Del Mar Analytical

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

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

Project ID: Routine Outfall 001

Report Number: IOD1251

Sampled: 04/16/05
Received: 04/16/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers REV QUAL	Data Qualifiers QUAL COD
Sample ID: IOD1251-01 (DRAFT: Outfall 001 - Water)										
Reporting Units: ug/l										
Benzene	EPA 624	5D29021	0.28	2.0	ND	1	04/29/05	04/30/05	U	
Carbon tetrachloride	EPA 624	5D29021	0.28	5.0	ND	1	04/29/05	04/30/05		
Chloroform	EPA 624	5D29021	0.33	2.0	ND	1	04/29/05	04/30/05		
1,1-Dichloroethane	EPA 624	5D29021	0.27	2.0	ND	1	04/29/05	04/30/05		
1,2-Dichloroethane	EPA 624	5D29021	0.28	2.0	ND	1	04/29/05	04/30/05		
1,1-Dichloroethene	EPA 624	5D29021	0.32	3.0	ND	1	04/29/05	04/30/05		
Ethylbenzene	EPA 624	5D29021	0.25	2.0	ND	1	04/29/05	04/30/05		
Tetrachloroethene	EPA 624	5D29021	0.32	2.0	ND	1	04/29/05	04/30/05		
Toluene	EPA 624	5D29021	0.36	2.0	ND	1	04/29/05	04/30/05		
1,1,1-Trichloroethane	EPA 624	5D29021	0.30	2.0	ND	1	04/29/05	04/30/05		
1,1,2-Trichloroethane	EPA 624	5D29021	0.30	2.0	ND	1	04/29/05	04/30/05		
Trichloroethene	EPA 624	5D29021	0.26	5.0	ND	1	04/29/05	04/30/05		
Trichlorofluoromethane	EPA 624	5D29021	0.34	5.0	ND	1	04/29/05	04/30/05		
Vinyl chloride	EPA 624	5D29021	0.26	5.0	ND	1	04/29/05	04/30/05	UJ	C
Xylenes, Total	EPA 624	5D29021	0.52	4.0	ND	1	04/29/05	04/30/05	U	
Surrogate: Dibromofluoromethane (80-120%)					*119 %*				U	
Surrogate: Toluene-d8 (80-120%)					*106 %*					
Surrogate: 4-Bromofluorobenzene (80-120%)					*110 %*					
Sample ID: IOD1251-02 (DRAFT: Trip Blank - Water)										
Reporting Units: ug/l										
Benzene	EPA 624	5D29021	0.28	2.0	ND	1	04/29/05	04/29/05	U	
Carbon tetrachloride	EPA 624	5D29021	0.28	5.0	ND	1	04/29/05	04/29/05		
Chloroform	EPA 624	5D29021	0.33	2.0	ND	1	04/29/05	04/29/05		
1,1-Dichloroethane	EPA 624	5D29021	0.27	2.0	ND	1	04/29/05	04/29/05		
1,2-Dichloroethane	EPA 624	5D29021	0.28	2.0	ND	1	04/29/05	04/29/05		
1,1-Dichloroethene	EPA 624	5D29021	0.32	3.0	ND	1	04/29/05	04/29/05		
Ethylbenzene	EPA 624	5D29021	0.25	2.0	ND	1	04/29/05	04/29/05		
Tetrachloroethene	EPA 624	5D29021	0.32	2.0	ND	1	04/29/05	04/29/05		
Toluene	EPA 624	5D29021	0.36	2.0	ND	1	04/29/05	04/29/05		
1,1,1-Trichloroethane	EPA 624	5D29021	0.30	2.0	ND	1	04/29/05	04/29/05		
1,1,2-Trichloroethane	EPA 624	5D29021	0.30	2.0	ND	1	04/29/05	04/29/05		
Trichloroethene	EPA 624	5D29021	0.26	5.0	ND	1	04/29/05	04/29/05		
Trichlorofluoromethane	EPA 624	5D29021	0.34	5.0	ND	1	04/29/05	04/29/05		
Vinyl chloride	EPA 624	5D29021	0.26	5.0	ND	1	04/29/05	04/29/05		
Xylenes, Total	EPA 624	5D29021	0.52	4.0	ND	1	04/29/05	04/29/05		
Surrogate: Dibromofluoromethane (80-120%)					*112 %*					
Surrogate: Toluene-d8 (80-120%)					*104 %*					
Surrogate: 4-Bromofluorobenzene (80-120%)					*108 %*					

AMEC VALIDATED
LEVEL IV

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T711WC149
Task Order 313150010
SDG No. IOD1251
No. of Analyses 1

Laboratory Del Mar Analytical
Reviewer L. Jarusewic
Analysis/Method General Minerals

Date: 05/20/05
Reviewer's Signature L. Jarusewic

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were applied for:
Holding Times	1) Detects below the reporting limit
GC/MS Tune/Inst. Performance	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and 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 Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. (Note: Analyte may or may not be present).

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D were noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank.	Presumed contamination from preparation (method) or calibration blank.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination from trip blank.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination from FB, or ER.	Presumed contamination from FB or ER.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The compound was detected between the MDL and the RL and, by definition, is considered an estimated value.	The compound was detected between the MDL and the RL and, by definition, is considered an estimated value.
*#	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IOD1251

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
Sample Delivery Group #:	IOD1251
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	General Minerals
QC Level:	Level IV
No. of Samples:	1
Reviewer:	L. Jarusewic
Date of Review:	May 20, 2005

The sample listed in Table 1 was validated based on the guidelines outlined in the AMEC *Data Validation Procedures* SOP DVP-6, Rev. 2, *USEPA Methods for Chemical Analysis of Water and Wastes Method 350.2, 120.1, and 180.1,* 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 I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 001	Outfall 001	IOD1251-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°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. The COC accounted for all analyses presented in this SDG. No sample qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analyses. The 28-day analytical holding time for ammonia and conductivity and the 48-hour holding time for turbidity were met. No qualifications were required.

2.2 CALIBRATION

For the applicable analyses, the initial calibration correlation coefficients were ≥ 0.995. Initial and continuing calibration information was acceptable with recoveries within the control limits of 90-110%. For ammonia, no information regarding the standardization of the titrant was provided; however, as the LCS recovery was within the CCV control limits, no qualifications were required.

2.3 BLANKS

Turbidity was detected in a bracketing CCB at 0.040NTU; however, the turbidity CCB result was insufficient to qualify the Outfall 001 result. The remaining method blank and CCB results reported on the summary forms and in the raw data for blank analyses associated with the sample were nondetects at the reporting limit. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ammonia laboratory control sample recovery was within the laboratory-established control limits. The LCS is not applicable to turbidity or conductivity. No qualifications were required.

2.5 SURROGATES RECOVERY

Surrogate recovery is not applicable to the analyses presented in this SDG.

2.6 LABORATORY DUPLICATES

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

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.8 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analyses of this sample; therefore, furnace atomic absorption QC is not applicable.

2.9 ICP SERIAL DILUTION

ICP serial dilution is not applicable to the analyses presented in this data validation report.

2.10 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. Turbidity detected below the reporting limit was qualified as estimated, "J." No further qualifications were required.

2.11 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:

2.11.1 Field Blanks and Equipment Rinsates

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

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.

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

Project ID: Routine Outfall 001

Report Number: IOD1251

Sampled: 04/16/05
Received: 04/16/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD1251-01 (DRAFT: Outfall 001 - Water)									REV QUAL QUAL CODE
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5D19082	0.30	0.50	ND	1	04/19/05	04/19/05	U
Sample ID: IOD1251-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5D16054	0.040	1.0	**0.74**	1	04/16/05	04/16/05	J DNQ
Sample ID: IOD1251-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5D18087	1.0	1.0	**660**	1	04/18/05	04/18/05	

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
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DATA SUBJECT TO CHANGE

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LABORATORY REPORT

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

Project: Routine Outfall 001

Sampled: 04/28/05
Received: 04/28/05
Issued: 06/20/05 16:53

NELAP #01108CA California ELAP#1197 CSDLAC #10117

CASE NARRATIVE

SAMPLE RECEIPT:	Samples were received intact, at 3°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	Results that fall between the MDL and RL are 'J' flagged.
SUBCONTRACTED:	Refer to the last page for specific subcontract laboratory information included in this report.
ADDITIONAL INFORMATION:	The Iron result for IOD2043-01RE1 is a confirmation that was re-prepared and then analyzed. The Iron result for IOD2043-01RE2 is a confirmation that was re-analyzed from the originally prepared sample.

LABORATORY ID	CLIENT ID	MATRIX
IOD2043-01	Outfall 001	Water
IOD2043-02	Trip Blank	Water

Reviewed By:

Michele Harper

Del Mar Analytical, Irvine
Michele Harper
Project Manager

Del Mar Analytical

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

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: IOD2043-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/05/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/05/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/05/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/05/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/05/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/05/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/05/05	
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/05/05	
Surrogate: Dibromofluoromethane (80-120%)					*107 %*				
Surrogate: Toluene-d8 (80-120%)					*109 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*99 %*				
Sample ID: IOD2043-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/04/05	
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/04/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/04/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/04/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/04/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/04/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/04/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/04/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/04/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/04/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/04/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/04/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/04/05	
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/04/05	
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/04/05	
Surrogate: Dibromofluoromethane (80-120%)					*101 %*				
Surrogate: Toluene-d8 (80-120%)					*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*98 %*				

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Michele Harper
Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

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: IOD2043-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5E01024	1.1	5.0	ND	0.962	05/01/05	05/04/05	
2,4-Dinitrotoluene	EPA 625	5E01024	0.23	9.0	ND	0.962	05/01/05	05/04/05	
N-Nitrosodimethylamine	EPA 625	5E01024	0.22	8.0	ND	0.962	05/01/05	05/04/05	
Pentachlorophenol	EPA 625	5E01024	0.78	8.0	ND	0.962	05/01/05	05/04/05	
2,4,6-Trichlorophenol	EPA 625	5E01024	0.10	6.0	ND	0.962	05/01/05	05/04/05	
Surrogate: 2-Fluorophenol (30-120%)					*64 %*				
Surrogate: Phenol-d6 (35-120%)					*64 %*				
Surrogate: 2,4,6-Tribromophenol (45-120%)					*79 %*				
Surrogate: Nitrobenzene-d5 (45-120%)					*65 %*				
Surrogate: 2-Fluorobiphenyl (45-120%)					*71 %*				
Surrogate: Terphenyl-d14 (45-120%)					*74 %*				

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2043-01 (Outfall 001 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	5E03078	0.0010	0.010	ND	0.962	05/03/05	05/04/05	
Surrogate: Decachlorobiphenyl (45-120%)					*70 %*				
Surrogate: Tetrachloro-m-xylene (35-115%)					*55 %*				

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Received: 04/28/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2043-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Iron	EPA 200.7	5D29098	0.0088	0.040	**0.36**	1	04/29/05	05/02/05	
Sample ID: IOD2043-01RE1 (Outfall 001 - Water)									
Reporting Units: mg/l									
Iron	EPA 200.7	5E17078	0.0088	0.040	**0.34**	1	04/29/05	05/17/05	
Sample ID: IOD2043-01RE2 (Outfall 001 - Water)									
Reporting Units: mg/l									
Iron	EPA 200.7	5D29098	0.0088	0.040	**0.36**	1	04/29/05	05/17/05	
Sample ID: IOD2043-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Copper	EPA 200.8	5D28117	0.49	2.0	**2.0**	1	04/28/05	04/29/05	
Lead	EPA 200.8	5D28117	0.13	1.0	**0.26**	1	04/28/05	04/29/05	J
Mercury	EPA 245.1	5D29061	0.063	0.20	ND	1	04/29/05	04/29/05	

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Received: 04/28/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2043-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5E02067	0.30	0.50	**0.84**	1	05/02/05	05/02/05	
Biochemical Oxygen Demand	EPA 405.1	5D29091	0.59	2.0	**2.2**	1	04/29/05	05/04/05	
Chloride	EPA 300.0	5D28116	0.26	0.50	**27**	1	04/28/05	04/28/05	
Nitrate/Nitrite-N	EPA 300.0	5D28116	0.072	0.26	ND	1	04/28/05	04/28/05	
Oil & Grease	EPA 413.1	5D29041	0.94	5.0	ND	1	04/29/05	04/29/05	
Sulfate	EPA 300.0	5D28116	0.90	2.5	**110**	5	04/28/05	04/28/05	
Surfactants (MBAS)	SM5540-C	5D28122	0.044	0.10	ND	1	04/28/05	04/28/05	
Total Dissolved Solids	SM2540C	5D29129	10	10	**390**	1	04/29/05	04/29/05	
Total Suspended Solids	EPA 160.2	5E04071	10	10	ND	1	05/04/05	05/04/05	
Sample ID: IOD2043-01 (Outfall 001 - Water)									
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	5D29094	0.10	0.10	ND	1	04/29/05	04/29/05	
Sample ID: IOD2043-01 (Outfall 001 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5D29110	0.040	1.0	**7.6**	1	04/29/05	04/29/05	
Sample ID: IOD2043-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Chromium VI	EPA 218.6	5D28121	0.10	1.0	ND	1	04/28/05	04/28/05	
Total Cyanide	EPA 335.2	5D29078	2.2	5.0	ND	1	04/29/05	04/29/05	
Perchlorate	EPA 314.0	5D29065	0.80	4.0	ND	1	04/29/05	04/30/05	
Sample ID: IOD2043-01 (Outfall 001 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5D29130	1.0	1.0	**620**	1	04/29/05	04/29/05	

