unless specific due date is requeste Expiration	d => Due Date: Initials:
Sample ID: IPD1610-01 Wa	ster Sampled: 04/15/06 10:15	Instant Nofication
1613-Dioxin-HR-Alta	04/22/06 10:15	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	05/13/06 10:15	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
Containers Supplied:		
1 L Amber (IPD1610-01C)		•
• •		•
1 L Amber (IPD1610-01C)		
1 L Amber (IPD1610-01C)	· · · · · · · · · · · · · · · · · · ·	

					SAMPLE	INTEGRI	TY:		
All containers intact: Custody Seals Present:		Y c s Yes	 No No	•	labels/COC agree: Preserved Properly:	☐ Yes	□ No	Samples Received On Ice:: Samples Received at (temp):	Yes No
Elyanda Released By	Du	in	 4/1	7/06 Date	BIL. Time	una (Received B		enedit 4/18	8/06 0905 Time
Released By			 	Date		Received B		Date	Time

Project 27609

SAMPLE LOG-IN CHECKLIST

Alta Project #:	27609				_			
	Date/Time		Initials	•	Locat	ion: W	R- 7	}
Samples Arrival:	4/18/06	3905	Box	\mathcal{L}		/Rack:		
	Date/Time		Initials	. 1	Locat	ion: W	R-Z	-
Logged In:	4/18/06	1502	Ba	B	Shelf	/Rack:	-5	
Delivered By:	FedEx UF	PS	Cal	DHL		Hand elivered		her
Preservation:	(Ice)	Blue	Ice	Dry lo	ce	No	one	
Temp °C D. 3	Tim	e: 09	35		Therr	nometer I): DT-	20
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							
						YES	NO	NA
Adequate Sample	√olume Received?	?				-	,	
Holding Time Acce	ptable?				· · · · · · · · · · · · · · · · · · ·	V		
Shipping Containe	´(s) Intact?					V		
Shipping Custody	Seals Intact?				,	V		
Shipping Documer	ntation Present?					V		
Airbill	Trk# 790	396	1324	t36		V		
Sample Container	Intact?					V		
Sample Custody S	Seals Intact?							V
Chain of Custody	/ Sample Documer	ntation Pre	sent?			i i	/	1
	mple Acceptance F						V	
If Chlorinated or D	rinking Water Sam	nples, Acc	eptable F	reservatio	on?		1	V
Na ₂ S ₂ O ₃ Preserva	ition Documented?			coc	- 1	Sample Container	No	ne
Shipping Containe		Alta 🗸	Client	Retair	1	Return	Disp	oose

Comments:

# **APPENDIX G**

# **Section 30**

Outfall 008, April 15, 2006

MECX Data Validation Reports

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID B4DF101 12260 East Vassar Drive Task Order __1261.001D.01 Suite 500 SDG No. IPD1610 Lakewood, CO 80226 No. of Analyses 1 Laboratory Alta Analytical Date: July 5, 2006 Reviewer E. Wessling Reviewer's Signature Analysis/Method Dioxins/Furans ACTION ITEMS^a Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted Missing Hardcopy Deliverables Incorrect Hardcopy Deliverables Deviations from Analysis Qualifications were assigned for the following: - the results between the RL and the MDL were estimated Protocol, e.g., Holding Times - the EMPC values were estimated nondetects GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS^b ^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 008

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD1610

Prepared by

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

Project: **NPDES** SDG: IPD1610 Analysis: D/F

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD1610

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

Reviewer:

Date of Review:

E. Wessling July 5, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC^x Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines 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: NPDES SDG: IPD1610 Analysis: D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 008	IPD1610-01	27609-001	Water	1613

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical below 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 0.3°C. The sample containers were not noted to be damaged or frozen during transportation; therefore, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the sample was couriered directly to Del Mar Analytical-Irvine, custody seals were not required. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

#### 2.1.3 Holding Times

The sample was extracted and analyzed within one year of collection. No qualifications were required.

#### 2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

#### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

#### 2.3 CALIBRATION

#### 2.3.1 Initial Calibration

The initial calibration was analyzed 03/22/2006 on instrument VG-5. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤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 (0-7968-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were 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 (0-7968-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.

B4DF101

Revision 0 NPDES - 707

Analysis:

#### MATRIX SPIKE/MATRIX SPIKE DUPLICATE 2.6

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:

#### Field Blanks and Equipment Rinsates 2.7.1

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. The 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. EMPC values for 1,2,3,4,6,7,8-HpCDF and total HpCDF were qualified as estimated nondetects, "UJ." No further qualifications were required.

Du*	2	Project: IPD	pr-06	) .	Sample Data Matrix: Sample Size:	Aqueous 1.01 L	Laboratory Data Lab Sample: QC Batch No.: Date Analyzed DB-5:	27609-001 7968 2-May-06	Date Re Date Ex		18-Apr-06 26-Apr-06 NA
Co	19-	Analyte	Conc. (ug/L)	DL a	<b>EMPC</b> ^b	Qualifiers	Labeled Stand	ard	%R	LCL-UCLd	Qualifiers
		2,3,7,8-TCDD	ND	0.000000	792		IS 13C-2,3,7,8-TC	DD	84.8	25 - 164	
		1,2,3,7,8-PeCDD	ND	0.000000	953		13C-1,2,3,7,8-P	eCDD	67.9	25 - 181	
		1,2,3,4,7,8-HxCDD	ND	0.000001	98		13C-1,2,3,4,7,8-	HxCDD	89.4	32 - 141	
		1,2,3,6,7,8-HxCDD	ND	0.000002	08		13C-1,2,3,6,7,8-	HxCDD	80.9	28 - 130	
		1,2,3,7,8,9-HxCDD	ND	0.000001	96		13C-1,2,3,4,6,7,	8-HpCDD	84.3	23 - 140	
DN	10	1,2,3,4,6,7,8-HpCDD	0.00000640			J	13C-OCDD		67.8	17 - 157	
Dis	10	OCDD	0.0000367			J	13C-2,3,7,8-TC	DF	84.7	24 - 169	
2		2,3,7,8-TCDF	ND	0.000000	749		13C-1,2,3,7,8-Pe	eCDF	71.7	24 - 185	
		1,2,3,7,8-PeCDF	ND	0.000001	08		13C-2,3,4,7,8-Po	eCDF	66.6	21 - 178	
		2,3,4,7,8-PeCDF	ND	0.000001	07		13C-1,2,3,4,7,8-	HxCDF	97.8	26 - 152	
		1,2,3,4,7,8-HxCDF	ND	0.000000	968		13C-1,2,3,6,7,8-	HxCDF	95.2	26 - 123	
		1,2,3,6,7,8-HxCDF	ND	0.000000	921		13C-2,3,4,6,7,8-	HxCDF	93.1	28 - 136	
		2,3,4,6,7,8-HxCDF	ND	0.000000	733		13C-1,2,3,7,8,9-	HxCDF	89.2	29 - 147	
	- 1	1,2,3,7,8,9-HxCDF	ND	0.000000	959		13C-1,2,3,4,6,7,	8-HpCDF	83.9	28 - 143	
* [		1,2,3,4,6,7,8-HpCDF	ND		0.0000016	53	13C-1,2,3,4,7,8,	9-HpCDF	86.5	26 - 138	
		1,2,3,4,7,8,9-HpCDF	ND	0.000000	474		13C-OCDF		71.6	17 - 157	
DN	Q	OCDF	0.00000304			J	CRS 37C1-2,3,7,8-TC	DD	96.2	35 - 197	
		Totals					Footnotes				
	Ī	Total TCDD	ND	0.000000	873		a. Sample specific estimate	d detection limit.			
		Total PeCDD	ND	0.000000	953		b. Estimated maximum pos	sible concentration.			
		Total HxCDD	0.00000242				c. Method detection limit.				
		Total HpCDD	0.0000154				d. Lower control limit - upp	per control limit.			
		Total TCDF	ND	0.000001	63						
		Total PeCDF	0.000000902								
		Total HxCDF	0.00000138		0.0000017	72					
*12	0	Total HpCDF	ND		0.0000016	53					

Analyst:

herel III

Approved By:

William J. Luksemburg 03-May-2006 13:13

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX		ı	Package ID:	B4MT85
12269 Eas	st Vassar Drive			1261.001D.01
Aurora, Co	O 80014		SDG No.:	IPD1610
		No. o	of Analyses:	1
	Laboratory: Del Mar A	nalytical	Date: June 23	3, 2006
	Reviewer: P. Meeks	F	Reviewer's Si	gnature
Analy	ysis/Method: Metals		P. Me	)
ACTION IT	'EMS ^a			
. Case	Narrative			
Defici	iencies			
2. Out o	of Scope Analyses			
<ol><li>Analy</li></ol>	ses Not Conducted			
	ing Hardcopy			
Deliv	erables			
	rect Hardcopy			
Deliv	erables			
		0 15 11		
	ations from Analysis	Qualifications were applied for		
	ocol, e.g.,	recoveries, method blank dete	ct, and detects	below the reporting limit.
	ng Times			
	S Tune/Inst. Performance			
Calibra				
	od blanks			
Surrog				
Field (	Spike/Dup LCS			
	al Standard Performance			
	ound Identification			
	titation			
	m Performance			
COMMEN				
COMINIEN	10			
^a Subcontra	acted analytical laboratory is not	neeting contract and/or method requirer	ments.	
		by the laboratory but no action against		equired.

 $MEC^{X}$ 



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 008

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPD1610

Prepared by

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

ct: NPDES IPD1610

SDG: Analysis:

Metals

#### 1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPD1610

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

0 P. Meeks

Reviewer: Date of Review:

June 23, 2006

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

Project: N SDG: IPI

Analysis:

NPDES IPD1610 Metals

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 008	IPD1610-01	Water	200.8, 245.1
Outfall 008 RE1	IPD1610-01RE1	Water	200.8

Analysis:

Metals

#### 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 below the temperature limits of 4°C ±2°C at 1°C; however as the sample was not noted to be frozen or damaged, no qualifications were required. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. Outfall 008 was reanalyzed for lead. As the laboratory did not append the MWH ID for the reanalysis with "RE1," the reviewer added this information to the Form I. No sample qualifications were required.

#### 2.1.3 Holding Times

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

#### 2.2 ICP-MS TUNING

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

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 85-115% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG. Antimony, cadmium, lead, and thallium were recovered above 130% in the 0.2 ppb reporting limit check standard. Cadmium, which was detected below 0.2 ppb, was qualified as estimated, "J." Lead was detected at a concentration greater than 3× the 0.2 ppb check standard and antimony (see section 2.4) and thallium were not detected in Outfall 008; therefore, no qualifications were required for these analytes. All other recoveries were considered to be acceptable. No further qualifications were required.

Project: SDG: NPDES

Analysis:

Metals

## 2.4 BLANKS

DATA VALIDATION REPORT

Antimony was detected in method blank 6D20092-BLK1 at 0.101  $\mu$ g/L; therefore, antimony detected in Outfall 008 was qualified as an estimated nondetect, "UJ." There were no other detects of sufficient concentration to qualify the site sample. No further qualifications were required.

#### 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were not performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

All recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

#### 2.7 LABORATORY DUPLICATES

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

#### 2.8 MATRIX SPIKES

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

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

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

#### 2.10 INTERNAL STANDARDS PERFORMANCE

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

Project: NPDES SDG: IPD1610 Analysis: Metals

DATA VALIDATION REPORT

#### 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified and the sample results reported on the Form I were verified against the raw data. Cadmium detected between the MDL and the reporting limit was qualified as an estimated detect, "J." This detect was annotated as "DNQ" in compliance with the specification in the NPDES permit. No transcription errors or calculation errors were noted.

Per a request from MWH personnel, the laboratory reanalyzed sample Outfall 008 for lead. As the original analysis and the reanalysis yielded the same result, the reviewer chose to reject the reanalysis, "R," Outfall 008 RE1, in favor of the original result. No further qualifications were required.

#### 2.12 FIELD QC SAMPLES

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

#### 2.12.1 Field Blanks and Equipment Rinsates

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

### 2.12.2 Field Duplicates

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





Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPD1610

Sampled: 04/15/06

Received: 04/15/06

### METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifie	rs
Sample ID: IPD1610-01 (Outfal	1008 - Water)								fer.	Qual
Reporting Units: ug/l								_	Qual	Code
Antimony	EPA 200.8	6D20092	0.050	2.0	0.48	1	04/20/06	04/21/06	UT B, J	В
Cadmium	EPA 200.8	6D20092	0.025	1.0	0.16	1	04/20/06	04/21/06	丁丁	*3, DA
Copper	EPA 200.8	6D20092	0.25	2.0	7.6	1	04/20/06	04/21/06		
Lead	EPA 200.8	6D20092	0.040	1.0	18	1	04/20/06	04/21/06		
Mercury	EPA 245.1	6D17063	0.050	0.20	ND	1	04/17/06	04/17/06	U	
Thallium	EPA 200.8	6D20092	0.15	1.0	ND	1	04/20/06	04/21/06	U	
Sample ID: IPD1610-01RE1 (O Reporting Units: ug/l	utfall 008 - Water) 50	11 008 R	6						72.10	
Lead	EPA 200.8	6D24081	0.040	1.0	18	1	04/24/06	04/27/06	R	D

**Del Mar Analytical - Irvine** Michele Chamberlin Project Manager

LEVEL IV

## **APPENDIX G**

## **Section 31**

Outfall 009, April 04, 2006 Del Mar Analytical Laboratory Report



### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/04/06 Received: 04/04/06

Issued: 05/07/06 16:42

### NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

### SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX
IPD0256-01 Outfall 009 Water

Reviewed By:

**Del Mar Analytical - Irvine** Michele Chamberlin

Michele Chamberdin

Project Manager



Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Report Number: IPD0256 Pasadena, CA 91101 Received: 04/04/06

Attention: Bronwyn Kelly

### **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0256-01 (Outfall 009 -	Water)							-	
Reporting Units: ug/l									
Antimony	EPA 200.8	6D05074	0.050	2.0	1.2	1	04/05/06	04/05/06	J
Cadmium	EPA 200.8	6D05074	0.025	1.0	1.2	1	04/05/06	04/05/06	
Copper	EPA 200.8	6D05074	0.25	2.0	26	1	04/05/06	04/05/06	
Lead	EPA 200.8	6D05074	0.040	1.0	64	1	04/05/06	04/05/06	
Mercury	EPA 245.1	6D05091	0.050	0.20	0.11	1	04/05/06	04/05/06	J
Thallium	EPA 200.8	6D05074	0.15	1.0	0.41	1	04/05/06	04/05/06	J
Sample ID: IPD0256-01RE1 (Outfall 0	09 - Water)								
Reporting Units: ug/l									
Copper	EPA 200.8	6D07127	0.25	2.0	24	1	04/05/06	04/08/06	
Lead	EPA 200.8	6D07127	0.040	1.0	75	1	04/05/06	04/08/06	



Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Pasadena, CA 91101 Report Number: IPD0256 Received: 04/04/06

Attention: Bronwyn Kelly

### **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0256-01 (Outfall 009 - Wa	iter) - cont.								
Reporting Units: mg/l									
Chloride	EPA 300.0	6D04136	0.15	0.50	2.4	1	04/04/06	04/05/06	
Nitrate/Nitrite-N	EPA 300.0	6D04136	0.080	0.15	0.71	1	04/04/06	04/05/06	
Oil & Grease	EPA 413.1	6D05046	0.90	4.8	ND	1	04/05/06	04/05/06	
Sulfate	EPA 300.0	6D04136	0.45	0.50	6.4	1	04/04/06	04/05/06	
<b>Total Dissolved Solids</b>	SM2540C	6D05071	10	10	67	1	04/05/06	04/05/06	
<b>Total Suspended Solids</b>	EPA 160.2	6D07128	10	10	490	1	04/07/06	04/07/06	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Sampled: 04/04/06

Report Number: IPD0256

Received: 04/04/06

### SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (IPD0256-01) - Water	r				
EPA 300.0	2	04/04/2006 09:50	04/04/2006 18:05	04/04/2006 20:30	04/05/2006 02:10

Sampled: 04/04/06



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD0256 Received: 04/04/06

### METHOD BLANK/QC DATA

### **METALS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
•		Limit	MDL	Cints	Level	resure	/UKLC	Limits	KI D	Limit	Quanners
Batch: 6D05074 Extracted: 04/05/06	_										
Blank Analyzed: 04/05/2006 (6D05074-B	LK1)										
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 04/05/2006 (6D05074-BS	1)										
Antimony	82.1	2.0	0.050	ug/l	80.0		103	85-115			
Cadmium	81.4	1.0	0.025	ug/l	80.0		102	85-115			
Copper	81.3	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.4	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	81.3	1.0	0.15	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 04/05/2006 (6D0	5074-MS1)				Sou	rce: IPD(	0082-01				
Antimony	86.4	2.0	0.050	ug/l	80.0	0.12	108	70-130			
Cadmium	80.4	1.0	0.025	ug/l	80.0	0.12	100	70-130			
Copper	88.8	2.0	0.25	ug/l	80.0	14	94	70-130			
Lead	76.5	1.0	0.040	ug/l	80.0	0.23	95	70-130			
Thallium	76.5	1.0	0.15	ug/l	80.0	ND	96	70-130			
Matrix Spike Analyzed: 04/05/2006 (6D0	5074-MS2)				Sou	rce: IPD(	289-01				
Antimony	82.4	2.0	0.050	ug/l	80.0	ND	103	70-130			
Cadmium	80.9	1.0	0.025	ug/l	80.0	ND	101	70-130			
Copper	81.6	2.0	0.25	ug/l	80.0	0.61	101	70-130			
Lead	82.9	1.0	0.040	ug/l	80.0	ND	104	70-130			
Thallium	82.7	1.0	0.15	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 04/05/2006	(6D05074-M	ISD1)			Sou	rce: IPD(	0082-01				
Antimony	87.0	2.0	0.050	ug/l	80.0	0.12	109	70-130	1	20	
Cadmium	81.2	1.0	0.025	ug/l	80.0	0.12	101	70-130	1	20	
Copper	89.2	2.0	0.25	ug/l	80.0	14	94	70-130	0	20	
Lead	77.0	1.0	0.040	ug/l	80.0	0.23	96	70-130	1	20	
Thallium	77.3	1.0	0.15	ug/l	80.0	ND	97	70-130	1	20	

**Del Mar Analytical - Irvine** Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD0256

Sampled: 04/04/06 Received: 04/04/06

### METHOD BLANK/QC DATA

### **METALS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D05091 Extracted: 04/05/06	-										
Blank Analyzed: 04/05/2006 (6D05091-Bl	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/05/2006 (6D05091-BS)	1)										
Mercury	7.98	0.20	0.050	ug/l	8.00		100	85-115			
Matrix Spike Analyzed: 04/05/2006 (6D0	5091-MS1)				Sou	rce: IPD0	241-01				
Mercury	8.57	0.20	0.050	ug/l	8.00	0.060	106	70-130			
Matrix Spike Dup Analyzed: 04/05/2006	(6D05091-M	SD1)			Sou	rce: IPD0	241-01				
Mercury	8.73	0.20	0.050	ug/l	8.00	0.060	108	70-130	2	20	
Batch: 6D07127 Extracted: 04/07/06	_										
Diami, A., alamai, 0.4/07/2007 (7.D07127 Di	. 171)										
Blank Analyzed: 04/07/2006 (6D07127-Bl	ND	2.0	0.25	ug/l							
Lead	ND ND	1.0	0.23	ug/l							
LCS Analyzed: 04/07/2006 (6D07127-BS)		1.0	0.0.0	B/ 1							
Copper	90.7	2.0	0.25	ug/l	80.0		113	85-115			
Lead	91.6	1.0	0.23	ug/l	80.0		114	85-115			
		1.0	0.0.0	48/1				00 110			
Matrix Spike Analyzed: 04/08/2006 (6D0)	,					rce: IPD0					
Copper	91.5	2.0	0.25	ug/l	80.0	5.6	107	70-130			
Lead	90.3	1.0	0.040	ug/l	80.0	0.24	113	70-130			
Matrix Spike Analyzed: 04/10/2006 (6D0)	7127-MS2)				Sou	rce: IPD0	339-01				
Copper	87.3	2.0	0.25	ug/l	80.0	5.3	102	70-130			
Lead	84.9	1.0	0.040	ug/l	80.0	0.15	106	70-130			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD0256 Sampled: 04/04/06
Received: 04/04/06

### METHOD BLANK/QC DATA

### **METALS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D07127 Extracted: 04/07/06	<u>-</u>										
Matrix Spike Dup Analyzed: 04/08/2006	(6D07127-M	SD1)			Sou	rce: IPD	0703-01				
Copper	93.0	2.0	0.25	ug/l	80.0	5.6	109	70-130	2	20	
Lead	91.9	1.0	0.040	ug/l	80.0	0.24	115	70-130	2	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD0256

Sampled: 04/04/06 Received: 04/04/06

### METHOD BLANK/QC DATA

### **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D04136 Extracted: 04/04/06	_										
Blank Analyzed: 04/04/2006 (6D04136-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: 04/04/2006 (6D04136-BS)	1)										
Chloride	4.76	0.50	0.15	mg/l	5.00		95	90-110			
Sulfate	9.53	0.50	0.45	mg/l	10.0		95	90-110			
Matrix Spike Analyzed: 04/04/2006 (6D0	4136-MS1)				Sou	rce: IPD(	)234-12				
Chloride	109	5.0	1.5	mg/l	50.0	66	86	80-120			
Sulfate	268	5.0	4.5	mg/l	100	180	88	80-120			
Matrix Spike Dup Analyzed: 04/04/2006	(6D04136-MS	SD1)			Sou	rce: IPD(	)234-12				
Chloride	106	5.0	1.5	mg/l	50.0	66	80	80-120	3	20	
Sulfate	258	5.0	4.5	mg/l	100	180	78	80-120	4	20	M2
Batch: 6D05046 Extracted: 04/05/06	_										
Blank Analyzed: 04/05/2006 (6D05046-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/05/2006 (6D05046-BS)	1)										M-NR1
Oil & Grease	16.4	5.0	0.94	mg/l	20.0		82	65-120			
LCS Dup Analyzed: 04/05/2006 (6D05046	6-BSD1)										
Oil & Grease	16.5	5.0	0.94	mg/l	20.0		82	65-120	1	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD0256

Sampled: 04/04/06 Received: 04/04/06

### METHOD BLANK/QC DATA

### **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D05071 Extracted: 04/05/06	_										
Blank Analyzed: 04/05/2006 (6D05071-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/05/2006 (6D05071-BS	1)										
Total Dissolved Solids	998	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 04/05/2006 (6D0507	1-DUP1)				Sou	rce: IPD(	242-01				
Total Dissolved Solids	16.0	10	10	mg/l		18			12	10	R-4
Batch: 6D07128 Extracted: 04/07/06	-										
Blank Analyzed: 04/07/2006 (6D07128-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/07/2006 (6D07128-BS	1)										
Total Suspended Solids	975	10	10	mg/l	1000		98	85-115			
Duplicate Analyzed: 04/07/2006 (6D0712	8-DUP1)				Sou	rce: IPD(	270-01				
Total Suspended Solids	64.0	10	10	mg/l		67			5	10	



Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Report Number: IPD0256 Sampled: 04/04/06
Received: 04/04/06

Attention: Bronwyn Kelly

## **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
IPD0256-01	413.1 Oil and Grease	Oil & Grease	mg/l	0	4.8	15
IPD0256-01	Antimony-200.8	Antimony	ug/l	1.20	2.0	6.00
IPD0256-01	Cadmium-200.8	Cadmium	ug/l	1.20	1.0	4.00
IPD0256-01	Chloride - 300.0	Chloride	mg/l	2.40	0.50	150
IPD0256-01	Copper-200.8	Copper	ug/l	26	2.0	14
IPD0256-01	Lead-200.8	Lead	ug/l	64	1.0	5.20
IPD0256-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.71	0.15	10.00
IPD0256-01	Sulfate-300.0	Sulfate	mg/l	6.40	0.50	250
IPD0256-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	67	10	850
IPD0256-01	Thallium-200.8	Thallium	ug/l	0.41	1.0	2.00
IPD0256-01RE1	Copper-200.8	Copper	ug/l	24	2.0	14
IPD0256-01RE1	Lead-200.8	Lead	ug/l	75	1.0	5.20

Sampled: 04/04/06



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD0256 Received: 04/04/06

### DATA QUALIFIERS AND DEFINITIONS

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

M2 The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

**R-4** Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

**RPD** Relative Percent Difference



Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06
Report Number: IPD0256 Received: 04/04/06

Attention: Bronwyn Kelly

### **Certification Summary**

### Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Liquid	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

### **Subcontracted Laboratories**

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: IPD0256-01

Analysis Performed: EDD + Level 4

Samples: IPD0256-01

Page 1 of 1		Field readings: Temp = $55.2^{\circ}$	pH= 7.2	Comments										170,40	Turn around Time: (check)		48 Hours 10 Days 72 Hours Normal	Perchlorate Only 72 Hours		Sample Integrity: (Check) / Intact On Ice:
IPDUSSO	ANALYSIS REQUIRED		SST	,8 <b>0</b> T						×							48	Pe	We	1803 Int
Y FORM		g, TI geners) (413.1)	Recoverable d, Cu, Pb, Hg Grease (EPA	SP, C	×	×	×	×	×						Date/Time:	7486	Date/Time:	Date/Time:		in 44106
F CUSTODY FORM		w w		Preservative Bottle *		3 1B	2A, 2B	3A, 3B	4A,4B	5A, 5B					Received By	Lydy	eived By	eived By		Educado Pa
OLIVOE CHAIN O	Project:	Boeing-SSFL NPDES Routine Outfall 009 Stormwater at WS-13	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Pres	474164 HNO3	HNO3	None	HCI	None	414/24 None					lime:	1462	Date/Time: Receive $1805$	je.		11
tical Version 03,				Container # of Two	Poly-1L 1	Poly-1L 1	Glass- 2 Amber 2	Glass- 2 Amber	Poly-500 2	Poly-500 2					Dat	91/6/10	Date/Tin	Dat		
Del Mar Analytical version 03/01/06 CHAIN OF	Client Name/Address:	MWH-Pasadena 300 North Lake Avenue, Suite 1200 Passadena, CA 91101	Project Manager: Bronwyn Kelly Sampler: 120-120-120	Sample Sample Description Matrix	3	Outfall 009- W	W 600 ile	Outfall 009 W	Outfall 009 W	Outfall 009 W					Relinquished By	Carry Carry	Relinquished By	Relinquished By		



April 12, 2006

Alta Project I.D.: 27550

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 April 06, 2006 under your Project Name "IPD0256". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

**Director of HRMS Services** 

Malle Marer



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



# Section I: Sample Inventory Report Date Received: 4/6/2006

Alta Lab. ID Client Sample ID

27550-001 IPD0256-01

## **SECTION II**

**NPDES - 734** 

Project 27550 Page 3 of 257

Method Blan	ık									EPA Method 1	1613
Matrix:	Aqueous		QC Batch No.:	79	910	Lab	Sample:	0-MB001			
Sample Size:	1.00 L		Date Extracted:	9-	Apr-06	Date	Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225: NA	
					1		Ž	1		•	
Analyte	Conc. (u	ıg/L)	<b>DL</b> a	EMPC b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d Qualifi	iers
2,3,7,8-TCDD		ND	0.000000628			<u>IS</u>	13C-2,3,7,8-TCI	DD	74.5	25 - 164	
1,2,3,7,8-PeCI	DD	ND	0.000000450				13C-1,2,3,7,8-Pe	eCDD	71.4	25 - 181	
1,2,3,4,7,8-Hx	CDD	ND	0.000000804				13C-1,2,3,4,7,8-	HxCDD	74.6	32 - 141	
1,2,3,6,7,8-Hx	CDD	ND	0.000000867				13C-1,2,3,6,7,8-	HxCDD	70.7	28 - 130	
1,2,3,7,8,9-Hx	CDD	ND	0.000000808				13C-1,2,3,4,6,7,	8-HpCDD	75.4	23 - 140	
1,2,3,4,6,7,8-H	IpCDD	ND	0.00000111				13C-OCDD		55.5	17 - 157	
OCDD		0.0000025	59		J		13C-2,3,7,8-TCI	DF	77.3	24 - 169	
2,3,7,8-TCDF		ND	0.000000346				13C-1,2,3,7,8-Pe	eCDF	73.3	24 - 185	
1,2,3,7,8-PeCI	<b>OF</b>	ND	0.000000474				13C-2,3,4,7,8-Pe	eCDF	72.6	21 - 178	
2,3,4,7,8-PeCI	<b>OF</b>	ND	0.000000453				13C-1,2,3,4,7,8-	HxCDF	74.5	26 - 152	
1,2,3,4,7,8-Hx	CDF	ND	0.000000436				13C-1,2,3,6,7,8-	HxCDF	66.9	26 - 123	
1,2,3,6,7,8-Hx	CDF	ND	0.000000334				13C-2,3,4,6,7,8-	HxCDF	71.8	28 - 136	
2,3,4,6,7,8-Hx	CDF	ND	0.000000326				13C-1,2,3,7,8,9-	HxCDF	70.0	29 - 147	
1,2,3,7,8,9-Hx	CDF	ND	0.000000456				13C-1,2,3,4,6,7,	8-HpCDF	66.9	28 - 143	
1,2,3,4,6,7,8-H	IpCDF	ND	0.000000395				13C-1,2,3,4,7,8,	9-HpCDF	72.4	26 - 138	
1,2,3,4,7,8,9-H	IpCDF	ND	0.000000424				13C-OCDF		56.7	17 - 157	
OCDF		ND	0.00000136			CRS	37Cl-2,3,7,8-TC	DD	84.0	35 - 197	
Totals						Foot	tnotes				
Total TCDD		ND	0.000000628			a. Sar	nple specific estimated	detection limit.			
Total PeCDD		ND	0.000000450			b. Est	imated maximum possi	ble concentration.			
Total HxCDD		ND	0.000000828			c. Me	thod detection limit.				
Total HpCDD		ND	0.00000111			d. Lo	wer control limit - uppe	r control limit.			
Total TCDF		ND	0.000000346				•				
Total PeCDF		ND	0.000000463								
Total HxCDF		ND	0.000000473								
Total HpCDF		ND	0.000000408								

Analyst: MAS William J. Luksemburg 12-Apr-2006 09:57 **NPDES - 735** Approved By:

OPR Results					EPA	Method 1613
Matrix: Aqueous Sample Size: 1.00 L		OC Batch No.: Date Extracted:	7910 9-Apr-06	Lab Sample: 0-OPR001  Date Analyzed DB-5: 10-Apr-06	Date Analyze	d DB-225: NA
Analyte	Spike Conc. C	onc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	11.0	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	76.2	25 - 164
1,2,3,7,8-PeCDD	50.0	53.6	35 - 71	13C-1,2,3,7,8-PeCDD	73.8	25 - 181
1,2,3,4,7,8-HxCDD	50.0	53.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	79.3	32 - 141
1,2,3,6,7,8-HxCDD	50.0	53.2	38 - 67	13C-1,2,3,6,7,8-HxCDD	72.2	28 - 130
1,2,3,7,8,9-HxCDD	50.0	53.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.9	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	54.0	35 - 70	13C-OCDD	51.6	17 - 157
OCDD	100	107	78 - 144	13C-2,3,7,8-TCDF	78.6	24 - 169
2,3,7,8-TCDF	10.0	10.9	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	74.4	24 - 185
1,2,3,7,8-PeCDF	50.0	54.1	40 - 67	13C-2,3,4,7,8-PeCDF	75.4	21 - 178
2,3,4,7,8-PeCDF	50.0	54.3	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.7	26 - 152
1,2,3,4,7,8-HxCDF	50.0	53.4	36 - 67	13C-1,2,3,6,7,8-HxCDF	75.6	26 - 123
1,2,3,6,7,8-HxCDF	50.0	52.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	75.6	28 - 136
2,3,4,6,7,8-HxCDF	50.0	51.8	35 - 78	13C-1,2,3,7,8,9-HxCDF	75.1	29 - 147
1,2,3,7,8,9-HxCDF	50.0	52.7	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	68.4	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	52.6	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	75.5	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	52.6	39 - 69	13C-OCDF	56.6	17 - 157
OCDF	100	105	63 - 170	<b>CRS</b> 37Cl-2,3,7,8-TCDD	87.2	35 - 197

Analyst: MAS William J. Luksemburg 12-Apr-2006 09:57

Sample ID:	IPD0256-01									EPA N	Method 1613
Client Data Name: Project: Date Collected: Time Collected:	Del Mar Analy IPD0256 4-Apr-06 0950	rtical, Irvine		Sample Data Matrix: Sample Size:	Aqueous 1.02 L	Lab QC	oratory Data Sample: Batch No.: Analyzed DB-5:	27550-001 7910 11-Apr-06	Date Red Date Ext		6-Apr-06 9-Apr-06 NA
Analyte	Conc. (u	g/L)	DL a	<b>EMPC</b> ^b	Qualifiers		Labeled Stand	ard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD		ND		0.000001	150	<u>IS</u>	13C-2,3,7,8-TCI	DD	69.9	25 - 164	
1,2,3,7,8-PeCD	D	0.00000793			J		13C-1,2,3,7,8-Pe	eCDD	64.6	25 - 181	
1,2,3,4,7,8-HxC	CDD	0.0000142			J		13C-1,2,3,4,7,8-	HxCDD	68.7	32 - 141	
1,2,3,6,7,8-HxC	CDD	0.0000328					13C-1,2,3,6,7,8-	HxCDD	63.1	28 - 130	
1,2,3,7,8,9-HxC	CDD	0.0000270					13C-1,2,3,4,6,7,	8-HpCDD	72.8	23 - 140	
1,2,3,4,6,7,8-H ₁	pCDD	0.000800					13C-OCDD		60.0	17 - 157	
OCDD		0.0103			В		13C-2,3,7,8-TCI	DF	71.3	24 - 169	
2,3,7,8-TCDF		0.00000967					13C-1,2,3,7,8-Pe	eCDF	66.0	24 - 185	
1,2,3,7,8-PeCD	F	0.00000549			J		13C-2,3,4,7,8-Pe	eCDF	66.7	21 - 178	
2,3,4,7,8-PeCD	F	0.00000650			J		13C-1,2,3,4,7,8-	HxCDF	67.1	26 - 152	
1,2,3,4,7,8-HxC	CDF	0.00000830			J		13C-1,2,3,6,7,8-	HxCDF	60.0	26 - 123	
1,2,3,6,7,8-HxC	CDF	0.00000703			J		13C-2,3,4,6,7,8-	HxCDF	65.1	28 - 136	
2,3,4,6,7,8-HxC	CDF	0.00000829			J		13C-1,2,3,7,8,9-	HxCDF	65.1	29 - 147	
1,2,3,7,8,9-HxC	CDF	0.00000172			J		13C-1,2,3,4,6,7,	8-HpCDF	65.8	28 - 143	
1,2,3,4,6,7,8-H ₁	pCDF	0.000165					13C-1,2,3,4,7,8,	9-HpCDF	67.7	26 - 138	
1,2,3,4,7,8,9-H ₁	pCDF	0.0000119			J		13C-OCDF		59.4	17 - 157	
OCDF		0.000853				CRS	37Cl-2,3,7,8-TC	DD	89.1	35 - 197	
Totals						Foo	otnotes				
Total TCDD		0.0000163		0.000022	22	a. Sa	mple specific estimate	d detection limit.			
Total PeCDD		0.0000449		0.000054	15	b. Es	stimated maximum pos	sible concentration.			
Total HxCDD		0.000276				c. M	ethod detection limit.				
Total HpCDD		0.00184				d. L	ower control limit - upp	per control limit.			
Total TCDF		0.0000768		0.000083	30						
Total PeCDF		0.0000781									
Total HxCDF		0.000163		0.000165	5						
Total HpCDF		0.000528									

Analyst: MAS William J. Luksemburg 12-Apr-2006 09:57

### **APPENDIX**

**NPDES - 738** 

### **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	02102011
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



Project 27550

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

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

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

Ph (619) 505-9596 Ph (480) 785-0043

Pa**g**agle)106257

Ph (949) 261-1022

Ph (909) 370-4667

Fax (619) 505-9689

Fax (949) 261-1228

Fax (480) 785-0851 Ph (702) 798-3620

## **SUBCONTRACT ORDER - PROJECT # IPD0256**

		7	
	NG LABORATORY:	RECEIVING LABORATORY:	
Del Mar Analytical - Irvino		Alta Analytical - SUB	
17461 Derian Avenue. Sui	te 100	1104 Windfield Way 2 +5 30	•
Irvine, CA 92614		Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640	
Phone: (949) 261-1022		11	54
Fax: (949) 261-1228	Cl	Fax: (916) 673-0106	
Project Manager: Michele (		J L	
Standard TAT is requeste	ed unless specific due date is requested	=> Due Date: Initials	:
Analysis	Expiration	Comments	
Sample ID: IPD0256-01 W	7ater Sampled: 04/04/06 09:50	Instant Nofication	
1613-Dioxin-HR-Alta	04/11/06 09:50	J flags, 17 congeners, no TEQ, ug/L, sub=Alta	
EDD + Level 4	05/02/06 09:50	Excel EDD email to pm,Include Std logs for Lvl IV	
Containers Supplied:			
1 L Amber (IPD0256-01C)			
1 L Amber (IPD0256-01D)	·		
•	•		
·			
	•		
•			
•			
	κ.		
	•		
	SAMPLE	INTEGRITY:	
All containers intact:		☐ Yes ☐ No Samples Received On Ice:: ☐ Y	∕es □ No
Custody Seals Present:  Ye		☐ Yes ☐ No Samples Received at (temp):	
	4/5/06		
	5	Button & Beno dirt Alblish	0850
Released By	Date Time	Received By Date	Time
			NDDES 744
Released By	Date Time	Received By Date	NPDES - 741 Time

## SAMPLE LOG-IN CHECKLIST

Alta Project #:	27550			_		
	Date/Time	Initial	s:	Locat	ion: WK	?- >-
Samples Arrival:	4/6/06 085	50 48	LB	Shelf/	Rack:	
	Date/Time	Initial	s:	Locat	ion: WR	- 2
Logged In:	4/6/06 100	3 V3	18	Shelf/	Rack:	-3
Delivered By:	FedEx UPS	Cal	DHL		Hand elivered	Other
Preservation:	(Ice ) E	Blue Ice	Dry lo	ce	No	ne
Temp °C /.	Time: (	3900		Thern	nometer ID	: DT-20

					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?					V		
Airbill Trk# 79	20 (	6313	8160				
Sample Container Intact?				•	V		
Sample Custody Seals Intact?							V
Chain of Custody / Sample Documer	ntation Pr	resent?			V		
COC Anomaly/Sample Acceptance F	orm con	npleted?				V	
If Chlorinated or Drinking Water Sam	ples, Ac	ceptable P	reservation?				V
Na ₂ S ₂ O ₃ Preservation Documented?			coc	Sam Conta	•	(No	ne
Shipping Container	Alta	Client	Retain	Ret	urn	Disp	ose

Comments:

## **APPENDIX G**

## **Section 32**

Outfall 009, April 04, 2006

MECX Data Validation Reports

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Package ID B4DF92

Task Order 1261.001D.01

 $MEC^{X}$ 

12269 East Vassar Drive

Aur	ora, CO 80014	SDG No. IPD0256 No. of Analyses 1
	Laboratory Alta	Date: June 5, 2006
	Reviewer K. Shadowli	
ŀ	Analysis/Method Dioxin/Furar	n by Method 1613 K. Kradan It
ACT	TION ITEMS ^a	7)
	Case Narrative	
·	Deficiencies	
2.	Out of Scope Analyses	
3.	Analyses Not Conducted	
4.	Missing Hardcopy	
	Deliverables	
5.	Incorrect Hardcopy	
	Deliverables	
6.	<b>Deviations from Analysis</b>	Detects below the laboratory lower calibration level were qualified
	Protocol, e.g.,	as estimated.
	Holding Times	Any EMPC was qualified as an estimated nondetect.
	GC/MS Tune/Inst. Performance	Unconfirmed detect for 2,3,7,8-TCDF was qualified as estimated.
	Calibration	
	Method blanks	
	Surrogates	
	Matrix Spike/Dup LCS	
	Field QC	
	Internal Standard Performance	
	Compound Identification	
	Quantitation	
	System Performance  MMENTS ^b	
-00	MIMEIA19	
		meeting contract and/or method requirements.
p [	Differences in protocol have been adopted	by the laboratory but no action against the laboratory is required.