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Received: 04/28/05

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 001 (IOD2043-01) - Water					
EPA 160.5	2	04/28/2005 11:16	04/28/2005 18:15	04/29/2005 13:29	04/29/2005 15:00
EPA 180.1	2	04/28/2005 11:16	04/28/2005 18:15	04/29/2005 15:00	04/29/2005 16:00
EPA 218.6	1	04/28/2005 11:16	04/28/2005 18:15	04/28/2005 21:55	04/28/2005 22:24
EPA 300.0	2	04/28/2005 11:16	04/28/2005 18:15	04/28/2005 21:10	04/28/2005 21:44
EPA 405.1	2	04/28/2005 11:16	04/28/2005 18:15	04/29/2005 13:10	05/04/2005 10:00
SM5540-C	2	04/28/2005 11:16	04/28/2005 18:15	04/28/2005 21:00	04/28/2005 21:40

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Received: 04/28/05

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: 5E04019 Extracted: 05/04/05											
Blank Analyzed: 05/04/2005 (5E04019-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	0.32	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	*28.0*			*ug/l*	*25.0*		*112*	*80-120*			
Surrogate: Toluene-d8	*27.0*			*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.4*			*ug/l*	*25.0*		*98*	*80-120*			
LCS Analyzed: 05/04/2005 (5E04019-BS1)											
Benzene	27.2	2.0	0.28	ug/l	25.0		109	70-120			
Carbon tetrachloride	24.4	5.0	0.28	ug/l	25.0		98	70-140			
Chloroform	26.2	2.0	0.33	ug/l	25.0		105	75-130			
1,1-Dichloroethane	28.4	2.0	0.27	ug/l	25.0		114	70-135			
1,2-Dichloroethane	24.1	2.0	0.28	ug/l	25.0		96	60-150			
1,1-Dichloroethene	29.8	3.0	0.32	ug/l	25.0		119	75-135			
Ethylbenzene	26.7	2.0	0.25	ug/l	25.0		107	80-120			
Tetrachloroethene	25.6	2.0	0.32	ug/l	25.0		102	75-125			
Toluene	26.5	2.0	0.36	ug/l	25.0		106	75-120			
1,1,1-Trichloroethane	25.7	2.0	0.30	ug/l	25.0		103	75-140			
1,1,2-Trichloroethane	28.0	2.0	0.30	ug/l	25.0		112	70-125			
Trichloroethene	24.0	5.0	0.26	ug/l	25.0		96	80-120			
Trichlorofluoromethane	25.2	5.0	0.34	ug/l	25.0		101	65-145			
Vinyl chloride	24.5	5.0	0.26	ug/l	25.0		98	50-130			
Surrogate: Dibromofluoromethane	*28.2*			*ug/l*	*25.0*		*113*	*80-120*			

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Report Number: IOD2043

Sampled: 04/28/05
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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5E04019 Extracted: 05/04/05											
LCS Analyzed: 05/04/2005 (5E04019-BS1)											
Surrogate: Toluene-d8	*27.8*			*ug/l*	*25.0*		*111*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*27.1*			*ug/l*	*25.0*		*108*	*80-120*			
Matrix Spike Analyzed: 05/05/2005 (5E04019-MS1)						**Source: IOD2043-01**					
Benzene	27.6	2.0	0.28	ug/l	25.0	ND	110	70-120			
Carbon tetrachloride	23.1	5.0	0.28	ug/l	25.0	ND	92	70-145			
Chloroform	25.1	2.0	0.33	ug/l	25.0	ND	100	70-135			
1,1-Dichloroethane	27.2	2.0	0.27	ug/l	25.0	ND	109	65-135			
1,2-Dichloroethane	21.6	2.0	0.28	ug/l	25.0	ND	86	60-150			
1,1-Dichloroethene	29.5	3.0	0.32	ug/l	25.0	ND	118	65-140			
Ethylbenzene	27.8	2.0	0.25	ug/l	25.0	ND	111	70-130			
Tetrachloroethene	26.5	2.0	0.32	ug/l	25.0	ND	106	70-130			
Toluene	25.1	2.0	0.36	ug/l	25.0	ND	100	70-120			
1,1,1-Trichloroethane	24.0	2.0	0.30	ug/l	25.0	ND	96	75-140			
1,1,2-Trichloroethane	25.8	2.0	0.30	ug/l	25.0	ND	103	60-135			
Trichloroethene	24.8	5.0	0.26	ug/l	25.0	ND	99	70-125			
Trichlorofluoromethane	23.2	5.0	0.34	ug/l	25.0	ND	93	55-145			
Vinyl chloride	23.2	5.0	0.26	ug/l	25.0	ND	93	40-135			
Surrogate: Dibromofluoromethane	*25.9*			*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*26.8*			*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*27.0*			*ug/l*	*25.0*		*108*	*80-120*			
Matrix Spike Dup Analyzed: 05/05/2005 (5E04019-MSD1)						**Source: IOD2043-01**					
Benzene	27.9	2.0	0.28	ug/l	25.0	ND	112	70-120	1	20	
Carbon tetrachloride	23.5	5.0	0.28	ug/l	25.0	ND	94	70-145	2	25	
Chloroform	24.9	2.0	0.33	ug/l	25.0	ND	100	70-135	1	20	
1,1-Dichloroethane	26.7	2.0	0.27	ug/l	25.0	ND	107	65-135	2	20	
1,2-Dichloroethane	20.4	2.0	0.28	ug/l	25.0	ND	82	60-150	6	20	
1,1-Dichloroethene	29.3	3.0	0.32	ug/l	25.0	ND	117	65-140	1	20	
Ethylbenzene	28.0	2.0	0.25	ug/l	25.0	ND	112	70-130	1	20	
Tetrachloroethene	26.6	2.0	0.32	ug/l	25.0	ND	106	70-130	0	20	
Toluene	26.6	2.0	0.36	ug/l	25.0	ND	106	70-120	6	20	
1,1,1-Trichloroethane	24.1	2.0	0.30	ug/l	25.0	ND	96	75-140	0	20	
1,1,2-Trichloroethane	24.6	2.0	0.30	ug/l	25.0	ND	98	60-135	5	25	
Trichloroethene	25.0	5.0	0.26	ug/l	25.0	ND	100	70-125	1	20	
Trichlorofluoromethane	22.7	5.0	0.34	ug/l	25.0	ND	91	55-145	2	25	

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5E04019 Extracted: 05/04/05											
Matrix Spike Dup Analyzed: 05/05/2005 (5E04019-MSD1)						**Source: IOD2043-01**					
Vinyl chloride	23.3	5.0	0.26	ug/l	25.0	ND	93	40-135	0	30	
Surrogate: Dibromofluoromethane	*25.0*			*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*27.0*			*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*25.3*			*ug/l*	*25.0*		*101*	*80-120*			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5E01024 Extracted: 05/01/05											
Blank Analyzed: 05/04/2005 (5E01024-BLK1)											
Bis(2-ethylhexyl)phthalate	ND	5.0	1.1	ug/l							
2,4-Dinitrotoluene	ND	9.0	0.23	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.22	ug/l							
Pentachlorophenol	ND	8.0	0.78	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l							
Surrogate: 2-Fluorophenol	*12.2*			*ug/l*	*20.0*		*61*	*30-120*			
Surrogate: Phenol-d6	*12.4*			*ug/l*	*20.0*		*62*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*14.9*			*ug/l*	*20.0*		*74*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.02*			*ug/l*	*10.0*		*60*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*6.54*			*ug/l*	*10.0*		*65*	*45-120*			
Surrogate: Terphenyl-d14	*7.54*			*ug/l*	*10.0*		*75*	*45-120*			
LCS Analyzed: 05/04/2005 (5E01024-BS1)											**M-NR1**
Bis(2-ethylhexyl)phthalate	7.94	5.0	1.1	ug/l	10.0		79	60-130			
2,4-Dinitrotoluene	6.92	9.0	0.23	ug/l	10.0		69	60-120			*J*
N-Nitrosodimethylamine	6.10	8.0	0.22	ug/l	10.0		61	40-120			*J*
Pentachlorophenol	7.58	8.0	0.78	ug/l	10.0		76	50-120			*J*
2,4,6-Trichlorophenol	7.66	6.0	0.10	ug/l	10.0		77	60-120			
Surrogate: 2-Fluorophenol	*11.4*			*ug/l*	*20.0*		*57*	*30-120*			
Surrogate: Phenol-d6	*12.1*			*ug/l*	*20.0*		*60*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*15.6*			*ug/l*	*20.0*		*78*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.30*			*ug/l*	*10.0*		*63*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*7.26*			*ug/l*	*10.0*		*73*	*45-120*			
Surrogate: Terphenyl-d14	*7.76*			*ug/l*	*10.0*		*78*	*45-120*			
LCS Dup Analyzed: 05/04/2005 (5E01024-BSD1)											
Bis(2-ethylhexyl)phthalate	8.48	5.0	1.1	ug/l	10.0		85	60-130	7	20	
2,4-Dinitrotoluene	7.22	9.0	0.23	ug/l	10.0		72	60-120	4	20	*J*
N-Nitrosodimethylamine	6.54	8.0	0.22	ug/l	10.0		65	40-120	7	20	*J*
Pentachlorophenol	8.02	8.0	0.78	ug/l	10.0		80	50-120	6	25	
2,4,6-Trichlorophenol	8.36	6.0	0.10	ug/l	10.0		84	60-120	9	20	
Surrogate: 2-Fluorophenol	*12.9*			*ug/l*	*20.0*		*64*	*30-120*			
Surrogate: Phenol-d6	*13.5*			*ug/l*	*20.0*		*68*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*16.4*			*ug/l*	*20.0*		*82*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.78*			*ug/l*	*10.0*		*68*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*7.78*			*ug/l*	*10.0*		*78*	*45-120*			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5E01024 Extracted: 05/01/05											
LCS Dup Analyzed: 05/04/2005 (5E01024-BSD1)											
Surrogate: Terphenyl-d14	*8.06*			*ug/l*	*10.0*		*81*	*45-120*			

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5E03078 Extracted: 05/03/05											
Blank Analyzed: 05/04/2005 (5E03078-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	*0.451*			*ug/l*	*0.500*		*90*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.350*			*ug/l*	*0.500*		*70*	*35-115*			
LCS Analyzed: 05/04/2005 (5E03078-BS1)											**M-NR1**
alpha-BHC	0.336	0.010	0.0010	ug/l	0.500		67	45-115			
Surrogate: Decachlorobiphenyl	*0.425*			*ug/l*	*0.500*		*85*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.322*			*ug/l*	*0.500*		*64*	*35-115*			
LCS Dup Analyzed: 05/04/2005 (5E03078-BSD1)											
alpha-BHC	0.364	0.010	0.0010	ug/l	0.500		73	45-115	8	30	
Surrogate: Decachlorobiphenyl	*0.415*			*ug/l*	*0.500*		*83*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.340*			*ug/l*	*0.500*		*68*	*35-115*			

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D28117 Extracted: 04/28/05											
Blank Analyzed: 04/29/2005 (5D28117-BLK1)											
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							
LCS Analyzed: 04/29/2005 (5D28117-BS1)											
Copper	79.5	2.0	0.49	ug/l	80.0		99	85-115			
Lead	89.7	1.0	0.13	ug/l	80.0		112	85-115			
Matrix Spike Analyzed: 04/29/2005 (5D28117-MS1)						**Source: IOD2044-01**					
Copper	85.0	2.0	0.49	ug/l	80.0	4.6	100	70-130			
Lead	91.0	1.0	0.13	ug/l	80.0	2.4	111	70-130			
Matrix Spike Dup Analyzed: 04/29/2005 (5D28117-MSD1)						**Source: IOD2044-01**					
Copper	79.3	2.0	0.49	ug/l	80.0	4.6	93	70-130	7	20	
Lead	89.6	1.0	0.13	ug/l	80.0	2.4	109	70-130	2	20	
Batch: 5D29061 Extracted: 04/29/05											
Blank Analyzed: 04/29/2005 (5D29061-BLK1)											
Mercury	ND	0.20	0.063	ug/l							
LCS Analyzed: 04/29/2005 (5D29061-BS1)											
Mercury	8.06	0.20	0.063	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 04/29/2005 (5D29061-MS1)						**Source: IOD2033-03**					
Mercury	7.76	0.20	0.063	ug/l	8.00	ND	97	70-130			
Matrix Spike Dup Analyzed: 04/29/2005 (5D29061-MSD1)						**Source: IOD2033-03**					
Mercury	7.82	0.20	0.063	ug/l	8.00	ND	98	70-130	1	20	