## DATA VALIDATION REPORT

## NPDES Monitoring Program Routine Outfall 009

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD0256

Prepared by

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

**NPDES** IPD0256 D/F

### DATA VALIDATION REPORT

### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD0256

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

0

Reviewer:

K. Shadowlight

Date of Review:

June 5, 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 IPD0256 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 009	IPD0256-01	27550-001	Water	1613

**NPDES** 

IPD0256 D/F

### 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 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 within the temperature limits at 2°C. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

### 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the sample was couriered directly to Del Mar Analytical-Irvine, custody seals were not required. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

### 2.1.3 Holding Times

The sample was extracted and analyzed within one year of collection. No qualifications were required.

#### 2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

### 2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

#### 2.3 **CALIBRATION**

### 2.3.1 Initial Calibration

The initial calibration was analyzed 03/22/2006 on instrument VG-5. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤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 (0-7910-MB001) was extracted and analyzed with the sample in this SDG. Target compound OCDD was detected in the method blank at a concentration below the laboratory calibration level. OCDD was also detected in the site sample; however, the detect in the sample exceeded five times the concentration reported in the method blank and required no qualification. There were no other target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives or false positives. No qualifications were required.

Project: SDG:

**NPDES** IPD0256 D/F

DATA VALIDATION REPORT

Analysis:

### BLANK SPIKES AND LABORATORY CONTROL SAMPLES 2.5

One blank spike (0-7910-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.

#### MATRIX SPIKE/MATRIX SPIKE DUPLICATE 2.6

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.

### **Field Duplicates** 2.7.2

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.

### COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS 2.10

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. A confirmation analysis for the 2,3,7,8-TCDF detect in sample Outfall 009 was not performed by the laboratory as required by Method 1613; therefore, DATA VALIDATION REPORT

Project: SDG: Analysis: NPDES IPD0256 D/F

detect in sample Outfall 009 was not performed by the laboratory as required by Method 1613; therefore, the detect for 2,3,7,8-TCDF was qualified as estimated, "J," in the site sample. 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. Any reported estimated maximum possible concentration (EMPC) was qualified as an estimated nondetect, "UJ." No further qualifications were required.

	Client Data	Del Mar Ana	Del Mar Analytical Tryine	Sample Data	V	Laboratory Data  1 ah Samule: 27550-001	1 Date Received:	6-Apr-06
	Project: Date Collected: Time Collected:	1PD0256 4-Apr-06 0950	,) (cent) to the	Sample Size:	Aducous 1.02 L	5.: ed DB-5:	Date Extracted:  Oate Analyzed DB-225:	9-Apr-06 NA
J &	Analyte	Conc.	(ug/L) DL a	EMPCb	Qualifiers	Labeled Standard	%R LCL-UCL ^d	Oualifiers
2	0378 TCDD		M	0.00000150	150	<u>IS</u> 13C-2,3,7,8-TCDD	69.9 25 - 164	
) K	1,2,1,6-1,CL		0.00000793		<b>-</b>	13C-1,2,3,7,8-PeCDD	64.6 25 - 181	
220	1,2,3,7,8-FECUU 1,2,3,4,8 H./CDD	ייתיי	0.0000142		The state of the s	13C-1,2,3,4,7,8-HxCDD	68.7 32 - 141	
5	1,2,3,4,7,8-HXCDD	ממט	0.0000328			13C-1,2,3,6,7,8-HxCDD	63.1 28 - 130	
	1.2,3,0,7,8-HACDD	(ID)	0.0000270			13C-1,2,3,4,6,7,8-HpCDD	72.8 23 - 140	
	1,2,3,7,0,7-1,1	ממט				13C-OCDD	60.0 17 - 157	W. Princero
	1,2,3,4,0,7,8-HPCDD	npour S	0.00000		В	13C-2,3,7,8-TCDF	71.3 24-169	
2	2278 TCDE		0.0000007			13C-1,2,3,7,8-PeCDF	66.0 24-185	
) (	1.7.3.7.8.DeCDR	) H(	0.00000549		1	13C-2,3,4,7,8-PeCDF	66.7 21 - 178	
	1,2,3,7,9-1 CCDT 7 3 4 7 8-PeCDF	JF	0.00000650			13C-1,2,3,4,7,8-HxCDF	67.1 26 - 152	
	1.2,3,4,7,9-1,001 1.2,3,4,7,8-HxCDF	CDF	0.00000830		Ĺ	13C-1,2,3,6,7,8-HxCDF	60.0 26-123	
	123678-HxCDF	CDF	0.00000703			13C-2,3,4,6,7,8-HxCDF		
	2.3.4.6.7.8-HxCDF	CDF	0.00000829		Ţ	13C-1,2,3,7,8,9-HxCDF		
	1.2.3.7.8.9-HxCDF	CDF	0.00000172	TO (A MARK MARK PARKET DATA AND AND TO A SECURITION OF A SECUR		13C-1,2,3,4,6,7,8-HpCDF		
	1.2.3.4.6.7.8-HpCDF	1 _p CDF	0.000165			13C-1,2,3,4,7,8,9-HpCDF		
000		InCDF	0.0000119		ſ	13C-OCDF		
	OCDE		0.000853			CRS 37CI-2,3,7,8-TCDD	89.1 35 - 197	
	Totals					Footnotes		
	Total TCDD		0.0000163	0.0000222	222	a. Sample specific estimated detection limit.	it	
	Total PeCDD		0.0000449	0.0000545	545	b. Estimated maximum possible concentration.	tion.	
	Total HxCDD		0.000276			c. Method detection limit.		
	Total HbCDD		0.00184			d Lower control limit - upper control limit.		
	Total TCDF		0.0000768	0.0000830	830			
	Total PeCDF		0.0000781					
·	Total HxCDF		0.000163	0.000165	65			
NPD	Total HpCDF		0.000528					
ES - 7	Analyst: MAS		evel II			Approved By: William	William J. Luksemburg 12-Apr-2006 09:57	06 09:57
52								

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX	Package ID: B4MT83
12269 East Vassar Drive	Task Order: 1261.001D.01
Aurora, CO 80014	SDG No.: IPD0256
,	No. of Analyses: 1
Laboratory: Del Mar	Analytical Date: June 6, 2006
Reviewer: P. Meek	s Reviewer's Signature
Analysis/Method: Metals	P. MUS
ACTION ITEMS ^a	
. Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy	
Deliverables	
5. Incorrect Hardcopy	
Deliverables	
6. Deviations from Analysis	Reanalysis rejected in favor of original result and qualifications were
-	Applied for detects below the reporting limit.
Protocol, e.g.,	Applied for detects below the reporting limit.
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS ^b	
COMMETALS	
Annua (1)	
	ot meeting contract and/or method requirements.
	ed by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 009

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPD0256

Prepared by

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

**NPDES** IPD0256

Analysis:

Metals

#### 1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPD0256

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

1

0

No. of Samples:

No. of Reanalyses/Dilutions:

P. Meeks Reviewer:

Date of Review:

June 6, 2006

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

Project:

NPDES IPD0256

SDG: Analysis:

Metals

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 009	IPD0256-01	Water	200.8

SDG: Analysis:

Metals

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

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

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. Outfall 009 was reanalyzed for copper and lead. As the laboratory did not append the MWH ID for the reanalyses with "RE1," the reviewer added this information to the Form I. No sample qualifications were required.

#### 2.1.3 Holding Times

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

#### 2.2 ICP-MS TUNING

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

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals. The laboratory analyzed reporting limit check standards in association with the sample in this SDG. Lead was not recovered in the 0.2 ppb check standard; however, as lead was detected in Outfall 009 at a concentration significantly above the reporting limit, no qualifications were required. All other recoveries were considered to be acceptable. No qualifications were required.

Project:

NPDFS

SDG: Analysis: IPD0256 Metals

DATA VALIDATION REPORT

#### 2.4 **BLANKS**

There were no detects in the method blanks or CCBs associated with the sample in this SDG. No qualifications were required.

#### ICP INTERFERENCE CHECK SAMPLE (ICS A/AB) 2.5

ICSA and ICSAB analyses were performed in association with the sample in this SDG. Copper. which is not spiked into the ICSA solution, was detected above the reporting limit in the ICSA. The reviewer checked the sample analysis for the presence of known interferents. None were noted at concentrations that would require sample qualification. All recoveries were acceptable and no qualifications were required.

#### BLANK SPIKES AND LABORATORY CONTROL SAMPLES 2.6

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

#### 2.7 LABORATORY DUPLICATES

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

#### 2.8 **MATRIX SPIKES**

MS/MSD analyses were performed on Outfall 002 for the ICP-MS analytes. All recoveries and both RPDs were within the laboratory established control limits. No qualifications were required.

#### ICP/MS AND ICP SERIAL DILUTION 2.9

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

#### INTERNAL STANDARDS PERFORMANCE 2.10

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

**B4MT83** 4 Revision 0

Project: SDG: NPDES IPD0256

Analysis:

Metals

#### 2.11 SAMPLE RESULT VERIFICATION

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

Per a request from MWH personnel, the laboratory reanalyzed sample Outfall 002 for copper and lead. As the reanalyses yielded results similar to the original results, the reanalyses, Outfall 002 RE1, were rejected, "R," in favor of the original results. No further qualifications were required.

#### 2.12 FIELD QC SAMPLES

DATA VALIDATION REPORT

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

#### 2.12.1 Field Blanks and Equipment Rinsates

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

## 2.12.2 Field Duplicates

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Report Number: IPD0256

Sampled: 04/04/06

Received: 04/04/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

#### **METALS**

Analyte Sample ID: IPD0256-01 (Outfall 009 - Wa	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifie Rew Qwl	rs  Quel  Code
Reporting Units: ug/l									-	40 85
Antimony	EPA 200.8	6D05074	0.050	2.0	1.2	1	04/05/06	04/05/06	JI	DAR
Cadmium	EPA 200.8	6D05074	0.025	1.0	1.2	1	04/05/06	04/05/06		
Copper	EPA 200.8	6D05074	0.25	2.0	26	1	04/05/06	04/05/06		
Lead	EPA 200.8	6D05074	0.040	1.0	64	1	04/05/06	04/05/06		
Mercury	EPA 245.1	6D05091	0.050	0.20	0.11	1	04/05/06	04/05/06	<b>*</b> J	
Thallium	EPA 200.8	6D05074	0.15	1.0	0.41	1	04/05/06	04/05/06	JJ	DNO
Sample ID: IPD0256-01RE1 (Outfall 009 Reporting Units: ug/l								0.1/0.0/0.5		
Copper	EPA 200.8	6D07127	0.25	2.0	24	1	04/05/06	04/08/06	R	D
Lead	EPA 200.8	6D07127	0.040	1.0	75	1	04/05/06	04/08/06	R	D

* Analysis not validated

**Del Mar Analytical - Irvine** Michele Chamberlin Project Manager

LEVEL IV

## **APPENDIX G**

## **Section 33**

Outfall 009, April 11, 2006 Del Mar Analytical Laboratory Report



#### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/11/06 Received: 04/12/06

Issued: 05/10/06 19:42

#### NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

#### SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX
IPD1230-01 Outfall 009 Water

Reviewed By:

**Del Mar Analytical - Irvine**Michele Chamberlin

Michele Chamberdin

Project Manager



Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 04/11/06
Report Number: IPD1230

Received: 04/12/06

Attention: Bronwyn Kelly

#### **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1230-01 (Outfall 009 - Wa	iter)								
Reporting Units: ug/l									
Antimony	EPA 200.8	6D13067	0.050	2.0	0.77	1	04/13/06	04/15/06	J
Cadmium	EPA 200.8	6D13067	0.025	1.0	0.043	1	04/13/06	04/15/06	J
Copper	EPA 200.8	6D13067	0.25	2.0	2.6	1	04/13/06	04/15/06	В
Lead	EPA 200.8	6D13067	0.040	1.0	0.082	1	04/13/06	04/15/06	B, J
Mercury	EPA 245.1	6D13068	0.050	0.20	ND	1	04/13/06	04/13/06	
Thallium	EPA 200.8	6D13067	0.15	1.0	ND	1	04/13/06	04/15/06	



Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

 Suite 1200
 Sampled: 04/11/06

 Report Number: IPD1230
 Received: 04/12/06

Attention: Bronwyn Kelly

#### **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1230-01 (Outfall 009 - Wa	ter) - cont.								
Reporting Units: mg/l									
Chloride	EPA 300.0	6D12138	0.15	0.50	13	1	04/12/06	04/13/06	
Nitrate/Nitrite-N	EPA 300.0	6D12138	0.080	0.15	2.6	1	04/12/06	04/13/06	
Oil & Grease	EPA 413.1	6D14054	0.89	4.7	ND	1	04/14/06	04/14/06	
Sulfate	EPA 300.0	6D12138	0.45	0.50	49	1	04/12/06	04/13/06	
<b>Total Dissolved Solids</b>	SM2540C	6D13076	10	10	230	1	04/13/06	04/13/06	
Total Suspended Solids	EPA 160.2	6D15045	10	10	ND	1	04/15/06	04/17/06	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Sampled: 04/11/06 Received: 04/12/06

Report Number: IPD1230

#### SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 009 (IPD1230-01) - Water	r				
EPA 300.0	2	04/11/2006 10:35	04/12/2006 19:55	04/12/2006 22:00	04/13/2006 00:59



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD1230

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

#### **METALS**

	B 1/	Reporting	MDI	<b>T</b> T •	Spike	Source	A/ DEG	%REC	DDD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D13067 Extracted: 04/13/06	_										
Blank Analyzed: 04/15/2006 (6D13067-B	LK1)										
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	0.298	2.0	0.25	ug/l							J
Lead	0.0781	1.0	0.040	ug/l							J
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 04/15/2006 (6D13067-BS	1)										
Antimony	72.6	2.0	0.050	ug/l	80.0		91	85-115			
Cadmium	75.9	1.0	0.025	ug/l	80.0		95	85-115			
Copper	76.5	2.0	0.25	ug/l	80.0		96	85-115			
Lead	77.1	1.0	0.040	ug/l	80.0		96	85-115			
Thallium	77.1	1.0	0.15	ug/l	80.0		96	85-115			
Matrix Spike Analyzed: 04/15/2006 (6D1	3067-MS1)				Sou	rce: IPD1	1055-01				
Antimony	74.6	2.0	0.050	ug/l	80.0	0.060	93	70-130			
Cadmium	74.7	1.0	0.025	ug/l	80.0	0.031	93	70-130			
Copper	70.4	2.0	0.25	ug/l	80.0	0.87	87	70-130			
Lead	73.6	1.0	0.040	ug/l	80.0	0.27	92	70-130			
Thallium	76.0	1.0	0.15	ug/l	80.0	0.17	95	70-130			
Matrix Spike Dup Analyzed: 04/15/2006	(6D13067-M	SD1)			Sou	rce: IPD1	1055-01				
Antimony	78.3	2.0	0.050	ug/l	80.0	0.060	98	70-130	5	20	
Cadmium	79.0	1.0	0.025	ug/l	80.0	0.031	99	70-130	6	20	
Copper	73.7	2.0	0.25	ug/l	80.0	0.87	91	70-130	5	20	
Lead	77.7	1.0	0.040	ug/l	80.0	0.27	97	70-130	5	20	
Thallium	80.6	1.0	0.15	ug/l	80.0	0.17	101	70-130	6	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD1230

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

#### **METALS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D13068 Extracted: 04/13/06	_										
Blank Analyzed: 04/13/2006 (6D13068-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/13/2006 (6D13068-BS	1)										
Mercury	8.26	0.20	0.050	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 04/13/2006 (6D1	3068-MS1)				Sou	rce: IPD(	955-05				
Mercury	8.23	0.20	0.050	ug/l	8.00	ND	103	70-130			
Matrix Spike Dup Analyzed: 04/13/2006	(6D13068-MS	5D1)			Sou	rce: IPD(	955-05				
Mercury	8.23	0.20	0.050	ug/l	8.00	ND	103	70-130	0	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD1230

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

#### **INORGANICS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source	%REC	%REC	RPD	RPD Limit	Data Oualifiers
•		Limit	MIDL	Units	Level	Result	70KEC	Limits	KLD	Lillit	Quanners
Batch: 6D12138 Extracted: 04/12/06	_										
Blank Analyzed: 04/12/2006 (6D12138-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: 04/12/2006 (6D12138-BS	1)										
Chloride	4.94	0.50	0.15	mg/l	5.00		99	90-110			M-3
Sulfate	10.1	0.50	0.45	mg/l	10.0		101	90-110			M-3
Batch: 6D13076 Extracted: 04/13/06	_										
Blank Analyzed: 04/13/2006 (6D13076-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/13/2006 (6D13076-BS	1)										
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 04/13/2006 (6D1307	6-DUP1)				Sou	rce: IPD1	1055-01				
Total Dissolved Solids	250	10	10	mg/l		250			0	10	
Batch: 6D14054 Extracted: 04/14/06											
Blank Analyzed: 04/14/2006 (6D14054-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/14/2006 (6D14054-BS	1)										
Oil & Grease	19.1	5.0	0.94	mg/l	20.0		96	65-120			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 009

Report Number: IPD1230

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

#### **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D14054 Extracted: 04/14/06	-										
LCS Dup Analyzed: 04/14/2006 (6D14054	4-BSD1)										
Oil & Grease	17.7	5.0	0.94	mg/l	20.0		88	65-120	8	20	
Matrix Spike Analyzed: 04/14/2006 (6D1	4054-MS1)				Sou	rce: IPD0	915-01				
Oil & Grease	18.3	4.7	0.89	mg/l	18.9	ND	97	65-120			
Matrix Spike Dup Analyzed: 04/14/2006	(6D14054-MS	D1)			Sou	rce: IPD0	915-01				
Oil & Grease	17.4	4.7	0.89	mg/l	18.9	ND	92	65-120	5	25	
Batch: 6D15045 Extracted: 04/15/06	_										
Blank Analyzed: 04/17/2006 (6D15045-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/17/2006 (6D15045-BS)	1)										
Total Suspended Solids	988	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/17/2006 (6D1504	5-DUP1)				Sou	rce: IPD1	202-01				
Total Suspended Solids	192	10	10	mg/l		190			1	10	

Sampled: 04/11/06



MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Report Number: IPD1230 Received: 04/12/06

Attention: Bronwyn Kelly

## **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
IPD1230-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.75	4.7	15
IPD1230-01	Antimony-200.8	Antimony	ug/l	0.77	2.0	6.00
IPD1230-01	Cadmium-200.8	Cadmium	ug/l	0.043	1.0	4.00
IPD1230-01	Chloride - 300.0	Chloride	mg/l	13	0.50	150
IPD1230-01	Copper-200.8	Copper	ug/l	2.60	2.0	14
IPD1230-01	Lead-200.8	Lead	ug/l	0.082	1.0	5.20
IPD1230-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPD1230-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	2.60	0.15	10.00
IPD1230-01	Sulfate-300.0	Sulfate	mg/l	49	0.50	250
IPD1230-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	230	10	850
IPD1230-01	Thallium-200.8	Thallium	ug/l	0.043	1.0	2.00



Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD1230 Sampled: 04/11/06
Received: 04/12/06

Attention: Bronwyn Kelly

#### **DATA QUALIFIERS AND DEFINITIONS**

**B** Analyte was detected in the associated Method Blank.

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).

**ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

**RPD** Relative Percent Difference

Sampled: 04/11/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD1230 Received: 04/12/06

Attention: Bronwyn Kelly

#### **Certification Summary**

#### Del Mar Analytical - Irvine

Matrix	Nelac	California
Water		
Water		
Water	X	X
	Water Water Water Water Water Water Water	Water Water Water 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: IPD1230-01

Analysis Performed: EDD + Level 4

Samples: IPD1230-01

**Del Mar Analytical - Irvine** Michele Chamberlin Project Manager IPD1230

Del Mar Analytical Version 03/01/06 CHAIN OF	alytical	Version 0	33/01/06CHAIP		JSTOL	CUSTODY FORM	<b>∑</b>		1PU1230	_	Page 1 of 1
Client Name/Address	ress.	ALL LANGUE PARTITION OF THE PARTITION OF	Project:						ANALYSIS REQUIRED		
			Boeing-SSFL NPDES	IPDES						i	
MWH-Pasadena	na		Routine Outfall 009	600 II		:sle				<u> </u>	Field readings:
300 North Lake Avenue, Pasadena, CA 91101	enue, Suite 1200 01	1200	Stormwater at WS-13	WS-13		Meta IT ,g				Tel	Temp = .5.7 °
Project Manager: Bronwayn Kelly	Bronwayn k	VIIV	Dhone Number			H əlc					į
riojeu Managel	. Diomysis	, circ	(626) 568-6691			srat ob,				Ta.	5/=
Sampler: ന്യാന് സാഹ് പ്ര	2 082		Fax Number: (626) 568-6515			Recove Cd, Cu, I	☐ (and a	204° NC	881,		, and a second
Sample Sample Description Matrix	ole Container	r # of Cont.	Sampling Date/Time	Preservative	Bottle +	Tota Sb, (			S(1)		CONTRACTOR
+-	ď	-	20/11/F	HNO3	1A	×					
Outfall 009- W	Poly-1L	-		HNO3	18	×					
Outfall 009 W	Glass- Amber	2		None	2A, 2B		×				
Outfall 009 W	Glass- Amber	2		HCI	3A, 3B		×	_			
Outfall 009 W	Poly-500	2	,	None	4A,4B			×			
Outfall 009 W	Poly-500	2	4/1/16	None	5A, 5B				×		
							_				
		_					-				
		-					$\perp$	-			
Relinquished By		α,	Date/Time:	Received By		]	Date/Time	e:		Turn around Time: (check)	e: (check)
1 Street		20/11/4	079/ 10/10	Sol T	00	2	#	90	26/9/	2	- Cays
Relinduished By	,		Date/Time:	Received By			Date/Time	e:		48 Hours	10 Days
Contraction of the contraction o	1.00	14	1/2/06 1955							72 Hours	Normal
Relinquished By		J,	Jate/Time:	Received By		_	Date/Time:	ie:		Perchlorate Only 72 Hours	72 Hours
							5	, ,	1, 6	Metals Only 72 Hours	lours
				3	5	,	L	90.71.1	557	Sample Integrify: (Check)	(Check)
										ווומכו ג	On Ice. V



April 27, 2006

Alta Project I.D.: 27597

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 April 14, 2006 under your Project Name "IPD1230". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

**Director of HRMS Services** 

Marley More



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



# Section I: Sample Inventory Report Date Received: 4/14/2006

Alta Lab. ID Client Sample ID

27597-001 IPD1230-01

## **SECTION II**

NPDES - 776

Method Blank							EPA Method 1613
Matrix: A	Aqueous	QC Batch No.:	7951	Lab Sample:	0-MB001		
Sample Size:	1.00 L	Date Extracted:	20-Apr-06	Date Analyzed DB-5:	24-Apr-06	Date An	alyzed DB-225: NA
			1		1		Ž
Analyte	Conc. (ug/L)	DL a EMPC	Qualifiers	Labeled Standa	rd	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000103		<u>IS</u> 13C-2,3,7,8-TCI	)D	69.9	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000112		13C-1,2,3,7,8-Pe	CDD	62.3	25 - 181
1,2,3,4,7,8-HxCD	DD ND	0.00000217		13C-1,2,3,4,7,8-1	HxCDD	67.3	32 - 141
1,2,3,6,7,8-HxCD	DD ND	0.00000206		13C-1,2,3,6,7,8-1	HxCDD	74.6	28 - 130
1,2,3,7,8,9-HxCD	DD ND	0.00000202		13C-1,2,3,4,6,7,8	3-HpCDD	72.0	23 - 140
1,2,3,4,6,7,8-HpC	CDD ND	0.00000235		13C-OCDD		55.2	17 - 157
OCDD	ND	0.00000532		13C-2,3,7,8-TCI	)F	75.5	24 - 169
2,3,7,8-TCDF	ND	0.00000121		13C-1,2,3,7,8-Pe	CDF	64.4	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000198		13C-2,3,4,7,8-Pe	CDF	66.5	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000190		13C-1,2,3,4,7,8-1	HxCDF	66.2	26 - 152
1,2,3,4,7,8-HxCD	OF ND	0.000000649		13C-1,2,3,6,7,8-1	HxCDF	76.1	26 - 123
1,2,3,6,7,8-HxCD	OF ND	0.000000602		13C-2,3,4,6,7,8-1	HxCDF	74.8	28 - 136
2,3,4,6,7,8-HxCD	OF ND	0.000000650		13C-1,2,3,7,8,9-1	HxCDF	67.9	29 - 147
1,2,3,7,8,9-HxCD	OF ND	0.00000103		13C-1,2,3,4,6,7,8	8-HpCDF	62.5	28 - 143
1,2,3,4,6,7,8-HpC	CDF ND	0.00000122		13C-1,2,3,4,7,8,9	-HpCDF	56.6	26 - 138
1,2,3,4,7,8,9-HpC	CDF ND	0.00000155		13C-OCDF		47.8	17 - 157
OCDF	ND	0.00000560		<b>CRS</b> 37Cl-2,3,7,8-TCl	DD	83.1	35 - 197
Totals				Footnotes			
Total TCDD	ND	0.00000103		a. Sample specific estimated of	letection limit.		
Total PeCDD	ND	0.00000112		b. Estimated maximum possib	le concentration.		
Total HxCDD	ND	0.00000207		c. Method detection limit.			
Total HpCDD	ND	0.00000235		d. Lower control limit - upper	control limit.		
Total TCDF	ND	0.00000121					
Total PeCDF	ND	0.00000194					
Total HxCDF	ND	0.000000713					
Total HpCDF	ND	0.00000136					

William J. Luksemburg 27-Apr-2006 09:53 **NPDES - 777** Analyst: MAS Approved By:

OPR Results					EPA	Method 1613
Matrix: Aqueous Sample Size: 1.00 L	`	C Batch No.:	7951 20-Apr-06	Lab Sample: 0-OPR001  Date Analyzed DB-5: 24-Apr-06	Date Analyze	d DB-225: NA
Analyte	Spike Conc. C	onc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	10.2	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	56.3	25 - 164
1,2,3,7,8-PeCDD	50.0	49.1	35 - 71	13C-1,2,3,7,8-PeCDD	52.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0	50.2	35 - 82	13C-1,2,3,4,7,8-HxCDD	52.6	32 - 141
1,2,3,6,7,8-HxCDD	50.0	49.2	38 - 67	13C-1,2,3,6,7,8-HxCDD	57.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	52.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	51.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	51.5	35 - 70	13C-OCDD	36.7	17 - 157
OCDD	100	101	78 - 144	13C-2,3,7,8-TCDF	61.9	24 - 169
2,3,7,8-TCDF	10.0	9.66	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	52.3	24 - 185
1,2,3,7,8-PeCDF	50.0	46.2	40 - 67	13C-2,3,4,7,8-PeCDF	56.1	21 - 178
2,3,4,7,8-PeCDF	50.0	47.5	34 - 80	13C-1,2,3,4,7,8-HxCDF	49.5	26 - 152
1,2,3,4,7,8-HxCDF	50.0	48.7	36 - 67	13C-1,2,3,6,7,8-HxCDF	56.3	26 - 123
1,2,3,6,7,8-HxCDF	50.0	49.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	56.6	28 - 136
2,3,4,6,7,8-HxCDF	50.0	48.7	35 - 78	13C-1,2,3,7,8,9-HxCDF	57.2	29 - 147
1,2,3,7,8,9-HxCDF	50.0	48.1	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	46.0	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	51.4	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	49.7	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	50.4	39 - 69	13C-OCDF	40.6	17 - 157
OCDF	100	104	63 - 170	<u>CRS</u> 37Cl-2,3,7,8-TCDD	67.5	35 - 197

Analyst: MAS William J. Luksemburg 27-Apr-2006 09:53

Sample ID: IPD1	1230-01								EPA N	Method 1613
Client Data			Sample Data		Lab	oratory Data				
	Mar Analytical, Irvine		Matrix:	Aqueous	Lab	Sample:	27597-001	Date Re	ceived:	14-Apr-06
Project: IPD1 Date Collected: 11-A	1230 Apr-06		Sample Size:	1.00 L	QC I	Batch No.:	7951	Date Ex	tracted:	20-Apr-06
Time Collected: 1035					Date	Analyzed DB-5:	24-Apr-06	Date An	alyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL a	<b>EMPC</b> ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000001	16		<u>IS</u>	13C-2,3,7,8-TCD	D	66.6	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000	879			13C-1,2,3,7,8-Pe	CDD	65.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.000002	08			13C-1,2,3,4,7,8-H	łxCDD	68.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.000002	02			13C-1,2,3,6,7,8-H	łxCDD	70.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.000001	97			13C-1,2,3,4,6,7,8	-HpCDD	71.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.000003	18			13C-OCDD		55.9	17 - 157	
OCDD	0.00000678			J		13C-2,3,7,8-TCD	F	71.8	24 - 169	
2,3,7,8-TCDF	ND	0.000001	05			13C-1,2,3,7,8-Pe	CDF	62.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000001	62			13C-2,3,4,7,8-Pe	CDF	66.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000001	43			13C-1,2,3,4,7,8-H	IxCDF	68.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000	660			13C-1,2,3,6,7,8-H	HxCDF	70.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000	648			13C-2,3,4,6,7,8-H	HxCDF	70.7	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000	641			13C-1,2,3,7,8,9-H	IxCDF	68.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000001	01			13C-1,2,3,4,6,7,8	-HpCDF	60.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000	985			13C-1,2,3,4,7,8,9	-HpCDF	62.9	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000001	08			13C-OCDF		58.9	17 - 157	
OCDF	ND	0.000002	78		CRS	37Cl-2,3,7,8-TCL	)D	78.9	35 - 197	
Totals					Foo	tnotes				
Total TCDD	ND	0.000001	16		a. Sa	mple specific estimated	detection limit.			
Total PeCDD	ND	0.000000	879		b. Es	timated maximum possi	ible concentration.			
Total HxCDD	ND	0.000002	02		c. M	ethod detection limit.				
Total HpCDD	ND	0.000003	18		d. Lo	ower control limit - uppe	er control limit.			
Total TCDF	ND	0.000001	05							
Total PeCDF	ND	0.000001	52							
Total HxCDF	ND	0.000000	725							
Total HpCDF	ND	0.000001	03							

Analyst: MAS William J. Luksemburg 27-Apr-2006 09:53

### **APPENDIX**

**NPDES - 780** 

Project 27597 Page 7 of 229

#### **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	02102011
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 B-120, Phoenix, AZ 85044

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

Ph (702) 798-3620

Ph (949) 261-1022

Ph (909) 370-4667 Fax (909) 370-1046 Fax (619) 505-9689

Fax (949) 261-1228

Ph (619) 505-9596 Ph (480) 785-0043

Fax (480) 785-0851 Fax (702) 798-3621

# **SUBCONTRACT ORDER - PROJECT # IPD1230**

SEND Del Mar Analytical - Irvin 17461 Derian Avenue. Su Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele	ite 100	RECEIVING La Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106	aboratory: 27597 0°C
Standard TAT is request	ted unless specific due date is reque	sted => Due Date:	Initials:
Analysis	Expiration	Comments	
Sample ID: IPD1230-01 V 1613-Dioxin-HR-Alta EDD + Level 4	Vater Sampled: 04/11/06 10:35 04/18/06 10:35 05/09/06 10:35	Instant Notication J flags,17 congeners,no TEQ,ug/L,sub=A Excel EDD email to pm,Include Std logs	
Containers Supplied: 1 L Amber (IPD1230-01C) 1 L Amber (IPD1230-01D)			
	•		
	SAM	IPLE INTEGRITY:	
All containers intact: Y Custody Seals Present: Y	es D No Sample labels/COC ag	rree:   Yes   No   Samples Receive	
Released By	4/13/06 Date Time	Boltoni of Benedict	4/14/06 0900 Date Time
	i i i i i i i i i i i i i i i i i i i	Accounted by	Zaio Timo

Received By

Date

Time

Date

NPDES - 783

## SAMPLE LOG-IN CHECKLIST

Alta Project #: 27597

	Date/Time		Initials	s:	Locat	ion: $\omega$ $\kappa$	2-2
Samples Arrival:	4/14/06	0980	UB.	QB	Shelf/	Rack:	
	Date/Time		Initial	s:	Locat	ion: WR	- )
Logged In:	4/14/06 10	15	Y	320	Shelf/	Rack: C	-2
Delivered By:	FedEx UP	rs	Cal	DHL	1	Hand elivered	Other
Preservation:	(clce)	Blue	lce	Dry Io	e .	No	ne
Temp °C O°C	Time	e: 090	)5		Thern	nometer ID	: DT-20

					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?							
Airbill Trk# 79	108	8600	3313				
Sample Container Intact?					V		
Sample Custody Seals Intact?							V
Chain of Custody / Sample Documentation Present?							
COC Anomaly/Sample Acceptance F	orm cor	mpleted?				V	
If Chlorinated or Drinking Water Sam	ıples, Ac	ceptable P	reservation?				
Na ₂ S ₂ O ₃ Preservation Documented?			COC	Sam Conta	٠ (	No	ne
Shipping Container	Alta	Client	Retain	Ret	urn	Disp	ose

Comments:

# **APPENDIX G**

# **Section 34**

Outfall 009, April 11, 2006

MECX Data Validation Reports

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

 $\mathsf{MEC}^\mathsf{X}$ 

ME	C ^X		Package ID	B4DF83
122	269 East Vassar Drive		Task Order	1261.001D.01
Aur	ora, CO 80014		SDG No.	IPD1230
			No. of Analyses	1
	Laboratory Alta		Date: May	21, 2006
	Reviewer K. Shadowl	ight	Reviewer's	Signature
1	Analysis/Method <u>Dioxin/Fura</u>	n by Method 1613	Kul	Shadr (1)
ACT	FION ITEMS ^a			
	Case Narrative			
	Deficiencies			
2.	Out of Scope Analyses			
3.	Analyses Not Conducted	**************************************		
4	Missing Hardcopy			
4.	Deliverables			
	Denverables		waana ahaan ahaan ka aan aan aan aan aan aa ahaan book aa aa ah aa	
5.	Incorrect Hardcopy			
J.	Deliverables			
6.	Deviations from Analysis	Detects below the lat	oratory lower calib	ration level were qualified
	Protocol, e.g.,	as estimated.		
	Holding Times			
	GC/MS Tune/Inst. Performance			
	Calibration	Amende and deleted a risk of the first remark to a modern agreement to the constraint of the first of the fir		
	Method blanks			
	Surrogates			
	Matrix Spike/Dup LCS			
	Field QC			
	Internal Standard Performance			
	Compound Identification			
	Quantitation			
	System Performance	T		
CO	MMENTS ^b			
ļ				
a c	uhaantraatad analytical laboratory is not	nooting contract and/or recting	nd requirements	
1	ubcontracted analytical laboratory is not r ifferences in protocol have been adopted	<del>-</del>	•	is required.