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D29098 Extracted: 04/29/05											
Blank Analyzed: 05/02/2005 (5D29098-BLK1)											
Iron	ND	0.040	0.0088	mg/l							
LCS Analyzed: 05/02/2005 (5D29098-BS1)											
Iron	0.498	0.040	0.0088	mg/l	0.500		100	85-115			
Matrix Spike Analyzed: 05/02/2005 (5D29098-MS1)						**Source: IOD2042-01**					
Iron	0.883	0.040	0.0088	mg/l	0.500	0.41	95	70-130			
Matrix Spike Dup Analyzed: 05/02/2005 (5D29098-MSD1)						**Source: IOD2042-01**					
Iron	0.892	0.040	0.0088	mg/l	0.500	0.41	96	70-130	1	20	
Batch: 5E17078 Extracted: 05/17/05											
Blank Analyzed: 05/17/2005 (5E17078-BLK1)											
Iron	0.0129	0.040	0.0088	mg/l							*J*
LCS Analyzed: 05/17/2005 (5E17078-BS1)											
Iron	0.484	0.040	0.0088	mg/l	0.500		97	85-115			
Matrix Spike Analyzed: 05/17/2005 (5E17078-MS1)						**Source: IOE0795-01**					
Iron	0.635	0.040	0.0088	mg/l	0.500	0.16	95	70-130			
Matrix Spike Dup Analyzed: 05/17/2005 (5E17078-MSD1)						**Source: IOE0795-01**					
Iron	0.631	0.040	0.0088	mg/l	0.500	0.16	94	70-130	1	20	

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D28116 Extracted: 04/28/05											
Blank Analyzed: 04/28/2005 (5D28116-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 04/28/2005 (5D28116-BS1)											
Chloride	4.82	0.50	0.26	mg/l	5.00		96	90-110			*M-3*
Sulfate	9.63	0.50	0.18	mg/l	10.0		96	90-110			*M-3*
Batch: 5D28121 Extracted: 04/28/05											
Blank Analyzed: 04/28/2005 (5D28121-BLK1)											
Chromium VI	ND	1.0	0.10	ug/l							
LCS Analyzed: 04/28/2005 (5D28121-BS1)											
Chromium VI	48.3	1.0	0.10	ug/l	50.0		97	90-110			
Matrix Spike Analyzed: 04/28/2005 (5D28121-MS1)						**Source: IOD2043-01**					
Chromium VI	53.8	1.0	0.10	ug/l	50.0	ND	108	90-110			
Matrix Spike Dup Analyzed: 04/28/2005 (5D28121-MSD1)						**Source: IOD2043-01**					
Chromium VI	54.2	1.0	0.10	ug/l	50.0	ND	108	90-110	1	10	
Batch: 5D28122 Extracted: 04/28/05											
Blank Analyzed: 04/28/2005 (5D28122-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D28122 Extracted: 04/28/05											
LCS Analyzed: 04/28/2005 (5D28122-BS1)											
Surfactants (MBAS)	0.252	0.10	0.044	mg/l	0.250		101	90-110			
Matrix Spike Analyzed: 04/28/2005 (5D28122-MS1)						**Source: IOD1996-01**					
Surfactants (MBAS)	0.276	0.10	0.044	mg/l	0.250	ND	110	50-125			
Matrix Spike Dup Analyzed: 04/28/2005 (5D28122-MSD1)						**Source: IOD1996-01**					
Surfactants (MBAS)	0.277	0.10	0.044	mg/l	0.250	ND	111	50-125	0	20	
Batch: 5D29041 Extracted: 04/29/05											
Blank Analyzed: 04/29/2005 (5D29041-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/29/2005 (5D29041-BS1)											
Oil & Grease	18.3	5.0	0.94	mg/l	20.0		92	65-120			*M-NR1*
LCS Dup Analyzed: 04/29/2005 (5D29041-BSD1)											
Oil & Grease	18.9	5.0	0.94	mg/l	20.0		94	65-120	3	20	
Batch: 5D29065 Extracted: 04/29/05											
Blank Analyzed: 04/29/2005 (5D29065-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 04/29/2005 (5D29065-BS1)											
Perchlorate	51.0	4.0	0.80	ug/l	50.0		102	85-115			

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D29065 Extracted: 04/29/05											
Matrix Spike Analyzed: 04/29/2005 (5D29065-MS1)						**Source: IOD1955-04**					
Perchlorate	53.1	4.0	0.80	ug/l	50.0	ND	106	80-120			
Matrix Spike Dup Analyzed: 04/29/2005 (5D29065-MSD1)						**Source: IOD1955-04**					
Perchlorate	52.9	4.0	0.80	ug/l	50.0	ND	106	80-120	0	20	
Batch: 5D29078 Extracted: 04/29/05											
Blank Analyzed: 04/29/2005 (5D29078-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 04/29/2005 (5D29078-BS1)											
Total Cyanide	181	5.0	2.2	ug/l	200		90	90-110			
Matrix Spike Analyzed: 04/29/2005 (5D29078-MS1)						**Source: IOD1888-02**					
Total Cyanide	162	5.0	2.2	ug/l	200	ND	81	70-115			
Matrix Spike Dup Analyzed: 04/29/2005 (5D29078-MSD1)						**Source: IOD1888-02**					
Total Cyanide	156	5.0	2.2	ug/l	200	ND	78	70-115	4	15	
Batch: 5D29091 Extracted: 04/29/05											
Blank Analyzed: 05/04/2005 (5D29091-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 05/04/2005 (5D29091-BS1)											
Biochemical Oxygen Demand	209	100	30	mg/l	198		106	85-115			

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D29091 Extracted: 04/29/05											
LCS Dup Analyzed: 05/04/2005 (5D29091-BSD1)											
Biochemical Oxygen Demand	208	100	30	mg/l	198		105	85-115	1	20	
Batch: 5D29110 Extracted: 04/29/05											
Blank Analyzed: 04/29/2005 (5D29110-BLK1)											
Turbidity	ND	1.0	0.040	NTU							
Duplicate Analyzed: 04/29/2005 (5D29110-DUP1)						**Source: IOD2066-01**					
Turbidity	135	5.0	0.20	NTU		130			4	20	
Batch: 5D29129 Extracted: 04/29/05											
Blank Analyzed: 04/29/2005 (5D29129-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/29/2005 (5D29129-BS1)											
Total Dissolved Solids	930	10	10	mg/l	1000		93	90-110			
Duplicate Analyzed: 04/29/2005 (5D29129-DUP1)						**Source: IOD2033-01**					
Total Dissolved Solids	334	10	10	mg/l		360			7	10	
Batch: 5D29130 Extracted: 04/29/05											
Duplicate Analyzed: 04/29/2005 (5D29130-DUP1)						**Source: IOD2023-01**					
Specific Conductance	625	1.0	1.0	umhos/cm		640			2	5	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5E02067 Extracted: 05/02/05											
Blank Analyzed: 05/02/2005 (5E02067-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 05/02/2005 (5E02067-BS1)											
Ammonia-N (Distilled)	10.4	0.50	0.30	mg/l	10.0		104	80-115			
Matrix Spike Analyzed: 05/02/2005 (5E02067-MS1)						**Source: IOD1914-01**					
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	1.1	98	70-120			
Matrix Spike Dup Analyzed: 05/02/2005 (5E02067-MSD1)						**Source: IOD1914-01**					
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	1.1	101	70-120	3	15	
Batch: 5E04071 Extracted: 05/04/05											
Blank Analyzed: 05/04/2005 (5E04071-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 05/04/2005 (5E04071-BS1)											
Total Suspended Solids	1000	10	10	mg/l	1000		100	85-115			
Duplicate Analyzed: 05/04/2005 (5E04071-DUP1)						**Source: IOD2054-01**					
Total Suspended Solids	ND	10	10	mg/l		ND				10	

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Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IOD2043-01	413.1 Oil and Grease	Oil & Grease	mg/l	0	5.0	10.00
IOD2043-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.010	0.0100
IOD2043-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOD2043-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IOD2043-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOD2043-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0.17	9.0	9.10
IOD2043-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.29	5.0	4.00
IOD2043-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOD2043-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOD2043-01	BOD	Biochemical Oxygen Demand	mg/l	2.20	2.0	20
IOD2043-01	Chloride - 300.0	Chloride	mg/l	27	0.50	150
IOD2043-01	Chromium VI-218.6	Chromium VI	ug/l	0	1.0	8.10
IOD2043-01	Copper-200.8	Copper	ug/l	2.00	2.0	7.10
IOD2043-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	0	5.0	4.30
IOD2043-01	**Iron-200.7**	**Iron**	**mg/l**	**0.36**	**0.040**	**0.30**
IOD2043-01	Lead-200.8	Lead	ug/l	0.26	1.0	2.60
IOD2043-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.024	0.10	0.50
IOD2043-01	Mercury - 245.1	Mercury	ug/l	0.019	0.20	0.20
IOD2043-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.064	0.26	8.00
IOD2043-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOD2043-01	Sulfate-300.0	Sulfate	mg/l	110	2.5	300
IOD2043-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	390	10	950
IOD2043-01RE1	**Iron-200.7**	**Iron**	**mg/l**	**0.34**	**0.040**	**0.30**
IOD2043-01RE2	**Iron-200.7**	**Iron**	**mg/l**	**0.36**	**0.040**	**0.30**
IOD2043-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOD2043-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical, Irvine
Michele Harper
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2320 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

DATA QUALIFIERS AND DEFINITIONS

J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M-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.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 120.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8	Water	X	X
EPA 218.6	Water	N/A	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 608	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
SM2540C	Water	X	X
SM5540-C	Water	X	X

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

Subcontracted Laboratories

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

Analysis Performed: 1613-Dioxin-HR
Samples: IOD2043-01

Analysis Performed: EDD + Level 4
Samples: IOD2043-01

Del Mar Analytical, Irvine
Michele Harper
Project Manager

Del Mar Analytical Version 04/13/05 CHAIN OF CUSTODY FORM

124 IDD2043

Client Name/Address:	Project:
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Boeing-SSFL NPDES **Routine Outfall 001**
Project Manager: Bronwyn Kelly Sampler: Rick Bing	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle * #	Total Recoverable Metals: Cu, Pb, Hg, Fe*	Settleable Solids	VOCs 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cl-, SO4, NO3+NO2-N, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	Alpha BHC (608)	2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)		Comments
Outfall 001	W	Poly-1L	1	4-28-05 11:16	HNO3	1A	X														24 TAT, *Fe Normal TAT
Outfall 001-Dup	W	Poly-1L	1		HNO3	1B	X														24 TAT
Outfall 001	W	Poly-1L	1		None	2		X													
Outfall 001	W	VOAs	3		HCl	3A, 3B, 3C			X												
Outfall 001	W	1L Amber	2		None	4A, 4B				X											
Outfall 001	W	1L Amber	2		HCl	5A, 5B					X										24 TAT
Outfall 001	W	Poly-500 ml	1		NaOH	6						X									24 TAT
Outfall 001	W	Poly-1L	1		None	7							X								
Outfall 001	W	Poly-500 ml	2		None	8A, 8B								X							
Outfall 001	W	Poly-500 ml	2		None	9A, 9B									X						
Outfall 001	W	Poly-500 ml	2		None	10A, 10B										X					
Outfall 001	W	Poly-500 ml	1		H2SO4	11											X				
Outfall 001	W	1L Amber	2		None	12A, 12B												X			
Outfall 001	W	1L Amber	2	4-28-05 11:16	None	13A, 13B													X		
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C,			X												

ANALYSIS REQUIRED

Field readings: ⊙
Temp = 62.6
pH= 7.63

Relinquished By	Date/Time:	Received By	Date/Time:
Rick Bing	4-28-05 1530	L. De Leon	4/28/05 1530
L. De Leon	4/28/05 1815		
Relinquished By	Date/Time:	Received By	Date/Time: 4/28/05 1815

Turn around Time: (check)
24 Hours ____ 5 Days ____
48 Hours ____ 10 Days ____
72 Hours ____ Normal ✓