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 009

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD1230

Prepared by

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

SDG: Analysis:

**NPDES** IPD1230 D/F

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD1230

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

1 0

No. of Reanalyses/Dilutions:

Reviewer:

K. Shadowlight

Date of Review:

May 21, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^x Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: NI SDG: IPE Analysis:

NPDES IPD1230 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 009	IPD1230-01	27597-001	Water	1613

**NPDES** Project: IPD1230 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 frozen or damaged, 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: IPD1230 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  $\leq$ 20% for the 16 native compounds (calibration by isotope dilution) and  $\leq$ 35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

## 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VER was acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

## 2.4 BLANKS

One method blank (0-7951-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 (0-7951-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.

Project: NPDES SDG: IPD1230 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. No further qualifications were required.

	Sample ID:	<b>IPD1230-01</b> ()u+fq(	8 7					EPA M	EPA Method 1613
	Client Data			Sample Data		Laboratory Data			
	Name:	Del Mar Analytical, Irvine		Matrix:	Aqueous	Lab Sample:	27597-001	Date Received:	14-Apr-06
Re. J.	Date Collected: Time Collected:	11-Apr-06 1035		Sample Size:	1.00 L	QC Batch No.: Date Analyzed DB-5:	7951 24-Apr-06	Date Extracted: Date Analyzed DB-225:	20-Apr-06 NA
qual S	Analyte	Conc. (ug/L)	DL a	EMPCb	Qualifiers	Labeled Standard	ard	%R LCL-UCL ^d	Oualifiers
2-	2,3,7,8-TCDD	N ON	0.00000116	9		<u>IS</u> 13C-2,3,7,8-TCDD	QC	66.6 25 - 164	
	1,2,3,7,8-PeCDD	ON ON	0.000000879	79		13C-1,2,3,7,8-PeCDD	CDD	65.2 25 - 181	
	1,2,3,4,7,8-HxCDD	OD QQC	0.00000208	<b>~</b>		13C-1,2,3,4,7,8-HxCDD	HxCDD	68.5 32 - 141	
	1,2,3,6,7,8-HxCDD	CDD ND	0.00000202	2		13C-1,2,3,6,7,8-HxCDD	HxCDD	70.8 28 - 130	
	1,2,3,7,8,9-HxCDD	CDD ND	0.00000197			13C-1,2,3,4,6,7,8-HpCDD	8-HpCDD	71,0 23 - 140	
>	1,2,3,4,6,7,8-HpCDD		0.00000318	∞0		13C-OCDD		55.9 17-157	
Ah	പ്രാവ	0.00000678			_	13C-2,3,7,8-TCDF	失	71.8 24 - 169	
3	2,3,7,8-TCDF	N	0.00000105	5		13C-1,2,3,7,8-PeCDF	CDF	62.4 24 - 185	
	1,2,3,7,8-PeCDF	Q	0.00000162	2		13C-2,3,4,7,8-PeCDF	ČDF	66.8 21 - 178	
	2,3,4,7,8-PeCDF	AD ND	0.00000143	3		13C-1,2,3,4,7,8-HxCDF	HxCDF	68.0 26 - 152	
	1,2,3,4,7,8-HxCDF	DF ND	0.000000660	8		13C-1,2,3,6,7,8-HxCDF	HxCDF	70.2 26 - 123	
	1,2,3,6,7,8-HxCDF	CDF ND	0.000000648	48		13C-2,3,4,6,7,8-HxCDF	HxCDF	70.7 28 - 136	
	2,3,4,6,7,8-HxCDF	ODF ND	0.000000641			13C-1,2,3,7,8,9-HxCDF	HxCDF	68.0 29 - 147	
	1,2,3,7,8,9-HxCDF		0.00000101			13C-1,2,3,4,6,7,8-HpCDF	8-HpCDF	60.3 28 - 143	
	1,2,3,4,6,7,8-HpCDF	pCDF ND	0.000000985	85		13C-1,2,3,4,7,8,9-HpCDF	-HpCDF	62.9 26 - 138	
	1,2,3,4,7,8,9-HpCDF	pCDF ND	0.00000108	<b>~</b>		13C-OCDF		58.9 17 - 157	
<b>-</b> >	OCDF	Ð	0.00000278	· ·		CRS 37CI-2,3,7,8-TCDD	OD	78.9 35 - 197	
	Totals					Footnotes			
3	Total TCDD	QN	0.00000116	5		a. Sample specific estimated detection limit	detection limit.		
	Total PeCDD	2	0.000000879	62		b. Estimated maximum possible concentration.	ible concentration.		
	Total HxCDD	Ð	0.00000202	2		c. Method detection limit.			
	Total HpCDD	Q	0.00000318	<b>«</b>		d. Lower control limit - upper control limit	er control limit.		
	Total TCDF	Ð	0.00000105	<b>~</b>					
	Total PeCDF	Ð	0.00000152	2					
	Total HxCDF	N N	0.000000725	25					
NP	Total HpCDF	NO OX	0.00000103	9					
DES	Analyst: MAS					Approved By:	William J. Luksemburg	emburg 27-Apr-2006 09:53	09:53
- 79		My 10							
Proje	Project 27597	7							Page 6 of
1									, , , ,

# **APPENDIX G**

## **Section 35**

Outfall 010, April 05, 2006 Del Mar Analytical Laboratory Report



## LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/05/06 Received: 04/05/06

Issued: 04/30/06 21:06

### NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

### SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX

IPD0426-01 Outfall 010 Water

Reviewed By:

**Del Mar Analytical - Irvine** Michele Chamberlin

Michele Chamberdin

Project Manager



Pasadena, CA 91101

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0426 Received: 04/05/06

Attention: Bronwyn Kelly

## **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0426-01 (Outfall 010 - Wa	ter)								
Reporting Units: ug/l									
Antimony	EPA 200.8	6D06072	0.050	2.0	0.33	1	04/06/06	04/07/06	J
Cadmium	EPA 200.8	6D06072	0.025	1.0	0.042	1	04/06/06	04/07/06	J
Copper	EPA 200.8	6D06072	0.25	2.0	2.8	1	04/06/06	04/07/06	
Lead	EPA 200.8	6D06072	0.040	1.0	1.1	1	04/06/06	04/07/06	
Mercury	EPA 245.1	6D06061	0.050	0.20	ND	1	04/06/06	04/06/06	
Thallium	EPA 200.8	6D06072	0.15	1.0	ND	1	04/06/06	04/07/06	



Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0426 Pasadena, CA 91101 Received: 04/05/06

Attention: Bronwyn Kelly

## **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0426-01 (Outfall 010 - '	Water) - cont.								
Reporting Units: mg/l									
Chloride	EPA 300.0	6D06048	0.15	0.50	7.1	1	04/06/06	04/06/06	
Nitrate/Nitrite-N	EPA 300.0	6D06048	0.080	0.15	0.19	1	04/06/06	04/06/06	
Oil & Grease	EPA 413.1	6D06049	0.89	4.7	0.94	1	04/06/06	04/06/06	J
Sulfate	EPA 300.0	6D06048	0.45	0.50	5.1	1	04/06/06	04/06/06	
<b>Total Dissolved Solids</b>	SM2540C	6D06066	10	10	150	1	04/06/06	04/06/06	
<b>Total Suspended Solids</b>	EPA 160.2	6D11091	10	10	22	1	04/11/06	04/11/06	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 010

Sampled: 04/05/06

Report Number: IPD0426

Received: 04/05/06

## SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 010 (IPD0426-01) - Water	r				
EPA 300.0	2	04/05/2006 10:20	04/05/2006 18:50	04/06/2006 09:30	04/06/2006 13:33



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 010

Report Number: IPD0426

Sampled: 04/05/06 Received: 04/05/06

## METHOD BLANK/QC DATA

## **METALS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D06061 Extracted: 04/06/06	_										
Blank Analyzed: 04/06/2006 (6D06061-B	[ <b>[ [ [ ]</b> 1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/06/2006 (6D06061-BS)	D										
Mercury	8.10	0.20	0.050	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 04/06/2006 (6D0	6061-MS1)				Sou	rce: IPD(	320-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06061-MS)	D1)			Sou	rce: IPD(	320-01				
Mercury	8.17	0.20	0.050	ug/l	8.00	ND	102	70-130	2	20	
Batch: 6D06072 Extracted: 04/06/06	=										
Blank Analyzed: 04/06/2006-04/07/2006 (	annan <del>to</del> di k	1)									
Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.015	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.075	ug/l							
LCS Analyzed: 04/06/2006-04/07/2006 (6.	D06072-BS1)										
Antimony	77.5	2.0	0.18	ug/l	80.0		97	85-115			
Cadmium	78.2	1.0	0.015	ug/l	80.0		98	85-115			
Copper	81.8	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.3	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	78.4	1.0	0.075	ug/l	80.0		98	85-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 010

Report Number: IPD0426

Sampled: 04/05/06 Received: 04/05/06

## METHOD BLANK/QC DATA

## **METALS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06072 Extracted: 04/06/06	<u>'</u>										
					~						
Matrix Spike Analyzed: 04/06/2006-04/0	//2006 (6D060	)72-MS1)			Sou	rce: IPD0	0061-03				
Antimony	79.1	2.0	0.18	ug/l	80.0	ND	99	70-130			
Cadmium	77.5	1.0	0.015	ug/l	80.0	ND	97	70-130			
Copper	79.0	2.0	0.25	ug/l	80.0	ND	99	70-130			
Lead	80.0	1.0	0.040	ug/l	80.0	ND	100	70-130			
Thallium	81.7	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Analyzed: 04/07/2006 (6D0	6072-MS2)				Sou	rce: IPD0	061-04				
Antimony	78.7	2.0	0.18	ug/l	80.0	ND	98	70-130			
Cadmium	78.4	1.0	0.015	ug/l	80.0	ND	98	70-130			
Copper	79.2	2.0	0.25	ug/l	80.0	1.3	97	70-130			
Lead	79.5	1.0	0.040	ug/l	80.0	0.060	99	70-130			
Thallium	81.6	1.0	0.075	ug/l	80.0	ND	102	70-130			
Matrix Spike Dup Analyzed: 04/07/2006	(6D06072-MS	SD1)			Sou	rce: IPD(	061-03				
Antimony	76.9	2.0	0.18	ug/l	80.0	ND	96	70-130	3	20	
Cadmium	76.0	1.0	0.015	ug/l	80.0	ND	95	70-130	2	20	
Copper	76.0	2.0	0.25	ug/l	80.0	ND	95	70-130	4	20	
Lead	77.5	1.0	0.040	ug/l	80.0	ND	97	70-130	3	20	
Thallium	79.2	1.0	0.075	ug/l	80.0	ND	99	70-130	3	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 010

Report Number: IPD0426

Sampled: 04/05/06 Received: 04/05/06

## METHOD BLANK/QC DATA

## **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06048 Extracted: 04/06/06	: <u> </u>										
	_										
Blank Analyzed: 04/06/2006 (6D06048-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: 04/06/2006 (6D06048-BS	1)										
Chloride	4.78	0.50	0.15	mg/l	5.00		96	90-110			
Sulfate	9.63	0.50	0.45	mg/l	10.0		96	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	6048-MS1)				Sou	rce: IPD(	0419-01				
Chloride	13.5	0.50	0.15	mg/l	5.00	8.7	96	80-120			
Sulfate	33.2	0.50	0.45	mg/l	10.0	23	102	80-120			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06048-MS	SD1)			Sou	rce: IPD(	0419-01				
Chloride	13.7	0.50	0.15	mg/l	5.00	8.7	100	80-120	1	20	
Sulfate	33.9	0.50	0.45	mg/l	10.0	23	109	80-120	2	20	
Batch: 6D06049 Extracted: 04/06/06	<u>.</u>										
Blank Analyzed: 04/06/2006 (6D06049-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/06/2006 (6D06049-BS	1)										M-NR1
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			
LCS Dup Analyzed: 04/06/2006 (6D0604	9-BSD1)										
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120	19	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 010

Report Number: IPD0426

Sampled: 04/05/06 Received: 04/05/06

## METHOD BLANK/QC DATA

## **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
<b>Batch: 6D06066 Extracted: 04/06/06</b>	-										
Blank Analyzed: 04/06/2006 (6D06066-Bl	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/06/2006 (6D06066-BS)	1)										
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 04/06/2006 (6D0606	6-DUP1)				Sou	rce: IPD0	419-01				
Total Dissolved Solids	156	10	10	mg/l		160			3	10	
Batch: 6D11091 Extracted: 04/11/06	-										
Blank Analyzed: 04/11/2006 (6D11091-Bl	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/11/2006 (6D11091-BS)	1)										
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115			
<b>Duplicate Analyzed: 04/11/2006 (6D1109</b>	1-DUP1)				Sou	rce: IPD0	412-01				
Total Suspended Solids	326	10	10	mg/l		340			4	10	

Sampled: 04/05/06



MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Report Number: IPD0426 Received: 04/05/06

Attention: Bronwyn Kelly

## **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
IPD0426-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.94	4.7	15
IPD0426-01	Antimony-200.8	Antimony	ug/l	0.33	2.0	6.00
IPD0426-01	Cadmium-200.8	Cadmium	ug/l	0.042	1.0	4.00
IPD0426-01	Chloride - 300.0	Chloride	mg/l	7.10	0.50	150
IPD0426-01	Copper-200.8	Copper	ug/l	2.80	2.0	14
IPD0426-01	Lead-200.8	Lead	ug/l	1.10	1.0	5.20
IPD0426-01	Mercury - 245.1	Mercury	ug/l	0.022	0.20	0.20
IPD0426-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.19	0.15	10.00
IPD0426-01	Sulfate-300.0	Sulfate	mg/l	5.10	0.50	250
IPD0426-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	150	10	850
IPD0426-01	Thallium-200.8	Thallium	ug/l	0.014	1.0	2.00



Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Sampled: 04/05/06 Report Number: IPD0426 Received: 04/05/06

Attention: Bronwyn Kelly

## 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.

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

**ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

**RPD** Relative Percent Difference



Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Pasadena, CA 91101 Report Number: IPD0426 Received: 04/05/06

Attention: Bronwyn Kelly

## **Certification Summary**

## Del Mar Analytical - Irvine

Matrix	Nelac	California
Water		
Water		
Water	X	X
	Water Water Water Water Water Water Water	Water Water Water 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 1613-Dioxin-HR-Alta Analysis Performed:

Samples: IPD0426-01

Analysis Performed: EDD + Level 4

Samples: IPD0426-01

IPDO476 Page 1 of 1

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ED	Field readings:	Temp = 59 '	pH= 7.3	Comments														Turn around Time: (check) 24 Hours 5 Days	48 Hours 10 Days 72 Hours Normal	Perchlorate Only 72 Hours	Metals Only 72 Hours	Sample integraly. Concord
ANALYSIS REQUIRED				881 ,8	LD:						×							888			(850	
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	PDES 010	004			Preservative	HNO3	HNO3	None	HCI	None	None							Received By	Received By	Received By		3
Project:	Boeing-SSFL NPDES Routine Outfall 010 Stormwater at Building 203		Phone Number: (626) 568-6691	Fax Number: (626) 568-6515	Sampling Date/Time	4/5/86				$\rightarrow$	4/2/04			7.7				Date/Time: 4/2/66 . 555	me.	ine:		
	C	200	elly		# of Cont.	_	-	2	2	2	2				_	-		2/2	2 3	5		
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e/Addre	saden	3A 9110	nager:	er of	Sample Matrix	3	W	Μ	Š	3	≥				_	_		d By	1 20 B	ed By	<b>&gt;</b>	
Client Name/Address	MWH-Pasadena	Pasadena, CA 91101	Project Manager: Bronwyn Kelly	Sampler: Brrosg R	Sample	Outfall 010	Outfall 019- Oup	Outfall 010	Ontial 0:0	Outfall 010	Outfall 010							Relinquished By	Relinquisted By	Relinquished By		J. D. I

2040

NPDES - 806



April 13, 2006

Alta Project I.D.: 27566

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 April 07, 2006 under your Project Name "IPD0426". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

**HRMS Services Director** 



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



# Section I: Sample Inventory Report Date Received: 4/7/2006

Alta Lab. ID Client Sample ID

27566-001 IPD0426-01

## **SECTION II**

**NPDES - 809** 

Method Blank				EPA Method 1613
Matrix: Aque	ous	QC Batch No.: 7918	Lab Sample: 0-MB001	
Sample Size: 1.00	0 L	Date Extracted: 10-Apr-06	Date Analyzed DB-5: 11-Apr-06	Date Analyzed DB-225: NA
	<b>0 2</b>		2 mo 1 mmy 200 2 2 0	2 at 1 many 200 2 2 2 2 2 2 2 1 1 1 1
Analyte	Conc. (ug/L)	DL ^a EMPC ^b Qualifie	rs Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000788	<u>IS</u> 13C-2,3,7,8-TCDD	72.2 25 - 164
1,2,3,7,8-PeCDD	ND	0.000000469	13C-1,2,3,7,8-PeCDD	73.0 25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000114	13C-1,2,3,4,7,8-HxCDD	75.7 32 - 141
1,2,3,6,7,8-HxCDD	ND	0.0000120	13C-1,2,3,6,7,8-HxCDD	67.3 28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000113	13C-1,2,3,4,6,7,8-HpCDD	69.6 23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.0000167	13C-OCDD	44.8 17 - 157
OCDD	ND	0.0000150	13C-2,3,7,8-TCDF	77.0 24 - 169
2,3,7,8-TCDF	ND	0.00000832	13C-1,2,3,7,8-PeCDF	72.9 24 - 185
1,2,3,7,8-PeCDF	ND	0.00000866	13C-2,3,4,7,8-PeCDF	77.1 21 - 178
2,3,4,7,8-PeCDF	ND	0.00000754	13C-1,2,3,4,7,8-HxCDF	70.7 26 - 152
1,2,3,4,7,8-HxCDF	ND	0.00000479	13C-1,2,3,6,7,8-HxCDF	66.8 26 - 123
1,2,3,6,7,8-HxCDF	ND	0.00000466	13C-2,3,4,6,7,8-HxCDF	70.2 28 - 136
2,3,4,6,7,8-HxCDF	ND	0.00000465	13C-1,2,3,7,8,9-HxCDF	68.4 29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000684	13C-1,2,3,4,6,7,8-HpCDF	61.1 28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.00000806	13C-1,2,3,4,7,8,9-HpCDF	67.5 26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.00000832	13C-OCDF	49.1 17 - 157
OCDF	ND	0.00000337	<u>CRS</u> 37Cl-2,3,7,8-TCDD	86.2 35 - 197
Totals			Footnotes	
Total TCDD	ND	0.00000788	a. Sample specific estimated detection limit.	
Total PeCDD	ND	0.00000120	b. Estimated maximum possible concentration.	
Total HxCDD ND		0.00000116	c. Method detection limit.	
Total HpCDD	ND	0.00000167	d. Lower control limit - upper control limit.	
Total TCDF	ND	0.000000832		
Total PeCDF	ND	0.00000808		
Total HxCDF	ND	0.000000515		
Total HpCDF	ND	0.00000818		

William J. Luksemburg 13-Apr-2006 07:31 **NPDES - 810** Analyst: MAS Approved By:

OPR Results					EPA	Method 1613
Matrix: Aqueous Sample Size: 1.00 L		C Batch No.: ate Extracted:	7918 10-Apr-06	Lab Sample: 0-OPR001  Date Analyzed DB-5: 11-Apr-06	Date Analyze	d DB-225: NA
Analyte	Spike Conc. Co	onc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	9.88	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	72.6	25 - 164
1,2,3,7,8-PeCDD	50.0	49.8	35 - 71	13C-1,2,3,7,8-PeCDD	75.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0	48.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	81.2	32 - 141
1,2,3,6,7,8-HxCDD	50.0	47.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.4	28 - 130
1,2,3,7,8,9-HxCDD	50.0	45.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.0	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	49.2	35 - 70	13C-OCDD	50.8	17 - 157
OCDD	100	99.7	78 - 144	13C-2,3,7,8-TCDF	75.2	24 - 169
2,3,7,8-TCDF	10.0	9.58	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	79.0	24 - 185
1,2,3,7,8-PeCDF	50.0	46.3	40 - 67	13C-2,3,4,7,8-PeCDF	78.4	21 - 178
2,3,4,7,8-PeCDF	50.0	45.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.1	26 - 152
1,2,3,4,7,8-HxCDF	50.0	48.1	36 - 67	13C-1,2,3,6,7,8-HxCDF	78.7	26 - 123
1,2,3,6,7,8-HxCDF	50.0	48.3	42 - 65	13C-2,3,4,6,7,8-HxCDF	77.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0	46.7	35 - 78	13C-1,2,3,7,8,9-HxCDF	80.4	29 - 147
1,2,3,7,8,9-HxCDF	50.0	48.4	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	69.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	47.2	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	76.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	47.9	39 - 69	13C-OCDF	59.3	17 - 157
OCDF	100	96.8	63 - 170	<b>CRS</b> 37Cl-2,3,7,8-TCDD	79.2	35 - 197

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:31

Sample ID:	IPD0426-01									EPA I	Method 1613
Client Data Name: Project: Date Collected: Time Collected:	Del Mar Anal IPD0426 5-Apr-06 1020	ytical, Irvine		Sample Data Matrix: Sample Size:	Aqueous 1.04 L	Lab QC	oratory Data Sample: Batch No.: Analyzed DB-5:	27566-001 7918 11-Apr-06	Date Re Date Ex Date An		7-Apr-06 10-Apr-06 NA
Analyte	Conc. (t	ug/L)	<b>DL</b> a	<b>EMPC</b> ^b	Qualifiers		Labeled Stand	lard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD		ND	0.000000	572		<u>IS</u>	13C-2,3,7,8-TC	DD	66.7	25 - 164	
1,2,3,7,8-PeCD	D	ND	0.000000	745			13C-1,2,3,7,8-P	eCDD	67.9	25 - 181	
1,2,3,4,7,8-HxC	CDD	ND	0.000001	41			13C-1,2,3,4,7,8-	-HxCDD	65.7	32 - 141	
1,2,3,6,7,8-HxC	CDD	ND	0.000002	66			13C-1,2,3,6,7,8-	-HxCDD	61.2	28 - 130	
1,2,3,7,8,9-HxC	CDD	ND	0.000002	48			13C-1,2,3,4,6,7,	8-HpCDD	64.9	23 - 140	
1,2,3,4,6,7,8-H ₁	pCDD	0.0000503					13C-OCDD		42.1	17 - 157	
OCDD		0.000558					13C-2,3,7,8-TC	DF	67.4	24 - 169	
2,3,7,8-TCDF		ND	0.000000	635			13C-1,2,3,7,8-P	eCDF	69.0	24 - 185	
1,2,3,7,8-PeCD	F	ND	0.000000	734			13C-2,3,4,7,8-P	eCDF	70.4	21 - 178	
2,3,4,7,8-PeCD	F	ND	0.000000	674			13C-1,2,3,4,7,8-	-HxCDF	66.3	26 - 152	
1,2,3,4,7,8-HxC	CDF	ND	0.000000	508			13C-1,2,3,6,7,8-	-HxCDF	63.8	26 - 123	
1,2,3,6,7,8-HxC	CDF	ND	0.000000	340			13C-2,3,4,6,7,8-	-HxCDF	63.3	28 - 136	
2,3,4,6,7,8-HxC	CDF	ND	0.000000	365			13C-1,2,3,7,8,9-	-HxCDF	63.2	29 - 147	
1,2,3,7,8,9-HxC	CDF	ND	0.000000	536			13C-1,2,3,4,6,7,	8-HpCDF	55.4	28 - 143	
1,2,3,4,6,7,8-H ₁	pCDF	0.0000114			J		13C-1,2,3,4,7,8,	9-HpCDF	62.5	26 - 138	
1,2,3,4,7,8,9-H	pCDF	ND	0.000000	982			13C-OCDF		49.4	17 - 157	
OCDF		0.000114				CRS	37Cl-2,3,7,8-TC	CDD	84.8	35 - 197	
Totals						Foo	otnotes				
Total TCDD		ND	0.000000	572		a. Sa	mple specific estimate	ed detection limit.			
Total PeCDD		ND	0.000000	745		b. Es	stimated maximum pos	ssible concentration.			
Total HxCDD		0.00000433				c. M	ethod detection limit.				
Total HpCDD		0.0000948				d. Le	ower control limit - up	per control limit.			
Total TCDF		ND	0.000000	635							
Total PeCDF		ND	0.000000	703							
Total HxCDF		0.00000623									
Total HpCDF		0.0000651									

Analyst: MAS William J. Luksemburg 13-Apr-2006 07:31

## **APPENDIX**

**NPDES - 813** 

## **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



Released By

Project 27566

Date

Time

Received By

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 B-120, Phoenix, AZ 85044 Ph (480) 785-0043
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620

Ph (949) 261-1022

Ph (909) 370-4667

Fax (949) 261-1228 Fax (909) 370-1046 Fax (610) 505-9689

Fax (702) 798-3621

**NPDES - 816** 

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Time

Date

Ph (619) 505-9596 Fax (619) 505-9689 Ph (480) 785-0043 Fax (480) 785-0851

## **SUBCONTRACT ORDER - PROJECT # IPD0426**

SENDING Del Mar Analytical - Irvine 17461 Derian Avenue. Suite Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Ch		RECEIVING LABORATORY:  Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106
	unless specific due date is requested	
Analysis	Expiration	Comments
Sample ID: IPD0426-01 Wat 1613-Dioxin-HR-Alta EDD + Level 4	cer Sampled: 04/05/06 10:20 04/12/06 10:20 05/03/06 10:20	Instant Nofication J flags,17 congeners,no TEQ,ug/L,sub=Alta Excel EDD email to pm,Include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IPD0426-01C) 1 L Amber (IPD0426-01D)	,	
<del>-</del>	SAMPLE	INTEGRITY:
All containers intact: Yes Custody Seals Present: Yes	□ No    Sample labels/COC agree:      □ No    Samples Preserved Properly:	☐ Yes ☐ No Samples Received On Ice:: ☐ Yes ☐ No ☐ Yes ☐ No Samples Received at (temp):
Released By	Date Time	Bettma of Binedit 4/7/06 0900 Received By Date Time

## SAMPLE LOG-IN CHECKLIST

Alta Project #: A + 566Date/Time Initials: Location: A - 36Shelf/Rack: ______

Preservation: | Ce | Blue Ice | Dry Ice | None |
Temp °C | I'() | Time: | CAU | Thermometer ID: DT-20

	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?	V ,		
Airbill Trk# 79/4 3658 8291	V		
Sample Container Intact?			/
Sample Custody Seals Intact?			V
Chain of Custody / Sample Documentation Present?	1		
COC Anomaly/Sample Acceptance Form completed?		V	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			V
No. S. O. Proservation Documented?	mple tainer(	No	ne
Shipping Container Alta Client Retain Re	eturn)	Disp	ose
Comments:			

# **APPENDIX G**

# **Section 36**

Outfall 010, April 05, 2006

MECX Data Validation Reports

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID B4DF81 Task Order <u>1261.001D.01</u> 12260 East Vassar Drive Suite 500 SDG No. IPD0426 No. of Analyses 1 Lakewood, CO 80226 Date: May 30, 2006 Laboratory Alta Analytical Reviewer's Signature Reviewer E. Wessling Analysis/Method Dioxin/Furans ACTION ITEMS^a 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^b ^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 010

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD0426

Prepared by

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

SDG: Analysis:

**NPDES** IPD0426 D/F

## 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001D.01

Sample Delivery Group:

DATA VALIDATION REPORT

IPD0426

P. Costa

Project Manager:

Water

Matrix: Analysis:

Dioxins/Furans

QC Level:

Level IV

0

No. of Samples: No. of Reanalyses/Dilutions:

Reviewer:

E. Wessling

Date of Review:

May 30, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG: NPDES IPD0426

Analysis:

D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 010	IPD0426-01	27566-001	Water	1613

DATA VALIDATION REPORT

## 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 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 1.1°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 IPD0426

DATA VALIDATION REPORT

SDG: Analysis:

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 03/22/2006 on instrument VG-5. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs  $\leq$ 20% for the 16 native compounds (calibration by isotope dilution) and  $\leq$ 35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

## 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VER was acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

## 2.4 BLANKS

One method blank (0-7918-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were detected in the method blank. No qualifications were required. 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 (0-7918-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.

Project: SDG: Analysis: NPDES IPD0426

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. A detect below the laboratory lower calibration level was qualified as estimated, "J." This "J" value was annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

and	Client Data   Name:			Sample Data Matrix: Sample Size:	Aqueous 1.04 L	Lab QC	oratory Data Sample: Batch No.: e Analyzed DB-5:	27566-001 7918 11-Apr-06	Date Re Date Ex Date An		7-Apr-06 10-Apr-06 NA
Code	Analyte Con-	c. (ug/L)	DL a	$EMPC^b$	Qualifiers		Labeled Stand	lard	%R	LCL-UCLd	<b>Qualifiers</b>
	2,3,7,8-TCDD	ND	0.0000005	572		<u>IS</u>	13C-2,3,7,8-TC	DD	66.7	25 - 164	
	1,2,3,7,8-PeCDD	ND	0.0000007	745			13C-1,2,3,7,8-P	eCDD	67.9	25 - 181	
	1,2,3,4,7,8-HxCDD	ND	0.0000014	41			13C-1,2,3,4,7,8-	HxCDD	65.7	32 - 141	
	1,2,3,6,7,8-HxCDD	ND	0.0000026	56			13C-1,2,3,6,7,8-	HxCDD	61.2	28 - 130	
	1,2,3,7,8,9-HxCDD	ND	0.0000024	48			13C-1,2,3,4,6,7,	8-HpCDD	64.9	23 - 140	
	1,2,3,4,6,7,8-HpCDD	0.0000503					13C-OCDD		42.1	17 - 157	
	OCDD	0.000558					13C-2,3,7,8-TC	DF	67.4	24 - 169	
	2,3,7,8-TCDF	ND	0.0000006	535			13C-1,2,3,7,8-Pe	eCDF	69.0	24 - 185	
	1,2,3,7,8-PeCDF	ND	0.0000007	734			13C-2,3,4,7,8-Pe	eCDF	70.4	21 - 178	
	2,3,4,7,8-PeCDF	ND	0.0000006	574			13C-1,2,3,4,7,8-	HxCDF	66.3	26 - 152	
	1,2,3,4,7,8-HxCDF	ND	0.0000005	508			13C-1,2,3,6,7,8-	HxCDF	63.8	26 - 123	
	1,2,3,6,7,8-HxCDF	ND	0.0000003	340			13C-2,3,4,6,7,8-	HxCDF	63.3	28 - 136	
	2,3,4,6,7,8-HxCDF	ND	0.0000003	365			13C-1,2,3,7,8,9-	HxCDF	63.2	29 - 147	
	1,2,3,7,8,9-HxCDF	ND	0.0000005	36			13C-1,2,3,4,6,7,	8-HpCDF	55.4	28 - 143	
DNQ	1,2,3,4,6,7,8-HpCDF	0.0000114			J		13C-1,2,3,4,7,8,	9-HpCDF	62.5	26 - 138	
	1,2,3,4,7,8,9-HpCDF	ND	0.0000009	982			13C-OCDF		49.4	17 - 157	
	OCDF	0.000114				CRS	37Cl-2,3,7,8-TC	DD	84.8	35 - 197	
	Totals					Foo	otnotes				
	Total TCDD	ND	0.0000005	72		a. Sa	imple specific estimate	d detection limit.			
	Total PeCDD	ND	0.0000007	45		b. Es	stimated maximum pos	sible concentration.			
Į	Total HxCDD	0.00000433				c. M	ethod detection limit.				
	Total HpCDD	0.0000948				d. Lo	ower control limit - upp	per control limit.			
	Total TCDF	ND	0.0000006	35		1					
	Total PeCDF	ND	0.0000007	03							
	Total HxCDF	0.00000623									
	Total HpCDF	0.0000651									

Analyst: MAS

LEVEL I

Approved By:

William J. Luksemburg 13-Apr-2006 07:31

# **APPENDIX G**

# **Section 37**

Outfall 011, April 05, 2006 Del Mar Analytical Laboratory Report



#### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/05/06 Received: 04/05/06 Issued: 05/07/06 17:11

#### NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

#### SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IPD0421-01	Outfall 011	Water
IPD0421-02	Trip Blank	Water

Reviewed By:

**Del Mar Analytical - Irvine**Michele Chamberlin

Michele Chamberdin

Project Manager

Sampled: 04/05/06



MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Report Number: IPD0421 Received: 04/05/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

## **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: IPD0421-01 (Outfall 011 - W	ater)				Sample	ed: 04/05/0	06		
Reporting Units: ug/l	,						-		
Benzene	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D07007	1.2	5.0	ND	1	04/07/06	04/07/06	
Carbon tetrachloride	EPA 624	6D07007	0.28	5.0	ND	1	04/07/06	04/07/06	
Chloroform	EPA 624	6D07007	0.33	2.0	ND	1	04/07/06	04/07/06	
1,1-Dichloroethane	EPA 624	6D07007	0.27	2.0	ND	1	04/07/06	04/07/06	
1,2-Dichloroethane	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06	
1,1-Dichloroethene	EPA 624	6D07007	0.42	3.0	ND	1	04/07/06	04/07/06	
Ethylbenzene	EPA 624	6D07007	0.25	2.0	ND	1	04/07/06	04/07/06	
Tetrachloroethene	EPA 624	6D07007	0.32	2.0	ND	1	04/07/06	04/07/06	
Toluene	EPA 624	6D07007	0.36	2.0	ND	1	04/07/06	04/07/06	
1,1,1-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06	
1,1,2-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06	
Trichloroethene	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06	
Trichlorofluoromethane	EPA 624	6D07007	0.34	5.0	ND	1	04/07/06	04/07/06	
Vinyl chloride	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06	
Xylenes, Total	EPA 624	6D07007	0.90	4.0	ND	1	04/07/06	04/07/06	
Surrogate: Dibromofluoromethane (80-12	0%)				100 %				
Surrogate: Toluene-d8 (80-120%)					95 %				
Surrogate: 4-Bromofluorobenzene (80-120	0%)				98 %				
Sample ID: IPD0421-02 (Trip Blank - W	ater)				Sample	ed: 04/05/0	06		
Reporting Units: ug/l									
Benzene	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D07007	1.2	5.0	ND	1	04/07/06	04/07/06	
Carbon tetrachloride	EPA 624	6D07007	0.28	5.0	ND	1	04/07/06	04/07/06	
Chloroform	EPA 624	6D07007	0.33	2.0	ND	1	04/07/06	04/07/06	
1,1-Dichloroethane	EPA 624	6D07007	0.27	2.0	ND	1	04/07/06	04/07/06	
1,2-Dichloroethane	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06	
1,1-Dichloroethene	EPA 624	6D07007	0.42	3.0	ND	1	04/07/06	04/07/06	
Ethylbenzene	EPA 624	6D07007	0.25	2.0	ND	1	04/07/06	04/07/06	
Tetrachloroethene	EPA 624	6D07007	0.32	2.0	ND	1	04/07/06	04/07/06	
Toluene	EPA 624	6D07007	0.36	2.0	ND	1	04/07/06	04/07/06	
1,1,1-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06	
1,1,2-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06	
Trichloroethene	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06	
Trichlorofluoromethane	EPA 624	6D07007	0.34	5.0	ND	1	04/07/06	04/07/06	
Vinyl chloride	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06	
Xylenes, Total	EPA 624	6D07007	0.90	4.0	ND	1	04/07/06	04/07/06	
Surrogate: Dibromofluoromethane (80-12	0%)				94 %				
Surrogate: Toluene-d8 (80-120%)	20/				94 %				
Surrogate: 4-Bromofluorobenzene (80-120	1%)				96 %				