Perchlorate Only 72 Hours ____

Metals Only 72 Hours ____

Sample Integrity: (Check)
Intact ✓ On Ice: 3°C

Del Mar Analytical Version 04/13/05 CHAIN OF CUSTODY FORM

Client Name/Address:	Project:
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Del Mar Contact: Michele Harper	Boeing-SSFL NPDES **Routine Outfall 001**
Project Manager: Bronwyn Kelly Sampler:	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle * #	ANALYSIS REQUIRED: Gross Alpha, Total Combined Radium 226 & Radium 228 *	ANALYSIS REQUIRED: Chromium VI	Comments
Outfall 001	W	1-Gal cube	1	4-28-05 11:16	None	15A	X		***HOLD PENDING FURTHER REVIEW*** ANALYZE FOR TOTAL COMBINED RA-226 & 228 ONLY IF GROSS ALPHA >15pCi/L
Outfall 001	W	Poly-500ml	1	4-28-05 11:16	None	16A		X	

Relinquished By: [signature] Date/Time: 4-28-05 1537

Relinquished By: [signature] Date/Time: 4/28/05 1815

Relinquished By: Date/Time:

Received By: [signature] Date/Time: 4/28/05 1530

Received By: Date/Time: 4/28/05 1815

Received By: Date/Time:

Turn around Time: (check)
24 Hours ____ 5 Days ____
48 Hours ____ 10 Days ____
72 Hours ____ Normal ✓

Perchlorate Only 72 Hours____

Metals Only 72 Hours____

Sample Integrity: (Check)
Intact X On Ice: 3°C

Del Mar Analytical

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June 20, 2005

MWH- Pasadena / Boeing
300 North Lake Avenue, Suite 1200
Pasadena , CA 91101

Attention: Bronwyn Kelly

Project: Routine Outfall 001
Sampled: 04/28/05
Del Mar Analytical Number: IOD2043

Dear Ms. Kelly:

Alta Analytical Laboratories performed the EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	Del Mar ID	Alta ID
Outfall 001	IOD2043-01	26117-001

Attached is the original report from the subcontract laboratory. If you have any questions or require further assistance, please do not hesitate to contact me at (949) 261-1022, extension 215.

Sincerely yours,

DEL MAR ANALYTICAL

Michele Harper
Project Manager

Enclosure

ALTA

May 20, 2005

Alta Project I.D.: 26117

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

Dear Ms. Harper,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on April 30, 2005 under your Project Name "IOD2043". 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.

An "A" qualifier indicates that the result is greater than the low point in the calibration curve, but lower than the EPA Method 1613 Minimum Level.

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 Maier

Martha M. Maier
Director of HRMS Services

Section I: Sample Inventory Report

Date Received: **4/30/2005**

Alta Lab. ID	Client Sample ID
26117-001	IOD2043-01

SECTION II

ALTA

Method Blank — EPA Method 1613

Matrix:	Aqueous	QC Batch No.:	6789	Lab Sample:	0-MB001
Sample Size:	1.000 L	Date Extracted:	17-May-05	Date Analyzed DB-5:	19-May-05
				Date Analyzed DB-225:	NA

Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.00000124		
1,2,3,7,8-PeCDD	ND	0.00000166		
1,2,3,4,7,8-HxCDD	ND	0.00000186		
1,2,3,6,7,8-HxCDD	ND	0.00000179		
1,2,3,7,8,9-HxCDD	ND	0.00000186		
1,2,3,4,6,7,8-HpCDD	ND	0.00000303		
OCDD	ND	0.00000677		
2,3,7,8-TCDF	ND	0.000000924		
1,2,3,7,8-PeCDF	ND	0.00000226		
2,3,4,7,8-PeCDF	ND	0.00000193		
1,2,3,4,7,8-HxCDF	ND	0.000000785		
1,2,3,6,7,8-HxCDF	ND	0.000000731		
2,3,4,6,7,8-HxCDF	ND	0.000000672		
1,2,3,7,8,9-HxCDF	ND	0.00000158		
1,2,3,4,6,7,8-HpCDF	ND	0.000000969		
1,2,3,4,7,8,9-HpCDF	ND	0.00000192		
OCDF	ND	0.00000476		

Labeled Standard		%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	69.9	25 - 164	
	13C-1,2,3,7,8-PeCDD	84.1	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	72.5	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	75.3	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	65.8	23 - 140	
	13C-OCDD	58.4	17 - 157	
	13C-2,3,7,8-TCDF	81.1	24 - 169	
	13C-1,2,3,7,8-PeCDF	79.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	82.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	72.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	75.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	92.3	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	68.4	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	63.5	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	52.9	26 - 138	
	13C-OCDF	49.2	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	89.9	35 - 197	

Totals

Total TCDD	ND	0.00000124
Total PeCDD	ND	0.00000166
Total HxCDD	ND	0.00000183
Total HpCDD	ND	0.00000303
Total TCDF	ND	0.000000924
Total PeCDF	ND	0.00000209
Total HxCDF	ND	0.000000872
Total HpCDF	ND	0.00000132

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:09

ALTA

OPR Results — **EPA Method 1613**

Matrix:	Aqueous	QC Batch No.:	6789	Lab Sample:	0-OPR001
Sample Size:	1.000 L	Date Extracted:	17-May-05	Date Analyzed DB-5:	19-May-05
				Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits		Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	10.3	6.7 - 15.8	IS	13C-2,3,7,8-TCDD	66.3	25 - 164
1,2,3,7,8-PeCDD	50.0	51.8	35 - 71		13C-1,2,3,7,8-PeCDD	82.1	25 - 181
1,2,3,4,7,8-HxCDD	50.0	50.1	35 - 82		13C-1,2,3,4,7,8-HxCDD	69.4	32 - 141
1,2,3,6,7,8-HxCDD	50.0	52.2	38 - 67		13C-1,2,3,6,7,8-HxCDD	74.5	28 - 130
1,2,3,7,8,9-HxCDD	50.0	54.3	32 - 81		13C-1,2,3,4,6,7,8-HpCDD	64.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	49.7	35 - 70		13C-OCDD	40.2	17 - 157
OCDD	100	99.1	78 - 144		13C-2,3,7,8-TCDF	71.3	24 - 169
2,3,7,8-TCDF	10.0	10.1	7.5 - 15.8		13C-1,2,3,7,8-PeCDF	78.8	24 - 185
1,2,3,7,8-PeCDF	50.0	49.0	40 - 67		13C-2,3,4,7,8-PeCDF	85.0	21 - 178
2,3,4,7,8-PeCDF	50.0	49.2	34 - 80		13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	48.2	36 - 67		13C-1,2,3,6,7,8-HxCDF	78.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	48.8	42 - 65		13C-2,3,4,6,7,8-HxCDF	82.5	28 - 136
2,3,4,6,7,8-HxCDF	50.0	48.4	35 - 78		13C-1,2,3,7,8,9-HxCDF	69.8	29 - 147
1,2,3,7,8,9-HxCDF	50.0	49.7	39 - 65		13C-1,2,3,4,6,7,8-HpCDF	58.1	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	49.7	41 - 61		13C-1,2,3,4,7,8,9-HpCDF	45.9	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	50.6	39 - 69		13C-OCDF	36.3	17 - 157
OCDF	100	93.6	63 - 170	CRS	37Cl-2,3,7,8-TCDD	85.6	35 - 197

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:09

ALTA

Sample ID: IOD2043-01 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26117-001	Date Received:	30-Apr-05
Project:	IOD2043	Sample Size:	0.957 L	QC Batch No.:	6789	Date Extracted:	17-May-05
Date Collected:	28-Apr-05			Date Analyzed DB-5:	19-May-05	Date Analyzed DB-225:	NA
Time Collected:	1116						

Analyte	Conc. (ug/L)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	0.00000132		
1,2,3,7,8-PeCDD	ND	0.00000179		
1,2,3,4,7,8-HxCDD	ND	0.00000375		
1,2,3,6,7,8-HxCDD	ND	0.00000354		
1,2,3,7,8,9-HxCDD	ND	0.00000372		
1,2,3,4,6,7,8-HpCDD	0.0000517			J
OCDD	0.000373			
2,3,7,8-TCDF	ND	0.00000133		
1,2,3,7,8-PeCDF	ND	0.00000165		
2,3,4,7,8-PeCDF	ND	0.00000139		
1,2,3,4,7,8-HxCDF	ND	0.000000862		
1,2,3,6,7,8-HxCDF	ND	0.000000782		
2,3,4,6,7,8-HxCDF	ND	0.000000881		
1,2,3,7,8,9-HxCDF	ND	0.00000157		
1,2,3,4,6,7,8-HpCDF	0.00000903			A
1,2,3,4,7,8,9-HpCDF	ND	0.00000132		
OCDF	0.0000390			A

Labeled Standard		%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	60.8	25 - 164	
	13C-1,2,3,7,8-PeCDD	63.1	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	61.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	60.9	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	53.8	23 - 140	
	13C-OCDD	34.9	17 - 157	
	13C-2,3,7,8-TCDF	65.0	24 - 169	
	13C-1,2,3,7,8-PeCDF	66.4	24 - 185	
	13C-2,3,4,7,8-PeCDF	66.3	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	57.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	60.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	63.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	55.9	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	44.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	43.0	26 - 138	
	13C-OCDF	33.6	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	81.7	35 - 197	

Totals

Total TCDD	ND	0.00000132	
Total PeCDD	ND	0.00000179	
Total HxCDD	0.0000114		
Total HpCDD	0.000124		
Total TCDF	ND	0.00000133	
Total PeCDF	ND	0.00000151	
Total HxCDF	0.00000540		
Total HpCDF	0.0000268		

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:09

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
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.
P	Homologue totals include any coplanar PCBs detected at concentrations less than the reporting limit.
*	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 correspond 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.

The control limits are "interim limits only" until in-house limits are utilized.

NELAP — (Primary AA: California, Certificate No. 02102CA)

Department of the Navy

U.S. Army Corps of Engineers

U.S. EPA Region 5

Bureau of Reclamation — Mid-Pacific Region — (MP-470, Res-1.10)

Commonwealth of Kentucky — (Certificate No. 90063)

Commonwealth of Virginia — (Certificate No. 00013)

State of Alaska, Department of Environmental Conservation — (Certificate No. OS-00197)

State of Arizona — (Certificate No. AZ0639)

State of Arkansas, Department of Health — (Approval granted through CA certification)

State of Arkansas, Department of Environmental Quality

State of California — (Certificate No. 1640)

State of Colorado

State of Connecticut — (Certificate No. PH-0182)

State of Florida — (Certificate No. 87456)

State of Louisiana, Department of Health and Hospitals — (Certificate No. LA000014)

State of Louisiana, Department of Environmental Quality

State of Maine

State of Michigan (Certificate No. 81178087)

State of Mississippi — (Approval granted through CA certification)

State of Nevada — (Certificate No. CA413)

State of New Jersey — (Certificate No. CA003)

State of New York, Department of Health — (Certificate No. 11411)

State of North Carolina — (Certification No. 06700)

State of North Dakota, Department of Health — (Certificate No. R-078)

State of New Mexico

State of Oklahoma – (D9919)

State of Oregon – (Certificate No. CA413)

State of Pennsylvania — (Certificate No. 68-490)

State of South Carolina — (Certificate No. 87002001)

State of Tennessee — (Certificate No. 02996)

State of Texas — (Certificate No. TX247-1000A

State of Utah — (Certificate No. E-201)

State of Washington – (Certification No. C091)

State of Wisconsin — (Certificate No. 998036160)

State of Wyoming — (USEPA Region 8 Ref: 8TMS-Q)

Del Mar Analytical

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 Fax (619) 505-9689
9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IOD2043

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 Harper

RECEIVING LABORATORY:

Alta Analytical
1104 Windfield Way
El Dorado Hills, CA 95762
Phone :(916) 933-1640
Fax: (916) 673-0106

26117
0.0°

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

Analysis	Expiration	Comments
Sample ID: IOD2043-01 Water	**Sampled: 04/28/05 11:16**	**Instant Nofication**
1613-Dioxin-HR	05/05/05 11:16	J flags,17 congeners,no TEQ,sub=Alta, DP to AMEC
EDD + Level 4	05/26/05 11:16	Excel EDD email to pm,Include Std logs for Lvl IV

Containers Supplied:
1 L Amber (IOD2043-01G)
1 L Amber (IOD2043-01H)

SAMPLE INTEGRITY:

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

Released By	Date	Time	Received By	Date	Time
	4.29.05	17:00	N Jallent	4/30/05	0915

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 26117

		YES	NO	NA
1.	Date Samples Arrived: 4/30/05 Initials: MA Location: WR-2			
2.	Time / Date logged in: 1030 5/2/05 Initials: BLB Location: WR-2			
3.	Samples Arrived By: (circle) (FedEx) UPS World Courier Other:			
4.	Shipping Preservation: (circle) (Ice) / (Blue Ice) / Dry Ice / None Temp °C 0.0			
5.	Shipping Container(s) Intact*? If not, describe condition in comment section.	✓		
6.	Shipping Container(s) Custody Seals Present?	✓		
	Intact? If not intact, describe condition in comment section.	✓		
7.	Shipping Documentation Present? (circle) Shipping Label (Airbill)	✓		
	Tracking Number 7926999 9579			
8.	Sample Custody Seal(s) Present? No. of Seals_____ or Seal No.		✓	
	Intact? If not intact, describe condition in comment section.			✓
9.	Sample Container Intact? If no, Indicate sample condition in comment section.	✓		
10.	Chain of Custody (COC) or other Sample Documentation Present?	✓		
11.	COC/Documentation Acceptable? If no, complete COC Anomaly Form.	✓		
12.	Shipping Container (circle): ALTA (Client) Retain or (Return) or Disposed			
13.	Container(s) and/or Bottle(s) Requested?		✓	
14.	Drinking Water Sample? (HRMS Only) If yes, Acceptable Preservation? Y or N			✓
	Preservation Info From? (circle) COC or Sample Container or None Noted			

Comments: Sampler's initials found on sample labels

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Laboratory Alta
Reviewer H. Chang
Analysis/Method Dioxin&Furans/1613

Package ID T711DF48
Task Order 313150010
SDG No. Multiple
No. of Analyses 6

Date: June 1, 2005
Reviewer's Signature

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Detects below the calibration range were qualified "J."
	EMPCs were qualified "UJ."
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and 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

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUPS: IOD2043, IOD2044, IOD2049, IOD2053, IOD2056 & IOD2058

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
Sample Delivery Group #:	IOD2043, IOD2044, IOD2049, IOD2053, IOD2056 & IOD2058
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	Dioxins/Furans
QC Level:	Level IV
No. of Samples:	6
No. of Reanalyses/Dilutions:	0
Reviewer:	H. Chang
Date of Review:	June 1, 2005

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 001	IOD2043-01	26117-001	water	1613
Outfall 002	IOD2044-01	26112-001	water	1613
Outfall 018	IOD2049-01	26118-001	water	1613
Outfall 004	IOD2053-01	26120-001	water	1613
Outfall 010	IOD2056-01	26116-001	water	1613
Outfall 009	IOD2058-01	26115-001	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 samples in these SDGs were received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The samples were shipped to Alta for dioxin/furan analysis and were received below the temperature limits of 4°C ±2°C at 0°C and 1.1°C; however, as the samples were not noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheets, the samples were 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 these SDGs. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The cooler received by Alta had custody seals present and intact; however, custody seals were not present on the sample containers. The EPA IDs were added to the sample result summaries by the reviewer. No qualifications were required.

2.1.3 Holding Times

The samples were extracted and analyzed within a 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 05/09/05. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was 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 and end of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

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

2.4 BLANKS

One method blank (6789-MB001) was extracted and analyzed with the samples in these SDGs. There were no target compound detects reported 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 Ongoing Precision Recovery (OPR) sample (6789-OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in these SDGs. 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 samples in these SDGs had no associated field QC samples. No qualifications were required.

2.7.2 Field Duplicates

No field duplicate samples were identified for these SDGs.

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. In five of the six SDGs, the laboratory noted that detects above the low point of the calibration curve but below the EPA Method 1613 minimum level were denoted by an "A" laboratory qualifier. However, all results with "A" qualifier were actually below the low point of the calibration curve and should have been flagged as "J." Also, one of the detects which should have been flagged as "A" was incorrectly flagged as "J" by the laboratory. Any detects below the method minimum level were qualified as estimated, "J." If the concentration of any component of the total was below the lower method calibration level (MCL), the total detect was qualified as estimated, "J." Any reported EMPC was qualified as an estimated nondetect, "UJ." The results and reporting limits were reported in µg/L except for the results in sample Outfall 010 which were reported in ng/L. No further qualifications were required.

ALTA

Sample ID: **IOD2043-01** Outfall 001

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26117-001	Date Received:	30-Apr-05
Project:	IOD2043	Sample Size:	0.957 L	QC Batch No.:	6789	Date Extracted:	17-May-05
Date Collected:	28-Apr-05			Date Analyzed DB-5:	19-May-05	Date Analyzed DB-225:	NA
Time Collected:	1116						

Rev Qual	Qual Code	Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
U		2,3,7,8-TCDD	ND	0.00000132		
		1,2,3,7,8-PeCDD	ND	0.00000179		
		1,2,3,4,7,8-HxCDD	ND	0.00000375		
		1,2,3,6,7,8-HxCDD	ND	0.00000354		
		1,2,3,7,8,9-HxCDD	ND	0.00000372		
J	DNQ	1,2,3,4,6,7,8-HpCDD	0.0000517			
		OCDD	0.000373			J
U		2,3,7,8-TCDF	ND	0.00000133		
		1,2,3,7,8-PeCDF	ND	0.00000165		
		2,3,4,7,8-PeCDF	ND	0.00000139		
		1,2,3,4,7,8-HxCDF	ND	0.000000862		
		1,2,3,6,7,8-HxCDF	ND	0.000000782		
		2,3,4,6,7,8-HxCDF	ND	0.000000881		
J	DNQ	1,2,3,7,8,9-HxCDF	ND	0.00000157		
J	DNQ	1,2,3,4,6,7,8-HpCDF	0.00000903			
U		1,2,3,4,7,8,9-HpCDF	ND	0.00000132		A
J	DNQ	OCDF	0.0000390			
		Totals				A
U		Total TCDD	ND	0.00000132		
U		Total PeCDD	ND	0.00000179		
J	DNQ	Total HxCDD	0.0000114			
		Total HpCDD	0.000124			
U		Total TCDF	ND	0.00000133		
U		Total PeCDF	ND	0.00000151		
J	DNQ	Total HxCDF	0.00000540			
J	DNQ	Total HpCDF	0.0000268			

IS	13C-2,3,7,8-TCDD	60.8	25 - 164		
	13C-1,2,3,7,8-PeCDD	63.1	25 - 181		
	13C-1,2,3,4,7,8-HxCDD	61.3	32 - 141		
	13C-1,2,3,6,7,8-HxCDD	60.9	28 - 130		
	13C-1,2,3,4,6,7,8-HpCDD	53.8	23 - 140		
	13C-OCDD	34.9	17 - 157		
	13C-2,3,7,8-TCDF	65.0	24 - 169		
	13C-1,2,3,7,8-PeCDF	66.4	24 - 185		
	13C-2,3,4,7,8-PeCDF	66.3	21 - 178		
	13C-1,2,3,4,7,8-HxCDF	57.6	26 - 152		
	13C-1,2,3,6,7,8-HxCDF	60.4	26 - 123		
	13C-2,3,4,6,7,8-HxCDF	63.2	28 - 136		
	13C-1,2,3,7,8,9-HxCDF	55.9	29 - 147		
	13C-1,2,3,4,6,7,8-HpCDF	44.4	28 - 143		
	13C-1,2,3,4,7,8,9-HpCDF	43.0	26 - 138		
	13C-OCDF	33.6	17 - 157		
CRS	37Cl-2,3,7,8-TCDD	81.7	35 - 197		

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

AMEC VALIDATED

LEVEL IV

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:09

Project 26117

ALTA

Sample ID: IOD2044-01 Outfall 002

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26112-001	Date Received:	30-Apr-05
Project:	IOD2044	Sample Size:	0.950 L	QC Batch No.:	6789	Date Extracted:	17-May-05
Date Collected:	28-Apr-05			Date Analyzed DB-5:	19-May-05	Date Analyzed DB-225:	NA
Time Collected:	1406						

Rev Qual	Qual Code	Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
U		2,3,7,8-TCDD	ND	0.00000199		
		1,2,3,7,8-PeCDD	ND	0.00000294		
		1,2,3,4,7,8-HxCDD	ND	0.00000400		
		1,2,3,6,7,8-HxCDD	ND	0.00000399		
		1,2,3,7,8,9-HxCDD	ND	0.00000409		
		1,2,3,4,6,7,8-HpCDD	0.0000557			
		OCDD	0.000706			
U		2,3,7,8-TCDF	ND	0.00000200		
		1,2,3,7,8-PeCDF	ND	0.00000362		
		2,3,4,7,8-PeCDF	ND	0.00000288		
		1,2,3,4,7,8-HxCDF	ND	0.00000117		
		1,2,3,6,7,8-HxCDF	ND	0.00000165		
		2,3,4,6,7,8-HxCDF	ND	0.00000118		
U		1,2,3,7,8,9-HxCDF	ND	0.00000214		
J	DNQ	1,2,3,4,6,7,8-HpCDF	0.00000968			
U		1,2,3,4,7,8,9-HpCDF	ND	0.00000252		A
J	DNQ	OCDF	0.0000306			A
		Totals				
U		Total TCDD	ND	0.00000199		
U		Total PeCDD	ND	0.00000294		
J	DNQ	Total HxCDD	0.00000660		0.0000135	
		Total HpCDD	0.000114			
J	DNQ	Total TCDF	0.00000366			
U		Total PeCDF	ND	0.00000322		
J	DNQ	Total HxCDF	0.00000666		0.00000980	
J	DNQ	Total HpCDF	0.0000253			

		Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS		13C-2,3,7,8-TCDD	61.2	25 - 164	
		13C-1,2,3,7,8-PeCDD	65.5	25 - 181	
		13C-1,2,3,4,7,8-HxCDD	63.8	32 - 141	
		13C-1,2,3,6,7,8-HxCDD	65.8	28 - 130	
		13C-1,2,3,4,6,7,8-HpCDD	61.5	23 - 140	
		13C-OCDD	45.0	17 - 157	
		13C-2,3,7,8-TCDF	66.5	24 - 169	
		13C-1,2,3,7,8-PeCDF	63.6	24 - 185	
		13C-2,3,4,7,8-PeCDF	66.3	21 - 178	
		13C-1,2,3,4,7,8-HxCDF	65.2	26 - 152	
		13C-1,2,3,6,7,8-HxCDF	69.0	26 - 123	
		13C-2,3,4,6,7,8-HxCDF	70.5	28 - 136	
		13C-1,2,3,7,8,9-HxCDF	62.6	29 - 147	
		13C-1,2,3,4,6,7,8-HpCDF	58.0	28 - 143	
		13C-1,2,3,4,7,8,9-HpCDF	49.7	26 - 138	
		13C-OCDF	43.8	17 - 157	
CRS		37Cl-2,3,7,8-TCDD	78.7	35 - 197	

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c Method detection limit.

d. Lower control limit - upper control limit.

AMEC VALIDATED

LEVEL IV

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 10:57

Project 26112

ALTA

Sample ID: IOD2049 Outfall 018

EPA Method 1613

Client Data
Name: Del Mar Analytical, Irvine
Project: IOD2049
Date Collected: 28-Apr-05
Time Collected: 1516

Sample Data
Matrix: Aqueous
Sample Size: 0.910 L

Laboratory Data
Lab Sample: 26118-001
QC Batch No.: 6789
Date Analyzed DB-5: 19-May-05
Date Received: 30-Apr-05
Date Extracted: 17-May-05
Date Analyzed DB-225: NA

Rev Qual	Qual Code	Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
U		2,3,7,8-TCDD	ND	0.00000162		
		1,2,3,7,8-PeCDD	ND	0.00000180		
		1,2,3,4,7,8-HxCDD	ND	0.00000269		
		1,2,3,6,7,8-HxCDD	ND	0.00000265		
		1,2,3,7,8,9-HxCDD	ND	0.00000273		
J	DNQ	1,2,3,4,6,7,8-HpCDD	0.0000445			
		OCDD	0.000477			J
U		2,3,7,8-TCDF	ND	0.00000164		
		1,2,3,7,8-PeCDF	ND	0.00000218		
		2,3,4,7,8-PeCDF	ND	0.00000195		
		1,2,3,4,7,8-HxCDF	ND	0.00000105		
		1,2,3,6,7,8-HxCDF	ND	0.000000992		
		2,3,4,6,7,8-HxCDF	ND	0.00000107		
		1,2,3,7,8,9-HxCDF	ND	0.00000207		
J	DNQ	1,2,3,4,6,7,8-HpCDF	0.00000505			
U		1,2,3,4,7,8,9-HpCDF	ND	0.00000211		A
U		OCDF	ND	0.0000145		
		Totals				
U		Total TCDD	ND	0.00000162		
U		Total PeCDD	ND	0.00000180		
J	DNQ	Total HxCDD	0.00000896			
J	DNQ	Total HpCDD	0.0000879			
J	DNQ	Total TCDF	0.00000379			
U		Total PeCDF	ND	0.00000206		
J	DNQ	Total HxCDF	0.00000262		0.00000434	
J	DNQ	Total HpCDF	0.0000122			

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	65.5	25 - 164	
	13C-1,2,3,7,8-PeCDD	66.7	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	64.4	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	63.7	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	60.1	23 - 140	
	13C-OCDD	44.7	17 - 157	
	13C-2,3,7,8-TCDF	70.2	24 - 169	
	13C-1,2,3,7,8-PeCDF	66.1	24 - 185	
	13C-2,3,4,7,8-PeCDF	67.0	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	65.1	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	64.8	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	69.4	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	59.2	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	55.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	49.5	26 - 138	
	13C-OCDF	44.8	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.0	35 - 197	

Footnotes

a. Sample specific estimated detection limit.
b. Estimated maximum possible concentration.
c. Method detection limit.
d. Lower control limit - upper control limit.