## Del Mar Analytical - Irvine

Michele Chamberlin Project Manager



Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Report Number: IPD0421 Sampled: 04/05/06
Received: 04/05/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

## 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: IPD0421-01 (Outfall 011 - Water	er)				Sample	ed: 04/05/0	)6	•	
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	6D10085	1.6	4.7	1.6	0.943	04/10/06	04/12/06	J
2,4-Dinitrotoluene	EPA 625	6D10085	0.19	8.5	ND	0.943	04/10/06	04/12/06	
N-Nitrosodimethylamine	EPA 625	6D10085	0.094	7.5	ND	0.943	04/10/06	04/12/06	
Pentachlorophenol	EPA 625	6D10085	0.094	7.5	ND	0.943	04/10/06	04/12/06	
2,4,6-Trichlorophenol	EPA 625	6D10085	0.094	5.7	ND	0.943	04/10/06	04/12/06	
Surrogate: 2-Fluorophenol (30-120%)					64 %				
Surrogate: Phenol-d6 (35-120%)					73 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					73 %				
Surrogate: Nitrobenzene-d5 (45-120%)					71 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					72 %				
Surrogate: Terphenyl-d14 (45-120%)					85 %				



Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0421 Received: 04/05/06

Attention: Bronwyn Kelly

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0421-01 (Outfall 011 - Wate	er) - cont.				Sample	d: 04/05/0	)6		
Reporting Units: ug/l									
alpha-BHC	EPA 608	6D11131	0.00094	0.0094	ND	0.943	04/11/06	04/12/06	
Surrogate: Decachlorobiphenyl (45-120%)					73 %				
Surrogate: Tetrachloro-m-xvlene (35-115%)					68 %				



Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0421 Received: 04/05/06

Attention: Bronwyn Kelly

#### **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result		Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IPD0421-01 (Outfall 011 - Wa	ater) - cont.				Sample	ed: 04/05/0	)6			
Reporting Units: ug/l										
Copper	EPA 200.8	6D06072	0.25	2.0	4.7	1	04/06/06	04/07/06		
Lead	EPA 200.8	6D06072	0.040	1.0	3.7	1	04/06/06	04/07/06		
Mercury	EPA 245.1	6D06061	0.050	0.20	ND	1	04/06/06	04/06/06		
Sample ID: IPD0421-01RE1 (Outfall 011 Reporting Units: ug/l	- Water)		Sampled: 04/05/06							
Lead	EPA 200.8	6E01070	0.040	1.0	4.4	1	05/01/06	05/02/06		



Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Report Number: IPD0421 Received: 04/05/06

Attention: Bronwyn Kelly

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0421-01 (Outfall 011 - W	ater) - cont.				Sample	ed: 04/05/0	06		
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6D11088	0.30	0.50	ND	1	04/11/06	04/11/06	
Biochemical Oxygen Demand	EPA 405.1	6D06109	0.59	2.0	1.5	1	04/06/06	04/11/06	J
Chloride	EPA 300.0	6D06048	0.15	0.50	7.2	1	04/06/06	04/06/06	
Total Cyanide	EPA 335.2	6D13102	0.0022	0.0050	ND	1	04/13/06	04/14/06	
Nitrate/Nitrite-N	EPA 300.0	6D06048	0.080	0.15	1.6	1	04/06/06	04/06/06	
Oil & Grease	EPA 413.1	6D06049	0.89	4.7	ND	1	04/06/06	04/06/06	
Sulfate	EPA 300.0	6D06048	0.45	0.50	14	1	04/06/06	04/06/06	
Surfactants (MBAS)	EPA 425.1	6D05142	0.088	0.20	0.15	2	04/05/06	04/06/06	RL-1, J
<b>Total Dissolved Solids</b>	EPA 160.1	6D06066	10	10	140	1	04/06/06	04/06/06	
<b>Total Suspended Solids</b>	EPA 160.2	6D11091	10	10	31	1	04/11/06	04/11/06	
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: ml/l/hr	ater)				Sample	ed: 04/05/0	06		
Total Settleable Solids	EPA 160.5	6D05133	0.10	0.10	ND	1	04/05/06	04/05/06	
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: NTU	ater)				Sample	ed: 04/05/0	06		
Turbidity	EPA 180.1	6D06110	0.080	2.0	54	2	04/06/06	04/06/06	
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: ug/l	Sample ID: IPD0421-01 (Outfall 011 - Water) Reporting Units: ug/l					ed: 04/05/0	06		
Perchlorate	EPA 314.0	6D07070	0.80	4.0	ND	1	04/07/06	04/07/06	
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: umhos/cm				Sample	ed: 04/05/0	06			
Specific Conductance	EPA 120.1	6D06064	1.0	1.0	190	1	04/06/06	04/06/06	



Project ID: Quarterly Outfall 011

Report Number: IPD0421

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Sampled: 04/05/06 Received: 04/05/06

Attention: Bronwyn Kelly

#### SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 011 (IPD0421-01) - Wate	Hold Time (in days) r	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 160.5	2	04/05/2006 10:40	04/05/2006 18:50	04/05/2006 20:30	04/05/2006 21:30
EPA 180.1	2	04/05/2006 10:40	04/05/2006 18:50	04/06/2006 13:15	04/06/2006 14:15
EPA 300.0	2	04/05/2006 10:40	04/05/2006 18:50	04/06/2006 09:30	04/06/2006 11:13
EPA 405.1	2	04/05/2006 10:40	04/05/2006 18:50	04/06/2006 15:45	04/11/2006 14:30
EPA 425.1	2	04/05/2006 10:40	04/05/2006 18:50	04/05/2006 19:36	04/06/2006 00:03

Sampled: 04/05/06



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPD0421 Received: 04/05/06

#### METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
·		Limit	WIDE	Chits	Level	Result	70REC	Limits	III D	Limit	Quanners
Batch: 6D07007 Extracted: 04/07/00	<u>)                                    </u>										
Blank Analyzed: 04/07/2006 (6D07007-E	BLK1)										
Benzene	ND	2.0	0.28	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l							
Carbon tetrachloride	ND	5.0	0.28	ug/l							
Chloroform	ND	2.0	0.33	ug/l							
1,1-Dichloroethane	ND	2.0	0.27	ug/l							
1,2-Dichloroethane	ND	2.0	0.28	ug/l							
1,1-Dichloroethene	ND	3.0	0.42	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Tetrachloroethene	ND	2.0	0.32	ug/l							
Toluene	ND	2.0	0.36	ug/l							
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
Trichloroethene	ND	5.0	0.26	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Vinyl chloride	ND	5.0	0.26	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Surrogate: Dibromofluoromethane	24.7			ug/l	25.0		99	80-120			
Surrogate: Toluene-d8	23.5			ug/l	25.0		94	80-120			
Surrogate: 4-Bromofluorobenzene	24.4			ug/l	25.0		98	80-120			
LCS Analyzed: 04/07/2006 (6D07007-BS	1)										
Benzene	26.9	2.0	0.28	ug/l	25.0		108	65-120			
Carbon tetrachloride	28.1	5.0	0.28	ug/l	25.0		112	65-140			
Chloroform	27.2	2.0	0.33	ug/l	25.0		109	65-130			
1,1-Dichloroethane	26.6	2.0	0.27	ug/l	25.0		106	65-130			
1,2-Dichloroethane	27.8	2.0	0.28	ug/l	25.0		111	60-140			
1,1-Dichloroethene	25.8	3.0	0.42	ug/l	25.0		103	70-130			
Ethylbenzene	27.1	2.0	0.25	ug/l	25.0		108	70-125			
Tetrachloroethene	26.6	2.0	0.32	ug/l	25.0		106	65-125			
Toluene	25.2	2.0	0.36	ug/l	25.0		101	70-125			
1,1,1-Trichloroethane	26.8	2.0	0.30	ug/l	25.0		107	65-135			
1,1,2-Trichloroethane	29.0	2.0	0.30	ug/l	25.0		116	65-125			
Trichloroethene	25.5	5.0	0.26	ug/l	25.0		102	70-125			
Trichlorofluoromethane	26.5	5.0	0.34	ug/l	25.0		106	60-140			
Vinyl chloride	22.8	5.0	0.26	ug/l	25.0		91	50-130			
Surrogate: Dibromofluoromethane	26.1			ug/l	25.0		104	80-120			
Del Mar Analytical - Irvine				<i>3</i> ··							

Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPD0421

Sampled: 04/05/06 Received: 04/05/06

#### METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 6D07007 Extracted: 04/07/0	6										
Battin OBOTOOT Extracted. 01/07/00	<u> </u>										
LCS Analyzed: 04/07/2006 (6D07007-BS	S1)										
Surrogate: Toluene-d8	24.1			ug/l	25.0		96	80-120			
Surrogate: 4-Bromofluorobenzene	24.7			ug/l	25.0		99	80-120			
Matrix Spike Analyzed: 04/07/2006 (6D	07007-MS1)				Sou	rce: IPD(	0421-01				
Benzene	23.4	2.0	0.28	ug/l	25.0	ND	94	60-125			
Carbon tetrachloride	24.3	5.0	0.28	ug/l	25.0	ND	97	65-140			
Chloroform	23.6	2.0	0.33	ug/l	25.0	ND	94	65-135			
1,1-Dichloroethane	23.1	2.0	0.27	ug/l	25.0	ND	92	60-130			
1,2-Dichloroethane	23.5	2.0	0.28	ug/l	25.0	ND	94	60-140			
1,1-Dichloroethene	21.9	3.0	0.42	ug/l	25.0	ND	88	60-135			
Ethylbenzene	24.2	2.0	0.25	ug/l	25.0	ND	97	65-130			
Tetrachloroethene	23.5	2.0	0.32	ug/l	25.0	ND	94	60-130			
Toluene	21.8	2.0	0.36	ug/l	25.0	ND	87	65-125			
1,1,1-Trichloroethane	23.2	2.0	0.30	ug/l	25.0	ND	93	65-140			
1,1,2-Trichloroethane	24.6	2.0	0.30	ug/l	25.0	ND	98	60-130			
Trichloroethene	21.7	5.0	0.26	ug/l	25.0	ND	87	60-125			
Trichlorofluoromethane	23.0	5.0	0.34	ug/l	25.0	ND	92	55-145			
Vinyl chloride	20.8	5.0	0.26	ug/l	25.0	ND	83	40-135			
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	23.6			ug/l	25.0		94	80-120			
Surrogate: 4-Bromofluorobenzene	25.0			ug/l	25.0		100	80-120			
Matrix Spike Dup Analyzed: 04/07/2006	5 (6D07007-N	ASD1)			Son	ırce: IPD(	0421-01				
Benzene	23.7	2.0	0.28	ug/l	25.0	ND	95	60-125	1	20	
Carbon tetrachloride	24.6	5.0	0.28	ug/l	25.0	ND	98	65-140	1	25	
Chloroform	23.4	2.0	0.33	ug/l	25.0	ND	94	65-135	1	20	
1,1-Dichloroethane	23.0	2.0	0.27	ug/l	25.0	ND	92	60-130	0	20	
1,2-Dichloroethane	24.0	2.0	0.28	ug/l	25.0	ND	96	60-140	2	20	
1,1-Dichloroethene	22.0	3.0	0.42	ug/l	25.0	ND	88	60-135	1	20	
Ethylbenzene	24.1	2.0	0.25	ug/l	25.0	ND	96	65-130	0	20	
Tetrachloroethene	23.6	2.0	0.32	ug/l	25.0	ND	94	60-130	0	20	
Toluene	21.9	2.0	0.36	ug/l	25.0	ND	88	65-125	1	20	
1,1,1-Trichloroethane	23.4	2.0	0.30	ug/l	25.0	ND	94	65-140	1	20	
1,1,2-Trichloroethane	25.2	2.0	0.30	ug/l	25.0	ND	101	60-130	2	25	
Trichloroethene	22.0	5.0	0.26	ug/l	25.0	ND	88	60-125	1	20	
Trichlorofluoromethane	22.5	5.0	0.34	ug/l	25.0	ND	90	55-145	2	25	
				-							

**Del Mar Analytical - Irvine** 

Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPD0421

Sampled: 04/05/06 Received: 04/05/06

#### 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: 6D07007 Extracted: 04/07/00	<u>5</u>										
					_						
Matrix Spike Dup Analyzed: 04/07/2006 (6D07007-MSD1) Source: IPD0421-01											
Vinyl chloride	20.6	5.0	0.26	ug/l	25.0	ND	82	40-135	1	30	
Surrogate: Dibromofluoromethane	25.0			ug/l	25.0		100	80-120			
Surrogate: Toluene-d8	23.7			ug/l	25.0		95	80-120			
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0		99	80-120			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPD0421

Sampled: 04/05/06 Received: 04/05/06

#### METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 6D10085 Extracted: 04/10/0											
Batch. 0D10003 Extracted. 04/10/0	<u>u</u>										
Blank Analyzed: 04/12/2006 (6D10085-I	BLK1)										
Bis(2-ethylhexyl)phthalate	ND	5.0	1.7	ug/l							
2,4-Dinitrotoluene	ND	9.0	0.20	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.10	ug/l							
Pentachlorophenol	ND	8.0	0.10	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l							
Surrogate: 2-Fluorophenol	11.6			ug/l	20.0		58	30-120			
Surrogate: Phenol-d6	13.8			ug/l	20.0		69	35-120			
Surrogate: 2,4,6-Tribromophenol	13.4			ug/l	20.0		67	45-120			
Surrogate: Nitrobenzene-d5	7.66			ug/l	10.0		77	45-120			
Surrogate: 2-Fluorobiphenyl	7.54			ug/l	10.0		75	45-120			
Surrogate: Terphenyl-d14	8.90			ug/l	10.0		89	45-120			
LCS Analyzed: 04/12/2006 (6D10085-BS	S1)										M-NR1
Bis(2-ethylhexyl)phthalate	10.5	5.0	1.7	ug/l	10.0		105	60-130			
2,4-Dinitrotoluene	8.82	9.0	0.20	ug/l	10.0		88	60-120			J
N-Nitrosodimethylamine	7.72	8.0	0.10	ug/l	10.0		77	40-120			J
Pentachlorophenol	8.76	8.0	0.10	ug/l	10.0		88	50-120			
2,4,6-Trichlorophenol	7.86	6.0	0.10	ug/l	10.0		79	60-120			
Surrogate: 2-Fluorophenol	12.3			ug/l	20.0		62	30-120			
Surrogate: Phenol-d6	13.5			ug/l	20.0		68	35-120			
Surrogate: 2,4,6-Tribromophenol	14.7			ug/l	20.0		74	45-120			
Surrogate: Nitrobenzene-d5	6.82			ug/l	10.0		68	45-120			
Surrogate: 2-Fluorobiphenyl	6.62			ug/l	10.0		66	45-120			
Surrogate: Terphenyl-d14	7.92			ug/l	10.0		79	45-120			
LCS Dup Analyzed: 04/12/2006 (6D100)	85-BSD1)										
Bis(2-ethylhexyl)phthalate	12.2	5.0	1.7	ug/l	10.0		122	60-130	15	20	
2,4-Dinitrotoluene	10.7	9.0	0.20	ug/l	10.0		107	60-120	19	20	
N-Nitrosodimethylamine	9.14	8.0	0.10	ug/l	10.0		91	40-120	17	20	
Pentachlorophenol	9.64	8.0	0.10	ug/l	10.0		96	50-120	10	25	
2,4,6-Trichlorophenol	8.16	6.0	0.10	ug/l	10.0		82	60-120	4	20	
Surrogate: 2-Fluorophenol	12.0			ug/l	20.0		60	30-120			
Surrogate: Phenol-d6	14.2			ug/l	20.0		71	35-120			
Surrogate: 2,4,6-Tribromophenol	15.9			ug/l	20.0		80	45-120			
Surrogate: Nitrobenzene-d5	7.90			ug/l	10.0		79	45-120			
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79	45-120			

#### **Del Mar Analytical - Irvine**

Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Sampled: 04/05/06

Report Number: IPD0421

Received: 04/05/06

#### 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: 6D10085 Extracted: 04/10/06** 

LCS Dup Analyzed: 04/12/2006 (6D10085-BSD1)

Surrogate: Terphenyl-d14 8.82 ug/l 10.0 88 45-120



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#### METHOD BLANK/QC DATA

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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D11131 Extracted: 04/11/06	<u>.</u>										
Blank Analyzed: 04/12/2006 (6D11131-B	LK1)										
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.419			ug/l	0.500		84	45-120			
Surrogate: Tetrachloro-m-xylene	0.366			ug/l	0.500		73	35-115			
LCS Analyzed: 04/12/2006 (6D11131-BS	1)										M-NR1
alpha-BHC	0.390	0.010	0.0010	ug/l	0.500		78	45-120			
Surrogate: Decachlorobiphenyl	0.415			ug/l	0.500		83	45-120			
Surrogate: Tetrachloro-m-xylene	0.352			ug/l	0.500		70	35-115			
LCS Dup Analyzed: 04/12/2006 (6D1113	1-BSD1)										
alpha-BHC	0.392	0.010	0.0010	ug/l	0.500		78	45-120	1	30	
Surrogate: Decachlorobiphenyl	0.422			ug/l	0.500		84	45-120			
Surrogate: Tetrachloro-m-xylene	0.365			ug/l	0.500		73	35-115			



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Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

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### METHOD BLANK/QC DATA

#### **METALS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 6D06061 Extracted: 04/06/06</b>	-										
Blank Analyzed: 04/06/2006 (6D06061-Bl	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/06/2006 (6D06061-BS1	1)										
Mercury	8.10	0.20	0.050	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 04/06/2006 (6D0	6061-MS1)				Sour	rce: IPD0	320-01				
Mercury	8.34	0.20	0.050 ug/l 8.00 ND 104 70-130								
Matrix Spike Dup Analyzed: 04/06/2006	(6D06061-M	SD1)			Sour	rce: IPD(	320-01				
Mercury	8.17	0.20	0.050	ug/l	8.00	ND	102	70-130	2	20	
Batch: 6D06072 Extracted: 04/06/06	_										
Blank Analyzed: 04/06/2006 (6D06072-Bl	[K1)										
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 04/06/2006 (6D06072-BS1	.)										
Copper	81.8	2.0	0.25	ug/l	80.0		102	85-115			
Lead	81.3	1.0	0.040	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 04/06/2006 (6D0	6072-MS1)				Sou	rce: IPD0	061-03				
Copper	79.0	2.0	0.25	ug/l	80.0	ND	99	70-130			
Lead	80.0	1.0	0.040	ug/l	80.0	ND	100	70-130			
Matrix Spike Analyzed: 04/07/2006 (6D0	6072-MS2)				Sou	rce: IPD(	061-04				
Copper	79.2	2.0	0.25	ug/l	80.0	1.3	97	70-130			
Lead	79.5	1.0	0.040	ug/l	80.0	0.060	99	70-130			



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Report Number: IPD0421 Received: 04/05/06

## METHOD BLANK/QC DATA

#### **METALS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06072 Extracted: 04/06/06	_										
Matrix Spike Dup Analyzed: 04/07/2006	(6D06072-MS	SD1)			Sou	rce: IPD(	0061-03				
Copper	76.0	2.0	0.25	ug/l	80.0	ND	95	70-130	4	20	
Lead	77.5	1.0	0.040	ug/l	80.0	ND	97	70-130	3	20	
Batch: 6E01070 Extracted: 05/01/06	-										
Blank Analyzed: 05/02/2006 (6E01070-Bl	LK1)										
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 05/02/2006 (6E01070-BS)	1)										
Lead	90.7	1.0	0.040	ug/l	80.0		113	85-115			
Matrix Spike Analyzed: 05/02/2006 (6E0	1070-MS1)				Sou	rce: IPD2	2699-01				
Lead	92.2	1.0	0.040	ug/l	80.0	6.1	108	70-130			
Matrix Spike Dup Analyzed: 05/02/2006	(6E01070-MS	SD1)		Source: IPD2699-01							
Lead	91.1	1.0	0.040	ug/l	80.0	6.1	106	70-130	1	20	



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## METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D05142 Extracted: 04/05/06	<u> </u>										
Blank Analyzed: 04/06/2006 (6D05142-B	91 K/1)										
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
Surfaciants (NIDAS)	ND	0.10	0.044	IIIg/I							
LCS Analyzed: 04/06/2006 (6D05142-BS	*										
Surfactants (MBAS)	0.261	0.10	0.044	mg/l	0.250		104	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	)5142-MS1)				Sou	rce: IPD	0205-01				
Surfactants (MBAS)	0.250	0.10	0.044	mg/l	0.250	ND	100	50-125			
Matrix Spike Dup Analyzed: 04/06/2006	(6D05142-N	ISD1)			Sou	ırce: IPD(	0205-01				
Surfactants (MBAS)	0.250	0.10	0.044	mg/l	0.250	ND	100	50-125	0	20	
Batch: 6D06048 Extracted: 04/06/06	<u> </u>										
Blank Analyzed: 04/06/2006 (6D06048-B	BLK1)										
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: 04/06/2006 (6D06048-BS	1)										
Chloride	4.78	0.50	0.15	mg/l	5.00		96	90-110			
Sulfate	9.63	0.50	0.45	mg/l	10.0		96	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	)6048-MS1)				Sou	rce: IPD	0419-01				
Chloride	13.5	0.50	0.15	mg/l	5.00	8.7	96	80-120			
Sulfate	33.2	0.50	0.45	mg/l	10.0	23	102	80-120			
Matrix Spike Dup Analyzed: 04/06/2006	(6D06048-N	ISD1)			Sou	ırce: IPD(	0419-01				
Chloride	13.7	0.50	0.15	mg/l	5.00	8.7	100	80-120	1	20	
Sulfate	33.9	0.50	0.45	mg/l	10.0	23	109	80-120	2	20	



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## METHOD BLANK/QC DATA

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D06049 Extracted: 04/06/06	<u> </u>										
Blank Analyzed: 04/06/2006 (6D06049-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/06/2006 (6D06049-BS	1)										M-NR1
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			
LCS Dup Analyzed: 04/06/2006 (6D0604)	9-BSD1)										
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120	19	20	
Batch: 6D06064 Extracted: 04/06/06	<u> </u>										
Duplicate Analyzed: 04/06/2006 (6D0606	4-DUP1)				Sou	rce: IPD	0419-01				
Specific Conductance	224	1.0	1.0	umhos/cm		230			3	5	
Batch: 6D06066 Extracted: 04/06/06	<u>.</u>										
Blank Analyzed: 04/06/2006 (6D06066-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/06/2006 (6D06066-BS	1)										
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 04/06/2006 (6D0606	6-DUP1)				Sou	rce: IPD	0419-01				
Total Dissolved Solids	156	10	10	mg/l		160			3	10	
Batch: 6D06109 Extracted: 04/06/06	<u>.</u>										
Blank Analyzed: 04/11/2006 (6D06109-B	LK1)										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							



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## METHOD BLANK/QC DATA

Amaluta	Dogulé	Reporting	MDI	IIm:ta	Spike	Source	%REC	%REC Limits	RPD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	KPD	Limit	Qualifiers
<b>Batch: 6D06109 Extracted: 04/06/06</b>	<u>-</u>										
LCS Analyzed: 04/11/2006 (6D06109-BS	,										
Biochemical Oxygen Demand	202	100	30	mg/l	198		102	85-115			
LCS Dup Analyzed: 04/11/2006 (6D0610	9-BSD1)										
Biochemical Oxygen Demand	197	100	30	mg/l	198		99	85-115	3	20	
P. ( ) ( CD((110 F ) ) ( ) ( ) ( ) ( ) ( )											
Batch: 6D06110 Extracted: 04/06/06	<u>-</u>										
Blank Analyzed: 04/06/2006 (6D06110-B	LK1)										
Turbidity	0.0400	1.0	0.040	NTU							J
Turolarty	0.0400	1.0	0.040	NIO							J
Duplicate Analyzed: 04/06/2006 (6D0611	0-DUP1)				Sou	rce: IPD(	<b>1464-01</b>				
Turbidity	0.110	1.0	0.040	NTU		0.10			10	20	J
Batch: 6D07070 Extracted: 04/07/06	)										
	_										
Blank Analyzed: 04/07/2006 (6D07070-B	LK1)										
Perchlorate	0.920	4.0	0.80	ug/l							J
LCS Analyzed: 04/07/2006 (6D07070-BS	1)										
Perchlorate	47.7	4.0	0.80	ug/l	50.0		95	85-115			
Teremorate	17.7	1.0	0.00	45/1				05 115			
Matrix Spike Analyzed: 04/07/2006 (6D0	,					rce: IPD(					
Perchlorate	52.5	4.0	0.80	ug/l	50.0	1.8	101	80-120			
Matrix Spike Dup Analyzed: 04/07/2006	(6D07070-M	ISD1)			Sou	rce: IPD(	225-01				
Perchlorate	50.6	4.0	0.80	ug/l	50.0	1.8	98	80-120	4	20	



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## METHOD BLANK/QC DATA

#### **INORGANICS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D11088 Extracted: 04/11/06	_										
Blank Analyzed: 04/11/2006 (6D11088-B	I I/1)										
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
Allinollia-N (Distilled)	ND	0.30	0.30	IIIg/I							
LCS Analyzed: 04/11/2006 (6D11088-BS)	1)										
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0		112	80-115			
Matrix Spike Analyzed: 04/11/2006 (6D1	1088-MS1)				Sou	rce: IPD	0340-01				
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	ND	112	70-120			
Matrix Spike Dup Analyzed: 04/11/2006	(6D11088-M	ISD1)			Sou	rce: IPD(	0340-01				
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	
Batch: 6D11091 Extracted: 04/11/06	_										
Blank Analyzed: 04/11/2006 (6D11091-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/11/2006 (6D11091-BS	1)										
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 04/11/2006 (6D1109	1-DUP1)				Sou	ırce: IPD(	0412-01				
Total Suspended Solids	326	10	10	mg/l		340			4	10	
Batch: 6D13102 Extracted: 04/13/06	_										
Blank Analyzed: 04/14/2006 (6D13102-B	LK1)										
Total Cyanide	ND	0.0050	0.0022	mg/l							

**Del Mar Analytical - Irvine** Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPD0421

Sampled: 04/05/06 Received: 04/05/06

## METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
<b>Batch: 6D13102 Extracted: 04/13/06</b>											
LCS Analyzed: 04/14/2006 (6D13102-BS1	)										
Total Cyanide	0.188	0.0050	0.0022	mg/l	0.200		94	90-110			
Matrix Spike Analyzed: 04/14/2006 (6D13	3102-MS1)				Sour	rce: IPD0	421-01				
Total Cyanide	0.193	0.0050	0.0022	mg/l	0.200	ND	96	70-115			
Matrix Spike Dup Analyzed: 04/14/2006	6D13102-MS	D1)			Sour	rce: IPD0	421-01				
Total Cyanide	0.187	0.0050	0.0022	mg/l	0.200	ND	94	70-115	3	15	

Sampled: 04/05/06



MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Report Number: IPD0421 Received: 04/05/06

Attention: Bronwyn Kelly

## **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.

T 137 1			¥1. •4	D 14	MDI	Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	Limit
IPD0421-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.094	4.7	10.00
IPD0421-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0094	0.0100
IPD0421-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPD0421-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IPD0421-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPD0421-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.5	9.10
IPD0421-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	1.60	4.7	4.00
IPD0421-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.5	8.10
IPD0421-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.5	8.20
IPD0421-01	BOD	Biochemical Oxygen Demand	mg/l	1.50	2.0	20
IPD0421-01	Chloride - 300.0	Chloride	mg/l	7.20	0.50	150
IPD0421-01	Copper-200.8	Copper	ug/l	4.70	2.0	7.10
IPD0421-01	Cyanide-335.2 5ppb	Total Cyanide	mg/l	0	0.0050	0.0043
IPD0421-01	Lead-200.8	Lead	ug/l	3.70	1.0	2.60
IPD0421-01	MBAS - 425.1	Surfactants (MBAS)	mg/l	0.15	0.20	0.50
IPD0421-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPD0421-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	1.60	0.15	8.00
IPD0421-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPD0421-01	Sulfate-300.0	Sulfate	mg/l	14	0.50	300
IPD0421-01	TDS - EPA 160.1	Total Dissolved Solids	mg/l	140	10	950
IPD0421-01RE1	Lead-200.8	Lead	ug/l	4.40	1.0	2.60
IPD0421-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPD0421-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Sampled: 04/05/06



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPD0421 Received: 04/05/06

#### 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.

There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

M-NR1

**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



Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 04/05/06 Pasadena, CA 91101 Report Number: IPD0421 Received: 04/05/06

Attention: Bronwyn Kelly

## **Certification Summary**

#### Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 425.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X

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

#### **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: IPD0421-01

Analysis Performed: EDD + Level 4

Samples: IPD0421-01

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

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L( Page 1 of 1	REQUIRED		(228) Tedare	, NDN (S- , NDN	ais sis oli i) lo	808) qonc 1,en	na BHC hichlo ha BHC hichlo hitotolue hitotolue tachlorop tachlorop cachlorop cach cachlorop cach cach cach cach cach cach cach cac	plA p,ऽ ni☐ والم والم												×		×		Turn around Time: (check)	2000	=	72 Hours Normal	Perchlorate Only 72 Hours	Metals Only 72 HoursSample Integrify: (Check) ? <
F004	ANALYSIS REQU		,	N-ZO (S)	A8 N	(WE	factants SO4, N SO4, N chlorate	Sur CL, Per Tur								×	×	×	×					•	(555				058)
FORM			ers)	igene 1gene	b\ b\ cou	solids all c e (E	al Recov Pb, Hg, Cs 624 + Cleas Cleas Cleas	Cu,	×	×	×	×	×	×	×								×	Date/Time:	4-506	Date/Time:		Date/Time:	4.5-06
CUSTODY FORM		<u></u>				•		Boffle *	1A	18	2	3A, 3B, 3C	4A, 4B	5A, 5B	မ	7	8A,8B	9A,9B	10A, 10B	11	12A, 12B	13A, 13B	15A,15B, 15C		Luly				7
ш		<b>IPDES</b>	101	. 3	ن	-	10	Preservative	HNO3	HNO3	None	HCI	None	HCI	NaOH	None	None	None	None	H2SO4	None	None	HCI	Received By	•	Received By		Received By	3
Del Mar Analytical version 03/1/06 CHAIN O	Project:	Boeing-SSFL NPDES	Routine Outfall 011	Perimeter Pond	Dhone Number	(626) 568-6691	Fax Number: (626) 568-6515	Sampling Date/Time	415/66												<b>→</b>	415706		ime:	45/06 1555	me:	02/ 1820	Date/Time:	
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ytical √	38.			ue, Suite 12	N diamagn	Storiwyii N	رية رية	Container	Poly-1L	Poly-1L	Poly-1L	VOAs	1L Amber	1L Amber	Poly-500 ml	Poly-1 L	Poly-500 mí	Poly-500 ml	Poly-500 ml	Poly-500 ml	1L Amber	1L Amber	VOAs				r		
Ana	%Addre		Sedens	ke Aven A 91101		ager: r	<u>ئے</u> پر	Sample Matrix	3	3	×	3	*	3	≥_	3	*	3	3	3	W	≷	3	By	200	By	77	l By	
Del Mar	Client Name/Address:		Shopesed-Myny	300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Danier Park	Project Manager: Bronwyn Kelly	Sampler: Right Sampler	Sample Description	Outfall 011	Outfall 011-	Outfall 011	Outfall 011	Outfall 011	Outfall 011	Outfall 011	Outfall 011	Outfall 011	Outfall 011	Trip Blank	Relinquished By	1800	Relinquished By	7	Relinquished By					



June 09, 2006

Alta Project I.D.: 27561

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

Dear Ms. Chamberlin,

Enclosed is the amended report for the aqueous sample received at Alta Analytical Laboratory on April 07, 2006 under your Project Name "IPD0421". The sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The 1,2,3,4,7,8-HxCDD in the sample was reported as an EMPC rather than a DL in the original report.

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

HRMS Services Director



Alta Analytical Leboratory certifies that the report herein meets all the regulrements set forth by NELAC for those applicable test methods. This report should not be reproduced except in tull without the written approval of ALTA.



# Section I: Sample Inventory Report

Date Received:

4/7/2006

Alta Lab. 1D Client Sample 1D

27561-001 IPD0421-01

# **SECTION II**

Page 3 of 244

NPDES - 854

William J. Luksemburg 13-Apr-2006 07:30

Approved By:

Method Blank				EPA Method 1613
Matrix: Aqueous	QC Batch No.:	8162	Lab Sample: 0-MB001	
Sample Size: 1.00 L	Date Extracted:	10-Apr-06	Date Analyzed DB-5: 11-Apr-06	Date Analyzed DB-225: NA
Analyte Conc. (ug/L)	DL ^a EMPC ^b	b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD ND	0.000000788		IS 13C-2,3,7,8-TCDD	72.2 25 - 164
1,2,3,7,8-PeCDD ND	0.000000469		13C-1,2,3,7,8-PeCDD	73.0 25 - 181
1,2,3,4,7,8-HxCDD ND	0.00000114		13C-1,2,3,4,7,8-HxCDD	75.7 32 - 141
1,2,3,6,7,8-HxCDD ND	0.00000120		13C-1,2,3,6,7,8-HxCDD	67.3 28 - 130
1,2,3,7,8,9-HxCDD ND	0.00000113		13C-1,2,3,4,6,7,8-HpCDD	69.6 23 - 140
1,2,3,4,6,7,8-HpCDD ND	0.00000167		13C-OCDD	44.8 17 - 157
OCDD ND	0.0000150		13C-2,3,7,8-TCDF	77.0 24 - 169
2,3,7,8-TCDF ND	0.000000832		13C-1,2,3,7,8-PeCDF	72.9 24 - 185
1,2,3,7,8-PeCDF ND	0.000000866		13C-2,3,4,7,8-PeCDF	77.1 21-178
2,3,4,7,8-PeCDF ND	0.000000754	,	13C-1,2,3,4,7,8-HxCDF	70.7 26 - 152
1,2,3,4,7,8-HxCDF	0.000000479		13C-1,2,3,6,7,8-HxCDF	66.8 26 - 123
1,2,3,6,7,8-HxCDF ND	0.000000466		13C-2,3,4,6,7,8-HxCDF	70.2 28 - 136
2,3,4,6,7,8-HxCDF ND	0.000000465		13C-1,2,3,7,8,9-HxCDF	68.4 29 - 147
1,2,3,7,8,9-HxCDF ND	0.000000684	;	13C-1,2,3,4,6,7,8-HpCDF	61.1 28 - 143
1,2,3,4,6,7,8-HpCDF ND	90800000000		13C-1,2,3,4,7,8,9-HpCDF	67.5 26 138
1,2,3,4,7,8,9-HpCDF ND	0.000000832		13C-OCDF	49.1 17 - 157
OCDF	0.00000337		CRS 37CI-2,3,7,8-TCDD	86.2 35 - 197
Totals			Footnotes	
Total TCDD ND Total PeCDD	0.000000788	1200 2200 2200 2200 2200 2200 2200 2200	a Sample specific estimated detection limit.  b. Estimated maximum possible concentration.	
Total HxCDD ND	0.00000116		c. Method detection limit.	
Total HpCDD	0.00000167		d. Lower control limit - upper control limit.	
	0.000000832	á es	\$	
	0.000000808			
Total HxCDF ND	0.000000515			

Analyst: MAS

OPR Results						EPA N	EPA Method 1613	
Matrix Aqueous Sample Size: 1.00 L		QC Batch No Date Extracted:	7918 10-Apr-06	Lab Sample. 0-OPR001 Date Analyzed DB-5: 11-Apr-06	ı	Date Analyzed DB-225:	DB-225: NA	
Analyte	Spike Conc. Conc. (n	Conc. (ng/mL)	OPR Limits	Labeled Standard		%R	TCF-ACT	
2,3,7,8-TCDD	10.0	9.88	6.7 - 15.8	IS 13C-2,3,7,8-TCDD		72.6	25 - 161	
1,2,3,7,8-PeCDD	50.0	49.8	35 - 71	13C-1,2,3,7,8-PeCDD		75.2	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	48.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	. α 	81.2	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	47.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	D	76.4	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	45.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	DD	77.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	49.2	35 - 70	13C-OCDD		8.05	17 - 157	
OCDD	100	2.66	78 - 144	13C-2,3,7,8-TCDF		75.2	24 - 169	
2,3,7,8-TCDF	10.0	9.58	7.5 - 15.8	13C-1,2,3,7,8-PeCDF		79.0	24 - 185	
1,2,3,7,8-PeCDF	50.0	46.3	40 - 67	13C-2,3,4,7,8-PeCDF		78.4	21 - 178	
2,3,4,7,8-PeCDF	50.0	45.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	[1.	78.1	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	48.1	36 - 67	13C-1,2,3,6,7,8-HxCDF		78.7	26 - 123	. 2
1,2,3,6,7,8-HxCDF	50.0	48.3	42 - 65	13C-2,3,4,6,7,8-HxCDF	<u> </u>	77.3	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	46.7	35 - 78	13C-1,2,3,7,8,9-HxCDF	H	80.4	29 - 147	a '
1,2,3,7,8,9-HxCDF	50.0	48.4	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	DF	69.2	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	47.2	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	DF	0.97	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	47.9	39 - 69	13C-OCDF		59.3	17 - 157	
OCDF	100	8.96	63 - 170	CRS 37CI-2,3,7,8-TCDD		79.2	35 - 197	3

William J. Luksemburg 13-Apr-2006 07:30 Approved By:

Analyst: MAS

Sample ID: IPD0	IPD0421-01							EPA N	EPA Method 1613
Client Data			Sample Data		Laboratory Data				
Name Del Mar	Del Mar Analytical, Irvine		Matrix:	Aqueous	Lab Sample:	27561-001	Date Received:	eived:	7-Apr-06
llected. llected:	5-Apr-06 1040		Sample Size:	1.03 L	QC Batch No.: Date Analyzed DB-5:	7918 11-Apr-06	Date Extracted: Date Analyzed I	Date Extracted: Date Analyzed DB-225;	10-Apr-06 NA
	Conc. (ug/L)	DL a	EMPCb	Qualifiers	Labeled Standard	lard	%R	LCL-UCL ^d	Oualifiers
2,3,7,8-TCDD	ND	0.0000000699	669		<u>IS</u> 13C-2.3.7,8-TCDD	DD	64.7	25 - 164	
1,2,3,7,8-PeCDD	0.0000000657			_	13C-1,2,3,7,8-PeCDD	eCDD	63.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000158	89		13C-1,2,3,4,7,8-HxCDD	-HxCDD	66.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND		0.00000161	19	13C-1,2,3,6,7,8-HxCDD	-HxCDD	59.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND GN	0.00000262	54		13C-1,2,3,4,6,7,8-11pCDD	,8-11pCDD	64.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000466				13C-OCDD		46.9	17 - 157	
OCDD	0.000479				13C-2,3,7,8-TCDF	DF	9.99	24 - 169	
2,3,7,8-TCDF	ND	0.00000145	5		13C-1,2,3,7,8-PeCDF	eCDF	65.8	24 - 185	
1,2,3,7,8-PeCDF	N	0.00000112	.2		13C-2,3,4,7,8-PeCDF	eCDF	9.99	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000104	7(		13C-1,2,3,4,7,8-HxCDF	-HxCDF	63.5	26 - 152	
1,2,3,4,7,8-HxCDF	0.00000123				13C-1,2,3,6,7,8-HxCDF	-HxCDF	62.1	26 - 123	in the second
1,2,3,6,7,8-HxCDF	0.000000779			-5	13C-2,3,4,6,7,8-HxCDF	-HxCDF	62.2	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000835	335.	-	13C-1,2,3,7,8,9-HxCDF	-HxCDF	62.1	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000119	6		13C-1,2,3,4,6,7,8-HpCDF	,8-HpCDF	58.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000895			J	13C-1,2,3,4,7,8,9-HpCDF	,9-HpCDF	62.5	26 - 138	- 2.1
1,2,3,4,7,8,9-HpCDF	ND	0.00000183	:		13C-OCDF		52.9	17 - 157	
OCDF	0.0000304		Jangan	J	CRS 37CI-2,3,7,8-TCDD	CDD	83.6	35 - 197	
Totals					Footnotes				
Total TCDD	QN	0.000000699		-	a. Sample specific estimated detection limit.	ed detection limit.			
Total PeCDD	0.000000657		0.00000230	30	b. Estimated maximum possible concentration.	ssible concentration.			
Total HxCDD	0.0000104		0.0000120	0	c. Method detection limit.				
Total HpCDD	0.000105				d. Lower control limit - upper control limit.	oper control limit			2 2 2 3
Total TCDF	ND	0.00000162	52						
Total PeCDF	0.00000108								
Total HxCDF	0.0000102								
Total HpCDF	0.0000284								

## **APPENDIX**

Page 7 of 244 NPDES - 858 Project 27561

# 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.
Н	The signal-to-noise ratio is greater than 10:1.
1	Chemical interference
Į.	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated Detection Limit
DL MDL	Sample-specific estimated Detection Limit  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.
	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater
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.
MDL EMPC	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.  Estimated Maximum Possible Concentration
MDL EMPC NA	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.  Estimated Maximum Possible Concentration  Not applicable

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

# **CERTIFICATIONS**

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596

9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 2520 E. Sunsel Rd., Suite #3, Las Vegas, NV 89120

Fax (619) 505-9689

Ph (480) 785-0043 Fax (480) 785-0851 Ph (702) 798-3620 Fax (702) 798-3621

# **SUBCONTRACT ORDER - PROJECT # IPD0421**

SENDING LABORATORY:  Del Mar Analytical - Irvine  17461 Derian Avenue. Suite 100  Irvine, CA 92614  Phone: (949) 261-1022  Fax: (949) 261-1228  Project Manager: Michele Chamberlin			RECEIVING LABORATORY:  Alta Analytical - SUB  1104 Windfield Way  El Dorado Hills, CA 95762  Phone: (916) 933-1640  Fax: (916) 673-0106					
Standard TAT is requeste	ed unless specific du	e date is requeste	ed => Due Date:		Initials:			
Analysis	Expiration		Comments					
Sample ID: IPD0421-01 W 1613-Dioxin-HR-Alta EDD + Level 4	Vater Sampled: 04/12/06 10:40 05/03/06 10:40	04/05/06 10:40	Instant Nofication J flags, 17 congeners, no Excel EDD email to pm,	rEQ,ug/L,sub=Alta Include Std logs for Lvl IV				
Containers Supplied: 1 L Amber (IPD0421-01G) 1 L Amber (IPD0421-01H)								
				•				
				•				
					•			
			.•		·			
Section 1				· ·				
~ <u>}</u>								
		CAMO	E INTEGRITY:					
All containers intact: Yes		SAIVIFE sample labels/COC agree: amples Preserved Propert	☐ Yes ☐ No	Samples Received On Ice:: Samples Received at (temp):	☐ Yes ☐ No			
lul- U				Brieds + 41	17/06 0900			
Released By	Date	Time	Received By	Date	Time			
Released By	Date	Time	Received By	Date	Time			

## SAMPLE LOG-IN CHECKLIST

Alta Project #:	27561				-			
	Date/Time		Initials	s:	Locati	ion: $\mu$	JR-	2
Samples Arrival:	4/7/06	0000	JB	IB	Shelf/	Rack:_		
	Date/Time		Initials	S:	Locat	ion:	W.	R-2
Logged In:	4/10/06	0647	Solo Co	313	Shelf/	Rack:_	3	C-3
Delivered By:	FedEx UF	PS	Cal	DHL	1	Hand elivered		Other
Preservation:	Ice	Blue	lce	Dry Id	се		Noi	ne
Temp °C .()	Time	e: 09	30		Thern	nomete	r ID:	: DT-20

					YES	NO	NA
Adequate Sample Volume Received?	$\sqrt{\ \ }$						
Holding Time Acceptable?					V		
Shipping Container(s) Intact?							
Shipping Custody Seals Intact?					~		
Shipping Documentation Present?					V		
Airbill Trk# 79/4	365	18 827	3Ó		V		
Sample Container Intact?		V					
Sample Custody Seals Intac:?							V
Chain of Custody / Sample Documenta	ation Pre	esent?				ļ,	
COC Anomaly/Sample Acceptance Fo	rm com	pleted?				\ <u>\</u>	<u> </u> -
If Chlorinated or Drinking Water Sampl							
Na ₂ S ₂ O ₃ Preservation Documented? COC San						No	one
Shipping Container .	turn	Dis	pose				

Comments:

# **APPENDIX G**

# **Section 38**

Outfall 011, April 05, 2006

MECX Data Validation Reports

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID B4DF87 Task Order 1261.001D.01 12260 East Vassar Drive Suite 500 SDG No. IPD0421 Lakewood, CO 80226 No. of Analyses 1 Date: June 9, 2006 Laboratory Alta Analytical Reviewer's Signature / Reviewer E. Wessling Analysis/Method Dioxins/Furans **ACTION ITEMS**^a . Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables Deviations from Analysis Qualifications were assigned for the following: - results between the RL and the MDL were estimated Protocol, e.g., Holding Times - EMPC value qualified as estimated nondetect GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS^b ^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 011

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD0421

Prepared by

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

SDG: Analysis:

**NPDES** IPD0421 D/F

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPD0421

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

0

No. of Reanalyses/Dilutions:

Reviewer:

E. Wessling

Date of Review:

June 9, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG: I Analysis:

NPDES IPD0421 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 011	IPD0421-01	27561-001	Water	1613

D/F

SDG: Analysis:

#### 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 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 1.0°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 PERFÖRMANCE

Following are findings associated with instrument performance:

#### GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (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

DATA VALIDATION REPORT

SDG: Analysis: IPD0421

## 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

#### Initial Calibration 2.3.1

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 (0-7918-MB001) was extracted and analyzed with the sample in this SDG. No target compounds were detected in the method blank. No qualifications were required. 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 (0-7918-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.

Project: SDG: NPDES

DATA VALIDATION REPORT

SDG: Analysis: IPD0421 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. 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. An EMPC value for 1,2,3,6,7,8-HxCDD was qualified as an estimated nondetect, "UJ." No further qualifications were required.



	Sample ID: IPD	0421-01 Out	fall.	011					EPA I	Method 1613
[and	Project: IPD	Mar Analytical, Irvine 0421 pr-06		Sample Data Matrix: Sample Size:	Aqueous 1.03 L	Laboratory Data Lab Sample: QC Batch No.: Date Analyzed DB-5:	27561-001 7918 11-Apr-06	Date Ex	eceived: ktracted: nalyzed DB-225:	7-Apr-06 10-Apr-06 NA
calgo	Analyte	Conc. (ug/L)	DL a	<b>EMPC</b> ^b	Qualifiers	Labeled Sta	indard	%R	LCL-UCLd	Qualifiers
	2,3,7,8-TCDD	ND	0.0000000	699	The Control of	<u>IS</u> 13C-2,3,7,8-7	TCDD	64.7	25 - 164	
DWQ	1,2,3,7,8-PeCDD	0.000000657			J	13C-1,2,3,7,8	3-PeCDD	63.8	25 - 181	
	1,2,3,4,7,8-HxCDD	ND	0.000001:	58		13C-1,2,3,4,7	,8-HxCDD	66.1	32 - 141	
*10	1,2,3,6,7,8-HxCDD	ND		0.00000	161	13C-1,2,3,6,7	,8-HxCDD	59.8	28 - 130	
	1,2,3,7,8,9-HxCDD	ND	0.000002	52		13C-1,2,3,4,6	,7,8-HpCDD	64.5	23 - 140	
	1,2,3,4,6,7,8-HpCDD	0.0000466				13C-OCDD		46.9	17 - 157	
	OCDD	0.000479				13C-2,3,7,8-7	CCDF	66.6	24 - 169	
	2,3,7,8-TCDF	ND	0.0000014	45		13C-1,2,3,7,8	-PeCDF	65.8	24 - 185	
	1,2,3,7,8-PeCDF	ND	0.000001	12		13C-2,3,4,7,8	-PeCDF	66.6	21 - 178	
	2,3,4,7,8-PeCDF	ND	0.0000010	04		13C-1,2,3,4,7	,8-HxCDF	63.5	26 - 152	
Deres	1,2,3,4,7,8-HxCDF	0.00000123			J	13C-1,2,3,6,7	,8-HxCDF	62.1	26 - 123	
DNQ	1,2,3,6,7,8-HxCDF	0.000000779			J	13C-2,3,4,6,7	,8-HxCDF	62.2	28 - 136	
	2,3,4,6,7,8-HxCDF	ND	0.0000008	335		13C-1,2,3,7,8	,9-HxCDF	62.1	29 - 147	
	1,2,3,7,8,9-HxCDF	ND	0.0000011	19		13C-1,2,3,4,6	,7,8-HpCDF	58.3	28 - 143	
DUP	1,2,3,4,6,7,8-HpCDF	0.00000895			J	13C-1,2,3,4,7	,8,9-HpCDF	62.5	26 - 138	
	1,2,3,4,7,8,9-HpCDF	ND	0.0000018	33		13C-OCDF		52.9	17 - 157	
Duto	OCDF	0.0000304			J	CRS 37Cl-2,3,7,8-	TCDD	83.6	35 - 197	
	Totals					Footnotes				
	Total TCDD	ND	0.0000006	599		a. Sample specific estin	nated detection limit.			
	Total PeCDD	0.000000657		0.000002	230	b. Estimated maximum	possible concentration.			
	Total HxCDD	0.0000104		0.000012	0.0	c. Method detection lim	it.			
	Total HpCDD	0.000105				d. Lower control limit -	upper control limit.			
	Total TCDF	ND	0.0000016	52						
	Total PeCDF	0.00000108								
	Total HxCDF	0.0000102								
	Total HpCDF	0.0000284				THE DESIGNATION OF THE PARTY OF				

Analyst: MAS

Level DI

Approved By:

William J. Luksemburg 09-Jun-2006 14:36

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## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	c ^x			Package ID:	B4MT72
122	69 East Vassar Drive				1261.001D.01
Aur	ora, CO 80014			SDG No.:	IPD0421
			No.	of Analyses:	1
	Laboratory: Del Mar A	\nalytical		Date: June 5,	2006
	Reviewer: P. Meeks			Reviewer's Sign	gnature
	Analysis/Method: Metals			P. Motes	
ACT	ION ITEMS ^a				
	Case Narrative				
	Deficiencies	**************************************			
2.	Out of Scope Analyses				The second secon
3.	Analyses Not Conducted				
4.	Missing Hardcopy				
	Deliverables				
			***************************************		
5.	Incorrect Hardcopy				
	Deliverables				
		<b>.</b>			
6.	Deviations from Analysis	Reanalysis result rejecte	ed in t	avor of original re	esult.
	Protocol, e.g.,				
	Holding Times				
	GC/MS Tune/Inst. Performance				
	Calibration				
	Method blanks			VENTON AND SERVICE STATE OF THE SERVICE STATE STATE STATE STATE OF THE SERVICE STATE	Monte of the second
	Surrogates				
	Matrix Spike/Dup LCS		***************************************		
	Field QC				
	Internal Standard Performance				
	Compound Identification  Quantitation				
	System Performance				
CON	IMENTS ^b				
a Su	bcontracted analytical laboratory is not n	neeting contract and/or method	require	ments.	
	ferences in protocol have been adopted				quired.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 011

ANALYSIS: METALS

**SAMPLE DELIVERY GROUP IPD0421** 

Prepared by

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

Project:

NPDES IPD0421

SDG: Analysis:

Metals

#### 1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPD0421

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

1 0

No. of Reanalyses/Dilutions:

Reviewer:

P. Meeks

Date of Review:

June 5, 2006

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

Project:

**NPDES** 

SDG: Analysis: IPD0421 Metals

Table 1. Sample Identification

DATA VALIDATION REPORT

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPD0421-01	Water	200.8

NPDES IPD0421

SDG: Analysis:

Metals

#### 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 ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. Outfall 011 was reanalyzed for lead. As the laboratory did not append the MWH ID for the reanalysis with "RE1," the reviewed added this information to the Form I. No sample qualifications were required.

## 2.1.3 Holding Times

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

#### 2.2 ICP-MS TUNING

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

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and the recoveries were considered to be acceptable. No qualifications were required.

## 2.4 BLANKS

There were no detects in the associated method blanks or CCBs associated with the sample in this SDG. No qualifications were required.

Project: **NPDES** SDG:

Analysis:

IPD0421 Metals

DATA VALIDATION REPORT

#### 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were performed for the lead reanalysis only. All recoveries were acceptable. No qualifications were required.

#### 2.6 **BLANK SPIKES AND LABORATORY CONTROL SAMPLES**

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

#### 2.7 LABORATORY DUPLICATES

No laboratory duplicate analyses were performed in association with the sample in this SDG: therefore, no assessment was made with respect to this criterion.

#### 2.8 **MATRIX SPIKES**

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

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

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

#### 2.10 INTERNAL STANDARDS PERFORMANCE

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

#### 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified and the sample results reported on the Form Is were verified against the raw data. transcription errors or calculation errors were noted. Per a request from MWH personnel, the laboratory reanalyzed sample Outfall 011 for lead. As the reanalysis yielded a result similar to the

B4MT72 4 Revision 0

Project: NPDES SDG: IPD0421

Analysis: Metals

original result, the reanalysis, Outfall 011 RE1, was rejected, "R," in favor of the original result. No further qualifications were required.

## 2.12 FIELD QC SAMPLES

DATA VALIDATION REPORT

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

## 2.12.1 Field Blanks and Equipment Rinsates

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

## 2.12.2 Field Duplicates

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



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

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Report Number: IPD0421

Sampled: 04/05/06

Received: 04/05/06

**METALS** 

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifie	rs
Sample ID: IPD0421-01 (Outfall 011 - Wa Reporting Units: ug/l	iter) - cont.				Sample	ed: 04/05/0	06		Rev	Code
Copper Lead Mercury	EPA 200.8 EPA 200.8 EPA 245.1	6D06072 6D06072 6D06061	0.25 0.040 0.050	2.0 1.0 0.20	4.7 3.7 ND	1 1 1	04/06/06 04/06/06 04/06/06	04/07/06 04/07/06 04/06/06	*	de-resolve va minacetem en graphisment
Sample ID: IPD0421-01RE1 (Outfall 011 Reporting Units: ug/l	-Water) Out	Full on 1	251		Sample	:d: 04/05/0	)6			
Lead	EPA 200.8	6E01070	0.040	1.0	4.4	1	05/01/06	05/02/06	R	D

* Analysis not validated.

**Del Mar Analytical - Irvine** Michele Chamberlin Project Manager

EVEL IV

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC'	Package ID: B4VVC/6
12269 East Vassar Drive	Task Order: 1261.001D.01
Aurora, CO 80014	SDG No.: IPD0421
	No. of Analyses: 1
Laboratory: Del Mar A	
Reviewer: P. Meeks	
Analysis/Method: General I	
Allalysis/Method. General I	VIII let als
ACTION ITEMS ^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
2 Amelyon Not Conducted	
3. Analyses Not Conducted	
4. Missing Hardcopy	
4. Missing Hardcopy Deliverables	
Deliverables	
5. Incorrect Hardcopy	
Deliverables	
Deliverables	
6. Deviations from Analysis	
Protocol, e.g.,	
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS ^b	Acceptable as reviewed.
	meeting contract and/or method requirements.  d by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 011

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPD0421

Prepared by

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

 SDG:
 IPD0421

 DATA VALIDATION REPORT
 Analysis:
 Gen. Min.

## 1. INTRODUCTION

Task Order Title: NPDES Sampling MEC^x Project Number: 1261.001D.01

Sample Delivery Group: IPD0421 Project Manager: P. Costa

Matrix: Water

Analysis: General Minerals

QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Reviewer: P. Meeks
Date of Review: June 6, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the  $MEC^{\times}$  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:
 IPD0421

 DATA VALIDATION REPORT
 Analysis:
 Gen. Min.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPD0421-01	Water	General Minerals

Project: IPD0421 SDG: DATA VALIDATION REPORT Analysis: Gen. Min.

## 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

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

## 2.1.2 Chain of Custody

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

## 2.1.3 Holding Times

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

#### 2.2 **CALIBRATION**

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, the ammonia LCS result was compared to the calibration control limits. As the ammonia LCS recovery was above the CCV control limits of 90-110%, at 112%; however, as ammonia was not detected in Outfall 011, no qualifications were required.

#### 2.3 **BLANKS**

Turbidity was detected in the associated method blank, but not at sufficient concentration to qualify the site sample. There were no other 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.

**NPDES** 

Project: NPDES SDG: IPD0421

DATA VALIDATION REPORT SDG: IPD0421
Analysis: Gen. Min.

#### 2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported ammonia LCS recovery was within the laboratory-established control limits. LCS samples are not applicable to the turbidity and specific conductivity analyses. No qualifications were required.

#### 2.5 LABORATORY DUPLICATES

No 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.

B4WC76 4 Revision 0



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

Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Report Number: IPD0421

Sampled: 04/05/06

Attention: Bronwyn Kelly

Received: 04/05/06

#### **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result		Date Extracted	Date Analyzed	Data Qualifiers	8
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: mg/l	ater) - cont.				Sample	ed: 04/05/0	06		Rev Qual	(Q)
Ammonia-N (Distilled)	EPA 350.2	6D11088	0.30	0.50	ND	1	04/11/06	04/11/06	U	
Biochemical Oxygen Demand	EPA 405.1	6D06109	0.59	2.0	1.5	1	04/06/06	04/11/06	* 1	
Chloride	EPA 300.0	6D06048	0.15	0.50	7.2	1	04/06/06	04/06/06	Ì	
Total Cyanide	EPA 335.2	6D13102	0.0022	0.0050	ND	1	04/13/06	04/14/06		
Nitrate/Nitrite-N	EPA 300.0	6D06048	0.080	0.15	1.6	1	04/06/06	04/06/06		
Oil & Grease	EPA 413.1	6D06049	0.89	4.7	ND	1	04/06/06	04/06/06		
Sulfate	EPA 300.0	6D06048	0.45	0.50	14	1	04/06/06	04/06/06		
Surfactants (MBAS)	EPA 425.1	6D05142	0.088	0.20	0.15	2	04/05/06	04/06/06	RL-1, J	
<b>Total Dissolved Solids</b>	EPA 160.1	6D06066	10	10	140	1	04/06/06	04/06/06		
Total Suspended Solids	EPA 160.2	6D11091	10	10	31	1	04/11/06	04/11/06	$\checkmark$	
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: ml/l/hr	ater)				Sample	ed: 04/05/0	06			
Total Settleable Solids	EPA 160.5	6D05133	0.10	0.10	ND	1	04/05/06	04/05/06	*	
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: NTU	ater)				Sample	ed: 04/05/0	)6			
Turbidity	EPA 180.1	6D06110	0.080	2.0	54	2	04/06/06	04/06/06		
Sample ID: IPD0421-01 (Outfall 011 - W Reporting Units: ug/l	ater)				Sample	ed: 04/05/0	06			
Perchlorate	EPA 314.0	6D07070	0.80	4.0	ND	1	04/07/06	04/07/06	*	
Sample ID: IPD0421-01 (Outfall 011 - W	ater)				Sample	ed: 04/05/0	06			
Reporting Units: umhos/cm Specific Conductance	EPA 120.1	6D06064	1.0	1.0	190	1	04/06/06	04/06/06		

* Analysis not validated

**Del Mar Analytical - Irvine**Michele Chamberlin
Project Manager

LEVEL IV

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC ^X		Package ID:	B4VO57
12269 East Vassar Drive		_	1261.001D.01
Aurora, CO 80014		SDG No.:	
		No. of Analyses:	2
Laboratory: Del Mar	Analytical-Irvine	Date: June 5	, 2006
Reviewer: L. Calvin		Reviewer's Si	gnaj@re
Analysis/Method: Volatiles	by Method 624		alvus
ACTION ITEMS ^a			
. Case Narrative			
Deficiencies			
2. Out of Scope Analyses			
3. Analyses Not Conducted			washing and the second
4. Missing Hardcopy			
Deliverables			
E language Alloyde and			
5. Incorrect Hardcopy Deliverables			
Deliverables			PRE-10-10-10-10-10-10-10-10-10-10-10-10-10-
6. Deviations from Analysis	at more all their constructions are recognized to the construction of the construction		
Protocol, e.g.,			
Holding Times	The state of the s		
GC/MS Tune/Inst. Performance	Variable de la constant de la consta	· · · · · · · · · · · · · · · · · · ·	
Calibration		WHITE THE PARTY OF	The second secon
Method blanks	***************************************		
Surrogates	An Andrée de l'Administration de l'information de la mondate de la company de la compa	THE STATE OF THE S	
Matrix Spike/Dup LCS			
Field QC			y
Internal Standard Performance			
Compound Identification			
Quantitation			
System Performance			
COMMENTS ^b	Acceptable as reviewe	d.	
		THE PROPERTY OF THE PROPERTY O	
a C.,h.,			
<ul> <li>Subcontracted analytical laboratory is not m</li> <li>Differences in protocol have been adopted</li> </ul>			d.



# DATA VALIDATION REPORT

# NPDES Monitoring Program Quarterly Outfall 011

**ANALYSIS: VOLATILES** 

SAMPLE DELIVERY GROUP: IPD0421

Prepared by

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

NPDES

Analysis:

VOCs

## 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPD0421

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Volatiles

Allalysis.

Volatiles

QC Level:

Level IV

No. of Samples: No. of Reanalyses/Dilutions:

0

2

Reviewer:

L. Calvin

Date of Review:

June 5, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), 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: IPD0421 VOCs

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 011	IPD0421-01	Water	624
Trip Blank	IPD0421-02	Water	624

2 Spaces?

Project: SDG: Analysis: NPDES IPD0421 VOCs

#### 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 3°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 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

Two initial calibrations dated 04/04/06 were associated with the sample analyses, one for trichlorotrifluoroethane only, and one for all remaining target compounds. The average RRFs were  $\geq$ 0.05, and the %RSDs were  $\leq$ 35% or r² values  $\geq$ 0.995 for all target compounds listed on the sample result summary forms. The continuing calibrations associated with the sample analyses were dated 04/07/06. The RRFs were  $\geq$ 0.05% and the %Ds were within the QC limit of  $\leq$ 20% for all target compounds. No qualifications were required.

#### 2.4 BLANKS

One method blank (6D07007-BLK1) was analyzed with this SDG. No target compounds were detected above the MDL in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

IPD0421 Analysis: VOCs

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6D07007-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 performed on site sample Outfall 011. All recoveries and RPDs were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. qualifications were required.

#### 2.8 **FIELD QC SAMPLES**

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

#### 2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 011. No target compounds were detected above the MDL 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: SDG: NPDES IPD0421

Analysis:

VOCs

#### 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

DATA VALIDATION REPORT

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

## 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

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

#### 2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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

#### 2.13 SYSTEM PERFORMANCE

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



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPD0421

Sampled: 04/05/06

Received: 04/05/06

## PURGEABLES BY GC/MS (EPA 624)

Amalista	3.5.413	Datab	MDL	Reporting	•	Dilution	Date	Date		ata Jifiers \
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed		d
Sample ID: IPD0421-01 (Outfall 011 - Water)				Sampled: 04/05/06				,9	COLL	90000
Reporting Units: ug/l										000
Benzene	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06	U	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D07007	1.2	5.0	ND	1	04/07/06	04/07/06		
Carbon tetrachloride	EPA 624	6D07007	0.28	5.0	ND	1	04/07/06	04/07/06	Vector distance	
Chloroform	EPA 624	6D07007	0.33	2.0	ND	1	04/07/06	04/07/06		
1,1-Dichloroethane	EPA 624	6D07007	0.27	2.0	ND	1	04/07/06	04/07/06		
1,2-Dichloroethane	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06		
1,1-Dichloroethene	EPA 624	6D07007	0.42	3.0	ND	1	04/07/06	04/07/06		
Ethylbenzene	EPA 624	6D07007	0.25	2.0	ND	1	04/07/06	04/07/06		
Tetrachloroethene	EPA 624	6D07007	0.32	2.0	ND	1	04/07/06	04/07/06		
Toluene	EPA 624	6D07007	0.36	2.0	ND	1	04/07/06	04/07/06	u de la companya de l	
1,1,1-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06	-	
1,1,2-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06		
Trichloroethene	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06	Opposite the second	
Trichlorofluoromethane	EPA 624	6D07007	0.34	5.0	ND	1	04/07/06	04/07/06	***************************************	
Vinyl chloride	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06		
Xylenes, Total	EPA 624	6D07007	0.90	4.0	ND	1	04/07/06	04/07/06	V	
Surrogate: Dibromofluoromethane (80-1	20%)				100 %					
Surrogate: Toluene-d8 (80-120%)	,				95 %					
Surrogate: 4-Bromofluorobenzene (80-12	20%)				98 %					
Sample ID: IPD0421-02 (Trip Blank - Water)										
Reporting Units: ug/l	,,				Dampic	d: 04/05/0	,,,			
Benzene	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06	u	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D07007	1.2	5.0	ND	1	04/07/06	04/07/06	7	
Carbon tetrachloride	EPA 624	6D07007	0.28	5.0	ND	1	04/07/06	04/07/06		
Chloroform	EPA 624	6D07007	0.33	2.0	ND	1	04/07/06	04/07/06		
1,1-Dichloroethane	EPA 624	6D07007	0.27	2.0	ND	1	04/07/06	04/07/06	and the same of th	
1,2-Dichloroethane	EPA 624	6D07007	0.28	2.0	ND	1	04/07/06	04/07/06		
1,1-Dichloroethene	EPA 624	6D07007	0.42	3.0	ND	1	04/07/06	04/07/06		
Ethylbenzene	EPA 624	6D07007	0.25	2.0	ND	1	04/07/06	04/07/06		
Tetrachloroethene	EPA 624	6D07007	0.32	2.0	ND	1	04/07/06	04/07/06	Charles and Charles	
Toluene	EPA 624	6D07007	0.36	2.0	ND	1	04/07/06	04/07/06		
1,1,1-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06		
1,1,2-Trichloroethane	EPA 624	6D07007	0.30	2.0	ND	1	04/07/06	04/07/06		
Trichloroethene	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06		
Trichlorofluoromethane	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06		
Vinyl chloride	EPA 624	6D07007	0.26	5.0	ND	1	04/07/06	04/07/06		
Xylenes, Total		6D07007	0.26	4.0	ND ND	1	04/07/06	04/07/06	1/	
Surrogate: Dibromofluoromethane (80-1	EPA 624	01707007	0.90	4.0	ND 94 %	1	04/0//00	04/0//00	V	
Surrogate: Intromoji.uorometnane (80-1 Surrogate: Toluene-d8 (80-120%)	2070)								,	
	2007)				94%					
Surrogate: 4-Bromofluorobenzene (80-12	20%)				96 %					

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager

1 PD0421 Page 2 of 23> - 894

# **APPENDIX G**

# **Section 39**

Outfall 018, April 04, 2006 Del Mar Analytical Laboratory Report



## LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/04/06 Received: 04/04/06

Issued: 05/07/06 16:32

#### NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

#### SAMPLE CROSS REFERENCE

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

LABORATORY ID CLIENT ID MATRIX
IPD0255-01 Outfall 018 Water
IPD0255-02 Trip Blank Water

Reviewed By:

**Del Mar Analytical - Irvine**Michele Chamberlin

Michele Chamberdin

Project Manager



Pasadena, CA 91101

Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Report Number: IPD0255 Received: 04/04/06

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: IPD0255-01 (Outfall 018 - Wate	r)								
Reporting Units: ug/l									
Benzene	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D05021	1.2	5.0	ND	1	04/05/06	04/05/06	
Carbon tetrachloride	EPA 624	6D05021	0.28	5.0	ND	1	04/05/06	04/05/06	
Chloroform	EPA 624	6D05021	0.33	2.0	ND	1	04/05/06	04/05/06	
1,1-Dichloroethane	EPA 624	6D05021	0.27	2.0	ND	1	04/05/06	04/05/06	
1,2-Dichloroethane	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06	
1,1-Dichloroethene	EPA 624	6D05021	0.42	3.0	ND	1	04/05/06	04/05/06	
Ethylbenzene	EPA 624	6D05021	0.25	2.0	ND	1	04/05/06	04/05/06	
Tetrachloroethene	EPA 624	6D05021	0.32	2.0	ND	1	04/05/06	04/05/06	
Toluene	EPA 624	6D05021	0.36	2.0	ND	1	04/05/06	04/05/06	
1,1,1-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06	
1,1,2-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06	
Trichloroethene	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06	
Trichlorofluoromethane	EPA 624	6D05021	0.34	5.0	ND	1	04/05/06	04/05/06	
Vinyl chloride	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06	
Xylenes, Total	EPA 624	6D05021	0.52	4.0	ND	1	04/05/06	04/05/06	
Surrogate: Dibromofluoromethane (80-120%)	)				102 %				
Surrogate: Toluene-d8 (80-120%)					101 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				
Sample ID: IPD0255-02 (Trip Blank - Wate	r)								
Reporting Units: ug/l									
Benzene	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D05021	1.2	5.0	ND	1	04/05/06	04/05/06	
Carbon tetrachloride	EPA 624	6D05021	0.28	5.0	ND	1	04/05/06	04/05/06	
Chloroform	EPA 624	6D05021	0.33	2.0	ND	1	04/05/06	04/05/06	
1,1-Dichloroethane	EPA 624	6D05021	0.27	2.0	ND	1	04/05/06	04/05/06	
1,2-Dichloroethane	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06	
1,1-Dichloroethene	EPA 624	6D05021	0.42	3.0	ND	1	04/05/06	04/05/06	
Ethylbenzene	EPA 624	6D05021	0.25	2.0	ND	1	04/05/06	04/05/06	
Tetrachloroethene	EPA 624	6D05021	0.32	2.0	ND	1	04/05/06	04/05/06	
Toluene	EPA 624	6D05021	0.36	2.0	ND	1	04/05/06	04/05/06	
1,1,1-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06	
1,1,2-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06	
Trichloroethene	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06	
Trichlorofluoromethane	EPA 624	6D05021	0.34	5.0	ND	1	04/05/06	04/05/06	
Vinyl chloride	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06	
Xylenes, Total	EPA 624	6D05021	0.52	4.0	ND	1	04/05/06	04/05/06	
Surrogate: Dibromofluoromethane (80-120%)	)				96 %				
Surrogate: Toluene-d8 (80-120%)					101 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

#### **Del Mar Analytical - Irvine**

Michele Chamberlin Project Manager



Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Report Number: IPD0255 Received: 04/04/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

## 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: IPD0255-01 (Outfall 018 - Water	er)								
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	6D10085	1.6	4.7	ND	0.943	04/10/06	04/12/06	
2,4-Dinitrotoluene	EPA 625	6D10085	0.19	8.5	ND	0.943	04/10/06	04/12/06	
N-Nitrosodimethylamine	EPA 625	6D10085	0.094	7.5	ND	0.943	04/10/06	04/12/06	
Pentachlorophenol	EPA 625	6D10085	0.094	7.5	0.094	0.943	04/10/06	04/12/06	J
2,4,6-Trichlorophenol	EPA 625	6D10085	0.094	5.7	ND	0.943	04/10/06	04/12/06	
Surrogate: 2-Fluorophenol (30-120%)					62 %				
Surrogate: Phenol-d6 (35-120%)					81 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					74 %				
Surrogate: Nitrobenzene-d5 (45-120%)					83 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					80 %				
Surrogate: Terphenyl-d14 (45-120%)					87 %				



Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Report Number: IPD0255 Received: 04/04/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Oualifiers
Analyte	Method	Daten	Liiiit	Limit	Result	ractor	Extracted	Alialyzeu	Quanners
Sample ID: IPD0255-01 (Outfall 018 - Wate	r) - cont.								
Reporting Units: ug/l									
alpha-BHC	EPA 608	6D10116	0.00094	0.0094	ND	0.943	04/10/06	04/11/06	
Surrogate: Decachlorobiphenyl (45-120%)					80 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					66 %				



Pasadena, CA 91101

Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06
Report Number: IPD0255 Received: 04/04/06

Attention: Bronwyn Kelly

#### **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0255-01 (Outfall 018 - Wa	ter) – cont.								
Reporting Units: ug/l									
Copper	EPA 200.8	6D04150	0.25	2.0	4.8	1	04/04/06	04/05/06	
Lead	EPA 200.8	6D04150	0.040	1.0	2.8	1	04/04/06	04/05/06	
Mercury	EPA 245.1	6D05091	0.050	0.20	0.081	1	04/05/06	04/05/06	J
Sample ID: IPD0255-01RE1 (Outfall 018 -	- Water)								
Reporting Units: ug/l									
Lead	EPA 200.8	6E01070	0.040	1.0	3.1	1	05/01/06	05/02/06	