AMEC VALIDATED
LEVEL IV

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:10

Project 26118

ALTA

Sample ID: **IOD2053-01** Outfall 004

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26120-001	Date Received:	30-Apr-05
Project:	IOD2053	Sample Size:	0.968 L	QC Batch No.:	6789	Date Extracted:	17-May-05
Date Collected:	28-Apr-05			Date Analyzed DB-5:	19-May-05	Date Analyzed DB-225:	NA
Time Collected:	1140						

Rev Qual	Qual Code	Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
U		2,3,7,8-TCDD	ND	0.00000131		
		1,2,3,7,8-PeCDD	ND	0.00000171		
		1,2,3,4,7,8-HxCDD	ND	0.00000161		
		1,2,3,6,7,8-HxCDD	ND	0.00000164		
		1,2,3,7,8,9-HxCDD	ND	0.00000166		
UJ	*ID	1,2,3,4,6,7,8-HpCDD	ND		0.0000163	
		OCDD	0.000234			
U		2,3,7,8-TCDF	ND	0.00000135		
		1,2,3,7,8-PeCDF	ND	0.00000133		
		2,3,4,7,8-PeCDF	ND	0.00000119		
		1,2,3,4,7,8-HxCDF	ND	0.000000591		
		1,2,3,6,7,8-HxCDF	ND	0.000000518		
		2,3,4,6,7,8-HxCDF	ND	0.000000586		
		1,2,3,7,8,9-HxCDF	ND	0.00000105		
J	DNQ	1,2,3,4,6,7,8-HpCDF	0.00000258			
U		1,2,3,4,7,8,9-HpCDF	ND	0.00000180		A
U		OCDF	ND	0.00000877		
		Totals				
U		Total TCDD	ND	0.00000131		
U		Total PeCDD	ND	0.00000171		
J	DNQ	Total HxCDD	0.00000183			
J	DNQ	Total HpCDD	0.0000189		0.0000352	
U		Total TCDF	ND	0.00000135		
U		Total PeCDF	ND	0.00000126		
J	DNQ	Total HxCDF	0.00000229			
J	DNQ	Total HpCDF	0.00000723			

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	70.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	71.3	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	69.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	75.4	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	66.2	23 - 140	
	13C-OCDD	45.9	17 - 157	
	13C-2,3,7,8-TCDF	72.7	24 - 169	
	13C-1,2,3,7,8-PeCDF	70.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	71.8	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	73.2	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	74.6	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	75.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	70.0	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	62.5	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	53.9	26 - 138	
	13C-OCDF	47.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.8	35 - 197	

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

AMEC VALIDATED
LEVEL IV

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:13

Project 26120

ALTA

Sample ID: IOD2056-01 Outfall 009

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26115-001	Date Received:	30-Apr-05
Project:	IOD2056	Sample Size:	0.966 L	QC Batch No.:	6789	Date Extracted:	17-May-05
Date Collected:	28-Apr-05			Date Analyzed DB-5:	19-May-05	Date Analyzed DB-225:	NA
Time Collected:	1213						

Rev Qual	Qual Code	Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
U		2,3,7,8-TCDD	ND	0.00000140		
		1,2,3,7,8-PeCDD	ND	0.00000144		
		1,2,3,4,7,8-HxCDD	ND	0.00000241		
		1,2,3,6,7,8-HxCDD	ND	0.00000237		
		1,2,3,7,8,9-HxCDD	ND	0.00000244		
H	DNQ	1,2,3,4,6,7,8-HpCDD	0.0000129			
		OCDD	0.000119			A
U		2,3,7,8-TCDF	ND	0.000000942		
		1,2,3,7,8-PeCDF	ND	0.00000149		
		2,3,4,7,8-PeCDF	ND	0.00000125		
		1,2,3,4,7,8-HxCDF	ND	0.000000643		
		1,2,3,6,7,8-HxCDF	ND	0.000000572		
		2,3,4,6,7,8-HxCDF	ND	0.000000654		
		1,2,3,7,8,9-HxCDF	ND	0.00000115		
		1,2,3,4,6,7,8-HpCDF	ND	0.00000154		
		1,2,3,4,7,8,9-HpCDF	ND	0.00000136		
		OCDF	ND	0.00000672		
		Totals				
U		Total TCDD	ND	0.00000140		
		Total PeCDD	ND	0.00000144		
		Total HxCDD	ND	0.00000240		
H	DNQ	Total HpCDD	0.0000303			
U		Total TCDF	ND	0.000000942		
U		Total PeCDF	ND	0.00000136		
H	DNQ	Total HxCDF	0.000000890			
U		Total HpCDF	ND	0.00000194		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	66.6	25 - 164	
	13C-1,2,3,7,8-PeCDD	70.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	71.1	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	71.9	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	63.5	23 - 140	
	13C-OCDD	36.0	17 - 157	
	13C-2,3,7,8-TCDF	70.2	24 - 169	
	13C-1,2,3,7,8-PeCDF	71.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	72.7	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	76.1	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	75.9	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	78.8	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	74.7	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	63.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	66.9	26 - 138	
	13C-OCDF	45.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	80.5	35 - 197	

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

AMEC VALIDATED

LEVEL IV

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:05

Project 26115

ALTA

Sample ID: **IOD2058-01** Outfall 010

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26116-001	Date Received:	30-Apr-05
Project:	IOD2058	Sample Size:	0.957 L	QC Batch No.:	6789	Date Extracted:	17-May-05
Date Collected:	28-Apr-05			Date Analyzed DB-5:	19-May-05	Date Analyzed DB-225:	NA
Time Collected:	1205						

Rev Qual	Qual Code	Analyte	Conc. (ng/L)	DL [a]	EMPC [b]	Qualifiers
U		2,3,7,8-TCDD	ND	0.00139		
		1,2,3,7,8-PeCDD	ND	0.00165		
		1,2,3,4,7,8-HxCDD	ND	0.00301		
		1,2,3,6,7,8-HxCDD	ND	0.00283		
		1,2,3,7,8,9-HxCDD	ND	0.00298		
		1,2,3,4,6,7,8-HpCDD	ND	0.00774		
J	DNQ	OCDD	0.0584			J
U		2,3,7,8-TCDF	ND	0.00166		
		1,2,3,7,8-PeCDF	ND	0.00262		
		2,3,4,7,8-PeCDF	ND	0.00218		
		1,2,3,4,7,8-HxCDF	ND	0.000772		
		1,2,3,6,7,8-HxCDF	ND	0.000738		
		2,3,4,6,7,8-HxCDF	ND	0.000842		
		1,2,3,7,8,9-HxCDF	ND	0.00149		
		1,2,3,4,6,7,8-HpCDF	ND	0.00231		
		1,2,3,4,7,8,9-HpCDF	ND	0.00224		
		OCDF	ND	0.00980		
		Totals				
U		Total TCDD	ND	0.00139		
		Total PeCDD	ND	0.00165		
		Total HxCDD	ND	0.00293		
		Total HpCDD	ND	0.0137		
		Total TCDF	ND	0.00166		
		Total PeCDF	ND	0.00239		
		Total HxCDF	ND	0.000911		
		Total HpCDF	ND	0.00309		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	53.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	53.1	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	62.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	63.9	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	52.7	23 - 140	
	13C-OCDD	29.8	17 - 157	
	13C-2,3,7,8-TCDF	57.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	53.6	24 - 185	
	13C-2,3,4,7,8-PeCDF	55.9	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	66.9	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	67.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	67.3	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	59.7	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	51.2	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	52.1	26 - 138	
	13C-OCDF	36.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	76.1	35 - 197	

Footnotes

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

AMEC VALIDATED

LEVEL IV

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:07

Project 26116

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500

Lakewood, CO 80226

Laboratory Del Mar Analytical
Reviewer L. Jarusewic
Analysis/Method Metals

Package ID T711MT88
Task Order 313150010
SDG No. IOD2043, 2049, 2054, 2056, 2058
No. of Analyses 5/2 reanalyses

Date: 06/06/05
Reviewer's Signature J Jarusewic

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were applied for:
Holding Times	1) CCB negative results
GC/MS Tune/Inst. Performance	2) Change of MDL by reviewer
Calibrations	3) Rejected reanalyses in favor of original analysis
Blanks	4) Detects below the reporting limit
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and 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 Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. (Note: Analyte may or may not be present).

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D were noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank.	Presumed contamination from preparation (method) or calibration blank.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination from trip blank.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination from FB, or ER.	Presumed contamination from FB or ER.
S	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The compound was detected between the MDL and the RL and, by definition, is considered an estimated value.	The compound was detected between the MDL and the RL and, by definition, is considered an estimated value.
*#	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).

DATA VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: METALS

SAMPLE DELIVERY GROUPS: IOD2043, IOD2049, IOD2054, IOD2056, IOD2058

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
SDG#:	IOD2043, IOD2049, IOD2054, IOD2056, IOD2058
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	Metals
QC Level:	Level IV
No. of Samples:	5
No. of Reanalyses/Dilutions:	2
Reviewer:	L. Jarusewic
Date of Review:	June 6, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *AMEC Data Validation Procedure for Levels III and IV ICP-MS Metals, (DVP-5-A, Rev.0), AMEC Data Validation Procedure for Levels III and IV ICP Metals* (DVP-5, Rev. 0), SW-846 *Method 6020B for Inductively Coupled Plasma – Mass Spectrometry*, SW-846 *Method 7471A for Mercury (Manual Cold-Vapor Technique)*, and validation guidelines outlined in the USEPA CLP *National Functional Guidelines for Inorganic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 001	Outfall 001	IOD2043-01	water	ILM04
Outfall 001RE1	Outfall 001RE1	IOD2043-01RE1	water	ILM04
Outfall 001RE2	Outfall 001RE2	IOD2043-01RE2	water	ILM04
Outfall 005	Outfall 005	IOD2054-01	water	ILM04
Outfall 009	Outfall 009	IOD2056-01	water	ILM04
Outfall 010	Outfall 010	IOD2058-01	water	ILM04
Outfall 018	Outfall 018	IOD2049-01	water	ILM04

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in these SDGs were received at 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 COCs were signed and dated by field and laboratory personnel. The COCs accounted for the samples and analyses presented in these SDGs. The laboratory did not include the "RE1" and "RE2" client ID suffixes for the iron reanalyses on the Form I for sample Outfall 001. The reviewer appended the Form I with the correct suffixes to reflect this information. No sample qualifications were required.

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

A precalibration routine must be completed prior to calibrating the instrument, which consists of analyzing a tuning solution to verify resolution, mass calibration, and thermal stability. The solution must be analyzed a minimum of five times and must contain isotopes representing all mass regions of interest. All %RSDs were less than 5%. The mass calibrations were within 0.1 amu of the true mass and the instrument resolutions were less than 0.75 amu at 5 percent peak height for all analytes in the tune solution. No site sample qualifications were required.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP and ICP-MS metals and 80-120% for mercury. The 0.2 µg/L ICP-MS reporting limit check standard was not recovered for antimony; however, as the antimony MDL was raised to 0.61 µg/L, no qualifications were required (see section 2.4). The remaining reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

2.4 BLANKS

Cadmium was reported in a bracketing ICP-MS CCB at -0.028 µg/L; therefore, cadmium detected in samples Outfall 009 and Outfall 010 was qualified as estimated, "J." Antimony was detected in a bracketing ICP-MS CCB at 0.61 µg/L; however, as antimony was not detected in Outfall 009 or Outfall 010, no qualifications were required. The remaining method blank and CCB results were nondetects at the reporting limit.