Pasadena, CA 91101

Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Report Number: IPD0255 Received: 04/04/06

Attention: Bronwyn Kelly

		111(	JKGA	NICS					
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0255-01 (Outfall 018 - Wa	ater) - cont.								
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6D05128	0.30	0.50	0.56	1	04/05/06	04/05/06	
<b>Biochemical Oxygen Demand</b>	EPA 405.1	6D05064	0.59	2.0	3.6	1	04/05/06	04/10/06	
Chloride	EPA 300.0	6D04136	0.15	0.50	17	1	04/04/06	04/05/06	
Nitrate/Nitrite-N	EPA 300.0	6D04136	0.080	0.15	0.18	1	04/04/06	04/05/06	
Oil & Grease	EPA 413.1	6D05046	0.90	4.8	ND	1	04/05/06	04/05/06	
Sulfate	EPA 300.0	6D04136	0.45	0.50	42	1	04/04/06	04/05/06	
Surfactants (MBAS)	EPA 425.1	6D05142	0.088	0.20	0.12	2	04/05/06	04/06/06	RL-1, J
<b>Total Dissolved Solids</b>	EPA 160.1	6D05071	10	10	200	1	04/05/06	04/05/06	
Total Suspended Solids	EPA 160.2	6D07128	10	10	73	1	04/07/06	04/07/06	
Sample ID: IPD0255-01 (Outfall 018 - Wa Reporting Units: ml/l/hr	ater)								
<b>Total Settleable Solids</b>	EPA 160.5	6D04131	0.10	0.10	0.20	1	04/04/06	04/04/06	
Sample ID: IPD0255-01 (Outfall 018 - Wa Reporting Units: NTU	ater)								
Turbidity	EPA 180.1	6D05115	0.20	5.0	63	5	04/05/06	04/05/06	
Sample ID: IPD0255-01 (Outfall 018 - Wa Reporting Units: ug/l	ater)								
Total Cyanide	EPA 335.2	6D05143	2.2	5.0	ND	1	04/05/06	04/06/06	
Perchlorate	EPA 314.0	6D06060	0.80	4.0	ND	1	04/06/06	04/06/06	
Sample ID: IPD0255-01 (Outfall 018 - Wa Reporting Units: umhos/cm	ater)								
Specific Conductance	EPA 120.1	6D05070	1.0	1.0	300	1	04/05/06	04/05/06	



Project ID: Quarterly Outfall 018

Report Number: IPD0255

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Received: 04/04/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

## SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 018 (IPD0255-01) - Wate	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 160.5	2	04/04/2006 11:58	04/04/2006 18:05	04/04/2006 19:45	04/04/2006 20:45
EPA 180.1	2	04/04/2006 11:58	04/04/2006 18:05	04/05/2006 13:30	04/05/2006 14:30
EPA 300.0	2	04/04/2006 11:58	04/04/2006 18:05	04/04/2006 20:30	04/05/2006 01:39
EPA 405.1	2	04/04/2006 11:58	04/04/2006 18:05	04/05/2006 16:00	04/10/2006 15:00
EPA 425.1	2	04/04/2006 11:58	04/04/2006 18:05	04/05/2006 19:36	04/06/2006 00:03

Sampled: 04/04/06



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255 Received: 04/04/06

## METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
·		Limit	MIDL	Cints	Levei	Result	/OKEC	Limits	KI D	Limit	Qualifiers
Batch: 6D05021 Extracted: 04/05/0	<u>6</u>										
Blank Analyzed: 04/05/2006 (6D05021-l	RLK1)										
Benzene	ND	2.0	0.28	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l							
Carbon tetrachloride	ND	5.0	0.28	ug/l							
Chloroform	ND	2.0	0.33	ug/l							
1,1-Dichloroethane	ND	2.0	0.27	ug/l							
1,2-Dichloroethane	ND	2.0	0.28	ug/l							
1,1-Dichloroethene	ND	3.0	0.42	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Tetrachloroethene	ND	2.0	0.32	ug/l							
Toluene	ND	2.0	0.36	ug/l							
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
Trichloroethene	ND	5.0	0.26	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Vinyl chloride	ND	5.0	0.26	ug/l							
Xylenes, Total	ND	4.0	0.52	ug/l							
Surrogate: Dibromofluoromethane	23.2			ug/l	25.0		93	80-120			
Surrogate: Toluene-d8	25.0			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	24.2			ug/l	25.0		97	80-120			
LCS Analyzed: 04/05/2006 (6D05021-B	S1)										
Benzene	23.2	2.0	0.28	ug/l	25.0		93	65-120			
Carbon tetrachloride	25.0	5.0	0.28	ug/l	25.0		100	65-140			
Chloroform	22.4	2.0	0.33	ug/l	25.0		90	65-130			
1,1-Dichloroethane	23.0	2.0	0.27	ug/l	25.0		92	65-130			
1,2-Dichloroethane	25.4	2.0	0.28	ug/l	25.0		102	60-140			
1,1-Dichloroethene	23.7	3.0	0.42	ug/l	25.0		95	70-130			
Ethylbenzene	26.2	2.0	0.25	ug/l	25.0		105	70-125			
Tetrachloroethene	25.2	2.0	0.32	ug/l	25.0		101	65-125			
Toluene	24.2	2.0	0.36	ug/l	25.0		97	70-125			
1,1,1-Trichloroethane	22.6	2.0	0.30	ug/l	25.0		90	65-135			
1,1,2-Trichloroethane	25.0	2.0	0.30	ug/l	25.0		100	65-125			
Trichloroethene	25.2	5.0	0.26	ug/l	25.0		101	70-125			
Trichlorofluoromethane	22.1	5.0	0.34	ug/l	25.0		88	60-140			
Vinyl chloride	18.1	5.0	0.26	ug/l	25.0		72	50-130			
Surrogate: Dibromofluoromethane	25.1			ug/l	25.0		100	80-120			
Del Mar Analytical - Irvine											

#### **Del Mar Analytical - Irvine**

Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6D05021 Extracted: 04/05/06	<u>6</u>										
L CS	147										
LCS Analyzed: 04/05/2006 (6D05021-BS	*				25.0		104	00 120			
Surrogate: Toluene-d8 Surrogate: 4-Bromofluorobenzene	26.0 26.6			ug/l	25.0 25.0		104 106	80-120 80-120			
Surrogate: 4-Bromojtuorovenzene	20.0			ug/l	23.0		100	00-120			
Matrix Spike Analyzed: 04/05/2006 (6D)	05021-MS1)				Sou	rce: IPD	0254-01				
Benzene	22.5	2.0	0.28	ug/l	25.0	ND	90	60-125			
Carbon tetrachloride	23.0	5.0	0.28	ug/l	25.0	ND	92	65-140			
Chloroform	22.7	2.0	0.33	ug/l	25.0	ND	91	65-135			
1,1-Dichloroethane	22.8	2.0	0.27	ug/l	25.0	ND	91	60-130			
1,2-Dichloroethane	25.7	2.0	0.28	ug/l	25.0	ND	103	60-140			
1,1-Dichloroethene	22.0	3.0	0.42	ug/l	25.0	ND	88	60-135			
Ethylbenzene	23.7	2.0	0.25	ug/l	25.0	ND	95	65-130			
Tetrachloroethene	22.0	2.0	0.32	ug/l	25.0	ND	88	60-130			
Toluene	23.0	2.0	0.36	ug/l	25.0	ND	92	65-125			
1,1,1-Trichloroethane	22.1	2.0	0.30	ug/l	25.0	ND	88	65-140			
1,1,2-Trichloroethane	26.1	2.0	0.30	ug/l	25.0	ND	104	60-130			
Trichloroethene	24.4	5.0	0.26	ug/l	25.0	0.86	94	60-125			
Trichlorofluoromethane	20.9	5.0	0.34	ug/l	25.0	ND	84	55-145			
Vinyl chloride	17.2	5.0	0.26	ug/l	25.0	ND	69	40-135			
Surrogate: Dibromofluoromethane	26.8			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	26.6			ug/l	25.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Matrix Spike Dup Analyzed: 04/05/2006	6 (6D05021-N	MSD1)			Sou	rce: IPD	)254-01				
Benzene	25.3	2.0	0.28	ug/l	25.0	ND	101	60-125	12	20	
Carbon tetrachloride	27.0	5.0	0.28	ug/l	25.0	ND	108	65-140	16	25	
Chloroform	25.7	2.0	0.33	ug/l	25.0	ND	103	65-135	12	20	
1,1-Dichloroethane	25.9	2.0	0.27	ug/l	25.0	ND	104	60-130	13	20	
1,2-Dichloroethane	27.7	2.0	0.28	ug/l	25.0	ND	111	60-140	7	20	
1,1-Dichloroethene	25.6	3.0	0.42	ug/l	25.0	ND	102	60-135	15	20	
Ethylbenzene	27.3	2.0	0.25	ug/l	25.0	ND	109	65-130	14	20	
Tetrachloroethene	26.4	2.0	0.32	ug/l	25.0	ND	106	60-130	18	20	
Toluene	26.3	2.0	0.36	ug/l	25.0	ND	105	65-125	13	20	
1,1,1-Trichloroethane	25.8	2.0	0.30	ug/l	25.0	ND	103	65-140	15	20	
1,1,2-Trichloroethane	27.5	2.0	0.30	ug/l	25.0	ND	110	60-130	5	25	
Trichloroethene	27.9	5.0	0.26	ug/l	25.0	0.86	108	60-125	13	20	
Trichlorofluoromethane	24.8	5.0	0.34	ug/l	25.0	ND	99	55-145	17	25	
Del Man Analytical Turing				-							

**Del Mar Analytical - Irvine** 

Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Sampled: 04/04/06

Report Number: IPD0255 Received: 04/04/06

## 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: 6D05021 Extracted: 04/05/0	6										
Matrix Spike Dup Analyzed: 04/05/200	006 (6D05021-MSD1) Source: IPD0254-01										
Vinyl chloride	20.2	5.0	0.26	ug/l	25.0	ND	81	40-135	16	30	
Surrogate: Dibromofluoromethane	26.8			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	26.4			ug/l	25.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	26.6			ug/l	25.0		106	80-120			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source	%REC	%REC	RPD	RPD Limit	Data Qualifiers
•		Lillit	MIDL	Units	Level	Result	70KEC	Limits	KFD	Lillit	Quanners
<b>Batch: 6D10085 Extracted: 04/10/0</b>	<u>6</u>										
DI I A I I 04/13/2007 (CD10005)	DI 171)										
Blank Analyzed: 04/12/2006 (6D10085-	-	5.0									
Bis(2-ethylhexyl)phthalate	ND	5.0	1.7	ug/l							
2,4-Dinitrotoluene	ND	9.0	0.20	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.10	ug/l							
Pentachlorophenol	ND	8.0	0.10	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l	20.0		5.0	20.120			
Surrogate: 2-Fluorophenol	11.6			ug/l	20.0		58	30-120			
Surrogate: Phenol-d6	13.8			ug/l	20.0		69	35-120			
Surrogate: 2,4,6-Tribromophenol	13.4			ug/l	20.0		67	45-120			
Surrogate: Nitrobenzene-d5	7.66			ug/l	10.0		77	45-120			
Surrogate: 2-Fluorobiphenyl	7.54			ug/l	10.0		75	45-120			
Surrogate: Terphenyl-d14	8.90			ug/l	10.0		89	45-120			
LCS Analyzed: 04/12/2006 (6D10085-B	S1)										M-NR1
Bis(2-ethylhexyl)phthalate	10.5	5.0	1.7	ug/l	10.0		105	60-130			
2,4-Dinitrotoluene	8.82	9.0	0.20	ug/l	10.0		88	60-120			J
N-Nitrosodimethylamine	7.72	8.0	0.10	ug/l	10.0		77	40-120			J
Pentachlorophenol	8.76	8.0	0.10	ug/l	10.0		88	50-120			
2,4,6-Trichlorophenol	7.86	6.0	0.10	ug/l	10.0		79	60-120			
Surrogate: 2-Fluorophenol	12.3			ug/l	20.0		62	30-120			
Surrogate: Phenol-d6	13.5			ug/l	20.0		68	35-120			
Surrogate: 2,4,6-Tribromophenol	14.7			ug/l	20.0		74	45-120			
Surrogate: Nitrobenzene-d5	6.82			ug/l	10.0		68	45-120			
Surrogate: 2-Fluorobiphenyl	6.62			ug/l	10.0		66	45-120			
Surrogate: Terphenyl-d14	7.92			ug/l	10.0		79	45-120			
LCS Dup Analyzed: 04/12/2006 (6D100	85-BSD1)										
Bis(2-ethylhexyl)phthalate	12.2	5.0	1.7	ug/l	10.0		122	60-130	15	20	
2,4-Dinitrotoluene	10.7	9.0	0.20	ug/l	10.0		107	60-120	19	20	
N-Nitrosodimethylamine	9.14	8.0	0.10	ug/l	10.0		91	40-120	17	20	
Pentachlorophenol	9.64	8.0	0.10	ug/l	10.0		96	50-120	10	25	
2,4,6-Trichlorophenol	8.16	6.0	0.10	ug/l	10.0		82	60-120	4	20	
Surrogate: 2-Fluorophenol	12.0	0.0	0.10	ug/l	20.0		60	30-120			
Surrogate: Phenol-d6	14.2			ug/l	20.0		71	35-120			
Surrogate: 2,4,6-Tribromophenol	15.9			ug/l	20.0		80	45-120			
Surrogate: Nitrobenzene-d5	7.90			ug/l	10.0		<i>79</i>	45-120			
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79	45-120			
San Ogaic. 2 I moroophenyi	7.20			<i>us, i</i>	10.0		//	75 120			

**Del Mar Analytical - Irvine** 

Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

### 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: 6D10085 Extracted: 04/10/06** 

LCS Dup Analyzed: 04/12/2006 (6D10085-BSD1)

Surrogate: Terphenyl-d14 8.82 ug/l 10.0 88 45-120



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Sampled: 04/04/06

Report Number: IPD0255 Received: 04/04/06

## METHOD BLANK/QC DATA

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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D10116 Extracted: 04/10/06											
Blank Analyzed: 04/11/2006 (6D10116-B	LK1)										
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.427			ug/l	0.500		85	45-120			
Surrogate: Tetrachloro-m-xylene	0.377			ug/l	0.500		75	35-115			
LCS Analyzed: 04/11/2006 (6D10116-BS	1)										M-NR1
alpha-BHC	0.371	0.010	0.0010	ug/l	0.500		74	45-120			
Surrogate: Decachlorobiphenyl	0.412			ug/l	0.500		82	45-120			
Surrogate: Tetrachloro-m-xylene	0.350			ug/l	0.500		70	35-115			
LCS Dup Analyzed: 04/11/2006 (6D1011	6-BSD1)										
alpha-BHC	0.388	0.010	0.0010	ug/l	0.500		78	45-120	4	30	
Surrogate: Decachlorobiphenyl	0.418			ug/l	0.500		84	45-120			
Surrogate: Tetrachloro-m-xylene	0.373			ug/l	0.500		75	35-115			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

#### **METALS**

	Reporting			Spike	Source		%REC		RPD	Data
Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
04/06										
150-BLK1)										
ND	2.0	0.25	ug/l							
ND	1.0	0.040	ug/l							
60-BS1)										
79.2	2.0	0.25	ug/l	80.0		99	85-115			
80.9	1.0	0.040	ug/l	80.0		101	85-115			
(6D04150-MS1)				Sou	rce: IPD	0254-01				
82.0	2.0	0.25	ug/l	80.0	7.4	93	70-130			
85.8	1.0	0.040	ug/l	80.0	6.9	99	70-130			
2006 (6D04150-M	SD1)			Sou	rce: IPD	0254-01				
80.7	2.0	0.25	ug/l	80.0	7.4	92	70-130	2	20	
85.5	1.0	0.040	ug/l	80.0	6.9	98	70-130	0	20	
05/06										
)91-BLK1)										
ND	0.20	0.050	ug/l							
01-BS1)										
7.98	0.20	0.050	ug/l	8.00		100	85-115			
(6D05091-MS1)				Sou	rce: IPD(	0241-01				
8.57	0.20	0.050	ug/l	8.00	0.060	106	70-130			
/2006 (6D05091-M	SD1)			Sou	ırce: IPD(	0241-01				
8.73	0.20	0.050	ug/l	8.00	0.060	108	70-130	2	20	
	04/06   50-BLK1) ND   79.2   80.9   (6D04150-MS1)   82.0   85.8   2006 (6D04150-M   80.7   85.5   05/06   091-BLK1)   ND   1-BS1)   7.98   (6D05091-MS1)   8.57	Result Limit    04/06	Result       Limit       MDL         04/06	Result   Limit   MDL   Units	Result   Limit   MDL   Units   Level	Result   Limit   MDL   Units   Level   Result	Result   Limit   MDL   Units   Level   Result   %REC     24/06	Result   Limit   MDL   Units   Level   Result   %REC   Limits	Result	No



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

#### **METALS**

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6E01070 Extracted: 05/01/06											
Blank Analyzed: 05/02/2006 (6E01070-BI	LK1)										
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 05/02/2006 (6E01070-BS1	)										
Lead	90.7	1.0	0.040	ug/l	80.0		113	85-115			
Matrix Spike Analyzed: 05/02/2006 (6E0)	1070-MS1)				Sour	rce: IPD2	2699-01				
Lead	92.2	1.0	0.040	ug/l	80.0	6.1	108	70-130			
Matrix Spike Dup Analyzed: 05/02/2006	(6E01070-MSI	D1)			Sour	rce: IPD2	2699-01				
Lead	91.1	1.0	0.040	ug/l	80.0	6.1	106	70-130	1	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D04136 Extracted: 04/04/06	_										
Blank Analyzed: 04/04/2006 (6D04136-B)	,										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 04/04/2006 (6D04136-BS)	1)										
Chloride	4.76	0.50	0.15	mg/l	5.00		95	90-110			
Sulfate	9.53	0.50	0.45	mg/l	10.0		95	90-110			
Matrix Spike Analyzed: 04/04/2006 (6D0	4136-MS1)				Sou	rce: IPD(	0234-12				
Chloride	109	5.0	1.5	mg/l	50.0	66	86	80-120			
Sulfate	268	5.0	4.5	mg/l	100	180	88	80-120			
Matrix Spike Dup Analyzed: 04/04/2006	(6D04136-MS	D1)			Sou	rce: IPD(	0234-12				
Chloride	106	5.0	1.5	mg/l	50.0	66	80	80-120	3	20	
Sulfate	258	5.0	4.5	mg/l	100	180	78	80-120	4	20	M2
Batch: 6D05046 Extracted: 04/05/06											
	=										
Blank Analyzed: 04/05/2006 (6D05046-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/05/2006 (6D05046-BS)	1)										M-NR1
Oil & Grease	16.4	5.0	0.94	mg/l	20.0		82	65-120			
LCS Dup Analyzed: 04/05/2006 (6D05040	6-BSD1)										
Oil & Grease	16.5	5.0	0.94	mg/l	20.0		82	65-120	1	20	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D05064 Extracted: 04/05/06	<u>.</u>										
Dlank Analana J. 04/10/2006 (CD050/4 D	I IZ1)										
Blank Analyzed: 04/10/2006 (6D05064-B Biochemical Oxygen Demand	LKI) ND	2.0	0.59	mg/l							
		2.0	0.59	mg/1							
LCS Analyzed: 04/10/2006 (6D05064-BS	,			_							
Biochemical Oxygen Demand	226	100	30	mg/l	198		114	85-115			
LCS Dup Analyzed: 04/10/2006 (6D0506	4-BSD1)										
Biochemical Oxygen Demand	226	100	30	mg/l	198		114	85-115	0	20	
Batch: 6D05070 Extracted: 04/05/06											
	_										
<b>Duplicate Analyzed: 04/05/2006 (6D0507</b>	0-DUP1)				Sou	rce: IPD(	0242-01				
Specific Conductance	21.3	1.0	1.0	umhos/cm		21			1	5	
Batch: 6D05071 Extracted: 04/05/06	<u>.</u>										
Blank Analyzed: 04/05/2006 (6D05071-B	,										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/05/2006 (6D05071-BS	1)										
Total Dissolved Solids	998	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 04/05/2006 (6D0507	1-DUP1)				Sou	rce: IPD(	242-01				
Total Dissolved Solids	16.0	10	10	mg/l		18			12	10	R-4
Batch: 6D05115 Extracted: 04/05/06											
Date: 00/03113 Datiacted: 04/03/00	_										
Blank Analyzed: 04/05/2006 (6D05115-B	LK1)										
Turbidity	ND	1.0	0.040	NTU							



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D05115 Extracted: 04/05/06	<u> </u>										
<b>Duplicate Analyzed: 04/05/2006 (6D0511</b>	,	1.0	0.040	NEEL	Sou	rce: IPD(	0239-01		2	20	
Turbidity	18.5	1.0	0.040	NTU		18			3	20	
Batch: 6D05128 Extracted: 04/05/06	<u>5</u>										
Blank Analyzed: 04/05/2006 (6D05128-B	BLK1)										
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 04/05/2006 (6D05128-BS	1)										
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0		109	80-115			
Matrix Spike Analyzed: 04/05/2006 (6D0	)5128-MS1)				Sou	rce: IPD(	0105-01				
Ammonia-N (Distilled)	11.8	0.50	0.30	mg/l	10.0	1.4	104	70-120			
Matrix Spike Dup Analyzed: 04/05/2006	(6D05128-MS	SD1)			Sou	rce: IPD(	0105-01				
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0	1.4	101	70-120	3	15	
Batch: 6D05142 Extracted: 04/05/06	<u>5</u>										
Blank Analyzed: 04/06/2006 (6D05142-B	OL IZ1)										
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
,		0.10	0.044	IIIg/I							
LCS Analyzed: 04/06/2006 (6D05142-BS	,										
Surfactants (MBAS)	0.261	0.10	0.044	mg/l	0.250		104	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	)5142-MS1)				Sou	rce: IPD(	0205-01				
Surfactants (MBAS)	0.250	0.10	0.044	mg/l	0.250	ND	100	50-125			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D05142 Extracted: 04/05/06	!										
Date of the second of the second	_										
Matrix Spike Dup Analyzed: 04/06/2006	(6D05142-MS	5D1)			Sou	rce: IPD(	205-01				
Surfactants (MBAS)	0.250	0.10	0.044	mg/l	0.250	ND	100	50-125	0	20	
Batch: 6D05143 Extracted: 04/05/06	- 										
	_										
Blank Analyzed: 04/06/2006 (6D05143-B	LK1)										
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 04/06/2006 (6D05143-BS)	1)										
Total Cyanide	196	5.0	2.2	ug/l	200		98	90-110			
Matrix Spike Analyzed: 04/06/2006 (6D0	5143-MS1)				Sou	rce: IPD(	0017-01				
Total Cyanide	191	5.0	2.2	ug/l	200	ND	96	70-115			
Matrix Spike Dup Analyzed: 04/06/2006	(6D05143_MS	(D1)			Sou	rce: IPD(	0017-01				
Total Cyanide	199	5.0	2.2	ug/l	200	ND	100	70-115	4	15	
,						TVD		, , , , , ,	·		
Batch: 6D06060 Extracted: 04/06/06	<u>-</u>										
Blank Analyzed: 04/06/2006 (6D06060-B	LK1)										
Perchlorate	ND	4.0	0.80	ug/l							
LCS ALJ. 04/0//2007 (CD07070 DS)	1)										
LCS Analyzed: 04/06/2006 (6D06060-BS)  Perchlorate	46.7	4.0	0.80	ua/l	50.0		93	85-115			
reteniorate	40./	4.0	0.80	ug/l	30.0		93	63-113			
Matrix Spike Analyzed: 04/06/2006 (6D0	,					rce: IPD(					
Perchlorate	78.3	4.0	0.80	ug/l	50.0	30	97	80-120			



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 018

Report Number: IPD0255

Sampled: 04/04/06 Received: 04/04/06

## METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D06060 Extracted: 04/06/06	<u>.</u>										
Matrix Spike Dup Analyzed: 04/06/2006	(6D06060-MS	SD1)			Sou	rce: IPD0	173-01				
Perchlorate	78.4	4.0	0.80	ug/l	50.0	30	97	80-120	0	20	
Batch: 6D07128 Extracted: 04/07/06	<u>.</u>										
Blank Analyzed: 04/07/2006 (6D07128-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/07/2006 (6D07128-BS	1)										
Total Suspended Solids	975	10	10	mg/l	1000		98	85-115			
<b>Duplicate Analyzed: 04/07/2006 (6D0712</b>	8-DUP1)				Sou	rce: IPD(	270-01				
Total Suspended Solids	64.0	10	10	mg/l		67			5	10	

Sampled: 04/04/06



MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD0255 Received: 04/04/06

Attention: Bronwyn Kelly

## **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
IPD0255-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.095	4.8	10.00
IPD0255-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0094	0.0100
IPD0255-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPD0255-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0.16	5.0	5.00
IPD0255-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPD0255-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.5	9.10
IPD0255-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.96	4.7	4.00
IPD0255-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.5	8.10
IPD0255-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0.094	7.5	8.20
IPD0255-01	BOD	Biochemical Oxygen Demand	mg/l	3.60	2.0	20
IPD0255-01	Chloride - 300.0	Chloride	mg/l	17	0.50	150
IPD0255-01	Copper-200.8	Copper	ug/l	4.80	2.0	7.10
IPD0255-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	0.45	5.0	4.30
IPD0255-01	Lead-200.8	Lead	ug/l	2.80	1.0	2.60
IPD0255-01	MBAS - 425.1	Surfactants (MBAS)	mg/l	0.12	0.20	0.50
IPD0255-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.18	0.15	8.00
IPD0255-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPD0255-01	Sulfate-300.0	Sulfate	mg/l	42	0.50	300
IPD0255-01	TDS - EPA 160.1	Total Dissolved Solids	mg/l	200	10	950
IPD0255-01RE1	Lead-200.8	Lead	ug/l	3.10	1.0	2.60
IPD0255-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPD0255-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Sampled: 04/04/06



MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD0255 Received: 04/04/06

Attention: Bronwyn Kelly

## DATA QUALIFIERS AND DEFINITIONS

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

M2 The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

**R-4** Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

**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



Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06 Pasadena, CA 91101 Report Number: IPD0255 Received: 04/04/06

Attention: Bronwyn Kelly

## **Certification Summary**

### Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Liquid	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 425.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X

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

## **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: IPD0255-01

Analysis Performed: EDD + Level 4

Samples: IPD0255-01

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

/ 3 7 Del Mar Analytical version 03/1/06 CHAIN OF CUSTODY FORM

IYOOZSS

Field readings: Comments Temp = 57 ď 75/20 Page 1 of Normal 10 Days Turn around Time: (check)
24 Hours 5 Days Sample Integrity: (Check) Intact Perchlorate Only 72 Hours pentachlorophenol (EPA 625) Metals Only 72 Hours Dinitrotoluene, Bis(2-ethylhexyl)phthalate, UDMA. 2,4,6 Trichlorophenol, 2,4 48 Hours 72 Hours Alpha BHC (8081A) ANALYSIS REQUIRED × M-sinommA Conductivity  $\times$ 445 Turbidity, TDS, TSS, Perchlorate  $\times$ CI-' 204' NO3+NO5-N' × Surfactants (MBAS)  $\times$ BOD2(S0 degrees C) × Cyanide (total recoverable) Oil & Grease (EPA 413.1) 70-2-4 TCDD (sug all congeners) Date/Time: Date/Time: Date/Time **∆OC**2 624 + xylenes × Settleable Solids Cn' bp' Hđ' Total Recoverable Metals: 15A, 15B, 15C 3B, 3C 10A, 10B 13A, 13B 12A, 12B 4A, 4B 9A,9B **2B** Ξ ₹ **⊕** a ξ ĕ Bottle Received By Received By Received By Preservative Project: Boeing-SSFL NPDES Routine Outfall 018 H2S04 NaOH None None HN03 HN03 None None None None None None 덛 오 (626) 568-6691 Fax Number: (626) 568-6515 Phone Number (4)Sampling
Date/Time
#// 4/66 100% R-2 Spillway 4/4/00 Date/Time:  $\sqrt{-1}$   $\sqrt{b}$ Date/Time: Date/Time: 48/h/h # of Cont. Project Manager: Bronwyn Kelly MWH-Pasadena 300 North Lake Avenue, Suite 1200  $\alpha$ mi Poly-500 ml Poly-500 ml 1L Amber Poly-500 ml Poly-500 1L Amber Container 1L Amber 1L Amber Poly-500 ml Poly-1 L Poly-1L Poly-1L Poly-1L VOAs VOAs Burrsso, R Sampler: 🎉 🖟 🦯 🖟 Client Name/Address Sample Matrix Pasadena, CA 91101 ≥ ≥ ≥ ≥ ≥ ≥ ≥ 3 ≥ ≥ ≥ ≥ ≥ ≥ Relinquished By Relinduished By Description Outfall 018 Outfall 018 Outfall 018-Outfall 018 Outfall 018 Trip Blank Outfall 018



April 12, 2006

Alta Project I.D.: 27549

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 April 06, 2006 under your Project Name "IPD0255". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

**Director of HRMS Services** 



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



# Section I: Sample Inventory Report Date Received: 4/6/2006

Alta Lab. ID Client Sample ID

27549-001 IPD0255-01

## **SECTION II**

**NPDES - 922** 

Method Blan	ık					1				EPA Method 161
Matrix:	Aqueous		QC Batch No.:	79	010	Lab	Sample:	0-MB001		
Sample Size:	1.00 L		Date Extracted	: 9-	Apr-06	Date	Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225: NA
					•		•	-		·
Analyte	Conc. (u	ıg/L)	<b>DL</b> a	EMPC b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD		ND	0.000000628			<u>IS</u>	13C-2,3,7,8-TCI	DD	74.5	25 - 164
1,2,3,7,8-PeCD	DD	ND	0.000000450				13C-1,2,3,7,8-Pe	CDD	71.4	25 - 181
1,2,3,4,7,8-Hx	CDD	ND	0.000000804				13C-1,2,3,4,7,8-l	HxCDD	74.6	32 - 141
1,2,3,6,7,8-Hx	CDD	ND	0.000000867				13C-1,2,3,6,7,8-l	HxCDD	70.7	28 - 130
1,2,3,7,8,9-Hx	CDD	ND	0.000000808				13C-1,2,3,4,6,7,8	3-HpCDD	75.4	23 - 140
1,2,3,4,6,7,8-H	IpCDD	ND	0.00000111				13C-OCDD		55.5	17 - 157
OCDD		0.0000025	i9		J		13C-2,3,7,8-TCI	)F	77.3	24 - 169
2,3,7,8-TCDF		ND	0.000000346				13C-1,2,3,7,8-Pe	CDF	73.3	24 - 185
1,2,3,7,8-PeCD	)F	ND	0.000000474				13C-2,3,4,7,8-Pe	CDF	72.6	21 - 178
2,3,4,7,8-PeCD	<b>OF</b>	ND	0.000000453				13C-1,2,3,4,7,8-I	HxCDF	74.5	26 - 152
1,2,3,4,7,8-Hx	CDF	ND	0.000000436				13C-1,2,3,6,7,8-l	HxCDF	66.9	26 - 123
1,2,3,6,7,8-Hx	CDF	ND	0.000000334				13C-2,3,4,6,7,8-l	HxCDF	71.8	28 - 136
2,3,4,6,7,8-Hx	CDF	ND	0.000000326				13C-1,2,3,7,8,9-1	HxCDF	70.0	29 - 147
1,2,3,7,8,9-Hx	CDF	ND	0.000000456				13C-1,2,3,4,6,7,8	8-HpCDF	66.9	28 - 143
1,2,3,4,6,7,8-H	IpCDF	ND	0.000000395				13C-1,2,3,4,7,8,9	9-HpCDF	72.4	26 - 138
1,2,3,4,7,8,9-H		ND	0.000000424				13C-OCDF		56.7	17 - 157
OCDF	•	ND	0.00000136			CRS	37Cl-2,3,7,8-TC	DD	84.0	35 - 197
Totals						Foot	enotes			
Total TCDD		ND	0.000000628			a. San	nple specific estimated of	letection limit.		
Total PeCDD		ND	0.000000450				imated maximum possib			
Total HxCDD		ND	0.000000828				thod detection limit.			
Total HpCDD		ND	0.00000111			d. Lov	wer control limit - upper	control limit.		
Total TCDF		ND	0.000000346							
Total PeCDF		ND	0.000000463							
Total HxCDF		ND	0.000000473							
Total HpCDF		ND	0.000000408							

Analyst: MAS William J. Luksemburg 12-Apr-2006 09:56 **NPDES - 923** Approved By:

OPR Results				EPA	Method 1613
Matrix: Aqueous Sample Size: 1.00 L	QC Batch No.:  Date Extracted:	7910 9-Apr-06	Lab Sample: 0-OPR001  Date Analyzed DB-5: 10-Apr-06	Date Analyze	d DB-225: NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0 11.0	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	76.2	25 - 164
1,2,3,7,8-PeCDD	50.0 53.6	35 - 71	13C-1,2,3,7,8-PeCDD	73.8	25 - 181
1,2,3,4,7,8-HxCDD	50.0 53.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	79.3	32 - 141
1,2,3,6,7,8-HxCDD	50.0 53.2	38 - 67	13C-1,2,3,6,7,8-HxCDD	72.2	28 - 130
1,2,3,7,8,9-HxCDD	50.0 53.8	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	77.9	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0 54.0	35 - 70	13C-OCDD	51.6	17 - 157
OCDD	100 107	78 - 144	13C-2,3,7,8-TCDF	78.6	24 - 169
2,3,7,8-TCDF	10.0 10.9	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	74.4	24 - 185
1,2,3,7,8-PeCDF	50.0 54.1	40 - 67	13C-2,3,4,7,8-PeCDF	75.4	21 - 178
2,3,4,7,8-PeCDF	50.0 54.3	34 - 80	13C-1,2,3,4,7,8-HxCDF	78.7	26 - 152
1,2,3,4,7,8-HxCDF	50.0 53.4	36 - 67	13C-1,2,3,6,7,8-HxCDF	75.6	26 - 123
1,2,3,6,7,8-HxCDF	50.0 52.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	75.6	28 - 136
2,3,4,6,7,8-HxCDF	50.0 51.8	35 - 78	13C-1,2,3,7,8,9-HxCDF	75.1	29 - 147
1,2,3,7,8,9-HxCDF	50.0 52.7	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	68.4	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0 52.6	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	75.5	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0 52.6	39 - 69	13C-OCDF	56.6	17 - 157
OCDF	100 105	63 - 170	<u>CRS</u> 37Cl-2,3,7,8-TCDD	87.2	35 - 197

Analyst: MAS William J. Luksemburg 12-Apr-2006 09:56

Sample ID:	IPD0255-0	1								EPA N	Method 1613
Client Data				Sample Data		Lab	oratory Data				
Name:		alytical, Irvine		Matrix:	Aqueous	Lab	Sample:	27549-001	Date Re	ceived:	6-Apr-06
Project: Date Collected:	IPD0255 4-Apr-06			Sample Size:	1.03 L	QC	Batch No.:	7910	Date Ex	tracted:	9-Apr-06
Time Collected:	1158					Date	e Analyzed DB-5:	11-Apr-06	Date An	alyzed DB-225:	NA
Analyte	Conc.	(ug/L)	DL a	<b>EMPC</b> ^b	Qualifiers		Labeled Stan	dard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD		ND	0.0000006	11		<u>IS</u>	13C-2,3,7,8-T0	CDD	67.9	25 - 164	
1,2,3,7,8-PeCD	D	ND		0.00000	00852		13C-1,2,3,7,8-	PeCDD	61.7	25 - 181	
1,2,3,4,7,8-HxC	CDD	0.00000232			J		13C-1,2,3,4,7,8	8-HxCDD	66.7	32 - 141	
1,2,3,6,7,8-HxC	CDD	0.00000515			J		13C-1,2,3,6,7,8	8-HxCDD	60.2	28 - 130	
1,2,3,7,8,9-HxC	CDD	0.00000373			J		13C-1,2,3,4,6,7	7,8-HpCDD	68.3	23 - 140	
1,2,3,4,6,7,8-Hp	pCDD	0.000113					13C-OCDD		55.0	17 - 157	
OCDD		0.00121			В		13C-2,3,7,8-T0	CDF	69.9	24 - 169	
2,3,7,8-TCDF		ND	0.0000008	57			13C-1,2,3,7,8-	PeCDF	63.6	24 - 185	
1,2,3,7,8-PeCD	F	ND	0.0000012	2			13C-2,3,4,7,8-	PeCDF	63.5	21 - 178	
2,3,4,7,8-PeCD	F	ND	0.0000012	3			13C-1,2,3,4,7,8	8-HxCDF	63.8	26 - 152	
1,2,3,4,7,8-HxC	CDF	ND	0.0000007	87			13C-1,2,3,6,7,8	8-HxCDF	47.5	26 - 123	
1,2,3,6,7,8-HxC	CDF	ND	0.0000008	79			13C-2,3,4,6,7,8	8-HxCDF	62.1	28 - 136	
2,3,4,6,7,8-HxC	CDF	0.000000894			J		13C-1,2,3,7,8,9	9-HxCDF	63.0	29 - 147	
1,2,3,7,8,9-HxC	CDF	ND	0.0000004	11			13C-1,2,3,4,6,7	7,8-HpCDF	61.1	28 - 143	
1,2,3,4,6,7,8-Hp	pCDF	0.0000191			J		13C-1,2,3,4,7,8	8,9-HpCDF	64.3	26 - 138	
1,2,3,4,7,8,9-Hp	pCDF	0.00000261			J		13C-OCDF		54.7	17 - 157	
OCDF		0.0000526				CRS	37Cl-2,3,7,8-T	CDD	83.3	35 - 197	
Totals						Foo	otnotes				
Total TCDD		0.00000106				a. Sa	ample specific estima	ted detection limit.			
Total PeCDD		0.00000234		0.00000	)591	b. E	stimated maximum p	ossible concentration.			
Total HxCDD		0.0000452				c. M	lethod detection limit				
Total HpCDD		0.000237				d. L	ower control limit - u	pper control limit.			
Total TCDF		0.0000227									
Total PeCDF		ND		0.00000	)247						
Total HxCDF		0.0000248									
Total HpCDF		0.0000566									

Analyst: MAS William J. Luksemburg 12-Apr-2006 09:56

**NPDES - 925** 

Project 27549 Page 6 of 251

## **APPENDIX**

**NPDES - 926** 

Project 27549 Page 7 of 251

#### **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		



Project 27549

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 B-120, Phoenix, AZ 85044

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

Ph (619) 505-9596

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Ph (909) 370-4667

Fax (909) 370-1046 Fax (619) 505-9689

Pagagle010ff2\$1

Fax (949) 261-1228

Ph (480) 785-0043 Fax (480) 785-0851 Ph (702) 798-3620

# **SUBCONTRACT ORDER - PROJECT # IPD0255**

SENDI	IG LABORATORY:	RECEIV	TNG LABORATORY:
Del Mar Analytical - Irvine 17461 Derian Avenue. Suit Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele C	e 100	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone :(916) 933-1640 Fax: (916) 673-0106	27549 1.80
Standard TAT is requeste	d unless specific due date is	requested => Due Date:	Initials:

Standard 1111 is roqu	cotou unicos specific due dute is request		
Analysis	Expiration	Comments	
Sample ID: IPD0255-01	Water Sampled: 04/04/06 11:58	Instant Nofication	
1613-Dioxin-HR-Alta	04/11/06 11:58	J flags,17 congeners,no TEQ,ug/L,sub=Alta	
EDD + Level 4	05/02/06 11:58	Excel EDD email to pm, Include Std logs for Lvl IV	
Containers Supplied:			
1 L Amber (IPD0255-01	lG)		
1 L Amber (IPD0255-01	(H)		

		SAMPLE	INTEGRITY:	· · · · · · · · · · · · · · · · · · ·	
All containers intact:		ple labels/COC agree: ples Preserved Properly:	☐ Yes ☐ No ☐ Yes ☐ No	Samples Received On Ice:: Samples Received at (temp):	☐ Yes ☐ No
	4/51	06	Bettina O	Benedict 4/6	106 0860
Released By	Date	Time	Received By	Date '	Time
eleased By	Date	Time	Received By	Date	— NPDES - 929 Time

## SAMPLE LOG-IN CHECKLIST

Alta Project #:	27549	
•		

Samples Arrival:	Date/Time	10F0	Initials	s: 12	Locati	ion: WR	-7
Campies 7 times	4/6/06 0850		4040		Shelf/Rack:		
	Date/Time		Initial	s:	Locat	ion: WR	- 2
Logged In:	4/6/06 1000		BIB		Shelf/Rack: C-3		
Delivered By:	FedEx UF	PS	Cal	DHL	1	Hand elivered	Other
Preservation:	Ice	Blue	Blue Ice Dr		Ice None		ne
Temp °C /.	8° Time	Time: 090			Thermometer ID:		: DT-20

					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?					V		
Airbill Trk# 79	20	6313	8160				
Sample Container Intact?							
Sample Custody Seals Intact?							V
Chain of Custody / Sample Documentation Present?							
COC Anomaly/Sample Acceptance Form completed?						/	<u> </u>
If Chlorinated or Drinking Water Sam	ıples, Ac	ceptable P	reservation?				V
Na ₂ S ₂ O ₃ Preservation Documented? COC Sam					• 1	No	ne
Shipping Container Alta Client Retain Ret					urn	Disp	ose

Comments:

# **APPENDIX G**

# **Section 40**

Outfall 018, April 04, 2006

MECX Data Validation Reports

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	C^	Package ID:	
122	69 East Vassar Drive	Task Order:	
Aur	ora, CO 80014	SDG No.:	IPD0255
		No. of Analyses:	1
	Laboratory: Alta Anal	tical Date: June 5	, 2006
	Reviewer: K. Shado		
	Analysis/Method: Dioxins	P. Meeks for	K. Shadowlight
AC1	FION ITEMS ^a		
	Case Narrative		
	Deficiencies		
2.	Out of Scope Analyses		
3.	Analyses Not Conducted		
4.	Missing Hardcopy		
	Deliverables		
			MANAGEMENT OF THE STATE OF THE
5.	Incorrect Hardcopy		
	Deliverables		
6.	Deviations from Analysis	Qualification applied for a detects below the	reporting limit and for
	Protocol, e.g.,	EMPC values.	
	Holding Times		
	GC/MS Tune/Inst. Performance		
	Calibration		
	Method blanks		
	Surrogates		
	Matrix Spike/Dup LCS		
	Field QC		
	Internal Standard Performance	- Comment of the Comm	All
	Compound Identification		
	Quantitation		
	System Performance		
co	MMENTS ^b		
	And the state of t		
		meeting contract and/or method requirements.  by the laboratory but no action against the laboratory is	required
	interences in projector have been adobte	DY THE IADUIATORY DUE THE ACTION AGAINST THE IADUIATORY IS	roquirou.



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 018

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPD0255

Prepared by

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

Project: SDG: IPD0255 DATA VALIDATION REPORT Analysis: D/F

# 1. INTRODUCTION

Task Order Title: **NPDES** 

Contract Task Order: 1261.001D.01 Sample Delivery Group: IPD0255 Project Manager: P. Costa

> Matrix: Water

Dioxins/Furans Analysis:

QC Level: Level IV

No. of Samples: No. of Reanalyses/Dilutions: 0

Reviewer: K. Shadowlight Date of Review: June 5, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Revision 0 NPDES - 934

**NPDES** 

Project: SDG: NPDES IPD0255 Analysis: DATA VALIDATION REPORT D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 018	IPD0255-01	27549-001	Water	1613

 Project:
 NPDES

 SDG:
 IPD0255

 DATA VALIDATION REPORT
 Analysis:
 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 within the temperature limits at 2°C. 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.

**NPDES** Project: SDG: IPD0255 DATA VALIDATION REPORT Analysis: D/F

# 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 (0-7910-MB001) was extracted and analyzed with the sample in this SDG. Target compound OCDD was detected in the method blank at a concentration below the laboratory calibration level. OCDD was also detected in the site sample; however, the detect in the sample exceeded five times the concentration reported in the method blank and required no qualification. There were no other target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives or false positives. No qualifications were required.

**NPDES** Project: SDG: IPD0255 D/F

DATA VALIDATION REPORT Analysis:

#### 2.5 **BLANK SPIKES AND LABORATORY CONTROL SAMPLES**

One blank spike (0-7910-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

#### 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

#### 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

#### 2.7.1 **Field Blanks and Equipment Rinsates**

The sample in this SDG had no field blank or equipment rinsate identified. No qualification of the site sample was required.

# 2.7.2 Field Duplicates

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

#### 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

#### 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of

B4DF90 5

Project: **NPDES** SDG: IPD0255 DATA VALIDATION REPORT Analysis: D/F

"DNQ" to comply with the reporting requirements of the NPDES permit. Any reported estimated maximum possible concentration (EMPC) was qualified as an estimated nondetect, "UJ." No further qualifications were required.

		Client Data  Name: Del Mar Analytical, Irvin Project: IPD0255 Date Collected: 4-Apr-06		alytical, Irvine	018	Aqueous 1.03 L	Lab	oratory Data Sample: Batch No.:	27549-001 7910	Date Rec	ceived:	6-Apr-06 9-Apr-06 NA	
0	Pucl	Time Collected:  Analyte	1158 Conc.	(ug/L)	DL a	<b>EMPC</b> ^b	Qualifiers	Date	Labeled Stand	11-Apr-06		LCL-UCL ^d	
161	cal	2,3,7,8-TCDD		ND	0.0000006			<u>IS</u>	13C-2,3,7,8-TCI	DD	67.9	25 - 164	
	X10	1,2,3,7,8-PeCDD		ND		0.00000	0852		13C-1,2,3,7,8-Pe		61.7	25 - 181	
	DNQ	1,2,3,4,7,8-HxCD		0.00000232			J		13C-1,2,3,4,7,8-	HxCDD	66.7	32 - 141	
1	1	1,2,3,6,7,8-HxCD		0.00000515			J		13C-1,2,3,6,7,8-		60.2	28 - 130	
1	V	1,2,3,7,8,9-HxCD		0.00000373			J		13C-1,2,3,4,6,7,	8-HpCDD	68.3	23 - 140	
		1,2,3,4,6,7,8-HpC		0.000113					13C-OCDD		55.0	17 - 157	
		OCDD		0.00121			В		13C-2,3,7,8-TC	DF	69.9	24 - 169	
		2,3,7,8-TCDF		ND	0.0000000	357			13C-1,2,3,7,8-Pe	eCDF	63.6	24 - 185	
		1,2,3,7,8-PeCDF		ND	0.0000012	.2			13C-2,3,4,7,8-Pe	eCDF	63.5	21 - 178	
		2,3,4,7,8-PeCDF		ND	0.0000012	23			13C-1,2,3,4,7,8-	HxCDF	63.8	26 - 152	
		1,2,3,4,7,8-HxCD	)F	ND	0.0000007	187			13C-1,2,3,6,7,8-	HxCDF	47.5	26 - 123	
		1,2,3,6,7,8-HxCD		ND	0.0000008	379			13C-2,3,4,6,7,8-	HxCDF	62.1	28 - 136	
7	PNG	2,3,4,6,7,8-HxCD		0.000000894			J		13C-1,2,3,7,8,9-	HxCDF	63.0	29 - 147	
		1,2,3,7,8,9-HxCD		ND	0.0000004	11			13C-1,2,3,4,6,7,	8-HpCDF	61.1	28 - 143	
	DWG			0.0000191			J		13C-1,2,3,4,7,8,	9-HpCDF	64.3	26 - 138	
	4	1,2,3,4,7,8,9-HpC		0.00000261			J		13C-OCDF		54.7	17 - 157	
		OCDF		0.0000526				CRS	₹ 37C1-2,3,7,8-TC	CDD	83.3	35 - 197	
		Totals						Foo	otnotes				
		Total TCDD		0.00000106				a. Sa	ample specific estimate	ed detection limit.			
		Total PeCDD		0.00000234		0.00000	)591	b. E	stimated maximum pos	ssible concentration.			
		Total HxCDD		0.0000452				c. M	lethod detection limit.				
		Total HpCDD		0.000237				d. L	ower control limit - up	per control limit.			
		Total TCDF		0.0000227									
5	XIO	Total PeCDF		ND		0.00000	)247						
	1.1-	Total HxCDF		0.0000248									
		Total HpCDF		0.0000566									

Analyst: MAS

Approved By:

William J. Luksemburg 12-Apr-2006 09:56

Project 27549 Level V

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	Cx			Package ID:	B4MT81
122	69 East Vassar Drive			•	1261.001D.02
Aur	ora, CO 80014			SDG No.:	IPD0255
			No.	of Analyses:	1
	Laboratory: Del Mar A	Analytical		Date: June 6	, 2006
	Reviewer: P. Meeks			Reviewer's Si	gnature
	Analysis/Method: Metals			1. Much	7
ACT	TION ITEMS ^a				
-	Case Narrative				
	Deficiencies				
2.	Out of Scope Analyses			· · · · · · · · · · · · · · · · · · ·	
		and a supplementary and a			
3.	Analyses Not Conducted				
		**************************************			
A	Missing Hardsony		,		
4.	Missing Hardcopy Deliverables	•			<del>, , , , , , , , , , , , , , , , , , , </del>
	Deliverables				
5.	Incorrect Hardcopy				
J.	Deliverables				
6.	Deviations from Analysis	Reanalysis rejected in fa	avor o	of original result.	
	Protocol, e.g.,				
	Holding Times				
	GC/MS Tune/Inst. Performance				
	Calibration	The state of the s			
	Method blanks				
	Surrogates				
	Matrix Spike/Dup LCS				
	Field QC				
	Internal Standard Performance				
	Compound Identification				
	Quantitation				
	System Performance	T		at an annual service of the service	
CO	MMENTS ^b				
a c	ubcontracted analytical laboratory is not	meeting contract and/or method	requir	ements	
	ifferences in protocol have been adopted				equired.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 018

ANALYSIS: METALS

**SAMPLE DELIVERY GROUP IPD0255** 

Prepared by

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

NPDES IPD0255

Analysis:

sis: Metals

# 1. INTRODUCTION

Task Order Title: NPDES Sampling MEC^x Project Number: 1261.001D.01

Sample Delivery Group: IPD0255

Project Manager: P. Costa

Matrix: Water
Analysis: Metals
QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

DATA VALIDATION REPORT

Reviewer: P. Meeks

Date of Review: June 6, 2006

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

B4MT81 1 Revision NPDES - 943

Project:

NPDES IPD0255

SDG: Analysis:

Metals

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPD0255-01	Water	200.8

DATA VALIDATION REPORT

SDG: Analysis: IPD0255 Metals

# 2. DATA VALIDATION FINDINGS

### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

# 2.1.1 Sample Preservation, Handling, and Transport

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

# 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. Outfall 018 was reanalyzed for lead. As the laboratory did not append the MWH ID for the reanalysis with "RE1," the reviewer added this information to the Form I. No sample qualifications were required.

# 2.1.3 Holding Times

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

### 2.2 ICP-MS TUNING

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

# 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and the recoveries were considered to be acceptable. No qualifications were required.

Project:

NPDES

SDG:

Analysis:

Metals

2.4 BLANKS

DATA VALIDATION REPORT

There were no detects in the associated method blanks or CCBs associated with the sample in this SDG. No qualifications were required.

# 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were performed in association with the sample in this SDG. Copper, which is not spiked into the ICSA solution, was detected above the reporting limit in the ICSA. The reviewer checked the sample analysis for the presence of known interferents. None were noted at concentrations that would require sample qualification. All recoveries were acceptable and no qualifications were required.

# 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

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

# 2.7 LABORATORY DUPLICATES

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

# 2.8 MATRIX SPIKES

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

# 2.9 ICP/MS AND ICP SERIAL DILUTION

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

# 2.10 INTERNAL STANDARDS PERFORMANCE

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

Project: SDG: NPDES IPD0255

Analysis:

Metals

# 2.11 SAMPLE RESULT VERIFICATION

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

Per a request from MWH personnel, the laboratory reanalyzed sample Outfall 018 for lead. As the reanalysis yielded a results similar to the original result, the reanalysis, Outfall 018 RE1, was rejected, "R," in favor of the original result. No further qualifications were required.

# 2.12 FIELD QC SAMPLES

DATA VALIDATION REPORT

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

# 2.12.1 Field Blanks and Equipment Rinsates

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

# 2.12.2 Field Duplicates

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





Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPD0255

Sampled: 04/04/06

Received: 04/04/06

# **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualific	
Sample ID: IPD0255-01 (Outfall 018 - W	ater) - cont.								Rev	Qual Code
Reporting Units: ug/l									Of Owl	COM
Copper	EPA 200.8	6D04150	0.25	2.0	4.8	1	04/04/06	04/05/06		
Lead	EPA 200.8	6D04150	0.040	1.0	2.8	1	04/04/06	04/05/06		
Mercury	EPA 245.1	6D05091	0.050	0.20	0.081	1	04/05/06	04/05/06	Ж ј	
Sample ID: IPD0255-01RE1 (Outfall 018	s - Water) Out	(41) 018 F	261							
Reporting Units: ug/l Lead	EPA 200.8	6E01070	0.040	1.0	3.1	1	05/01/06	05/02/06	R	D

* Analysis not validated

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

LEVEL IV

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

$MEC^{X}$			Package ID:	B4VO59
12269 E	East Vassar Drive			1261.001D.01
Aurora,	CO 80014		SDG No.:	IPD0255
		No	o. <u>of Analyses:</u>	2
	Laboratory: Del Mar A	nalytical-Irvine	Date: June 5	, 2006
	Reviewer: L. Calvin		Reviewer's Si	gnaty <b>y</b> e -
Ar	nalysis/Method: Volatiles b	y Method 624	LAXC	alvu
ACTION	I ITEMS ^a			
. Ca	se Narrative	Manual Control of the		
De	ficiencies			
2. <b>O</b> u	it of Scope Analyses			
	-			
3. <b>An</b>	alyses Not Conducted			
	•			
4. Mis	ssing Hardcopy			
	eliverables			
De	inverables			
5. <b>Inc</b>	correct Hardcopy			
	eliverables		A	
	-			
6. <b>De</b>	viations from Analysis			
Pro	otocol, e.g.,			
Hol	lding Times			
GC	C/MS Tune/Inst. Performance			
Cal	libration			
Me	thod blanks			
Sur	rrogates			
	trix Spike/Dup LCS			
	eld QC			
	ernal Standard Performance			
	mpound Identification			
	antitation			
	stem Performance			
COMME	ENTS	Acceptable as reviewed.		
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
· · · · · · · · · · · · · · · · · · ·	to the term of the			
^a Subcor	ntracted analytical laboratory is not me	eting contract and/or method requirem	ents.	
^b Differer	nces in protocol have been adopted by	y the laboratory but no action against t	he laboratory is require	ed.



# DATA VALIDATION REPORT

# NPDES Monitoring Program Quarterly Outfall 018

**ANALYSIS: VOLATILES** 

SAMPLE DELIVERY GROUP: IPD0255

Prepared by

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

Project: SDG:

**NPDES** IPD0255

Analysis:

VOCs

# 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPD0255

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Volatiles

QC Level:

Level IV

No. of Samples: No. of Reanalyses/Dilutions:

0

Reviewer:

L. Calvin

Date of Review:

June 5, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the  $MEC^{\times}$  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.

1

Project:

NPDES IPD0255

SDG: Analysis:

VOCs

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPD0255-01	Water	624
Trip Blank	IPD0255-02	Water	624

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 3°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 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

Two initial calibrations were associated with the sample analyses, dated 03/16/06 (trichlorotrifluoroethane only) and 03/28/06 (all remaining target compounds). The average RRFs were ≥0.05, and the %RSDs were ≤35% or r² values ≥0.995 for all target compounds listed on the sample result summary forms. The continuing calibrations associated with the sample analyses were dated 04/05/06. The RRFs were ≥0.05% and the %Ds were within the QC limit of ≤20% for all target compounds. No qualifications were required.

#### 2.4 **BLANKS**

One method blank (6D05021-BLK1) was analyzed with this SDG. No target compounds were detected above the MDL in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

Project: SDG: NPDES

Analysis:

VOCs

# DATA VALIDATION REPORT

### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6D05021-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 018. No target compounds were detected above the MDL 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** IPD0255 SDG:

Analysis:

VOCs

INTERNAL STANDARDS PERFORMANCE

DATA VALIDATION REPORT

2.9

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.

#### COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS 2.11

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.



Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/04/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPD0255

Received: 04/04/06

# PURGEABLES BY GC/MS (EPA 624)

	35.0	70.4.7	MDL	Reporting	_	Dilution	Date	Date	Data Qualifiers	\
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Quantiers	1.
Sample ID: IPD0255-01 (Outfall 018 - V	Vater)							1	in all	000
Reporting Units: ug/l								- 9	And the second named of the second	700
Benzene	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06	u	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D05021	1.2	5.0	ND	1	04/05/06	04/05/06		
Carbon tetrachloride	EPA 624	6D05021	0.28	5.0	ND	1	04/05/06	04/05/06		
Chloroform	EPA 624	6D05021	0.33	2.0	ND	1	04/05/06	04/05/06		
1,1-Dichloroethane	EPA 624	6D05021	0.27	2.0	ND	1	04/05/06	04/05/06		
1,2-Dichloroethane	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06		
1,1-Dichloroethene	EPA 624	6D05021	0.42	3.0	ND	1	04/05/06	04/05/06		
Ethylbenzene	EPA 624	6D05021	0.25	2.0	ND	1	04/05/06	04/05/06		
Tetrachloroethene	EPA 624	6D05021	0.32	2.0	ND	1	04/05/06	04/05/06	-	
Toluene	EPA 624	6D05021	0.36	2.0	ND	1	04/05/06	04/05/06		
1,1,1-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06		
1,1,2-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06		
Trichloroethene	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06		
Trichlorofluoromethane	EPA 624	6D05021	0.34	5.0	ND	1	04/05/06	04/05/06		
Vinyl chloride	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06		
Xylenes, Total	EPA 624	6D05021	0.52	4.0	ND	1	04/05/06	04/05/06	V	
Surrogate: Dibromofluoromethane (80-1.	20%)				102 %					
Surrogate: Toluene-d8 (80-120%)					101 %					
Surrogate: 4-Bromofluorobenzene (80-12	20%)				96 %					
Sample ID: IPD0255-02 (Trip Blank - V	Vater)									
Reporting Units: ug/l	, 4002 /									
Benzene	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06	U	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6D05021	1.2	5.0	ND	1	04/05/06	04/05/06		
Carbon tetrachloride	EPA 624	6D05021	0.28	5.0	ND	1	04/05/06	04/05/06		
Chloroform	EPA 624	6D05021	0.33	2.0	ND	1	04/05/06	04/05/06		
1,1-Dichloroethane	EPA 624	6D05021	0.27	2.0	ND	1	04/05/06	04/05/06		
1,2-Dichloroethane	EPA 624	6D05021	0.28	2.0	ND	1	04/05/06	04/05/06		
1,1-Dichloroethene	EPA 624	6D05021	0.42	3.0	ND	1	04/05/06	04/05/06		
Ethylbenzene	EPA 624	6D05021	0.25	2.0	ND	1	04/05/06	04/05/06		
Tetrachloroethene	EPA 624	6D05021	0.32	2.0	ND	1	04/05/06	04/05/06		
Toluene	EPA 624	6D05021	0.36	2.0	ND	1	04/05/06	04/05/06		
1,1,1-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06		
1,1,2-Trichloroethane	EPA 624	6D05021	0.30	2.0	ND	1	04/05/06	04/05/06		
Trichloroethene	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06		
Trichlorofluoromethane	EPA 624	6D05021	0.34	5.0	ND	1	04/05/06	04/05/06		
Vinyl chloride	EPA 624	6D05021	0.26	5.0	ND	1	04/05/06	04/05/06		
Xylenes, Total	EPA 624	6D05021	0.52	4.0	ND	1	04/05/06	04/05/06	$\sqrt{}$	
Surrogate: Dibromofluoromethane (80-1)					96 %					
Surrogate: Toluene-d8 (80-120%)	,				101 %					
Surrogate: 4-Bromofluorobenzene (80-12	20%)				97 %					
	*									

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	CX			Package ID:	B4WC84
122	69 East Vassar Drive			Task Order:	1261.001D.01
Aur	ora, CO 80014			SDG No.:	IPD0255
	•		No.	of Analyses:	1
	Laboratory: Del Mar A	Analytical		Date: June 6	, 2006
	Reviewer: P. Meeks			Reviewer's Si	gnature
	Analysis/Method: General I	Minerals		I Muce	
ACT	TION ITEMS ^a				
	Case Narrative				
	Deficiencies	Acceptation of the control of the co			
2.	Out of Scope Analyses			A CONTRACTOR OF THE CONTRACTOR	
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				ANNE AND
	Internal Standard Performance				
	Compound Identification			Marie Control of the	
	Quantitation				
	System Performance	T			
CO	MMENTS ^b	Acceptable as reviewed	d		
1	ubcontracted analytical laboratory is not ifferences in protocol have been adopted				equired.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 018

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPD0255

Prepared by

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

SDG: IPD0255 Analysis: Gen. Min.

# 1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

1261.001D.01

Sample Delivery Group:

IPD0255

Project Manager:

P. Costa

Matrix:

Water

Analysis:

General Minerals

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

Reviewer: P. Meeks

Date of Review:

June 6, 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.

Project:

NPDES IPD0255

DATA VALIDATION REPORT

SDG: Analysis:

Gen. Min.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 018	IPD0255-01	Water	General Minerals

SDG: IPD0255 Analysis: Gen. Min.

# 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.

#### **Holding Times** 2.1.3

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

#### 2.2 CALIBRATION

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, the ammonia LCS result was compared to the calibration control limits. As the ammonia LCS recovery was 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.

#### BLANK SPIKES AND LABORATORY CONTROL SAMPLES 2.4

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.

Project:

NPDES

SDG:

IPD0255

Analysis:

Gen. Min.

# 2.5 LABORATORY DUPLICATES

No 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

DATA VALIDATION REPORT

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.





Project ID: Quarterly Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPD0255

Sampled: 04/04/06

Received: 04/04/06

# **INORGANICS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD0255-01 (Outfall 018 -	· Water) - cont.								Qual 10
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6D05128	0.30	0.50	0.56	1	04/05/06	04/05/06	
Biochemical Oxygen Demand	EPA 405.1	6D05064	0.59	2.0	3.6	1	04/05/06	04/10/06	*
Chloride	EPA 300.0	6D04136	0.15	0.50	17	1	04/04/06	04/05/06	· command
Nitrate/Nitrite-N	EPA 300.0	6D04136	0.080	0.15	0.18	1	04/04/06	04/05/06	Vicinia de la constante de la
Oil & Grease	EPA 413.1	6D05046	0.90	4.8	ND	1	04/05/06	04/05/06	
Sulfate	EPA 300.0	6D04136	0.45	0.50	42	1	04/04/06	04/05/06	
Surfactants (MBAS)	EPA 425.1	6D05142	0.088	0.20	0.12	2	04/05/06	04/06/06	RL-1, J
<b>Total Dissolved Solids</b>	EPA 160.1	6D05071	10	10	200	1	04/05/06	04/05/06	
Total Suspended Solids	EPA 160.2	6D07128	10	10	73	1	04/07/06	04/07/06	V
Sample ID: IPD0255-01 (Outfall 018 - Reporting Units: ml/l/hr	- Water)								
Total Settleable Solids	EPA 160.5	6D04131	0.10	0.10	0.20	1	04/04/06	04/04/06	*
Sample ID: IPD0255-01 (Outfall 018 - Reporting Units: NTU	- Water)								
Turbidity	EPA 180.1	6D05115	0.20	5.0	63	5	04/05/06	04/05/06	
Sample ID: IPD0255-01 (Outfall 018 - Reporting Units: ug/l	- Water)								an insugation of the control of the
Total Cyanide	EPA 335.2	6D05143	2.2	5.0	ND	1	04/05/06	04/06/06	X
Perchlorate	EPA 314.0	6D06060	0.80	4.0	ND	1	04/06/06	04/06/06	X
Sample ID: IPD0255-01 (Outfall 018 - Reporting Units: umhos/cm	- Water)								
Specific Conductance	EPA 120.1	6D05070	1.0	1.0	300	1	04/05/06	04/05/06	

* Analysis not validated

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

LEVEL IV

# **APPENDIX G**

# **Section 41**

Outfall 018, April 11, 2006

Del Mar Analytical Laboratory Report



# LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing Project: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 04/11/06 Received: 04/12/06

Revised: 06/19/06 18:53

# NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

### **CASE NARRATIVE**

SAMPLE RECEIPT: Samples were received intact, at 3°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within

method specified holding time requirements. Due to laboratory oversight, the extraction of the EPA 625

analysis was performed past the method specified holding time.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: Results that fall between the MDL and RL are 'J' flagged.

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

ADDITIONAL

INFORMATION: The report was revised to add Total Xylenes to the BS/MS/MSD to the QC.

 LABORATORY ID
 CLIENT ID
 MATRIX

 IPD1228-01
 Outfall 018
 Water

 IPD1228-02
 Trip Blank
 Water

Reviewed By:

**Del Mar Analytical - Irvine** 

Michele Chamberlin

Michele Chamberlin Project Manager



Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/11/06 Report Number: IPD1228 Received: 04/12/06

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
	4							•	
Sample ID: IPD1228-01 (Outfall 018 - Wa	iter)								
Reporting Units: ug/l Benzene	EPA 624	6D17002	0.28	2.0	ND	1	04/17/06	04/17/06	
Carbon tetrachloride	EPA 624	6D17002	0.28	5.0	ND	1	04/17/06	04/17/06	
Chloroform	EPA 624	6D17002	0.23	2.0	ND	1	04/17/06	04/17/06	
1,1-Dichloroethane	EPA 624	6D17002	0.33	2.0	ND	1	04/17/06	04/17/06	
1,2-Dichloroethane	EPA 624	6D17002	0.27	2.0	ND	1	04/17/06	04/17/06	
1,1-Dichloroethene	EPA 624	6D17002	0.42	3.0	ND	1	04/17/06	04/17/06	
Ethylbenzene	EPA 624	6D17002	0.42	2.0	ND	1	04/17/06	04/17/06	
Tetrachloroethene	EPA 624	6D17002	0.23	2.0	ND	1	04/17/06	04/17/06	
Toluene	EPA 624	6D17002	0.36	2.0	ND	1	04/17/06	04/17/06	
1,1,1-Trichloroethane	EPA 624	6D17002	0.30	2.0	ND	1	04/17/06	04/17/06	
1,1,2-Trichloroethane	EPA 624	6D17002	0.30	2.0	ND	1	04/17/06	04/17/06	
Trichloroethene	EPA 624	6D17002	0.26	5.0	ND	1	04/17/06	04/17/06	
Trichlorofluoromethane	EPA 624	6D17002	0.20	5.0	ND	1	04/17/06	04/17/06	
Vinyl chloride	EPA 624	6D17002	0.26	5.0	ND	1	04/17/06	04/17/06	
Xylenes, Total	EPA 624	6D17002	0.20	4.0	ND	1	04/17/06	04/17/06	
Surrogate: Dibromofluoromethane (80-120		0D17002	0.90	4.0	107 %	1	04/1//00	04/17/00	
Surrogate: Toluene-d8 (80-120%)	<i>/0)</i>				106 %				
Surrogate: 4-Bromofluorobenzene (80-1209)	26)				110 %				
					110 /0				
Sample ID: IPD1228-02 (Trip Blank - Wa	ter)								
Reporting Units: ug/l									
Benzene	EPA 624	6D17002	0.28	2.0	ND	1	04/17/06	04/17/06	
Carbon tetrachloride	EPA 624	6D17002	0.28	5.0	ND	1	04/17/06	04/17/06	
Chloroform	EPA 624	6D17002	0.33	2.0	ND	1	04/17/06	04/17/06	
1,1-Dichloroethane	EPA 624	6D17002	0.27	2.0	ND	1	04/17/06	04/17/06	
1,2-Dichloroethane	EPA 624	6D17002	0.28	2.0	ND	1	04/17/06	04/17/06	
1,1-Dichloroethene	EPA 624	6D17002	0.42	3.0	ND	1	04/17/06	04/17/06	
Ethylbenzene	EPA 624	6D17002	0.25	2.0	ND	1	04/17/06	04/17/06	
Tetrachloroethene	EPA 624	6D17002	0.32	2.0	ND	1	04/17/06	04/17/06	
Toluene	EPA 624	6D17002	0.36	2.0	ND	1	04/17/06	04/17/06	
1,1,1-Trichloroethane	EPA 624	6D17002	0.30	2.0	ND	1	04/17/06	04/17/06	
1,1,2-Trichloroethane	EPA 624	6D17002	0.30	2.0	ND	1	04/17/06	04/17/06	
Trichloroethene	EPA 624	6D17002	0.26	5.0	ND	1	04/17/06	04/17/06	
Trichlorofluoromethane	EPA 624	6D17002	0.34	5.0	ND	1	04/17/06	04/17/06	
Vinyl chloride	EPA 624	6D17002	0.26	5.0	ND	1	04/17/06	04/17/06	
Xylenes, Total	EPA 624	6D17002	0.90	4.0	ND	1	04/17/06	04/17/06	
Surrogate: Dibromofluoromethane (80-120	%)				103 %				
Surrogate: Toluene-d8 (80-120%)					106 %				
Surrogate: 4-Bromofluorobenzene (80-1209	%)				110 %				

**Del Mar Analytical - Irvine** 

Michele Chamberlin Project Manager



Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/11/06 Report Number: IPD1228 Received: 04/12/06

Attention: Bronwyn Kelly

# 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: IPD1228-01 (Outfall 018 - Water	er)								H4
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	6D19072	1.6	4.7	ND	0.948	04/19/06	04/25/06	
2,4-Dinitrotoluene	EPA 625	6D19072	0.19	8.5	ND	0.948	04/19/06	04/25/06	
N-Nitrosodimethylamine	EPA 625	6D19072	0.095	7.6	ND	0.948	04/19/06	04/25/06	
Pentachlorophenol	EPA 625	6D19072	0.095	7.6	ND	0.948	04/19/06	04/25/06	
2,4,6-Trichlorophenol	EPA 625	6D19072	0.095	5.7	ND	0.948	04/19/06	04/25/06	
Surrogate: 2-Fluorophenol (30-120%)					59 %				
Surrogate: Phenol-d6 (35-120%)					72 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					78 %				
Surrogate: Nitrobenzene-d5 (45-120%)					76 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					70 %				
Surrogate: Terphenyl-d14 (45-120%)					75 %				



Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/11/06
Report Number: IPD1228 Received: 04/12/06

Attention: Bronwyn Kelly

# **ORGANOCHLORINE PESTICIDES (EPA 608)**

			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IPD1228-01 (Outfall 018 - Water Reporting Units: ug/l	er) - cont.								
alpha-BHC	EPA 608	6D17091	0.00096	0.0096	ND	0.962	04/17/06	04/18/06	
Surrogate: Decachlorobiphenyl (45-120%)					76 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					49 %				



Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/11/06
Report Number: IPD1228 Received: 04/12/06

Attention: Bronwyn Kelly

#### **METALS**

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPD1228-01 (Outfall 018 - Reporting Units: ug/l	Water) - cont.								
Copper	EPA 200.8	6D13067	0.25	2.0	2.7	1	04/13/06	04/15/06	В
Lead	EPA 200.8	6D13067	0.040	1.0	0.68	1	04/13/06	04/15/06	B, J
Mercury	EPA 245.1	6D13068	0.050	0.20	ND	1	04/13/06	04/13/06	



Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/11/06
Report Number: IPD1228 Received: 04/12/06

Attention: Bronwyn Kelly

		1110	711071	1105					
		-	MDL	Reporting	Sample		Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IPD1228-01 (Outfall 018 - V	Vater) - cont.								
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6D13122	0.30	0.50	ND	1	04/13/06	04/13/06	
<b>Biochemical Oxygen Demand</b>	EPA 405.1	6D13078	0.59	2.0	3.2	1	04/13/06	04/18/06	
Chloride	EPA 300.0	6D12138	0.15	0.50	20	1	04/12/06	04/13/06	
Nitrate/Nitrite-N	EPA 300.0	6D12138	0.080	0.15	0.85	1	04/12/06	04/13/06	
Oil & Grease	EPA 413.1	6D14054	0.89	4.7	ND	1	04/14/06	04/14/06	
Sulfate	EPA 300.0	6D12138	0.45	0.50	58	1	04/12/06	04/13/06	
Surfactants (MBAS)	EPA 425.1	6D13003	0.044	0.10	0.066	1	04/13/06	04/13/06	J
<b>Total Dissolved Solids</b>	EPA 160.1	6D13076	10	10	230	1	04/13/06	04/13/06	
Total Suspended Solids	EPA 160.2	6D15045	10	10	ND	1	04/15/06	04/17/06	
Sample ID: IPD1228-01 (Outfall 018 - V	Vater)								
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	6D13058	0.10	0.10	ND	1	04/13/06	04/13/06	
Sample ID: IPD1228-01 (Outfall 018 - V	Vater)								
Reporting Units: NTU									
Turbidity	EPA 180.1	6D13084	0.040	1.0	5.7	1	04/13/06	04/13/06	
Sample ID: IPD1228-01 (Outfall 018 - V	Vater)								
Reporting Units: ug/l	EDA 225.2	(D17101	2.2	5.0	ND	1	04/17/06	04/17/06	
Total Cyanide	EPA 335.2	6D17101	2.2	5.0	ND	1	04/17/06	04/17/06	
Perchlorate	EPA 314.0	6D17066	0.80	4.0	ND	1	04/17/06	04/18/06	
Sample ID: IPD1228-01 (Outfall 018 - V	Vater)								
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6D13071	1.0	1.0	410	1	04/13/06	04/13/06	



Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Sampled: 04/11/06 Report Number: IPD1228 Received: 04/12/06

Attention: Bronwyn Kelly

#### SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 018 (IPD1228-01) - Wate	Hold Time (in days) r	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 160.5	2	04/11/2006 10:18	04/12/2006 19:55	04/13/2006 07:43	04/13/2006 07:45
EPA 180.1	2	04/11/2006 10:18	04/12/2006 19:55	04/13/2006 08:45	04/13/2006 10:00
EPA 300.0	2	04/11/2006 10:18	04/12/2006 19:55	04/12/2006 22:00	04/13/2006 00:10
EPA 405.1	2	04/11/2006 10:18	04/12/2006 19:55	04/13/2006 09:10	04/18/2006 11:15
EPA 425.1	2	04/11/2006 10:18	04/12/2006 19:55	04/13/2006 03:03	04/13/2006 04:56



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Received: 04/12/06

Sampled: 04/11/06

#### METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDI.	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
·		Limit	MIDL	Cints	Level	Result	70KEC	Limits	KI D	Limit	Quanners
<b>Batch: 6D17002 Extracted: 04/17/00</b>	<u>5</u>										
Blank Analyzed: 04/17/2006 (6D17002-B	BLK1)										
Benzene	ND	2.0	0.28	ug/l							
Carbon tetrachloride	ND	5.0	0.28	ug/l							
Chloroform	ND	2.0	0.33	ug/l							
1,1-Dichloroethane	ND	2.0	0.27	ug/l							
1,2-Dichloroethane	ND	2.0	0.28	ug/l							
1,1-Dichloroethene	ND	3.0	0.42	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Tetrachloroethene	ND	2.0	0.32	ug/l							
Toluene	ND	2.0	0.36	ug/l							
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
Trichloroethene	ND	5.0	0.26	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Vinyl chloride	ND	5.0	0.26	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Surrogate: Dibromofluoromethane	26.1			ug/l	25.0		104	80-120			
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	27.4			ug/l	25.0		110	80-120			
LCS Analyzed: 04/17/2006 (6D17002-BS	51)										
Benzene	22.3	2.0	0.28	ug/l	25.0		89	65-120			
Carbon tetrachloride	31.2	5.0	0.28	ug/l	25.0		125	65-140			
Chloroform	26.4	2.0	0.33	ug/l	25.0		106	65-130			
1,1-Dichloroethane	23.1	2.0	0.27	ug/l	25.0		92	65-130			
1,2-Dichloroethane	33.4	2.0	0.28	ug/l	25.0		134	60-140			
1,1-Dichloroethene	21.2	3.0	0.42	ug/l	25.0		85	70-130			
Ethylbenzene	27.1	2.0	0.25	ug/l	25.0		108	70-125			
Tetrachloroethene	24.7	2.0	0.32	ug/l	25.0		99	65-125			
Toluene	23.8	2.0	0.36	ug/l	25.0		95	70-125			
1,1,1-Trichloroethane	28.4	2.0	0.30	ug/l	25.0		114	65-135			
1,1,2-Trichloroethane	25.4	2.0	0.30	ug/l	25.0		102	65-125			
Trichloroethene	24.8	5.0	0.26	ug/l	25.0		99	70-125			
Trichlorofluoromethane	26.8	5.0	0.34	ug/l	25.0		107	60-140			
Vinyl chloride	19.9	5.0	0.26	ug/l	25.0		80	50-130			
Xylenes, Total	78.8	4.0	0.90	ug/l	75.0		105	70-125			
Surrogate: Dibromofluoromethane	26.5			ug/l	25.0		106	80-120			
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: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
·		Limit	NIDE	Circs	Ecver	resure	/ UILLE	Limits	I L	Ziiiii	Quantiers
Batch: 6D17002 Extracted: 04/17/06	<u>)                                    </u>										
LCS Analyzed: 04/17/2006 (6D17002-BS	(1)										
Surrogate: Toluene-d8	27.4			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	29.5			ug/l	25.0		118	80-120			
,											
Matrix Spike Analyzed: 04/17/2006 (6D1	-			_		rce: IPD1					
Benzene	23.4	2.0	0.28	ug/l	25.0	ND	94	60-125			
Carbon tetrachloride	33.5	5.0	0.28	ug/l	25.0	ND	134	65-140			
Chloroform	27.9	2.0	0.33	ug/l	25.0	ND	112	65-135			
1,1-Dichloroethane	23.9	2.0	0.27	ug/l	25.0	ND	96	60-130			
1,2-Dichloroethane	35.2	2.0	0.28	ug/l	25.0	ND	141	60-140			M1
1,1-Dichloroethene	21.3	3.0	0.42	ug/l	25.0	ND	85	60-135			
Ethylbenzene	28.0	2.0	0.25	ug/l	25.0	ND	112	65-130			
Tetrachloroethene	25.3	2.0	0.32	ug/l	25.0	ND	101	60-130			
Toluene	24.6	2.0	0.36	ug/l	25.0	ND	98	65-125			
1,1,1-Trichloroethane	30.0	2.0	0.30	ug/l	25.0	ND	120	65-140			
1,1,2-Trichloroethane	26.3	2.0	0.30	ug/l	25.0	ND	105	60-130			
Trichloroethene	25.9	5.0	0.26	ug/l	25.0	ND	104	60-125			
Trichlorofluoromethane	28.4	5.0	0.34	ug/l	25.0	ND	114	55-145			
Vinyl chloride	20.4	5.0	0.26	ug/l	25.0	ND	82	40-135			
Xylenes, Total	77.0	4.0	0.90	ug/l	75.0	ND	103	60-130			
Surrogate: Dibromofluoromethane	26.9			ug/l	25.0		108	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	30.1			ug/l	25.0		120	80-120			
N	((D15002 N	(CD4)			C	IDD	225 01				
Matrix Spike Dup Analyzed: 04/17/2006		,	0.20	/1		rce: IPD1		(0.125	0	20	
Benzene	23.4	2.0	0.28	ug/l	25.0	ND	94	60-125	0	20	
Carbon tetrachloride	32.9	5.0	0.28	ug/l	25.0	ND	132	65-140	2	25	
Chloroform	27.3	2.0	0.33	ug/l	25.0	ND	109	65-135	2	20	
1,1-Dichloroethane	23.8	2.0	0.27	ug/l	25.0	ND	95	60-130	0	20	
1,2-Dichloroethane	34.3	2.0	0.28	ug/l	25.0	ND	137	60-140	3	20	
1,1-Dichloroethene	21.9	3.0	0.42	ug/l	25.0	ND	88	60-135	3	20	
Ethylbenzene	28.6	2.0	0.25	ug/l	25.0	ND	114	65-130	2	20	
Tetrachloroethene	26.1	2.0	0.32	ug/l	25.0	ND	104	60-130	3	20	
Toluene	24.9	2.0	0.36	ug/l	25.0	ND	100	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	26.0	2.0	0.30	ug/l	25.0	ND	104	60-130	1	25	
Trichloroethene	25.8	5.0	0.26	ug/l	25.0	ND	103	60-125	0	20	

**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: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### 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: 6D17002 Extracted: 04/17/06	_										
Matrix Spike Dup Analyzed: 04/17/2006	(6D17002-M	SD1)			Sou	rce: IPD1	1227-01				
Trichlorofluoromethane	28.4	5.0	0.34	ug/l	25.0	ND	114	55-145	0	25	
Vinyl chloride	20.9	5.0	0.26	ug/l	25.0	ND	84	40-135	2	30	
Xylenes, Total	80.8	4.0	0.90	ug/l	75.0	ND	108	60-130	5	20	
Surrogate: Dibromofluoromethane	26.4			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	27.3			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	29.8			ug/l	25.0		119	80-120			

Sampled: 04/11/06



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228 Received: 04/12/06

#### 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: 6D19072 Extracted: 04/1	19/06										
Blank Analyzed: 04/24/2006 (6D190	072-BLK1)										
Bis(2-ethylhexyl)phthalate	2.66	5.0	1.7	ug/l							J
2,4-Dinitrotoluene	ND	9.0	0.20	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.10	ug/l							
Pentachlorophenol	ND	8.0	0.10	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l							
Surrogate: 2-Fluorophenol	14.0			ug/l	20.0		70	30-120			
Surrogate: Phenol-d6	15.3			ug/l	20.0		76	35-120			
Surrogate: 2,4,6-Tribromophenol	16.3			ug/l	20.0		82	45-120			
Surrogate: Nitrobenzene-d5	7.92			ug/l	10.0		79	45-120			
Surrogate: 2-Fluorobiphenyl	8.12			ug/l	10.0		81	45-120			
Surrogate: Terphenyl-d14	8.06			ug/l	10.0		81	45-120			
LCS Analyzed: 04/24/2006 (6D1907	<b>2-BS1</b> )										M-NR1
Bis(2-ethylhexyl)phthalate	12.1	5.0	1.7	ug/l	10.0		121	60-130			
2,4-Dinitrotoluene	8.74	9.0	0.20	ug/l	10.0		87	60-120			J
N-Nitrosodimethylamine	7.00	8.0	0.10	ug/l	10.0		70	40-120			J
Pentachlorophenol	7.38	8.0	0.10	ug/l	10.0		74	50-120			J
2,4,6-Trichlorophenol	8.30	6.0	0.10	ug/l	10.0		83	60-120			
Surrogate: 2-Fluorophenol	12.3			ug/l	20.0		62	30-120			
Surrogate: Phenol-d6	13.4			ug/l	20.0		67	35-120			
Surrogate: 2,4,6-Tribromophenol	15.3			ug/l	20.0		76	45-120			
Surrogate: Nitrobenzene-d5	6.44			ug/l	10.0		64	45-120			
Surrogate: 2-Fluorobiphenyl	6.66			ug/l	10.0		67	45-120			
Surrogate: Terphenyl-d14	7.18			ug/l	10.0		72	45-120			
LCS Dup Analyzed: 04/24/2006 (6D	19072-BSD1)										
Bis(2-ethylhexyl)phthalate	12.1	5.0	1.7	ug/l	10.0		121	60-130	0	20	
2,4-Dinitrotoluene	9.50	9.0	0.20	ug/l	10.0		95	60-120	8	20	
N-Nitrosodimethylamine	7.52	8.0	0.10	ug/l	10.0		75	40-120	7	20	J
Pentachlorophenol	5.94	8.0	0.10	ug/l	10.0		59	50-120	22	25	J
2,4,6-Trichlorophenol	8.62	6.0	0.10	ug/l	10.0		86	60-120	4	20	
Surrogate: 2-Fluorophenol	12.0			ug/l	20.0		60	30-120			
Surrogate: Phenol-d6	13.6			ug/l	20.0		68	35-120			
Surrogate: 2,4,6-Tribromophenol	15.6			ug/l	20.0		78	45-120			
Surrogate: Nitrobenzene-d5	7.06			ug/l	10.0		71	45-120			
Surrogate: 2-Fluorobiphenyl	7.42			ug/l	10.0		74	45-120			

**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: IPD1228 Sampled: 04/11/06
Received: 04/12/06

#### 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: 6D19072 Extracted: 04/19/06** 

LCS Dup Analyzed: 04/24/2006 (6D19072-BSD1)

Surrogate: Terphenyl-d14 7.32 ug/l 10.0 73 45-120



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D17091 Extracted: 04/17/06	<u>.</u>										
Blank Analyzed: 04/18/2006 (6D17091-B	LK1)										
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.357			ug/l	0.500		71	45-120			
Surrogate: Tetrachloro-m-xylene	0.276			ug/l	0.500		55	35-115			
LCS Analyzed: 04/18/2006 (6D17091-BS	1)										M-NR1
alpha-BHC	0.447	0.010	0.0010	ug/l	0.500		89	45-120			
Surrogate: Decachlorobiphenyl	0.410			ug/l	0.500		82	45-120			
Surrogate: Tetrachloro-m-xylene	0.393			ug/l	0.500		79	35-115			
LCS Dup Analyzed: 04/18/2006 (6D1709	1-BSD1)										
alpha-BHC	0.398	0.010	0.0010	ug/l	0.500		80	45-120	12	30	
Surrogate: Decachlorobiphenyl	0.389			ug/l	0.500		78	45-120			
Surrogate: Tetrachloro-m-xylene	0.297			ug/l	0.500		59	35-115			



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Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

#### **METALS**

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D13067 Extracted: 04/13/06	_										
Blank Analyzed: 04/15/2006 (6D13067-B	LK1)										
Copper	0.298	2.0	0.25	ug/l							J
Lead	0.0781	1.0	0.040	ug/l							J
LCS Analyzed: 04/15/2006 (6D13067-BS)	1)										
Copper	76.5	2.0	0.25	ug/l	80.0		96	85-115			
Lead	77.1	1.0	0.040	ug/l	80.0		96	85-115			
Matrix Spike Analyzed: 04/15/2006 (6D1	3067-MS1)				Sou	rce: IPD1	1055-01				
Copper	70.4	2.0	0.25	ug/l	80.0	0.87	87	70-130			
Lead	73.6	1.0	0.040	ug/l	80.0	0.27	92	70-130			
Matrix Spike Dup Analyzed: 04/15/2006	(6D13067-MS	SD1)			Sou	rce: IPD1	1055-01				
Copper	73.7	2.0	0.25	ug/l	80.0	0.87	91	70-130	5	20	
Lead	77.7	1.0	0.040	ug/l	80.0	0.27	97	70-130	5	20	
Batch: 6D13068 Extracted: 04/13/06	_										
	_										
Blank Analyzed: 04/13/2006 (6D13068-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 04/13/2006 (6D13068-BS)	1)										
Mercury	8.26	0.20	0.050	ug/l	8.00		103	85-115			
Matrix Spike Analyzed: 04/13/2006 (6D1	3068-MS1)				Sou	rce: IPD(	)955-05				
Mercury	8.23	0.20	0.050	ug/l	8.00	ND	103	70-130			
Matrix Spike Dup Analyzed: 04/13/2006	(6D13068-MS	SD1)			Sou	rce: IPD(	)955-05				
Mercury	8.23	0.20	0.050	ug/l	8.00	ND	103	70-130	0	20	



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Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D12138 Extracted: 04/12/06	_										
Blank Analyzed: 04/12/2006 (6D12138-B)	*										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 04/12/2006 (6D12138-BS	1)										
Chloride	4.94	0.50	0.15	mg/l	5.00		99	90-110			M-3
Sulfate	10.1	0.50	0.45	mg/l	10.0		101	90-110			M-3
Batch: 6D13003 Extracted: 04/13/06											
	_										
Blank Analyzed: 04/13/2006 (6D13003-B	LK1)										
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 04/13/2006 (6D13003-BS	1)										
Surfactants (MBAS)	0.236	0.10	0.044	mg/l	0.250		94	90-110			
Matrix Spike Analyzed: 04/13/2006 (6D1	3003-MS1)				Sou	rce: IPD	1033-01				
Surfactants (MBAS)	0.241	0.10	0.044	mg/l	0.250	ND	96	50-125			
Matrix Spike Dup Analyzed: 04/13/2006	(6D13003-M	ISD1)			Sou	rce: IPD	1033-01				
Surfactants (MBAS)	0.242	0.10	0.044	mg/l	0.250	ND	97	50-125	0	20	
Batch: 6D13071 Extracted: 04/13/06	_										
D 1: 4 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A	1 DUD1)				C	IDD	1055.01				
<b>Duplicate Analyzed: 04/13/2006 (6D1307</b>	,	1.0	1.0		Sou	rce: IPD1	1055-01			_	
Specific Conductance	449	1.0	1.0	umhos/cm		450			0	5	



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Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D13076 Extracted: 04/13/06											
	=										
Blank Analyzed: 04/13/2006 (6D13076-B	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/13/2006 (6D13076-BS	1)										
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 04/13/2006 (6D1307	6-DUP1)				Sou	rce: IPD1	055-01				
Total Dissolved Solids	250	10	10	mg/l		250			0	10	
Batch: 6D13078 Extracted: 04/13/06	_										
	_										
Blank Analyzed: 04/18/2006 (6D13078-B	LK1)										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 04/18/2006 (6D13078-BS)	1)										
Biochemical Oxygen Demand	203	100	30	mg/l	198		103	85-115			
LCS Dup Analyzed: 04/18/2006 (6D1307	8-BSD1)										
Biochemical Oxygen Demand	205	100	30	mg/l	198		104	85-115	1	20	
Batch: 6D13084 Extracted: 04/13/06	-										
Blank Analyzed: 04/13/2006 (6D13084-B	I I/1)										
Turbidity	0.0400	1.0	0.040	NTU							J
Latolatty	0.0400	1.0	0.040	NIU							J
<b>Duplicate Analyzed: 04/13/2006 (6D1308</b>	4-DUP1)				Sou	rce: IPD1	174-01				
Turbidity	0.600	1.0	0.040	NTU		0.64			6	20	J



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Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 6D13122 Extracted: 04/13/06</b>	-										
Blank Analyzed: 04/13/2006 (6D13122-B	LK1)										
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 04/13/2006 (6D13122-BS	1)										
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0		106	80-115			
Matrix Spike Analyzed: 04/13/2006 (6D1	3122-MS1)				Sou	rce: IPD1	227-01				
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0	ND	106	70-120			
Matrix Spike Dup Analyzed: 04/13/2006	(6D13122-MS	D1)			Sou	rce: IPD1	227-01				
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	
<b>Batch: 6D14054 Extracted: 04/14/06</b>	_										
Blank Analyzed: 04/14/2006 (6D14054-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/14/2006 (6D14054-BS)	1)										
Oil & Grease	19.1	5.0	0.94	mg/l	20.0		96	65-120			
LCS Dup Analyzed: 04/14/2006 (6D1405	4-BSD1)										
Oil & Grease	17.7	5.0	0.94	mg/l	20.0		88	65-120	8	20	
Matrix Spike Analyzed: 04/14/2006 (6D1	4054-MS1)				Sou	rce: IPD0	915-01				
Oil & Grease	18.3	4.7	0.89	mg/l	18.9	ND	97	65-120			
Matrix Spike Dup Analyzed: 04/14/2006	(6D14054-MS	D1)			Sou	rce: IPD0	915-01				
Oil & Grease	17.4	4.7	0.89	mg/l	18.9	ND	92	65-120	5	25	



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Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D15045 Extracted: 04/15/06	_										
	_										
Blank Analyzed: 04/17/2006 (6D15045-Bl	L <b>K1</b> )										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/17/2006 (6D15045-BS1	1)										
Total Suspended Solids	988	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/17/2006 (6D15045	5-DUP1)				Sou	rce: IPD1	202-01				
Total Suspended Solids	192	10	10	mg/l		190			1	10	
<b>Batch: 6D17066 Extracted: 04/17/06</b>	_										
Blank Analyzed: 04/17/2006 (6D17066-Bl	*										
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 04/17/2006 (6D17066-BS1	l)										
Perchlorate	49.4	4.0	0.80	ug/l	50.0		99	85-115			
Matrix Spike Analyzed: 04/17/2006 (6D1	7066-MS1)				Sou	rce: IPD1	634-14				
Perchlorate	48.3	4.0	0.80	ug/l	50.0	3.2	90	80-120			
Matrix Spike Dup Analyzed: 04/17/2006 (	(6D17066-MS	5 <b>D</b> 1)			Sou	rce: IPD1	634-14				
Perchlorate	48.1	4.0	0.80	ug/l	50.0	3.2	90	80-120	0	20	
Batch: 6D17101 Extracted: 04/17/06	-										
Blank Analyzed: 04/17/2006 (6D17101-Bl	LK1)										
Total Cyanide	ND	5.0	2.2	ug/l							



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Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 018

Report Number: IPD1228

Sampled: 04/11/06 Received: 04/12/06

#### METHOD BLANK/QC DATA

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6D17101 Extracted: 04/17/06	•										
I GG											
LCS Analyzed: 04/17/2006 (6D17101-BS1	1)										
Total Cyanide	186	5.0	2.2	ug/l	200		93	90-110			
Matrix Spike Analyzed: 04/17/2006 (6D1	7101-MS1)				Sou	rce: IPD1	1138-01				
Total Cyanide	208	5.0	2.2	ug/l	200	ND	104	70-115			
Matrix Spike Dup Analyzed: 04/17/2006 (6D17101-MSD1)					Sou	rce: IPD	1138-01				
Total Cyanide	172	5.0	2.2	ug/l	200	ND	86	70-115	19	15	R



Pasadena, CA 91101

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Report Number: IPD1228 Sampled: 04/11/06
Received: 04/12/06

Attention: Bronwyn Kelly

## **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
IPD1228-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.85	4.7	10.00
IPD1228-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0096	0.0100
IPD1228-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPD1228-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0.24	5.0	5.00
IPD1228-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPD1228-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.5	9.10
IPD1228-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.23	4.7	4.00
IPD1228-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.6	8.10
IPD1228-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.6	8.20
IPD1228-01	BOD	Biochemical Oxygen Demand	mg/l	3.20	2.0	20
IPD1228-01	Chloride - 300.0	Chloride	mg/l	20	0.50	150
IPD1228-01	Copper-200.8	Copper	ug/l	2.70	2.0	7.10
IPD1228-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	-1	5.0	5.00
IPD1228-01	Lead-200.8	Lead	ug/l	0.68	1.0	2.60
IPD1228-01	MBAS - 425.1	Surfactants (MBAS)	mg/l	0.066	0.10	0.50
IPD1228-01	Mercury - 245.1	Mercury	ug/l	0.0014	0.20	0.20
IPD1228-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.85	0.15	8.00
IPD1228-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPD1228-01	Sulfate-300.0	Sulfate	mg/l	58	0.50	300
IPD1228-01	TDS - EPA 160.1	Total Dissolved Solids	mg/l	230	10	950
IPD1228-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPD1228-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Sampled: 04/11/06

Received: 04/12/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200

Report Number: IPD1228

Attention: Bronwyn Kelly

Pasadena, CA 91101

#### DATA QUALIFIERS AND DEFINITIONS

В	Analyte was detected in the associated Method Blank.
---	------------------------------------------------------

H4 Sample was extracted past holding time, but analyzed within analysis holding time.

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

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

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

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

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

R The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries,

however, were within acceptance limits.

**ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

**RPD** Relative Percent Difference

Sampled: 04/11/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 018

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPD1228 Received: 04/12/06

Attention: Bronwyn Kelly

#### **Certification Summary**

#### Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 425.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X

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

#### **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: IPD1228-01

Analysis Performed: EDD + Level 4

Samples: IPD1228-01

**Del Mar Analytical - Irvine** Michele Chamberlin Project Manager

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April 27, 2006

Alta Project I.D.: 27595

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 April 14, 2006 under your Project Name "IPD1228". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

Director of HRMS Services



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



# Section I: Sample Inventory Report Date Received: 4/14/2006

Alta Lab. ID Client Sample ID

27595-001 IPD1228-01

## **SECTION II**

**NPDES - 990** 

Project 27595 Page 3 of 239

Method Blank					EPA Method 1613
Matrix: Aqı	ieous	QC Batch No.: 7951	Lab Sample: 0-MB001		
Sample Size: 1.	.00 L	Date Extracted: 20-Apr-06	Date Analyzed DB-5: 24-Apr-06	Date Ar	nalyzed DB-225: NA
		•			•
Analyte	Conc. (ug/L)	DL ^a EMPC ^b Qualifiers	Labeled Standard	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000103	<u>IS</u> 13C-2,3,7,8-TCDD	69.9	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000112	13C-1,2,3,7,8-PeCDD	62.3	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000217	13C-1,2,3,4,7,8-HxCDD	67.3	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000206	13C-1,2,3,6,7,8-HxCDD	74.6	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000202	13C-1,2,3,4,6,7,8-HpCDD	72.0	23 - 140
1,2,3,4,6,7,8-HpCDI	D ND	0.00000235	13C-OCDD	55.2	17 - 157
OCDD	ND	0.00000532	13C-2,3,7,8-TCDF	75.5	24 - 169
2,3,7,8-TCDF	ND	0.00000121	13C-1,2,3,7,8-PeCDF	64.4	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000198	13C-2,3,4,7,8-PeCDF	66.5	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000190	13C-1,2,3,4,7,8-HxCDF	66.2	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.00000649	13C-1,2,3,6,7,8-HxCDF	76.1	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000602	13C-2,3,4,6,7,8-HxCDF	74.8	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.00000650	13C-1,2,3,7,8,9-HxCDF	67.9	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000103	13C-1,2,3,4,6,7,8-HpCDF	62.5	28 - 143
1,2,3,4,6,7,8-HpCDI	F ND	0.00000122	13C-1,2,3,4,7,8,9-HpCDF	56.6	26 - 138
1,2,3,4,7,8,9-HpCDI	F ND	0.00000155	13C-OCDF	47.8	17 - 157
OCDF	ND	0.00000560	<u>CRS</u> 37Cl-2,3,7,8-TCDD	83.1	35 - 197
Totals			Footnotes		
Total TCDD	ND	0.00000103	a. Sample specific estimated detection limit.		
Total PeCDD	ND	0.00000112	b. Estimated maximum possible concentration.		
Total HxCDD	ND	0.0000207	c. Method detection limit.		
Total HpCDD	ND	0.00000235	d. Lower control limit - upper control limit.		
Total TCDF	ND	0.00000121			
Total PeCDF	ND	0.00000194			
Total HxCDF	ND	0.000000713			
Total HpCDF	ND	0.00000136			

William J. Luksemburg 27-Apr-2006 09:49 **NPDES - 991** Analyst: MAS Approved By:

OPR Results						EPA N	Method 1613
Matrix: Aqueous Sample Size: 1.00 L		Batch No.: e Extracted:	7951 20-Apr-06	Lab Sample: 0 Date Analyzed DB-5: 2	0-OPR001 24-Apr-06	Date Analyzed	DB-225: NA
Analyte	Spike Conc. Con	nc. (ng/mL)	OPR Limits	Labeled Standard		%R	LCL-UCL
2,3,7,8-TCDD	10.0	10.2	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD		56.3	25 - 164
1,2,3,7,8-PeCDD	50.0	49.1	35 - 71	13C-1,2,3,7,8-PeCDI	D	52.2	25 - 181
1,2,3,4,7,8-HxCDD	50.0	50.2	35 - 82	13C-1,2,3,4,7,8-HxC	DD	52.6	32 - 141
1,2,3,6,7,8-HxCDD	50.0	49.2	38 - 67	13C-1,2,3,6,7,8-HxC	DD	57.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	52.0	32 - 81	13C-1,2,3,4,6,7,8-Hp	CDD	51.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	51.5	35 - 70	13C-OCDD		36.7	17 - 157
OCDD	100	101	78 - 144	13C-2,3,7,8-TCDF		61.9	24 - 169
2,3,7,8-TCDF	10.0	9.66	7.5 - 15.8	13C-1,2,3,7,8-PeCDI	F	52.3	24 - 185
1,2,3,7,8-PeCDF	50.0	46.2	40 - 67	13C-2,3,4,7,8-PeCDI	F	56.1	21 - 178
2,3,4,7,8-PeCDF	50.0	47.5	34 - 80	13C-1,2,3,4,7,8-HxC	DF	49.5	26 - 152
1,2,3,4,7,8-HxCDF	50.0	48.7	36 - 67	13C-1,2,3,6,7,8-HxC	DF	56.3	26 - 123
1,2,3,6,7,8-HxCDF	50.0	49.6	42 - 65	13C-2,3,4,6,7,8-HxC	DF	56.6	28 - 136
2,3,4,6,7,8-HxCDF	50.0	48.7	35 - 78	13C-1,2,3,7,8,9-HxC	DF	57.2	29 - 147
1,2,3,7,8,9-HxCDF	50.0	48.1	39 - 65	13C-1,2,3,4,6,7,8-Hp	CDF	46.0	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	51.4	41 - 61	13C-1,2,3,4,7,8,9-Hp		49.7	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	50.4	39 - 69	13C-OCDF		40.6	17 - 157
OCDF	100	104	63 - 170	<b>CRS</b> 37Cl-2,3,7,8-TCDD		67.5	35 - 197

Analyst: MAS William J. Luksemburg 27-Apr-2006 09:49

Sample ID:	IPD1228-01								EPA I	Method 1613
Client Data	Dal Man Analadia I Imria		Sample Data			oratory Data				
Name: Project:	Del Mar Analytical, Irvine IPD1228		Matrix:	Aqueous		Sample:	27595-001	Date Re		14-Apr-06
Date Collected:	11-Apr-06		Sample Size:	1.01 L	`	Batch No.:	7951	Date Ex		20-Apr-06
Time Collected:	1018				Date	Analyzed DB-5:	24-Apr-06	Date An	alyzed DB-225:	NA
Analyte	Conc. (ug/L)	<b>DL</b> a	<b>EMPC</b> ^b	Qualifiers		Labeled Stand	ard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000001	61		<u>IS</u>	13C-2,3,7,8-TC	DD	69.3	25 - 164	
1,2,3,7,8-PeCDD	) ND	0.000001	44			13C-1,2,3,7,8-P	eCDD	60.1	25 - 181	
1,2,3,4,7,8-HxCI	DD ND	0.000002	.92			13C-1,2,3,4,7,8-	HxCDD	66.8	32 - 141	
1,2,3,6,7,8-HxCI	DD ND	0.000002	275			13C-1,2,3,6,7,8-	HxCDD	70.2	28 - 130	
1,2,3,7,8,9-HxCI	DD ND	0.000002	272			13C-1,2,3,4,6,7,	8-HpCDD	63.7	23 - 140	
1,2,3,4,6,7,8-Hp0	CDD 0.0000185			J		13C-OCDD		48.1	17 - 157	
OCDD	0.000158					13C-2,3,7,8-TC	DF	71.1	24 - 169	
2,3,7,8-TCDF	ND	0.000001	40			13C-1,2,3,7,8-Pe	eCDF	64.5	24 - 185	
1,2,3,7,8-PeCDF	F ND	0.000001	72			13C-2,3,4,7,8-Pe	eCDF	59.4	21 - 178	
2,3,4,7,8-PeCDF	F ND	0.000001	.93			13C-1,2,3,4,7,8-	HxCDF	69.2	26 - 152	
1,2,3,4,7,8-HxCI	DF ND	0.000001	02			13C-1,2,3,6,7,8-	HxCDF	74.9	26 - 123	
1,2,3,6,7,8-HxCl	DF ND	0.000000	930			13C-2,3,4,6,7,8-	HxCDF	70.3	28 - 136	
2,3,4,6,7,8-HxCI	DF ND	0.000001	10			13C-1,2,3,7,8,9-	HxCDF	66.7	29 - 147	
1,2,3,7,8,9-HxCl	DF ND	0.000000	0633			13C-1,2,3,4,6,7,	8-HpCDF	60.3	28 - 143	
1,2,3,4,6,7,8-Hp0	CDF 0.00000377			J		13C-1,2,3,4,7,8,	9-HpCDF	55.5	26 - 138	
1,2,3,4,7,8,9-Hp0	CDF ND	0.000001	47			13C-OCDF		44.5	17 - 157	
OCDF	0.0000121			J	CRS	37Cl-2,3,7,8-TC	CDD	81.1	35 - 197	
Totals					Foo	otnotes				
Total TCDD	ND	0.000001	61		a. Sa	mple specific estimate	ed detection limit.			
Total PeCDD	ND	0.000001	44		b. Es	stimated maximum pos	ssible concentration.			
Total HxCDD	ND	0.000005	12		c. M	ethod detection limit.				
Total HpCDD	0.0000389				d. Lo	ower control limit - up	per control limit.			
Total TCDF	0.00000286									
Total PeCDF	ND	0.000001	82							
Total HxCDF	0.00000179									
Total HpCDF	0.00000901									

Analyst: MAS William J. Luksemburg 27-Apr-2006 09:49

**NPDES - 993** 

#### **APPENDIX**

Project 27595 Page 7 of 239

**NPDES - 994** 

#### **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	02102011
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 B-120, Phoenix, AZ 85044 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120

Ph (480) 785-0043 Ph (702) 798-3620

Ph (949) 261-1022

Ph (909) 370-4667

Fax (909) 370-1046 Fax (619) 505-9689

Fax (949) 261-1228

Ph (619) 505-9596 Fax (480) 785-0851 Fax (702) 798-3621

## **SUBCONTRACT ORDER - PROJECT # IPD1228**

SENDING L	ABORATORY:

Del Mar Analytical - Irvine

17461 Derian Avenue. Suite 100

Irvine, CA 92614

Phone: (949) 261-1022 Fax: (949) 261-1228

Project Manager: Michele Chamberlin

## RECEIVING LABORATORY:

Alta Analytical - SUB

1104 Windfield Way

El Dorado Hills, CA 95762

Phone:(916) 933-1640 Fax: (916) 673-0106

27595 o°C

Standard TAT is requ	ested unles	s specific due date is request	ed => Due Date: Initials:	
Analysis	Ехр	iration	Comments	
Sample ID: IPD1228-01	Water	Sampled: 04/11/06 10:18	Instant Nofication	
1613-Dioxin-HR-Alta	04/1	8/06 10:18	J flags, 17 congeners, no TEQ, ug/L, sub=Alta	
EDD + Level 4	05/0	9/06 10:18	Excel EDD email to pm, Include Std logs for Lvl IV	
Containers Supplied:				
1 L Amber (IPD1228-01	G)	·		
1 L Amber (IPD1228-01	H)			

÷							
	"	SAMPL	E INTEG	RITY:			
All containers intact:  Custody Seals Present:	□ No .	Sample labels/COC agree: Samples Preserved Properly		es 🗆 No	Samples Receive		Yes No
Col- Ch	4/13/	66	Bell	nag y	benedièt	4/14/	66 0900
Released By	Date	Time	Receive	l By		Date	Time

Released By

Date

Time

Received By

Date

#### SAMPLE LOG-IN CHECKLIST

Alta Project #: 27 595

	Date/Time			Initial	s:	Locat	ion: WK	2-2	
Samples Arrival:	4/14/0	6 C	960	UP.	DB	Shelf/	Rack:		
	Date/Time			Initial	s:	Locat	ion: WR	2-2	
Logged In:	4/14/0	6 1	004	4	316	Shelf/	Rack:	2	
Delivered By:	FedEx	UPS		Cal	DHL		Hand elivered	Other	
Preservation:	lce	Blue		ce Dry l		ce None		ne	
Temp °C 0°C		Time:	090	)5		Thermometer ID: DT-20			
								·	

					YEŞ	NO	NA
Adequate Sample Volume Received?							
Holding Time Acceptable?					V		
Shipping Container(s) Intact?					V		
Shipping Custody Seals Intact?					V		
Shipping Documentation Present?		•				-	,
Airbill Trk# 79	08.	8600	3313		/		
Sample Container Intact?							
Sample Custody Seals Intact?							$\checkmark$
Chain of Custody / Sample Documentation Present?							
COC Anomaly/Sample Acceptance Form completed?							
If Chlorinated or Drinking Water Samples, Acceptable Preservation?							
Na ₂ S ₂ O ₃ Preservation Documented? COC Sam						No	ne
Shipping Container	Retain	Ret	urn	Dispose			

Comments:

## Chain of Custody Anomaly/Sample Acceptance Form

Client: Del Mar Analytical, Irvine  Contact: Michele Chamberlin  Fax Number: 949-2603297	Project Number 27595  Date Received: Apr 14 2006  Documented by/date: 4/14/06
Please review the following information and com NELAC regulations, we must receive authorizati Thank You. (Fax #916-673-0106)	on before proceeding with sample analysis.
The following information or item is needed to p  Complete Chain-of-Custody  Test Method Requested  Analyte List Requested	Preservative Collector's Name Sample Identification Sample Type Sample Collection Date / Time Sample Location
The following anomalies were noted. Authorization  Temperature outside ±2°C range Samples Affected  Temperature outside°C  Sample ID Discrepancy Samples Affected  Sample holding time missed Samples Affected  Custody seals broken Samples Affected  Insufficient Sample Size Samples Affected  Sample Container(s) Broken Samples Affected  Incorrect Container Type Samples Affected  Other of 2 bottles recommendation	- · · · · · · · · · · · · · · · · · · ·
Client Authorization  Proceed With Analysis: YES NO  Client Comments/Instructions: 2 de la late	Signature and Date W 4/27/cz.

ALTA Analytical Laboratory El Dorado Hills, CA 96762

# **APPENDIX G**

# **Section 42**

Outfall 018, April 11, 2006

MECX Data Validation Reports