There were antimony detects in both the bracketing ICP-MS CCBs at concentrations ≥3×MDL. The antimony CCB detects indicated the laboratory could not detect antimony at the reported MDL. The reviewer, therefore, raised the MDLs for antimony to the highest level reported in the CCBs, 0.61 µg/L. No further qualifications were required due to the method and calibration blank results.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Results were not provided for spiked interferents sulfur, phosphorus, carbon, and chloride, and titanium. Antimony and lead were not spiked into the ICSAB solution. Potassium exceeded the calibration range of the instrument in both the ICSA/AB solutions associated with the Outfall 005, Outfall 009 and Outfall 010 analyses. Sodium exceeded the calibration range of the instrument in the ICSA solution for all associated analyses, and was recovered within the control limits in the ICSAB solution associated with the Outfall 005 analysis. Copper and cadmium were detected above the reporting limit in the ICSA. The validator reviewed the raw data for the site sample ICP-MS analyses for the level of reported interferents, Al, Ca, Fe, and Mg, and determined that the levels of reported interferents were not high enough to cause matrix affects. No assessment could be made with respect to possible interference from sulfur, phosphorus, carbon, titanium, and chloride.

ICSA and ICSAB analyses were included in the raw data for the ICP analyses and were analyzed the same day the samples. The recoveries were within the control limits of 80-120% and no qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP LCS sample was identified as 5D29098-BS1 and the ICP-MS LCS sample was identified as 5D29095-BS1. The mercury LCS sample was identified as 5D29061-BS1. The LCS results on the summary forms and in the raw data were within the laboratory-established control limits of 85-115% for the ICP, ICP-MS, and mercury analyses. No qualifications were required.

2.7 LABORATORY DUPLICATES

MS/MSD analyses were performed in association with the ICP-MS analyses on sample Outfall 005 for lead. The RPD was within the control limits of ≤20% and no qualifications were required.

2.8 MATRIX SPIKE

MS/MSD analyses were performed in association with the ICP/MS analyses on sample Outfall 005 for lead. The recoveries were within the control limits of 70-130% and no qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analyses of these samples; therefore, furnace atomic absorption QC is not applicable.

2.10 ICP/MS AND ICP SERIAL DILUTION

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

2.11 INTERNAL STANDARDS PERFORMANCE

The ICP-MS internal standard recoveries for the site samples and associated QC sample analyses were within the 60-125% control limits and no qualifications were required

2.12 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in these data packages. 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. The laboratory reanalyzed sample Outfall 001 for iron. As the Outfall 001RE1 and Outfall 002RE2 results were similar to the original result, the Outfall 001RE1 and Outfall 002RE2 iron results were rejected, "R," in favor of the original iron analysis. Lead in Outfall 005, cadmium in Outfall 009 and Outfall 010, and mercury in Outfall 010 detected below the reporting limit were qualified as estimated, "J." No further qualifications were required.

2.13 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.

2.13.1 Field Blanks and Equipment Rinsates

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

2.13.2 Field Duplicates

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

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

DRAFT: METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers REV QUAL	Data Qualifiers QUAL CODE
Sample ID: IOD2043-01 (DRAFT: Outfall 001 - Water)										
Reporting Units: mg/l										
Iron	EPA 200.7	5D29098	0.0088	0.040	**0.36**	1	04/29/05	05/02/05		
Sample ID: IOD2043-01RE1 (DRAFT: ~~Outfall 001~~ Outfall 001RE1 - Water)										
Reporting Units: mg/l										
Iron	EPA 200.7	5E17078	0.0088	0.040	**0.34**	1	04/29/05	05/17/05	R	D
Sample ID: IOD2043-01RE2 (DRAFT: ~~Outfall 001~~ Outfall 001RE2 - Water)										
Reporting Units: mg/l										
Iron	EPA 200.7	5D29098	0.0088	0.040	**0.36**	1	04/29/05	05/17/05	R	D

AJ 06/06/05

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LEVEL IV

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Del Mar Analytical

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4619 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2521 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: Quarterly Outfall 018

Report Number: IOD2049

Sampled: 04/28/05
Received: 04/28/05

DRAFT: METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers REV QUAL	Data Qualifiers CODE
Sample ID: IOD2049-01 (DRAFT: Outfall 018 - Water) - cont.										
Reporting Units: ug/l										
Copper	EPA 200.8	5D29095	0.49	2.0	**3.7**	1	04/29/05	05/03/05		
Lead	EPA 200.8	5D29095	0.13	1.0	**1.9**	1	04/29/05	05/03/05		
Mercury	EPA 245.1	5D29061	0.063	0.20	ND	1	04/29/05	04/29/05	U	

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

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

Project ID: Routine Outfall 005

Report Number: IOD2054

Sampled: 04/28/05
Received: 04/28/05

DRAFT: METALS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IOD2054-01 (DRAFT: Outfall 005 - Water)											
Reporting Units: ug/l											
Lead	EPA 200.8	5D29095	0.13	1.0	**0.24**	1	04/29/05	05/03/05	J	J	DNQ

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Del Mar Analytical

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

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

Project ID: Routine Outfall 009

Report Number: IOD2056

Sampled: 04/28/05
Received: 04/28/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	REV QUAL	QUAL CODE
Sample ID: IOD2056-01 (DRAFT: Outfall 009 - Water)										
Reporting Units: ug/l										
Antimony	EPA 200.8	5D29095	0.61	2.0	ND	1	04/29/05	05/03/05	UJ	*3,$
Cadmium	EPA 200.8	5D29095	0.015	1.0	**0.024**	1	04/29/05	05/03/05	J	B,DNQ
Copper	EPA 200.8	5D29095	0.49	2.0	**3.2**	1	04/29/05	05/03/05		
Lead	EPA 200.8	5D29095	0.13	1.0	**1.1**	1	04/29/05	05/03/05		
Mercury	EPA 245.1	5D29061	0.063	0.20	ND	1	04/29/05	04/29/05	U	

J 06/06/05

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Del Mar Analytical

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2320 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 010

Report Number: IOD2058

Sampled: 04/28/05
Received: 04/28/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	REV QUAL	QUAL CODE
Sample ID: IOD2058-01 (DRAFT: Outfall 010 - Water)										
Reporting Units: ug/l										
Antimony	EPA 200.8	5D29095	0.61 ~~0.18~~	2.0	ND	1	04/29/05	05/03/05	UJ	~~B~~, $
Cadmium	EPA 200.8	5D29095	0.015	1.0	**0.084**	1	04/29/05	05/03/05	J	B, DNQ
Copper	EPA 200.8	5D29095	0.49	2.0	**6.0**	1	04/29/05	05/03/05		
Lead	EPA 200.8	5D29095	0.13	1.0	**3.0**	1	04/29/05	05/03/05		
Mercury	EPA 245.1	5D29061	0.063	0.20	**0.18**	1	04/29/05	04/29/05	J	DNQ

J 06/06/05

AMEC VALIDATED

LEVEL IV

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DATA SUBJECT TO CHANGE

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500

Lakewood, CO 80226

Laboratory Del Mar
Reviewer M. Pokorny
Analysis/Method Volatiles

Package ID T711VO105
Task Order 313150010
SDG No. IOD2043, 2045, 2047, 2049
No. of Analyses 8

Date: June 13, 2005
Reviewer's Signature M. Pokorny

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were required for calibration outliers.
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and 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

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUPs: IOD2043, IOD2044, IOD2047, IOD2049

Prepared by

AMEC Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
SDG#:	IOD2043, IOD2044, IOD2047, IOD2049
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	Volatiles
QC Level:	Level IV
No. of Samples:	8
No. of Reanalyses/Dilutions:	0
Reviewer:	M. Pokorny
Date of Review:	June 13, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D Volatile Organics (DVP-2, Rev. 2), EPA Method 624, SW846 Method 8260B,* and the *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the summary forms as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 001	Outfall 001	IOD2043-01	water	624
Trip Blank	Trip Blank	IOD2043-02	water	624
Outfall 002	Outfall 002	IOD2044-01	water	624
Trip Blank	Trip Blank	IOD2044-02	water	624
Outfall 012	Outfall 012	IOD2047-01	water	624
Trip Blank	Trip Blank	IOD2047-02	water	624
Outfall 018	Outfall 018	IOD2049-01	water	624
Trip Blank	Trip Blank	IOD2049-02	water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in these SDGs were received at the laboratory within the temperature limits of 4°C ±2°C. The samples were properly preserved. The COCs noted that the samples were received intact; however, information regarding absence of headspace was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COCs were signed and dated by both field and laboratory personnel. The COCs accounted for the analyses presented in these SDGs. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

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

2.2 GC/MS TUNING

The ion abundance windows shown on the quantitation reports were consistent with those specified in EPA Method 624, and all ion abundances were within the established windows. The samples and associated QC were analyzed within 12 hours of the BFB injection time. The BFB summary report was verified from the raw data and no discrepancies between the summary report and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

Four initial calibrations dated 03/31/05, 04/20/05, 04/29/05, and 04/30/05 were associated with these SDGs. The average RRFs were ≥0.05 for the target compounds listed on the sample result summaries. The %RSDs were ≤35% for all applicable target compounds. Five continuing calibrations were associated with the sample analyses in these SDGs. The %D for trichlorofluoromethane exceeded 20% in the continuing calibration associated with samples Outfall 001 and Outfall 002; therefore, the nondetect results for trichlorofluoromethane were qualified as estimated, "UJ," in samples Outfall 001 and Outfall 002. No qualifications were required for the Trip Blanks. All remaining %Ds were ≤20%. The RRFs were ≥0.05 for the target compounds listed on the sample result summaries. A representative number of %RSDs and average RRFs from the initial calibration, and %Ds and RRFs from the continuing calibration were recalculated from the raw data, and no calculation or transcription errors were found. No further qualifications were required.

2.4 BLANKS

Three water method blanks (5E04019-BLK1, 5E05024-BLK1, and 5E10003-BLK1) were associated with the sample analyses. There were no detects above the MDLs for the target compounds listed on the sample result summaries. The method blank raw data showed no evidence of false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Three water blank spikes (5E04019-BS1, 5E05024-BS1, and 5E10003-BS1) were associated with the sample analyses. All recoveries were within the laboratory-established QC limits. A representative number of recoveries were recalculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The surrogates were recovered within the QC limits of 80-120% in the samples and associated QC. A representative number of surrogate recoveries were recalculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Sample Outfall 001 was the MS/MSD analyses performed with these SDGs. All percent recoveries and RPDs were within the QC limits. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Samples Trip Blank (IOD2043-02), Trip Blank (IOD2044-02), Trip Blank (IOD2047-02), and Trip Blank (IOD2049-02) were the trip blanks associated with these SDGs. There were no target compounds detected above the MDLs in the trip blanks. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field QC samples associated with these SDGs. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples associated with these SDGs.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples in these SDGs were within the control limits established by the continuing calibration standards: +100%/-50% for internal standard areas and ±0.50 minutes for retention times. A representative number of internal standard areas and retention times were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

Target compound identification was verified at a Level IV data validation. The laboratory analyzed for volatile target compounds by EPA Method 624. Chromatograms, retention times, and spectra for the samples and QC were examined and no target compound identification problems were noted. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. The reporting limits were supported by the lowest concentrations of the initial calibration standard and by the MDL study. Compound quantitation was verified by recalculating a representative number of target compound detects, blank spike, and surrogate recoveries from the raw data. Results were reported in µg/L (ppb). No calculation or transcription errors were noted. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

The laboratory did not provide TICs for these SDGs. No qualifications were required.

2.13 SYSTEM PERFORMANCE

A review of the chromatograms and other raw data showed no identifiable problems with system performance. No qualifications were required.

Del Mar Analytical

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2043-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/05/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/05/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/05/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/05/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/05/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/05/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/05/05	UJ C
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	U
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/05/05	U
Surrogate: Dibromofluoromethane (80-120%)					*107 %*				
Surrogate: Toluene-d8 (80-120%)					*109 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*99 %*				
Sample ID: IOD2043-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/04/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/04/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/04/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/04/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/04/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/04/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/04/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/04/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/04/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/04/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/04/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/04/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/04/05	
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/04/05	
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/04/05	
Surrogate: Dibromofluoromethane (80-120%)					*101 %*				
Surrogate: Toluene-d8 (80-120%)					*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*98 %*				

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

Project ID: Routine Outfall 002

Report Number: IOD2044

Sampled: 04/28/05
Received: 04/28/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2044-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/05/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/05/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/05/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/05/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/05/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/05/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	**0.27**	1	05/04/05	05/05/05	J
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/05/05	U
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	U
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/05/05	U
Surrogate: Dibromofluoromethane (80-120%)					*106 %*				
Surrogate: Toluene-d8 (80-120%)					*106 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*100 %*				
Sample ID: IOD2044-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/05/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/05/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/05/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/05/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/05/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/05/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/05/05	
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/05/05	
Surrogate: Dibromofluoromethane (80-120%)					*101 %*				
Surrogate: Toluene-d8 (80-120%)					*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*95 %*				

AMEC VALIDATED

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LEVEL IV

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

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

Project ID: Alfa Outfall 012 - During Test

Report Number: IOD2047

Sampled: 04/28/05
Received: 04/28/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	REV QUAL	QUAL CODE
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water)											
Reporting Units: ug/l											
1,2-Dibromoethane (EDB)	EPA 624	5E05024	0.32	2.0	ND	1	05/05/05	05/05/05		U	
Methyl-tert-butyl Ether (MTBE)	EPA 624	5E05024	0.32	5.0	ND	1	05/05/05	05/05/05			
1,2,3-Trichloropropane	EPA 624	5E05024	0.85	10	ND	1	05/05/05	05/05/05			
Di-isopropyl Ether (DIPE)	EPA 624	5E05024	0.25	5.0	ND	1	05/05/05	05/05/05			
tert-Butanol (TBA)	EPA 624	5E05024	3.1	25	ND	1	05/05/05	05/05/05			
Surrogate: Dibromofluoromethane (80-120%)					*114 %*						
Surrogate: Toluene-d8 (80-120%)					*112 %*						
Surrogate: 4-Bromofluorobenzene (80-120%)					*110 %*						
Sample ID: IOD2047-02 (DRAFT: Trip Blank - Water)											
Reporting Units: ug/l											
1,2-Dibromoethane (EDB)	EPA 624	5E05024	0.32	2.0	ND	1	05/05/05	05/05/05		U	
Methyl-tert-butyl Ether (MTBE)	EPA 624	5E05024	0.32	5.0	ND	1	05/05/05	05/05/05			
1,2,3-Trichloropropane	EPA 624	5E05024	0.85	10	ND	1	05/05/05	05/05/05			
Di-isopropyl Ether (DIPE)	EPA 624	5E05024	0.25	5.0	ND	1	05/05/05	05/05/05			
tert-Butanol (TBA)	EPA 624	5E05024	3.1	25	ND	1	05/05/05	05/05/05			
Surrogate: Dibromofluoromethane (80-120%)					*111 %*						
Surrogate: Toluene-d8 (80-120%)					*112 %*						
Surrogate: 4-Bromofluorobenzene (80-120%)					*107 %*						

AMEC VALIDATED

LEVEL IV

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Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 018

Repor. Number: IOD2049

Sampled: 04/28/05
Received: 04/28/05

DRAFT: 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: IOD2049-01 (DRAFT: Outfall 018 - Water)									
Reporting Units: ug/l									REV QUAL / QUAL CD
Benzene	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05	U
Trichlorotrifluoroethane (Freon 113)	EPA 624	5E10003	1.2	5.0	ND	1	05/10/05	05/10/05	
Carbon tetrachloride	EPA 624	5E10003	0.28	5.0	ND	1	05/10/05	05/10/05	
Chloroform	EPA 624	5E10003	0.33	2.0	ND	1	05/10/05	05/10/05	
1,1-Dichloroethane	EPA 624	5E10003	0.27	2.0	ND	1	05/10/05	05/10/05	
1,2-Dichloroethane	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05	
1,1-Dichloroethene	EPA 624	5E10003	0.42	3.0	ND	1	05/10/05	05/10/05	
Ethylbenzene	EPA 624	5E10003	0.25	2.0	ND	1	05/10/05	05/10/05	
Tetrachloroethene	EPA 624	5E10003	0.32	2.0	ND	1	05/10/05	05/10/05	
Toluene	EPA 624	5E10003	0.36	2.0	ND	1	05/10/05	05/10/05	
1,1,1-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05	
1,1,2-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05	
Trichloroethene	EPA 624	5E10003	0.26	5.0	**1.0**	1	05/10/05	05/10/05	J / J DNQ
Trichlorofluoromethane	EPA 624	5E10003	0.34	5.0	ND	1	05/10/05	05/10/05	U
Vinyl chloride	EPA 624	5E10003	0.26	5.0	ND	1	05/10/05	05/10/05	U
Xylenes, Total	EPA 624	5E10003	0.52	4.0	ND	1	05/10/05	05/10/05	U
Surrogate: Dibromofluoromethane (80-120%)					*108 %*				
Surrogate: Toluene-d8 (80-120%)					*104 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*104 %*				
Sample ID: IOD2049-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05	U
Trichlorotrifluoroethane (Freon 113)	EPA 624	5E10003	1.2	5.0	ND	1	05/10/05	05/10/05	
Carbon tetrachloride	EPA 624	5E10003	0.28	5.0	ND	1	05/10/05	05/10/05	
Chloroform	EPA 624	5E10003	0.33	2.0	ND	1	05/10/05	05/10/05	
1,1-Dichloroethane	EPA 624	5E10003	0.27	2.0	ND	1	05/10/05	05/10/05	
1,2-Dichloroethane	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05	
1,1-Dichloroethene	EPA 624	5E10003	0.42	3.0	ND	1	05/10/05	05/10/05	
Ethylbenzene	EPA 624	5E10003	0.25	2.0	ND	1	05/10/05	05/10/05	
Tetrachloroethene	EPA 624	5E10003	0.32	2.0	ND	1	05/10/05	05/10/05	
Toluene	EPA 624	5E10003	0.36	2.0	ND	1	05/10/05	05/10/05	
1,1,1-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05	
1,1,2-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05	
Trichloroethene	EPA 624	5E10003	0.26	5.0	ND	1	05/10/05	05/10/05	
Trichlorofluoromethane	EPA 624	5E10003	0.34	5.0	ND	1	05/10/05	05/10/05	
Vinyl chloride	EPA 624	5E10003	0.26	5.0	ND	1	05/10/05	05/10/05	
Xylenes, Total	EPA 624	5E10003	0.52	4.0	ND	1	05/10/05	05/10/05	
Surrogate: Dibromofluoromethane (80-120%)					*105 %*				
Surrogate: Toluene-d8 (80-120%)					*102 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*103 %*				

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AMEC VALIDATED

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500

Lakewood, CO 80226

Package ID T711WC151
Task Order 313150010
SDG No. IOD2043, IOD2044, IOD2047, IOD2049
No. of Analyses 4

Laboratory Del Mar Analytical
Reviewer L. Jarusewic
Analysis/Method General Minerals

Date: 06/03/05
Reviewer's Signature L Jarusewic

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were applied for:
Holding Times	1) Detects below the reporting limit
GC/MS Tune/Inst. Performance	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and 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 Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. (Note: Analyte may or may not be present).

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D were noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank.	Presumed contamination from preparation (method) or calibration blank.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination from trip blank.	Not applicable.
+	False positive – reported compound was not present. Not applicable.	
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination from FB, or ER.	Presumed contamination from FB or ER.
S	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
DNQ	The compound was detected between the MDL and the RL and, by definition, is considered an estimated value.	The compound was detected between the MDL and the RL and, by definition, is considered an estimated value.
*#	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUPS: IOD2043, IOD2044, IOD2047, IOD2049

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
Sample Delivery Group #:	IOD2043, IOD2044, IOD2047, IOD2049
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	General Minerals
QC Level:	Level IV
No. of Samples:	4
Reviewer:	L. Jarusewic
Date of Review:	June 3, 2005

The samples listed in Table 1 was validated based on the guidelines outlined in the AMEC *Data Validation Procedures* SOP DVP-6, Rev. 2, *USEPA Methods for Chemical Analysis of Water and Wastes Method 350.2, 180.1, 120.1, 405.1, 413.1, 160.2, 160.5, 418.1, 300.0, 425.1, 160.1, and 335.2, Standard Methods for the Examination of Water and Wastewater Method SM2540C*, 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 I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 001	Outfall 001	IOD2043-01	Water	General Minerals
Outfall 002	Outfall 002	IOD2044-01	Water	General Minerals
Outfall 012	Outfall 012	IOD2047-01	Water	General Minerals
Outfall 018	Outfall 018	IOD2049-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in these SDGs were 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 COCs were signed and dated by field and laboratory personnel. The COCs accounted for all samples and analyses presented in these SDGs. No sample qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analyses. The 28-day analytical holding time for ammonia, chloride, sulfate, conductivity, total recoverable hydrocarbons, and oil and grease, the 14-day analytical holding time for cyanide, the seven-day holding time for total suspended solids and total dissolved solids, the 48-hour holding time for surfactants, turbidity, nitrate/nitrite, biological oxygen demand, and total settleable solids were met. No qualifications were required.

2.2 CALIBRATION

For the applicable analyses, the initial calibration correlation coefficients were ≥ 0.995. Initial and continuing calibration information was acceptable with recoveries within the control limits of 90-110%. For ammonia, no information regarding the standardization of the titrant was provided; however, the LCS recovery was within the CCV control limits. For BOD, no information regarding the calibration of the oxygen meter was provided; however, the LCS recovery was within the CCV control limits. The total cyanide reporting limit check standard was recovered within the control limits of 70-130%. Calibration is not applicable to total suspended solids, total dissolved solids, and total settleable solids. No qualifications were required.

2.3 BLANKS

Turbidity was detected in a bracketing CCB at 0.040 NTU; however, the turbidity CCB results were insufficient to qualify the site sample turbidity results. The remaining method blank and CCB results reported on the summary forms and in the raw data for blank analyses associated with the samples were nondetects at the reporting limit. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory control sample and laboratory control sample duplicate (total recoverable hydrocarbons, oil and grease, and BOD) recoveries and RPDs were within the laboratory-established control limits. The LCS is not applicable to turbidity, total settleable solids, or conductivity. No qualifications were required.

2.5 SURROGATES RECOVERY

Surrogate recovery is not applicable to the analyses presented in these SDGs.

2.6 LABORATORY DUPLICATES

MS/MSD analyses were not performed in association with the samples in these SDGs; therefore, no assessment was made with respect to this criterion.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.8 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analyses of these samples; therefore, furnace atomic absorption QC is not applicable.

2.9 ICP SERIAL DILUTION

ICP serial dilution is not applicable to the analyses presented in this data validation report.

2.10 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Surfactant detected below the reporting limit was qualified as estimated, "J," in sample Outfall 018. No further qualifications were required.

2.11 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. The following are findings associated with field QC samples:

2.11.1 Field Blanks and Equipment Rinsates

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

2.11.2 Field Duplicates

There were no field duplicate pairs associated with these SDGs.

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

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2043-01 (DRAFT: Outfall 001 - Water) - cont.									REV QUAL / QUAL CODE
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5E02067	0.30	0.50	**0.84**	1	05/02/05	05/02/05	
Sample ID: IOD2043-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5D29110	0.040	1.0	**7.6**	1	04/29/05	04/29/05	
Sample ID: IOD2043-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5D29130	1.0	1.0	**620**	1	04/29/05	04/29/05	

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2320 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Routine Outfall 002

Report Number: IOD2044

Sampled: 04/28/05
Received: 04/28/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers REV QUAL	Data Qualifiers QUA CODE
Sample ID: IOD2044-01 (DRAFT: Outfall 002 - Water)										
Reporting Units: mg/l										
Ammonia-N (Distilled)	EPA 350.2	5E02067	0.30	0.50	**0.84**	1	05/02/05	05/02/05		
Sample ID: IOD2044-01 (DRAFT: Outfall 002 - Water)										
Reporting Units: NTU										
Turbidity	EPA 180.1	5D29110	0.080	2.0	**79**	2	04/29/05	04/29/05		
Sample ID: IOD2044-01 (DRAFT: Outfall 002 - Water)										
Reporting Units: umhos/cm										
Specific Conductance	EPA 120.1	5D29130	1.0	1.0	**590**	1	04/29/05	04/29/05		

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

Project ID: Alfa Outfall 012 - During Test

Report Number: IOD2047

Sampled: 04/28/05
Received: 04/28/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers REV QUAL	Data Qualifiers QUAL CODE
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water) - cont. Reporting Units: mg/l										
Ammonia-N (Distilled)	EPA 350.2	5E02067	0.30	0.50	ND	1	05/02/05	05/02/05	u	
Biochemical Oxygen Demand	EPA 405.1	5D29091	0.59	2.0	**3.2**	1	04/29/05	05/04/05		
Oil & Grease	EPA 413.1	5E04036	0.94	5.0	ND	1	05/04/05	05/04/05	u	
Total Dissolved Solids	SM2540C	5D29129	10	10	**250**	1	04/29/05	04/29/05		
Total Suspended Solids	EPA 160.2	5E04071	10	10	**21**	1	05/04/05	05/04/05		
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water) Reporting Units: ml/l/hr										
Total Settleable Solids	EPA 160.5	5D29094	0.10	0.10	**0.10**	1	04/29/05	04/29/05		
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water) Reporting Units: NTU										
Turbidity	EPA 180.1	5D29110	0.040	1.0	**23**	1	04/29/05	04/29/05		
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water) Reporting Units: ug/l										
Perchlorate	EPA 314.0	5D29065	0.80	4.0	ND	1	04/29/05	04/30/05	*	

AMEC VALIDATED

LEVEL IV

*Analyte Not Valid

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE