

APPENDIX G - VOLUME 4 (Part 3 of 7)
TABLE OF CONTENTS

Section No.

- 15 February Outfall 001 Continued – AMEC Data Validation Reports, Del Mar Analytical Laboratory Reports
- 16 February Outfall 002 – AMEC Data Validation Reports, Del Mar Analytical Laboratory Reports
- 17 February Outfall 003 – AMEC Data Validation Reports, Del Mar Analytical Laboratory Reports
- 18 February Outfall 004 – AMEC Data Validation Reports, Del Mar Analytical Laboratory Reports
- 19 February Outfall 005 – AMEC Data Validation Reports, Del Mar Analytical Laboratory Reports

APPENDIX G

Section 15

February Outfall 001 Continued

AMEC Data Validation Reports

Del Mar Analytical Laboratory Reports


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711MT75
 Task Order 313150010
 SDG No. IOB2098

No. of Analyses 1

Laboratory Del Mar
 Reviewer P. Meeks
 Analysis/Method Metals

Date: 04/18/05
 Reviewer's Signature


ACTION ITEMS^a

1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications were applied for detects below the reporting limit. <i>Reanalysis of iron rejected in favor of original result</i>
Holding Times	
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: METALS

SAMPLE DELIVERY GROUP: IOB2098

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#: IOB2098
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 1
Reviewer: P. Meeks
Date of Review: April 18, 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 6010B for Inductively Coupled Plasma*, *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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB2098
Analysis: MET

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 001	Outfall 001	IOB2098-01	water	ILM04
Outfall 001 RE1	Outfall 001 RE1	IOB2098-01RE1	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 sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The metals analyses presented in this SDG were requested as per a telephone conversation between the laboratory and MWH personnel, dated 4/12/05. As the laboratory did not append the client ID for the iron reanalysis, the reviewer added an "RE1" suffix to the client ID. No sample qualifications were required.

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

As the sample was not analyzed by ICP/MS, ICP/MS tuning is not applicable.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for the ICP. The reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

2.4 BLANKS

There were no metals detected in the method blank or CCBs associated with the sample analyses. No qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP analyses, but were not analyzed on the same day the sample was analyzed. 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 5D12072-BS1. The LCS results on the summary forms and in the raw data were within the laboratory-established ICP control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKE

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

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of this sample; 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 sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.11 INTERNAL STANDARDS PERFORMANCE

As the sample was not analyzed by ICP/MS, ICP/MS internal standards are not applicable.

2.12 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Analytes detected below the reporting limit were qualified as estimated, "J." As the original analysis and reanalysis of iron yielded similar results, the reanalysis, Outfall 001 RE1, was rejected, "R," in favor of the original result, Outfall 001. 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 sample.

2.13.1 Field Blanks and Equipment Rinsates

The sample in this SDG 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 sample.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Conley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-1620 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: IOB2098	Sampled: 02/26/05 Received: 02/26/05
--	---	---

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Raw Qual	Qual Code
Sample ID: IOB2098-01 (DRAFT: Outfall 001 - Water)										
Reporting Units: mg/l										
Iron	EPA 200.7	5D12072	0.0088	0.040	0.45	1	04/12/05	04/12/05		
Sample ID: IOB2098-01RE1 (DRAFT: Outfall 001 - Water)										
Reporting Units: mg/l										
Iron	EPA 200.7	5D12072	0.0088	0.040	0.46	1	04/12/05	04/20/05	R	D
Sample ID: IOB2098-01 (DRAFT: Outfall 001 - Water)										
Reporting Units: ug/l										
Chromium	EPA 200.7	5D12072	0.68	5.0	2.8	1	04/12/05	04/12/05	J J	DNQ
Manganese	EPA 200.7	5D12072	3.2	20	9.1	1	04/12/05	04/12/05	J J	DNQ

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF29
 Task Order 313150010
 SDG No. Multiple

No. of Analyses 6

Laboratory Alta

Reviewer K. Shadowlight

Analysis/Method Dioxins

Date: March 9, 2005

Reviewer's Signature

K. Shadowlight

ACTION ITEMS*	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications were assigned for the following: * EMPCs * Detects below the lower method calibration level * Diphenyl ether interference
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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 9, 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 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	IOB1560-01	25788-001	water	1613
Outfall 004	IOB1556-01	25786-001	water	1613
Outfall 005	IOB1557-01	25787-001	water	1613
Outfall 006	IOB1559-01	25784-001	water	1613
Outfall 009	IOB1574-01	25789-001	water	1613
Outfall 010	IOB1575-01	25785-001	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

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The samples were shipped to Alta for dioxin/furan analyses and were received below the temperature limits at 0.8°C and 1.6°C ; however, as none of the samples were noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheets, all samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs and transfer COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The coolers 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 summary report 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

There were two initial calibrations, analyzed 08/30/04 and 10/04/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6543-MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (6543-OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. Compounds flagged by the laboratory with a "D" qualifier indicated possible diphenylether interference and were qualified as estimated, "J." Any reported EMPC was qualified as an estimated nondetect, "UJ." Any detects below the lower method calibration level (MCL) were qualified as estimated, "J;" however, as Alta analyzed an additional calibration standard, not all results below the method calibration level were appropriately qualified by the laboratory. These results were qualified as estimated, "J," by the reviewer. No further qualifications were required.



Sample ID: IOB1560-01		EPA Method 1613	
Client Data		Laboratory Data	
Name: Del Mar Analytical, Irvine	Lab Sample: 25788-001	Date Received: 24-Feb-05	
Project: IOB1560	QC Batch No.: 6543	Date Extracted: 25-Feb-05	
Date Collected: 18-Feb-05	Date Analyzed DB-5: 1-Mar-05	Date Analyzed DB-225: NA	
Time Collected: 0953			
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b
Qualifiers	Matrix:	Sample Size:	%R
Labeled Standard	Qualifiers	1.010 L	LCL-UCL ^d
2,3,7,8-TCDD	ND	1.45	74.0
1,2,3,7,8-PeCDD	ND	1.60	64.2
1,2,3,4,7,8-HxCDD	ND	3.98	70.2
1,2,3,6,7,8-HxCDD	ND	4.13	78.1
1,2,3,7,8,9-HxCDD	ND	4.04	70.9
1,2,3,4,6,7,8-HpCDD	57.7		60.9
OCDD	749		73.6
2,3,7,8-TCDF	ND	1.94	60.2
1,2,3,7,8-PeCDF	ND	2.83	61.5
2,3,4,7,8-PeCDF	ND	2.55	63.5
1,2,3,4,7,8-HxCDF	ND	1.15	73.0
1,2,3,6,7,8-HxCDF	ND	1.10	71.7
2,3,4,6,7,8-HxCDF	ND	1.23	69.1
1,2,3,7,8,9-HxCDF	ND	1.82	69.6
1,2,3,4,6,7,8-HpCDF	10.9		71.2
1,2,3,4,7,8,9-HpCDF	ND	2.57	67.3
OCDF	32.5		85.5
Totals			
Total TCDD	ND	1.45	
Total PeCDD	ND	1.60	
Total HxCDD	13.3		
Total HpCDD	127		
Total TCDF	5.48		
Total PeCDF	ND	1.66	
Total HxCDF	12.8		
Total HpCDF	39.0		

Footnotes

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

Analyst: JMH
 Approved By: William J. Luksemburg 02-Mar-2005 08:35

ANEC VALIDATED

Project 25788

TEVAT, TV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711MT48
Task Order 313150010
SDG No. IOB155

No. of Analyses 1 & 2 RE
Date: 03/29/05
Reviewer's Signature
P. Meeks

Laboratory Del Mar
Reviewer P. Meeks
Analysis/Method Metals

ACTION ITEMS*

1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	<u>Lead rejected in Outfall 001 and Outfall 001RE2 in favor of the result in Outfall 001 RE1.</u>
Holding Times	
GC/MS Tune/Inst. Performance	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS*

* 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: METALS

SAMPLE DELIVERY GROUP: IOB1560

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#: IOB1560
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 2
Reviewer: P. Meeks
Date of Review: March 29, 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	IOB1560-01	water	ILM04
Outfall 001 RE1	Outfall 001 RE1	IOB1560-01RE1	water	ILM04
Outfall 001 RE2	Outfall 001 RE2	IOB1560-01RE2	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 sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. As the laboratory did not append the client IDs for the reanalyses, the reviewer added "RE1" and "RE2" suffices to the client IDs. No sample qualifications were required.

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

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/MS metals. The reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

2.4 BLANKS

Lead was not detected in any of the method blanks or CCBs associated with the sample analyses. No 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 interferences sulfur, phosphorus, carbon, and chloride, and lead was not spiked into the ICSAB solution. The results for sodium and potassium were above the calibration range of the instrument in all of the ICSA and ICSAB analyses and aluminum was recovered below the control limit in the ICSAB analyses associated with Outfall 001. As aluminum, sodium, and potassium were not reported in the site sample, no qualifications were required. No assessment could be made with respect to possible interference from sulfur, phosphorus, carbon, and chloride. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS samples were identified as 5B18140-BS1, 5B22111-BS1, and 5B23093-BS1. The LCS results on the summary forms and in the raw data were within the laboratory-established ICP/MS control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

MS/MSD analyses were performed on Outfall 001. Although the result for Outfall 001 was not retained, the MS/MSD RPD was less than the control limit of 20% and no qualifications were required.

2.8 MATRIX SPIKE

MS/MSD analyses were performed on Outfall 001. Although the result for Outfall 001 was not retained, the MS/MSD recoveries were within the AMEC control limits of 75-125% and no qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of this sample; 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 sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.11 INTERNAL STANDARDS PERFORMANCE

The ICP-MS internal standard recoveries for the site sample 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.

In a telephone conversation on 03/29/05, M. Harper of Del Mar Analytical indicated that in the analysis of Outfall 008, the sample container was not agitated prior to removing the sample aliquot. For the subsequent reanalyses, Outfall 001 RE1 and Outfall 001 RE2, the sample container was agitated, thus providing a more representative lead result. As the results for Outfall 001 RE1 and Outfall 001 RE2 were similar, the reviewer chose to report the result for Outfall 001 RE1; therefore, the lead results for Outfall 001 and Outfall 001 RE2 were rejected, "R." 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 sample in this SDG 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 sample.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 250-325
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-104
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-966
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-088
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-362

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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
									Rev Qual Qual Code
Sample ID: IOB1560-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: ug/l									
Lead	EPA 200.8	5B18140	0.13	1.0	2.7	1	02/18/05	02/22/05	R D
Sample ID: IOB1560-01RE1 (DRAFT: Outfall 001 - Water)									
Reporting Units: ug/l									
Lead	EPA 200.8	5B22111	0.13	1.0	5.1	1	02/22/05	02/23/05	
Sample ID: IOB1560-01RE2 (DRAFT: Outfall 001 - Water)									
Reporting Units: ug/l									
Lead	EPA 200.8	5B23093	0.13	1.0	5.2	1	02/23/05	02/24/05	R D

PM 3/29/05

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE


The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO59
 Task Order 313150010
 SDG No. IOB, IOB1562
 No. of Analyses 4 ¹⁵⁰⁰

Laboratory Del Mar Analytical
 Reviewer K. Shadowlight

Date March 30, 2005
 Reviewer's Signature


Analysis/Method Volatiles

ACTION ITEMS ^a	
1. Case Narrative	
Deficiencies	
2. Out of Scope	
Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis	
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	Acceptable as reviewed.
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IOB1560, IOB1562

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#: IOB1560, IOB1561
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 4
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 30, 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*, 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	IOB1560-01	water	624
Trip Blank	Trip Blank	IOB1560-02	water	624
Outfall 002	Outfall 002	IOB1562-01	water	624
Trip Blank	Trip Blank	IOB1562-02	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$, at 4°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 report were consistent with those specified in the 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

One initial calibration dated 11/16/04, was associated with these SDGs. The average RRFs were ≥ 0.05 and the %RSDs were $\leq 35\%$ for the target compounds listed on the sample result summaries. One continuing calibration analyzed 02/22/05, was associated with the sample analyses. The %Ds were $\leq 20\%$ and the RRFs for all target compounds were ≥ 0.05 . 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 qualifications were required.

2.4 BLANKS

One water method blank (5B22018-BLK1) was associated with these SDGs. 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

One water blank spike (5B22018-BS1) was associated with these SDGs. 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

MS/MSD analyses were performed for sample Outfall 002 associated with these SDGs. The recoveries and RPDs were within the respective 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.

2.8 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

Sample Trip blank (IOB1560) and Trip blank (IOB1562) were the trip blanks associated with the site samples in these SDGs. There were no target compounds detected above the MDLs in the either of the trip blanks. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no other 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 this SDG were within the control limits established by the continuing calibration standards, of +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 standards and by the MDL study. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in ug/L (ppm). No calculation or transcription errors were noted. Any detect between the MDL and the reporting limit was qualified as estimated, "J," by the laboratory. No further 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.



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 (949) 370-1044
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8598 FAX (658) 505-9688
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0857
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3627

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

Project ID: Routine Outfall 001
 Report Number: IOB1560

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1560-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	Key Qual
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	Qual
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	
Surrogate: Dibromofluoromethane (80-120%)					96 %				
Surrogate: Toluene-d8 (80-120%)					95 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					93 %				
Sample ID: IOB1560-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	Key Qual
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	Qual
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	
Surrogate: Dibromofluoromethane (80-120%)					95 %				
Surrogate: Toluene-d8 (80-120%)					94 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					94 %				

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

ANEC VALIDATED

LEVEL IV

The results pertain only to the samples tested at the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IOB1560 & IOB1562

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 #: IOB1560, IOB1562
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 2
Reviewer: L. Jarusewic
Date of Review: March 24, 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	IOB1560-01	Water	General Minerals
Outfall 002	Outfall 002	IOB1562-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

The holding times were assessed by comparing the dates 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 %Rs 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. No qualifications were required.

2.3 BLANKS

Turbidity was detected in the method blanks, 5B19041-BLK1 and 5B19043-BLK1, at 0.040 and 0.050 NTU, respectively; however, the turbidity method blank results were insufficient to qualify the Outfall 001 and Outfall 002 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 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 these SDGs.

2.6 LABORATORY DUPLICATES

Turbidity duplicate analyses were performed on samples Outfall 001 and Outfall 002 with RPDs within the control limits of $\leq 20\%$. No qualifications were required.

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.

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 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. No 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.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-32
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-10
 9464 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-98
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-08
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-36

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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: INORGANICS

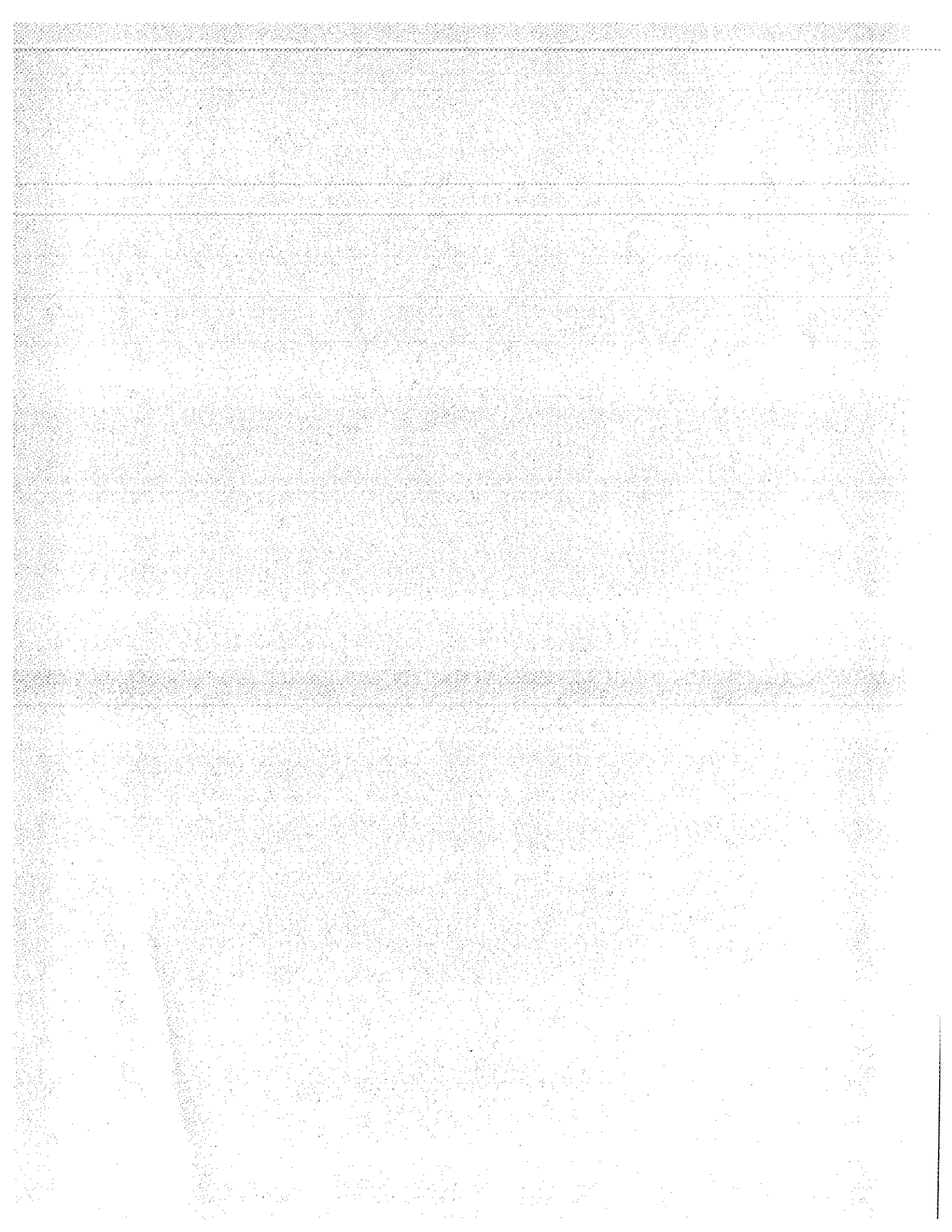
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (DRAFT: Outfall 001 - Water) - cont. Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B23079	0.30	0.50	0.84	1	02/23/05	02/23/05	REV QUAL CODE
Sample ID: IOB1560-01 (DRAFT: Outfall 001 - Water) Reporting Units: NTU									
Turbidity	EPA 180.1	5B19041	0.20	5.0	150	5	02/19/05	02/19/05	
Sample ID: IOB1560-01 (DRAFT: Outfall 001 - Water) Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B23076	1.0	1.0	110	1	02/23/05	02/23/05	

AMEG VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





LABORATORY REPORT

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

Project: Routine Outfall 001

Sampled: 02/18/05
Received: 02/18/05
Revised: 05/12/05 07:49

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

CASE NARRATIVE

- SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.
- HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
- PRESERVATION: Samples requiring preservation were verified prior to sample analysis.
- QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
- COMMENTS: Results that fall between the MDL and RL are 'J' flagged.
- SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.
- ADDITIONAL INFORMATION: The report has been revised to include all additional testing parameters. The original result for Lead was above the compliance limit and was reanalyzed. The reanalysis produced a result of 5.1 ug/L and did not confirm the original result. The sample was analyzed a third time and the result confirmed the 5.1 ug/L result. All lead results are included. Due to non-compliance for the 2/11/05 sample, Cr, Fe, and Mn were analyzed and confirmed. Also due to non-compliance, Gross Alpha was analyzed. Finally, enclosed are results for Ca, Mg, Na, K for reference only.

LABORATORY ID	CLIENT ID	MATRIX
I0B1560-01	Outfall 001	Water
I0B1560-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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: IOB1560-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	

Surrogate: Dibromofluoromethane (80-120%)

96 %

Surrogate: Toluene-d8 (80-120%)

95 %

Surrogate: 4-Bromofluorobenzene (80-120%)

93 %

Sample ID: IOB1560-02 (Trip Blank - Water)

Reporting Units: ug/l

Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	

Surrogate: Dibromofluoromethane (80-120%)

95 %

Surrogate: Toluene-d8 (80-120%)

94 %

Surrogate: 4-Bromofluorobenzene (80-120%)

94 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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: IOB1560-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5B22042	1.1	5.0	ND	0.971	02/22/05	02/24/05	
2,4-Dinitrotoluene	EPA 625	5B22042	0.23	9.0	ND	0.971	02/22/05	02/24/05	
N-Nitrosodimethylamine	EPA 625	5B22042	0.22	8.0	ND	0.971	02/22/05	02/24/05	
Pentachlorophenol	EPA 625	5B22042	0.78	8.0	ND	0.971	02/22/05	02/24/05	
2,4,6-Trichlorophenol	EPA 625	5B22042	0.10	6.0	ND	0.971	02/22/05	02/24/05	
Surrogate: 2-Fluorophenol (35-120%)									70 %
Surrogate: Phenol-d6 (45-120%)									77 %
Surrogate: 2,4,6-Tribromophenol (50-125%)									89 %
Surrogate: Nitrobenzene-d5 (45-120%)									74 %
Surrogate: 2-Fluorobiphenyl (45-120%)									72 %
Surrogate: Terphenyl-d14 (45-135%)									79 %

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (Outfall 001 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	5B22041	0.0010	0.010	ND	0.962	02/22/05	02/23/05	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					70 %				
<i>Surrogate: Tetrachloro-m-xylene (35-120%)</i>					49 %				

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Calcium	EPA 200.7	5D12072	0.015	0.10	12	1	04/12/05	04/12/05	
Iron	EPA 200.7	5D12072	0.0088	0.040	9.2	1	04/12/05	04/12/05	
Magnesium	EPA 200.7	5D12072	0.0030	0.020	4.5	1	04/12/05	04/12/05	
Potassium	EPA 200.7	5D12072	0.066	0.50	3.3	1	04/12/05	04/12/05	
Sodium	EPA 200.7	5D12072	0.095	0.50	6.6	1	04/12/05	04/12/05	
Sample ID: IOB1560-01RE1 (Outfall 001 - Water)									
Reporting Units: mg/l									
Iron	EPA 200.7	5D12072	0.0088	0.040	9.3	1	04/12/05	04/20/05	
Sample ID: IOB1560-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Chromium	EPA 200.7	5D12072	0.68	5.0	12	1	04/12/05	04/12/05	
Copper	EPA 200.8	5B18140	0.49	2.0	4.6	1	02/18/05	02/20/05	
Lead	EPA 200.8	5B18140	0.13	1.0	2.7	1	02/18/05	02/22/05	
Manganese	EPA 200.7	5D12072	3.2	20	140	1	04/12/05	04/12/05	
Mercury	EPA 245.1	5B22045	0.063	0.20	ND	1	02/22/05	02/22/05	
Sample ID: IOB1560-01RE1 (Outfall 001 - Water)									
Reporting Units: ug/l									
Chromium	EPA 200.7	5D12072	0.68	5.0	11	1	04/12/05	04/20/05	
Lead	EPA 200.8	5B22111	0.13	1.0	5.1	1	02/22/05	02/23/05	
Manganese	EPA 200.7	5D12072	3.2	20	150	1	04/12/05	04/20/05	
Sample ID: IOB1560-01RE2 (Outfall 001 - Water)									
Reporting Units: ug/l									
Lead	EPA 200.8	5B23093	0.13	1.0	5.2	1	02/23/05	02/24/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B23079	0.30	0.50	0.84	1	02/23/05	02/23/05	
Biochemical Oxygen Demand	EPA 405.1	5B18080	0.59	2.0	2.1	1	02/18/05	02/23/05	
Chloride	EPA 300.0	5B18129	0.26	0.50	3.6	1	02/18/05	02/19/05	
Nitrate/Nitrite-N	EPA 300.0	5B18129	0.072	0.11	0.50	1	02/18/05	02/19/05	
Oil & Grease	EPA 413.1	5B22082	0.94	5.0	ND	1	02/22/05	02/22/05	
Sulfate	EPA 300.0	5B18129	0.18	0.50	8.7	1	02/18/05	02/19/05	
Surfactants (MBAS)	SM5540-C	5B18136	0.088	0.20	0.11	2	02/18/05	02/19/05	RL-1, J
Total Dissolved Solids	SM2540C	5B23077	10	10	110	1	02/23/05	02/23/05	
Total Suspended Solids	EPA 160.2	5B23109	10	10	130	1	02/23/05	02/23/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (Outfall 001 - Water) - cont.									
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	5B18084	0.10	0.10	ND	1	02/18/05	02/18/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (Outfall 001 - Water) - cont.									
Reporting Units: NTU									
Turbidity	EPA 180.1	5B19041	0.20	5.0	150	5	02/19/05	02/19/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (Outfall 001 - Water) - cont.									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	5B22061	2.2	5.0	ND	1	02/22/05	02/22/05	
Perchlorate	EPA 314.0	5B25064	0.80	4.0	ND	1	02/25/05	02/26/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1560-01 (Outfall 001 - Water) - cont.									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B23076	1.0	1.0	110	1	02/23/05	02/23/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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 (IOB1560-01) - Water					
EPA 160.5	2	02/18/2005 09:53	02/18/2005 18:30	02/18/2005 20:00	02/18/2005 21:00
EPA 180.1	2	02/18/2005 09:53	02/18/2005 18:30	02/19/2005 08:00	02/19/2005 11:15
EPA 300.0	2	02/18/2005 09:53	02/18/2005 18:30	02/18/2005 22:00	02/19/2005 00:14
EPA 405.1	2	02/18/2005 09:53	02/18/2005 18:30	02/18/2005 21:15	02/23/2005 10:30
SM5540-C	2	02/18/2005 09:53	02/18/2005 18:30	02/18/2005 21:06	02/19/2005 12:04

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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: 5B22018 Extracted: 02/22/05

Blank Analyzed: 02/22/2005 (5B22018-BLK1)

Benzene	ND	2.0	0.28	ug/l							
Carbon tetrachloride	ND	5.0	0.28	ug/l							
Chloroform	ND	2.0	0.33	ug/l							
1,1-Dichloroethane	ND	2.0	0.27	ug/l							
1,2-Dichloroethane	ND	2.0	0.28	ug/l							
1,1-Dichloroethene	ND	3.0	0.32	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	22.6			ug/l	25.0		90	80-120			
Surrogate: Toluene-d8	22.7			ug/l	25.0		91	80-120			
Surrogate: 4-Bromofluorobenzene	22.5			ug/l	25.0		90	80-120			

LCS Analyzed: 02/22/2005 (5B22018-BS1)

Benzene	22.7	2.0	0.28	ug/l	25.0		91	70-120			
Carbon tetrachloride	26.8	5.0	0.28	ug/l	25.0		107	70-140			
Chloroform	24.4	2.0	0.33	ug/l	25.0		98	75-130			
1,1-Dichloroethane	23.1	2.0	0.27	ug/l	25.0		92	70-135			
1,2-Dichloroethane	26.0	2.0	0.28	ug/l	25.0		104	60-150			
1,1-Dichloroethene	23.5	3.0	0.32	ug/l	25.0		94	75-135			
Ethylbenzene	24.4	2.0	0.25	ug/l	25.0		98	80-120			
Tetrachloroethene	21.0	2.0	0.32	ug/l	25.0		84	75-125			
Toluene	23.4	2.0	0.36	ug/l	25.0		94	75-120			
1,1,1-Trichloroethane	26.1	2.0	0.30	ug/l	25.0		104	75-140			
1,1,2-Trichloroethane	24.4	2.0	0.30	ug/l	25.0		98	70-125			
Trichloroethene	25.0	5.0	0.26	ug/l	25.0		100	80-120			
Trichlorofluoromethane	23.5	5.0	0.34	ug/l	25.0		94	65-145			
Vinyl chloride	18.1	5.0	0.26	ug/l	25.0		72	50-130			
Surrogate: Dibromofluoromethane	22.1			ug/l	25.0		88	80-120			
Surrogate: Toluene-d8	23.1			ug/l	25.0		92	80-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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: 5B22018 Extracted: 02/22/05

LCS Analyzed: 02/22/2005 (5B22018-BS1)

Surrogate: 4-Bromofluorobenzene	24.0			ug/l	25.0		96	80-120			
---------------------------------	------	--	--	------	------	--	----	--------	--	--	--

Matrix Spike Analyzed: 02/22/2005 (5B22018-MS1)

Source: IOB1562-01

Benzene	23.6	2.0	0.28	ug/l	25.0	ND	94	70-120			
Carbon tetrachloride	27.6	5.0	0.28	ug/l	25.0	ND	110	70-145			
Chloroform	25.0	2.0	0.33	ug/l	25.0	ND	100	70-135			
1,1-Dichloroethane	24.0	2.0	0.27	ug/l	25.0	ND	96	65-135			
1,2-Dichloroethane	26.3	2.0	0.28	ug/l	25.0	ND	105	60-150			
1,1-Dichloroethene	24.8	3.0	0.32	ug/l	25.0	ND	99	65-140			
Ethylbenzene	25.2	2.0	0.25	ug/l	25.0	ND	101	70-130			
Tetrachloroethene	21.3	2.0	0.32	ug/l	25.0	ND	85	70-130			
Toluene	24.7	2.0	0.36	ug/l	25.0	ND	99	70-120			
1,1,1-Trichloroethane	27.1	2.0	0.30	ug/l	25.0	ND	108	75-140			
1,1,2-Trichloroethane	24.5	2.0	0.30	ug/l	25.0	ND	98	60-135			
Trichloroethene	24.4	5.0	0.26	ug/l	25.0	1.4	92	70-125			
Trichlorofluoromethane	25.3	5.0	0.34	ug/l	25.0	ND	101	55-145			
Vinyl chloride	18.7	5.0	0.26	ug/l	25.0	ND	75	40-135			
Surrogate: Dibromofluoromethane	24.0			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	24.3			ug/l	25.0		97	80-120			
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0		99	80-120			

Matrix Spike Dup Analyzed: 02/22/2005 (5B22018-MSD1)

Source: IOB1562-01

Benzene	23.4	2.0	0.28	ug/l	25.0	ND	94	70-120	1	20	
Carbon tetrachloride	27.1	5.0	0.28	ug/l	25.0	ND	108	70-145	2	25	
Chloroform	25.2	2.0	0.33	ug/l	25.0	ND	101	70-135	1	20	
1,1-Dichloroethane	23.9	2.0	0.27	ug/l	25.0	ND	96	65-135	0	20	
1,2-Dichloroethane	26.9	2.0	0.28	ug/l	25.0	ND	108	60-150	2	20	
1,1-Dichloroethene	25.2	3.0	0.32	ug/l	25.0	ND	101	65-140	2	20	
Ethylbenzene	24.7	2.0	0.25	ug/l	25.0	ND	99	70-130	2	20	
Tetrachloroethene	21.1	2.0	0.32	ug/l	25.0	ND	84	70-130	1	20	
Toluene	24.2	2.0	0.36	ug/l	25.0	ND	97	70-120	2	20	
1,1,1-Trichloroethane	26.4	2.0	0.30	ug/l	25.0	ND	106	75-140	3	20	
1,1,2-Trichloroethane	26.2	2.0	0.30	ug/l	25.0	ND	105	60-135	7	25	
Trichloroethene	23.9	5.0	0.26	ug/l	25.0	1.4	90	70-125	2	20	
Trichlorofluoromethane	23.8	5.0	0.34	ug/l	25.0	ND	95	55-145	6	25	
Vinyl chloride	18.2	5.0	0.26	ug/l	25.0	ND	73	40-135	3	30	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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: 5B22018 Extracted: 02/22/05

Matrix Spike Dup Analyzed: 02/22/2005 (5B22018-MSD1)

Source: IOB1562-01

Surrogate: Dibromofluoromethane	24.3			ug/l	25.0		97	80-120			
Surrogate: Toluene-d8	24.1			ug/l	25.0		96	80-120			
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001
Report Number: IOB1560

Sampled: 02/18/05
Received: 02/18/05

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: 5B22042 Extracted: 02/22/05

Blank Analyzed: 02/24/2005 (5B22042-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	13.0			ug/l	20.0		65	35-120			
Surrogate: Phenol-d6	13.6			ug/l	20.0		68	45-120			
Surrogate: 2,4,6-Tribromophenol	15.2			ug/l	20.0		76	50-125			
Surrogate: Nitrobenzene-d5	7.02			ug/l	10.0		70	45-120			
Surrogate: 2-Fluorobiphenyl	7.04			ug/l	10.0		70	45-120			
Surrogate: Terphenyl-d14	7.78			ug/l	10.0		78	45-135			

LCS Analyzed: 02/24/2005 (5B22042-BS1)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Bis(2-ethylhexyl)phthalate	8.16	5.0	1.1	ug/l	10.0		82	65-125			M-NR1
2,4-Dinitrotoluene	7.46	9.0	0.23	ug/l	10.0		75	60-140			J
N-Nitrosodimethylamine	6.54	8.0	0.22	ug/l	10.0		65	40-120			J
Pentachlorophenol	7.80	8.0	0.78	ug/l	10.0		78	50-125			J
2,4,6-Trichlorophenol	7.92	6.0	0.10	ug/l	10.0		79	60-120			
Surrogate: 2-Fluorophenol	12.9			ug/l	20.0		64	35-120			
Surrogate: Phenol-d6	13.5			ug/l	20.0		68	45-120			
Surrogate: 2,4,6-Tribromophenol	16.1			ug/l	20.0		80	50-125			
Surrogate: Nitrobenzene-d5	6.86			ug/l	10.0		69	45-120			
Surrogate: 2-Fluorobiphenyl	7.12			ug/l	10.0		71	45-120			
Surrogate: Terphenyl-d14	7.40			ug/l	10.0		74	45-135			

LCS Dup Analyzed: 02/24/2005 (5B22042-BSD1)

Bis(2-ethylhexyl)phthalate	8.52	5.0	1.1	ug/l	10.0		85	65-125	4	20	
2,4-Dinitrotoluene	6.96	9.0	0.23	ug/l	10.0		70	60-140	7	20	J
N-Nitrosodimethylamine	8.44	8.0	0.22	ug/l	10.0		84	40-120	25	20	R-7
Pentachlorophenol	8.40	8.0	0.78	ug/l	10.0		84	50-125	7	25	
2,4,6-Trichlorophenol	7.92	6.0	0.10	ug/l	10.0		79	60-120	0	20	
Surrogate: 2-Fluorophenol	13.3			ug/l	20.0		66	35-120			
Surrogate: Phenol-d6	14.4			ug/l	20.0		72	45-120			
Surrogate: 2,4,6-Tribromophenol	16.5			ug/l	20.0		82	50-125			
Surrogate: Nitrobenzene-d5	7.52			ug/l	10.0		75	45-120			
Surrogate: 2-Fluorobiphenyl	7.36			ug/l	10.0		74	45-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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: 5B22042 Extracted: 02/22/05											
LCS Dup Analyzed: 02/24/2005 (5B22042-BSD1)											
Surrogate: Terphenyl-d14	7.84			ug/l	10.0		78	45-135			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22041 Extracted: 02/22/05											
Blank Analyzed: 02/23/2005 (5B22041-BLK1)											
alpha-BHC	ND	0.010	0.00049	ug/l							
Surrogate: Decachlorobiphenyl	0.441			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.389			ug/l	0.500		78	35-120			
LCS Analyzed: 02/23/2005 (5B22041-BS1)											
alpha-BHC	0.450	0.010	0.00049	ug/l	0.500		90	45-115			M-NRI
Surrogate: Decachlorobiphenyl	0.440			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.381			ug/l	0.500		76	35-120			
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD1)											
alpha-BHC	0.449	0.010	0.00049	ug/l	0.500		90	45-115	0	30	
Surrogate: Decachlorobiphenyl	0.442			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.384			ug/l	0.500		77	35-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: 5B18140 Extracted: 02/18/05

Blank Analyzed: 02/20/2005 (5B18140-BLK1)

Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							

LCS Analyzed: 02/20/2005-02/22/2005 (5B18140-BS1)

Copper	74.7	2.0	0.49	ug/l	80.0		93	85-115			
Lead	86.9	1.0	0.13	ug/l	80.0		109	85-115			

Matrix Spike Analyzed: 02/20/2005-02/22/2005 (5B18140-MS1)

Source: IOB1560-01

Copper	78.6	2.0	0.49	ug/l	80.0	4.6	92	70-130			
Lead	90.5	1.0	0.13	ug/l	80.0	2.7	110	70-130			

Matrix Spike Dup Analyzed: 02/20/2005-02/22/2005 (5B18140-MSD1)

Source: IOB1560-01

Copper	79.7	2.0	0.49	ug/l	80.0	4.6	94	70-130	1	20	
Lead	90.6	1.0	0.13	ug/l	80.0	2.7	110	70-130	0	20	

Batch: 5B22045 Extracted: 02/22/05

Blank Analyzed: 02/22/2005 (5B22045-BLK1)

Mercury	ND	0.20	0.063	ug/l							
---------	----	------	-------	------	--	--	--	--	--	--	--

LCS Analyzed: 02/22/2005 (5B22045-BS1)

Mercury	8.00	0.20	0.063	ug/l	8.00		100	85-115			
---------	------	------	-------	------	------	--	-----	--------	--	--	--

Matrix Spike Analyzed: 02/22/2005 (5B22045-MS1)

Source: IOB1580-01

Mercury	2.98	0.20	0.063	ug/l	8.00	0.067	36	70-130			M2
---------	------	------	-------	------	------	-------	----	--------	--	--	----

Matrix Spike Dup Analyzed: 02/22/2005 (5B22045-MSD1)

Source: IOB1580-01

Mercury	2.89	0.20	0.063	ug/l	8.00	0.067	35	70-130	3	20	M2
---------	------	------	-------	------	------	-------	----	--------	---	----	----



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22111 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B22111-BLK1)											
Lead	ND	1.0	0.13	ug/l							
LCS Analyzed: 02/23/2005 (5B22111-BS1)											
Lead	85.2	1.0	0.13	ug/l	80.0		106	85-115			
Matrix Spike Analyzed: 02/23/2005 (5B22111-MS1) Source: IOB1264-04											
Lead	83.7	1.0	0.13	ug/l	80.0	ND	105	70-130			
Matrix Spike Dup Analyzed: 02/23/2005 (5B22111-MSD1) Source: IOB1264-04											
Lead	84.5	1.0	0.13	ug/l	80.0	ND	106	70-130	1	20	
Batch: 5B23093 Extracted: 02/23/05											
Blank Analyzed: 02/24/2005 (5B23093-BLK1)											
Lead	ND	1.0	0.13	ug/l							
LCS Analyzed: 02/24/2005 (5B23093-BS1)											
Lead	83.4	1.0	0.13	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 02/24/2005 (5B23093-MS1) Source: IOB1426-01											
Lead	82.9	1.0	0.13	ug/l	80.0	ND	104	70-130			
Matrix Spike Dup Analyzed: 02/24/2005 (5B23093-MSD1) Source: IOB1426-01											
Lead	83.4	1.0	0.13	ug/l	80.0	ND	104	70-130	1	20	
Batch: 5D12072 Extracted: 04/12/05											
Blank Analyzed: 04/12/2005 (5D12072-BLK1)											
Calcium	ND	0.10	0.015	mg/l							
Chromium	ND	5.0	0.68	ug/l							
Iron	ND	0.040	0.0088	mg/l							
Magnesium	0.00720	0.020	0.0030	mg/l							J
Manganese	ND	20	3.2	ug/l							
Potassium	ND	0.50	0.066	mg/l							
Sodium	ND	0.50	0.095	mg/l							

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	-------	-----	-----------	-----------------

Batch: 5D12072 Extracted: 04/12/05

LCS Analyzed: 04/12/2005 (5D12072-BS1)

Calcium	2.37	0.10	0.015	mg/l	2.50		95	85-115			
Chromium	493	5.0	0.68	ug/l	500		99	85-115			
Iron	0.505	0.040	0.0088	mg/l	0.500		101	85-115			
Magnesium	2.73	0.020	0.0030	mg/l	2.50		109	85-115			
Manganese	500	20	3.2	ug/l	500		100	85-115			
Potassium	4.97	0.50	0.066	mg/l	5.00		99	85-115			
Sodium	4.95	0.50	0.095	mg/l	5.00		99	85-115			

Matrix Spike Analyzed: 04/12/2005 (5D12072-MS1)

Source: IOD0608-01

Calcium	262	0.10	0.015	mg/l	2.50	260	80	70-130			M-HA
Chromium	518	5.0	0.68	ug/l	500	12	101	70-130			
Iron	0.514	0.040	0.0088	mg/l	0.500	ND	103	70-130			
Magnesium	8.90	0.020	0.0030	mg/l	2.50	6.3	104	70-130			
Manganese	506	20	3.2	ug/l	500	ND	101	70-130			
Potassium	7.38	0.50	0.066	mg/l	5.00	2.0	108	70-130			
Sodium	178	0.50	0.095	mg/l	5.00	170	160	70-130			M-HA

Matrix Spike Dup Analyzed: 04/12/2005 (5D12072-MSD1)

Source: IOD0608-01

Calcium	272	0.10	0.015	mg/l	2.50	260	480	70-130	4	20	M-HA
Chromium	530	5.0	0.68	ug/l	500	12	104	70-130	2	20	
Iron	0.527	0.040	0.0088	mg/l	0.500	ND	105	70-130	2	20	
Magnesium	9.16	0.020	0.0030	mg/l	2.50	6.3	114	70-130	3	20	
Manganese	516	20	3.2	ug/l	500	ND	103	70-130	2	20	
Potassium	7.70	0.50	0.066	mg/l	5.00	2.0	114	70-130	4	20	
Sodium	182	0.50	0.095	mg/l	5.00	170	240	70-130	2	20	M-HA

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B18080 Extracted: 02/18/05											
Blank Analyzed: 02/23/2005 (5B18080-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 02/23/2005 (5B18080-BS1)											
Biochemical Oxygen Demand	200	100	30	mg/l	198		101	85-115			
LCS Dup Analyzed: 02/23/2005 (5B18080-BSD1)											
Biochemical Oxygen Demand	196	100	30	mg/l	198		99	85-115	2	20	
Batch: 5B18129 Extracted: 02/18/05											
Blank Analyzed: 02/18/2005 (5B18129-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Nitrate/Nitrite-N	ND	0.11	0.072	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 02/18/2005 (5B18129-BS1)											
Chloride	5.11	0.50	0.26	mg/l	5.00		102	90-110			
Sulfate	10.6	0.50	0.18	mg/l	10.0		106	90-110			
Matrix Spike Analyzed: 02/18/2005 (5B18129-MS1)											
						Source: IOB1556-01					
Chloride	7.47	0.50	0.26	mg/l	5.00	2.1	107	80-120			
Sulfate	15.3	0.50	0.18	mg/l	10.0	4.7	106	80-120			
Matrix Spike Dup Analyzed: 02/18/2005 (5B18129-MSD1)											
						Source: IOB1556-01					
Chloride	7.43	0.50	0.26	mg/l	5.00	2.1	107	80-120	1	20	
Sulfate	14.3	0.50	0.18	mg/l	10.0	4.7	96	80-120	7	20	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B18136 Extracted: 02/18/05											
Blank Analyzed: 02/19/2005 (5B18136-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 02/19/2005 (5B18136-BS1)											
Surfactants (MBAS)	0.259	0.10	0.044	mg/l	0.250		104	90-110			
Matrix Spike Analyzed: 02/19/2005 (5B18136-MS1)											
						Source: IOB1570-01					
Surfactants (MBAS)	0.411	0.20	0.088	mg/l	0.500	ND	82	50-125			
Matrix Spike Dup Analyzed: 02/19/2005 (5B18136-MSD1)											
						Source: IOB1570-01					
Surfactants (MBAS)	0.404	0.20	0.088	mg/l	0.500	ND	81	50-125	2	20	
Batch: 5B19041 Extracted: 02/19/05											
Blank Analyzed: 02/19/2005 (5B19041-BLK1)											
Turbidity	0.0400	1.0	0.040	NTU							J
Duplicate Analyzed: 02/19/2005 (5B19041-DUP1)											
						Source: IOB1428-02					
Turbidity	0.420	1.0	0.040	NTU		0.39			7	20	J
Batch: 5B22061 Extracted: 02/22/05											
Blank Analyzed: 02/22/2005 (5B22061-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 02/22/2005 (5B22061-BS1)											
Total Cyanide	194	5.0	2.2	ug/l	200		97	90-110			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



MWH-Pasadena/Boeing Project ID: Routine Outfall 001
300 North Lake Avenue, Suite 1200 Report Number: IOB1560
Pasadena, CA 91101
Attention: Bronwyn Kelly Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22061 Extracted: 02/22/05											
Matrix Spike Analyzed: 02/22/2005 (5B22061-MS1)						Source: IOB1557-01					
Total Cyanide	190	5.0	2.2	ug/l	200	ND	95	70-115			
Matrix Spike Dup Analyzed: 02/22/2005 (5B22061-MSD1)						Source: IOB1557-01					
Total Cyanide	187	5.0	2.2	ug/l	200	ND	94	70-115	2	15	
Batch: 5B22082 Extracted: 02/22/05											
Blank Analyzed: 02/22/2005 (5B22082-BLK1)											M-NR1
Oil & Grease	1.00	5.0	0.94	mg/l							J
LCS Analyzed: 02/22/2005 (5B22082-BS1)											
Oil & Grease	18.6	5.0	0.94	mg/l	20.0		93	65-120			
LCS Dup Analyzed: 02/22/2005 (5B22082-BSD1)											
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120	4	20	
Batch: 5B23076 Extracted: 02/23/05											
Duplicate Analyzed: 02/23/2005 (5B23076-DUP1)						Source: IOB1560-01					
Specific Conductance	108	1.0	1.0	umhos/cm		110			2	5	
Batch: 5B23077 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23077-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Routine Outfall 001
Report Number: IOB1560

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B23077 Extracted: 02/23/05											
LCS Analyzed: 02/23/2005 (5B23077-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/23/2005 (5B23077-DUP1)											
Total Dissolved Solids	880	10	10	mg/l		880			0	10	
Source: IOB1667-06											
Batch: 5B23079 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23079-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 02/23/2005 (5B23079-BS1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0		95	80-115			
Matrix Spike Analyzed: 02/23/2005 (5B23079-MS1)											
Ammonia-N (Distilled)	12.9	0.50	0.30	mg/l	10.0	1.7	112	70-120			
Source: IOB1259-01											
Matrix Spike Dup Analyzed: 02/23/2005 (5B23079-MSD1)											
Ammonia-N (Distilled)	12.3	0.50	0.30	mg/l	10.0	1.7	106	70-120	5	15	
Source: IOB1259-01											
Batch: 5B23109 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23109-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 02/23/2005 (5B23109-BS1)											
Total Suspended Solids	991	10	10	mg/l	1000		99	85-115			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B23109 Extracted: 02/23/05											
Duplicate Analyzed: 02/23/2005 (5B23109-DUP1)						Source: IOB1557-01					
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 5B25064 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25064-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/25/2005 (5B25064-BS1)											
Perchlorate	48.4	4.0	0.80	ug/l	50.0		97	85-115			
Matrix Spike Analyzed: 02/25/2005 (5B25064-MS1)						Source: IOB1976-13					
Perchlorate	51.3	4.0	0.80	ug/l	50.0	1.5	100	80-120			
Matrix Spike Dup Analyzed: 02/26/2005 (5B25064-MSD1)						Source: IOB1976-13					
Perchlorate	51.4	4.0	0.80	ug/l	50.0	1.5	100	80-120	0	20	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05

Received: 02/18/05

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
IOB1560-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.28	5.0	10.00
IOB1560-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.010	0.0100
IOB1560-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB1560-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IOB1560-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOB1560-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	9.0	9.10
IOB1560-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.58	5.0	4.00
IOB1560-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOB1560-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOB1560-01	BOD	Biochemical Oxygen Demand	mg/l	2.10	2.0	20
IOB1560-01	Chloride - 300.0	Chloride	mg/l	3.60	0.50	150
IOB1560-01	Chromium-200.7	Chromium	ug/l	12	5.0	8.10
IOB1560-01	Copper-200.8	Copper	ug/l	4.60	2.0	7.10
IOB1560-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	-4	5.0	4.30
IOB1560-01	Iron-200.7	Iron	mg/l	9.20	0.040	0.30
IOB1560-01	Lead-200.8	Lead	ug/l	2.70	1.0	2.60
IOB1560-01	Manganese-200.7	Manganese	ug/l	140	20	50
IOB1560-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.11	0.20	0.50
IOB1560-01	Mercury - 245.1	Mercury	ug/l	0.052	0.20	0.20
IOB1560-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.50	0.11	8.00
IOB1560-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB1560-01	Sulfate-300.0	Sulfate	mg/l	8.70	0.50	300
IOB1560-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	110	10	950
IOB1560-01RE1	Chromium-200.7	Chromium	ug/l	11	5.0	8.10
IOB1560-01RE1	Iron-200.7	Iron	mg/l	9.30	0.040	0.30
IOB1560-01RE1	Lead-200.8	Lead	ug/l	5.10	1.0	2.60
IOB1560-01RE1	Manganese-200.7	Manganese	ug/l	150	20	50
IOB1560-01RE2	Lead-200.8	Lead	ug/l	5.20	1.0	2.60
IOB1560-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB1560-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05
Received: 02/18/05

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 unknown quality.
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M-HA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- M-NRI** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R-7** LFB/LFBD RPD exceeded the method control limit. Recovery met acceptance criteria.
- RL-1** Reporting limit raised due to sample matrix effects.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOB1560

Sampled: 02/18/05
 Received: 02/18/05

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 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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR

Samples: IOB1560-01

Analysis Performed: EDD + Level 4

Samples: IOB1560-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4

Samples: IOB1560-01

Analysis Performed: Gross Alpha

Samples: IOB1560-01

Analysis Performed: Radium, Combined

Samples: IOB1560-01

Del Mar Analytical, Irvine

Michele Harper
 Project Manager

IOB1560

76

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5 8/12/04

Client Name/Address:				Project:				ANALYSIS REQUIRED														Field readings:	
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101				Boeing-SSFL NPDES Routine Outfall 001				Total Recoverable Metals: Cu, Pb, Hg, Setttable 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 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)														Temp = 57.0 pH = 7.29	
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals	Setttable 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 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Field readings:		
Outfall 001	W	Poly-1L	1	2-18-05 07:55	HNO3	1A	X																
Outfall 001-Dup	W	Poly-1L	1		HNO3	1B	X	X															
Outfall 001	W	Poly-1L	1		None	2																	
Outfall 001	W	VOAs	3		HCl	3A, 3B, 3C																	
Outfall 001	W	1L Amber	2		None	4A, 4B			X														
Outfall 001	W	1L Amber	2		HCl	5A, 5B																	
Outfall 001	W	Poly-500 ml	1		NaOH	6						X											
Outfall 001	W	Poly-1L	1		None	7							X										
Outfall 001	W	Poly-500 ml	2		None	8A, 8B								X									
Outfall 001	W	Poly-500 ml	2		None	9A, 9B									X								
Outfall 001	W	Poly-500 ml	2		None	10A, 10B																	
Outfall 001	W	Poly-500 ml	1		H2SO4	11													X				
Outfall 001	W	1L Amber	2		None	12A, 12B																	
Outfall 001	W	1L Amber	2	2-18-05 07:55	None	13A, 13B																	
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C																	

Relinquished By: *[Signature]* Date/Time: 2-18-05 1515
 Received By: *[Signature]* Date/Time: 2-18-05 1515

Relinquished By: *[Signature]* Date/Time: 2-18-05 1830
 Received By: *[Signature]* Date/Time: 2-18-05 1830

Relinquished By: *[Signature]* Date/Time: 2-18-05 1830
 Received By: *[Signature]* Date/Time: 2-18-05 1830

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

Perchlorate Only 72 Hours _____
 Metals Only 72 Hours _____
 Sample Integrity: (Check) On Ice:

4.0



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 23, 2005

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

Attention: Bronwyn Kelly
Project: Routine Outfall 001
Sampled: 02/18/05
Del Mar Analytical Number: IOB1560

Dear Ms. Kelly:

Alta Analytical Laboratory performed the EPA Method 1613 Dioxin analysis 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	IOB1560-01	25788-001

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 at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL

Michele Harper
Project Manager



March 02, 2005

Alta Project I.D.: 25788

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 February 24, 2005 under your Project Name "IOB1560". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

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

Martha M. Maier
HRMS Services Director



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: 2/24/2005

Alta Lab. ID

Client Sample ID

25788-001

IOB1560-01

SECTION II



Method Blank		EPA Method 1613						
Matrix:	Aqueous	QC Batch No.:	6543	Lab Sample:	0-MB001			
Sample Size:	1.000 L	Date Extracted:	25-Feb-05	Date Analyzed DB-5:	28-Feb-05			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.866			13C-2,3,7,8-TCDD	75.9	25 - 164	
1,2,3,7,8-PeCDD	ND	1.15			13C-1,2,3,7,8-PeCDD	73.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.88			13C-1,2,3,4,7,8-HxCDD	70.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.86			13C-1,2,3,6,7,8-HxCDD	73.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.84			13C-1,2,3,4,6,7,8-HpCDD	67.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	3.38			13C-OCDD	56.3	17 - 157	
OCDD	ND	8.88			13C-2,3,7,8-TCDF	78.7	24 - 169	
2,3,7,8-TCDF	ND	0.545			13C-1,2,3,7,8-PeCDF	68.1	24 - 185	
1,2,3,7,8-PeCDF	ND	1.62			13C-2,3,4,7,8-PeCDF	73.3	21 - 178	
2,3,4,7,8-PeCDF	ND	1.45			13C-1,2,3,4,7,8-HxCDF	60.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	1.24			13C-1,2,3,6,7,8-HxCDF	64.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.869			13C-2,3,4,6,7,8-HxCDF	63.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.958			13C-1,2,3,7,8,9-HxCDF	65.2	29 - 147	
1,2,3,7,8,9-HxCDF	ND	1.55			13C-1,2,3,4,6,7,8-HpCDF	54.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	2.22			13C-1,2,3,4,7,8,9-HpCDF	59.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	1.68			13C-OCDF	54.9	17 - 157	
OCDF	ND	4.49			CRS 37Cl-2,3,7,8-TCDD	77.4	35 - 197	
Totals					Footnotes			
Total TCDD	ND	0.866			a. Sample specific estimated detection limit.			
Total PeCDD	ND	1.15			b. Estimated maximum possible concentration.			
Total HxCDD	ND	1.86			c. Method detection limit.			
Total HpCDD	ND	3.38			d. Lower control limit - upper control limit.			
Total TCDF	ND	0.545						
Total PeCDF	ND	1.54						
Total HxCDF	ND	1.37						
Total HpCDF	ND	2.38						

Analyst: MAS

Approved By:

William J. Luksemburg 02-Mar-2005 08:35



EPA Method 1613

OPR Results		Lab Sample: 0-OPR001		Date Analyzed DB-225: NA		
Matrix:	Aqueous	QC Batch No.:	6543	Date Analyzed DB-5:	28-Feb-05	
Sample Size:	1.000 L	Date Extracted:	25-Feb-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	8.67	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	67.4	25 - 164
1,2,3,7,8-PeCDD	50.0	43.8	35 - 71	13C-1,2,3,7,8-PeCDD	64.0	25 - 181
1,2,3,4,7,8-HxCDD	50.0	42.5	35 - 82	13C-1,2,3,4,7,8-HxCDD	58.2	32 - 141
1,2,3,6,7,8-HxCDD	50.0	43.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	62.5	28 - 130
1,2,3,7,8,9-HxCDD	50.0	43.7	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.2	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	42.5	35 - 70	13C-OCDD	51.4	17 - 157
OCDD	100	87.0	78 - 144	13C-2,3,7,8-TCDF	72.5	24 - 169
2,3,7,8-TCDF	10.0	7.98	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	59.4	24 - 185
1,2,3,7,8-PeCDF	50.0	41.4	40 - 67	13C-2,3,4,7,8-PeCDF	64.8	21 - 178
2,3,4,7,8-PeCDF	50.0	42.3	34 - 80	13C-1,2,3,4,7,8-HxCDF	49.4	26 - 152
1,2,3,4,7,8-HxCDF	50.0	42.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	52.7	26 - 123
1,2,3,6,7,8-HxCDF	50.0	43.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	55.2	28 - 136
2,3,4,6,7,8-HxCDF	50.0	42.3	35 - 78	13C-1,2,3,7,8,9-HxCDF	53.4	29 - 147
1,2,3,7,8,9-HxCDF	50.0	43.5	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	45.6	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	41.8	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	49.6	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	42.7	39 - 69	13C-OCDF	49.0	17 - 157
OCDF	100	88.8	63 - 170	CRS 37Cl-2,3,7,8-TCDD	76.2	35 - 197

Analyst: MAS

Approved By: William J. Luksemburg 02-Mar-2005 08:35



Sample ID: IOB1560-01		EPA Method 1613			
Client Data		Sample Data		Laboratory Data	
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25788-001
Project:	IOB1560	Sample Size:	1.010 L	QC Batch No.:	6543
Date Collected:	18-Feb-05			Date Analyzed DB-5:	1-Mar-05
Time Collected:	0953			Date Analyzed DB-225:	NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	1.45		IS 13C-2,3,7,8-TCDD	74.0 25 - 164
1,2,3,7,8-PeCDD	ND	1.60		13C-1,2,3,7,8-PeCDD	64.2 25 - 181
1,2,3,4,7,8-HxCDD	ND	3.98		13C-1,2,3,4,7,8-HxCDD	70.2 32 - 141
1,2,3,6,7,8-HxCDD	ND	4.13		13C-1,2,3,6,7,8-HxCDD	78.1 28 - 130
1,2,3,7,8,9-HxCDD	ND	4.04		13C-1,2,3,4,6,7,8-HpCDD	70.9 23 - 140
1,2,3,4,6,7,8-HpCDD	57.7			13C-OCDD	60.9 17 - 157
OCDD	749			13C-2,3,7,8-TCDF	73.6 24 - 169
2,3,7,8-TCDF	ND	1.94		13C-1,2,3,7,8-PeCDF	60.2 24 - 185
1,2,3,7,8-PeCDF	ND	2.83		13C-2,3,4,7,8-PeCDF	61.5 21 - 178
2,3,4,7,8-PeCDF	ND	2.55		13C-1,2,3,4,7,8-HxCDF	63.5 26 - 152
1,2,3,4,7,8-HxCDF	ND	1.15		13C-1,2,3,6,7,8-HxCDF	73.0 26 - 123
1,2,3,6,7,8-HxCDF	ND	1.10		13C-2,3,4,6,7,8-HxCDF	71.7 28 - 136
2,3,4,6,7,8-HxCDF	ND	1.23		13C-1,2,3,7,8,9-HxCDF	69.1 29 - 147
1,2,3,7,8,9-HxCDF	ND	1.82		13C-1,2,3,4,6,7,8-HpCDF	69.6 28 - 143
1,2,3,4,6,7,8-HpCDF	10.9		J	13C-1,2,3,4,7,8,9-HpCDF	71.2 26 - 138
1,2,3,4,7,8,9-HpCDF	ND	2.57		13C-OCDF	67.3 17 - 157
OCDF	32.5		J	CRS 37Cl-2,3,7,8-TCDD	85.5 35 - 197
Totals					
Total TCDD	ND	1.45			
Total PeCDD	ND	1.60			
Total HxCDD	13.3				
Total HpCDD	127				
Total TCDF	5.48				
Total PeCDF	ND		1.66		
Total HxCDF	12.8				
Total HpCDF	39.0				
Footnotes					
a. Sample specific estimated detection limit.					
b. Estimated maximum possible concentration.					
c. Method detection limit.					
d. Lower control limit - upper control limit.					

Analyst: JMH

Approved By:

William J. Luksemburg 02-Mar-2005 08:35

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

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

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

CURRENT CERTIFICATIONS

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)

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 25788

1. Date Samples Arrived: <u>2/24/05 0905</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
2. Time / Date logged in: <u>1355 2/24/05</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
3. Samples Arrived By: (circle) <u>FedEx</u> UPS World Courier Other:			
4. Shipping Preservation: (circle) <u>Ice</u> <u>Blue Ice</u> Dry Ice / None Temp °C <u>1.6°C</u>			
5. Shipping Container(s) Intact? If not, describe condition in comment section.	YES	NO	NA
6. Shipping Container(s) Custody Seals Present? Intact? If not intact, describe condition in comment section.	✓		
7. Shipping Documentation Present? (circle) Shipping Label <u>Airbill</u> Tracking Number <u>79043642 7350</u>	✓		
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 <u>Client</u> Retain or <u>Return</u> 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: *Samplers initials found on sample label*

ALTA Analytical Laboratory
El Dorado Hills, CA 95762



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 8-120, 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 # IOB1560

<b style="text-align: center;">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	<b style="text-align: center;">RECEIVING LABORATORY: Alta Analytical 1104 Windfield Way 25788 El Dorado Hills, CA 95762 Phone: (916) 933-1640 1.6°C Fax: (916) 933-0940
---	--

Standard TAT is requested unless specific due date is requested => Due Date: 2 weeks Initials: VB

Analysis	Expiration	Comments
Sample ID: IOB1560-01 Water	Sampled: 02/18/05 09:53	Instant Notification
1613-Dioxin-HR	02/25/05 09:53	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4	03/18/05 09:53	Excel EDD email to pm, include Std logs for Lvl IV

Containers Supplied:
 1 L Amber (IOB1560-01G)
 1 L Amber (IOB1560-01H)

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: Van Borch Date: 2-23-05 Time: 1700 Received By: Letitia C. Benedict Date: 2/24/05 Time: 0905

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



17461 Dorian Ave., Irvine CA 92614 (949) 261-1022 FAX (949) 261-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 595-8596 FAX (619) 595-9689
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

May 5, 2005

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

Attention: Bronwyn Kelly
Project: Routine Outfall 001
Sampled: 02/18/05
Del Mar Analytical Number: IOB1560

Dear Ms. Kelly:

Eberline Services performed the gross alpha (EPA 900.0) analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	Eberline ID
Outfall 001	IOB1560-01	R504070-8413

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.

Sincerely yours,
DEL MAR ANALYTICAL


Michele Harper
Project Manager



EBERLINE SERVICES

May 3, 2005

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

Reference: Del Mar Analytical Project No. IOB1560
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R504070-8413

Dear Ms. Harper:

Enclosed are results from the analysis of one water sample received at Eberline Services on April 12, 2005. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analysis was gross alpha (EPA900.0). The QC LCS, blank analysis, sample duplicate, and matrix spike results for the analysis were within the limits defined in Eberline Services Quality Control Procedures Manual.

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

*Enclosure: Report
Subcontract Form
Receipt checklist
Invoice*

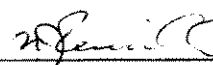
Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

Eberline Services

ANALYSIS RESULTS

SDG <u>8413</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R504070-01</u>	Contract <u>PROJECT# IOB1560</u>
Received Date <u>04/12/05</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
IOB1560-01	8413-001	02/18/05	04/18/05	GrossAlpha	5.58 ± 1.9	pCi/L	1.17

Certified by <u></u>
Report Date <u>05/02/05</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8413</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R504070-01</u>	Contract <u>PROJECT# IOB1560</u>
Received Date <u>04/12/05</u>	Matrix <u>WATER</u>

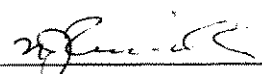
Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>	8412-002	GrossAlpha	10.4 ± 1.2	pCi/Smpl	11.2	0.347	93% recovery
<u>BLANK</u>	8412-003	GrossAlpha	-0.123 ± 0.13	pCi/Smpl	NA	0.408	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8412-004	GrossAlpha	0.674 ± 0.67	0.985

<u>ORIGINALS</u>				3σ
Sample ID	Results ± 2σ	MDA	RPD (Tot)	Eval
8412-001	0.976 ± 0.84	0.929	37	200 satis.

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8412-005	GrossAlpha	50.0 ± 4.3	0.939

<u>ORIGINAL SAMPLE</u>					
Sample ID	Results ± 2σ	MDA	Added	%Recv	
8412-001	0.976 ± 0.84	0.929	76.6	64	

Certified by 
 Report Date 05/02/05
 Page 2



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) 370-4687 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) 788-3621

SUBCONTRACT ORDER - PROJECT # IOB1560

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Eberline Services 2030 Wright Avenue Richmond, CA 94804 Phone: (510) 235-2633 Fax: (510) 235-0438

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

Analysis	Expiration	Comments
Sample ID: IOB1560-01 Water	Sampled: 02/18/05 09:53	Instant Notification
EDD + Level 4-OUT	03/18/05 09:53	**LEVEL IV QC, ACCESS 7 EDD**
Gross Alpha-O	02/18/06 09:53	900.0, IF RESULT > 15 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/18/06 09:53	HOLD for Gross Alpha; EPA 903.1 & 904.0

Containers Supplied:

- 1 liter Poly w/HNO3 (IOB1560-01A)
- 1 liter Poly w/HNO3 (IOB1560-01B)
- 500 ml Poly (IOB1560-01P)

*Sample Description - Very turbid
 settleable solids ~ 10 grams of solids at
 bottom of bottles.*

*MLM
 4/12/05*

*JK
 4/12/05
 10:00*

SAMPLE INTEGRITY:

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

Released By: *[Signature]* Date: *4/11/05* Time: _____ Received By: *JK* Date: *4/12/05* Time: *10:00*

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



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL. MAR ANALYT City IRVINE State CA

Date/Time received 4/12/05 10:00 CoC No. IOB1560

Container I.D. No. DEL. MAR Requested TAT (Days) STAN P.O. Received Yes [] No []

INSPECTION

- 1. Custody seals on shipping container intact? Yes [] No [] N/A [x]
2. Custody seals on shipping container dated & signed? Yes [] No [] N/A [x]
3. Custody seals on sample containers intact? Yes [] No [] N/A [x]
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [x]
5. Packing material is: Wet [] Dry [x]
6. Number of samples in shipping container: 1 Sample Matrix WATER
7. Number of containers per sample: 3 (Or see CoC)
8. Samples are in correct container Yes [x] No []
9. Paperwork agrees with samples? Yes [] No [x]
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels [x]
11. Samples are: In good condition [x] Leaking [] Broken Container [] Missing []
12. Samples are: Preserved [x] Not preserved [x] pH 2, 7 Preservative
13. Describe any anomalies: COC IOB 1560 TIME SAMPLED: 3/18/05 09:53, Sample labels TIME SAMPLED 2/18/05 09:53

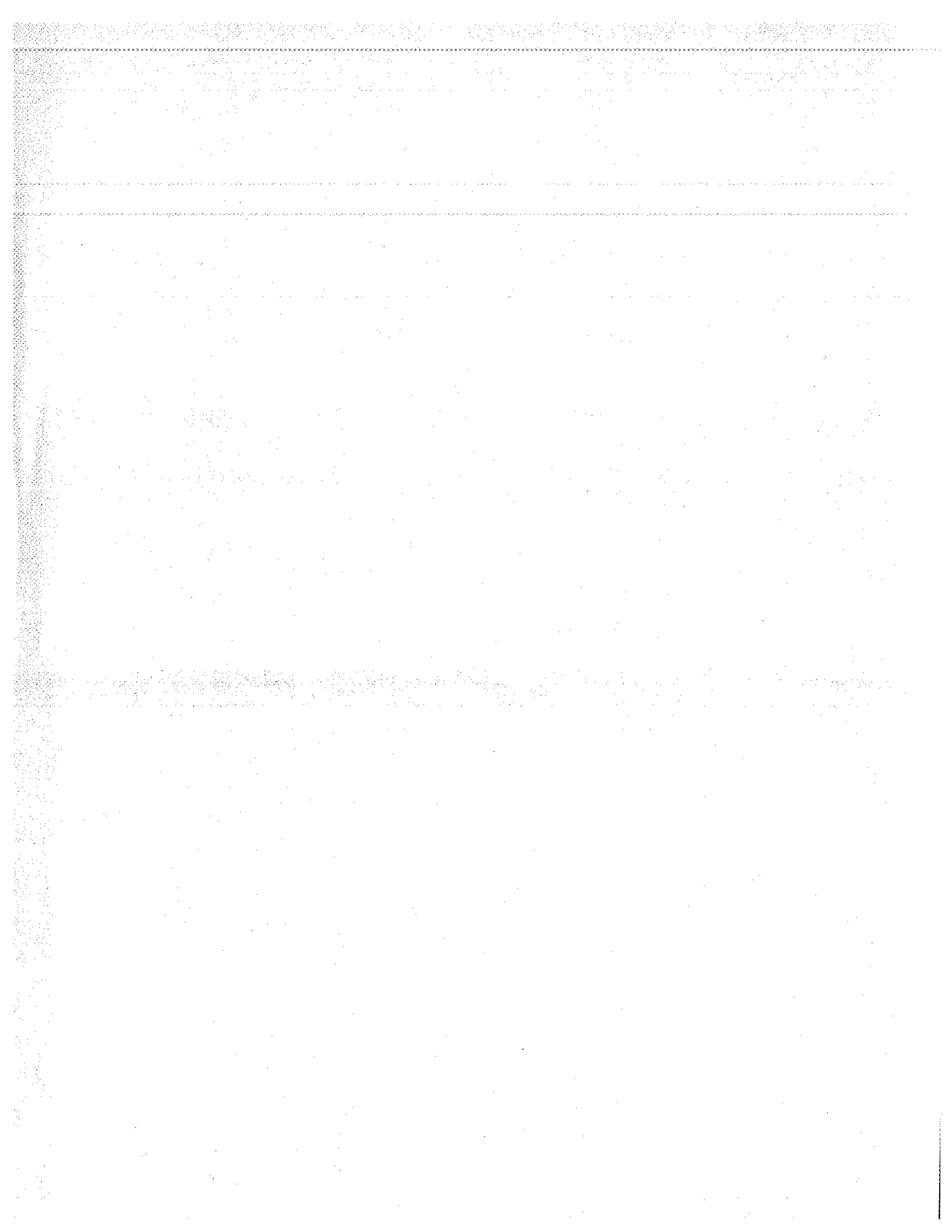
14. Was P.M. notified of any anomalies? Yes [x] No [] Date 4/12/05

15. Inspected by AK Date: 4/12/05 Time: 10:00

Table with 8 columns: Customer Sample No., cpm, mR/hr, Wipe, Customer Sample No., cpm, mR/hr, wipe. The table is mostly empty.

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

Handwritten signature and date: AK 4/12/05 10:00



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF32
 Task Order 313150010
 SDG No. Multiple
 No. of Analyses 6

Laboratory Alta

Reviewer K. Shadowlight

Analysis/Method Dioxins

Date: March 16, 2005

Reviewer's Signature
K. Shadowlight

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications were assigned for the following: * Detects below the lower method calibration level
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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 16, 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 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	IOB2098-01	25812-001	water	1613
Outfall 002	IOB2063-01	25811-001	water	1613
Outfall 011	IOB2066-01	25815-001	water	1613
Outfall 011 Composite	IOB2064-01	25816-001	water	1613
Outfall 011 Grab	IOB2065-01	25814-001	water	1613
Outfall 018	IOB2099-01	25813-001	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

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The samples were shipped to Alta for dioxin/furan analyses and the samples were received below the temperature limits at 0.8°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, all samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs and transfer COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. The sample collector's name is not routinely provided on the transfer COC; however, the name of the sample collector was provided in the Sample Acceptance Form dated 03/01/05 for sample Outfall 011 Composite. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The coolers 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

There was one initial calibration, analyzed 08/30/04. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6571-MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (6571-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. Any detects below the lower method calibration level (MCL) were qualified as estimated, "J;" however, as Alta analyzed an additional calibration standard, not all results below the method calibration level were appropriately qualified by the laboratory. These results were qualified as estimated, "J," by the reviewer. No further qualifications were required.



EPA Method 1613

Sample ID: IOB2098-01 *Outfall 001*

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25812-001		
Project:	IOB2098	Sample Size:	1.015 L	QC Batch No.:	6571		
Date Collected:	26-Feb-05			Date Analyzed DB-5:	8-Mar-05		
Time Collected:	1010			Date Analyzed DB-225:	NA		
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labelled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.873		IS 13C-2,3,7,8-TCDD	62.6	25 - 164	
1,2,3,7,8-PeCDD	ND	0.921		13C-1,2,3,7,8-PeCDD	55.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.50		13C-1,2,3,4,7,8-HxCDD	58.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.59		13C-1,2,3,6,7,8-HxCDD	59.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.54		13C-1,2,3,4,6,7,8-HpCDD	58.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	4.28			13C-OCDD	53.8	17 - 157	
OCDD	34.4			13C-2,3,7,8-TCDF	65.7	24 - 169	
2,3,7,8-TCDF	ND	1.04		13C-1,2,3,7,8-PeCDF	54.8	24 - 185	
1,2,3,7,8-PeCDF	ND	1.73		13C-2,3,4,7,8-PeCDF	56.1	21 - 178	
2,3,4,7,8-PeCDF	ND	1.59		13C-1,2,3,4,7,8-HxCDF	43.4	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.742		13C-1,2,3,6,7,8-HxCDF	47.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.690		13C-2,3,4,6,7,8-HxCDF	48.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.778		13C-1,2,3,7,8,9-HxCDF	50.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	1.12		13C-1,2,3,4,6,7,8-HpCDF	48.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	1.59		13C-1,2,3,4,7,8,9-HpCDF	53.3	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	1.62		13C-OCDF	58.5	17 - 157	
OCDF	ND	2.71		CRS 37Cl-2,3,7,8-TCDD	82.0	35 - 197	
Totals							
Total TCDD	ND	0.873					
Total PeCDD	ND	0.921					
Total HxCDD	ND	1.54					
Total HpCDD	9.41						
Total TCDF	ND	1.04					
Total PeCDF	ND	1.66					
Total HxCDF	ND	0.819					
Total HpCDF	ND	1.60					

Footnotes

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

Analyst: JMH

Approved By: Martha M. Maier 10-Mar-2005 08:12

Project 25812 **ANIEC VALIDATED** **7777777777**

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO58
 Task Order 313150010
 SDG No. IOB2063, IOB2098

No. of Analyses 4

Laboratory Del Mar Analytical
 Reviewer K. Shadowlight
 Analysis/Method Volatiles

Date March 30, 2005
 Reviewer's Signature
K. Shadowlight

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IOB2063, IOB2098

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#: IOB2063, IOB2098
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 4
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 30, 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*, 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	IOB2098-01	water	624
Trip Blank	Trip Blank	IOB2098-02	water	624
Outfall 002	Outfall 002	IOB2063-01	water	624
Trip Blank	Trip Blank	IOB2063-02	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. 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 report were consistent with those specified in the 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

One initial calibration dated 01/05/05, was associated with these SDGs. The average RRFs were ≥ 0.05 and the %RSDs were $\leq 35\%$ for the target compounds listed on the sample result summaries. One continuing calibration analyzed 02/28/05, was associated with the sample analyses. The %Ds were $\leq 20\%$ and the RRFs for all target compounds were ≥ 0.05 . 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 qualifications were required.

2.4 BLANKS

One water method blank (5B28023-BLK1) was associated with these SDGs. 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

One water blank spike (5B28023-BS1) was associated with these SDGs. 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

MS/MSD analyses were performed for sample Outfall 002 associated with these SDGs. The recoveries and RPDs were within the respective 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.

2.8 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

Sample Trip blank (IOB2063) and Trip blank (IOB2098) were the trip blanks associated with the site samples in these SDGs. There were no target compounds detected above the MDLs in the either of the trip blanks. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no other 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 this SDG were within the control limits established by the continuing calibration standards, of +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 standards and by the MDL study. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in ug/L (ppb). No calculation or transcription errors were noted. Any detect between the MDL and the reporting limit was qualified as estimated, "J," by the laboratory. No further 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

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 (949) 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/Bocing
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05
 Received: 02/26/05

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: IOB2098-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	u
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					93 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					92 %				
Sample ID: IOB2098-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	u
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	
Surrogate: Dibromofluoromethane (80-120%)					103 %				
Surrogate: Toluene-d8 (80-120%)					94 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					92 %				

AMEC VALIDATED

LEVEL IV

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711WC80
Task Order 313150010
SDG No. IOB2063/2098

No. of Analyses 2

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

Date: 03/25/05

Reviewer's Signature

ACTION ITEMS^a

1. **Case Narrative
Deficiencies**

2. **Out of Scope
Analyses**

3. **Analyses Not
Conducted**

4. **Missing Hardcopy
Deliverables**

5. **Incorrect Hardcopy
Deliverables**

6. **Deviations from
Analysis Protocol, e.g.,**

Holding Times
GC/MS Tune/Inst.
Performance

Calibrations

Blanks

Surrogates

Matrix Spike/Dup LCS

Field QC

Internal Standard

Performance

Compound Identification

and Quantitation

System Performance

COMMENTS^b

Acceptable as reviewed.

^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUPS: IOB2063 & IOB2098

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 #: IOB2063, IOB2098
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 2
Reviewer: L. Jarusewic
Date of Review: March 25, 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	IOB2098-01	Water	General Minerals
Outfall 002	Outfall 002	IOB2063-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

The holding times were assessed by comparing the dates 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 %Rs 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 the method blank (5B26046-BLK1) for Outfall 001 and Outfall 002 at 0.050 NTU; however, the turbidity method blank result was insufficient to qualify the Outfall 001 and Outfall 002 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 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 these SDGs.

2.6 LABORATORY DUPLICATES

MS/MSD analyses were performed on sample Outfall 002 for ammonia in association with the samples in these SDGs. The RPD was within the control limits of $\leq 15\%$. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on sample Outfall 002 for ammonia in association with the samples in these SDGs. The recoveries were within the laboratory-established control limits and 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 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. No 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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB2063/2098
Analysis: General Minerals

2.11.2 Field Duplicates

There were no field duplicate pairs associated with these SDGs.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-322
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1014
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-968
 9330 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-082
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-362

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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05
 Received: 02/26/05

DRAFT: INORGANICS

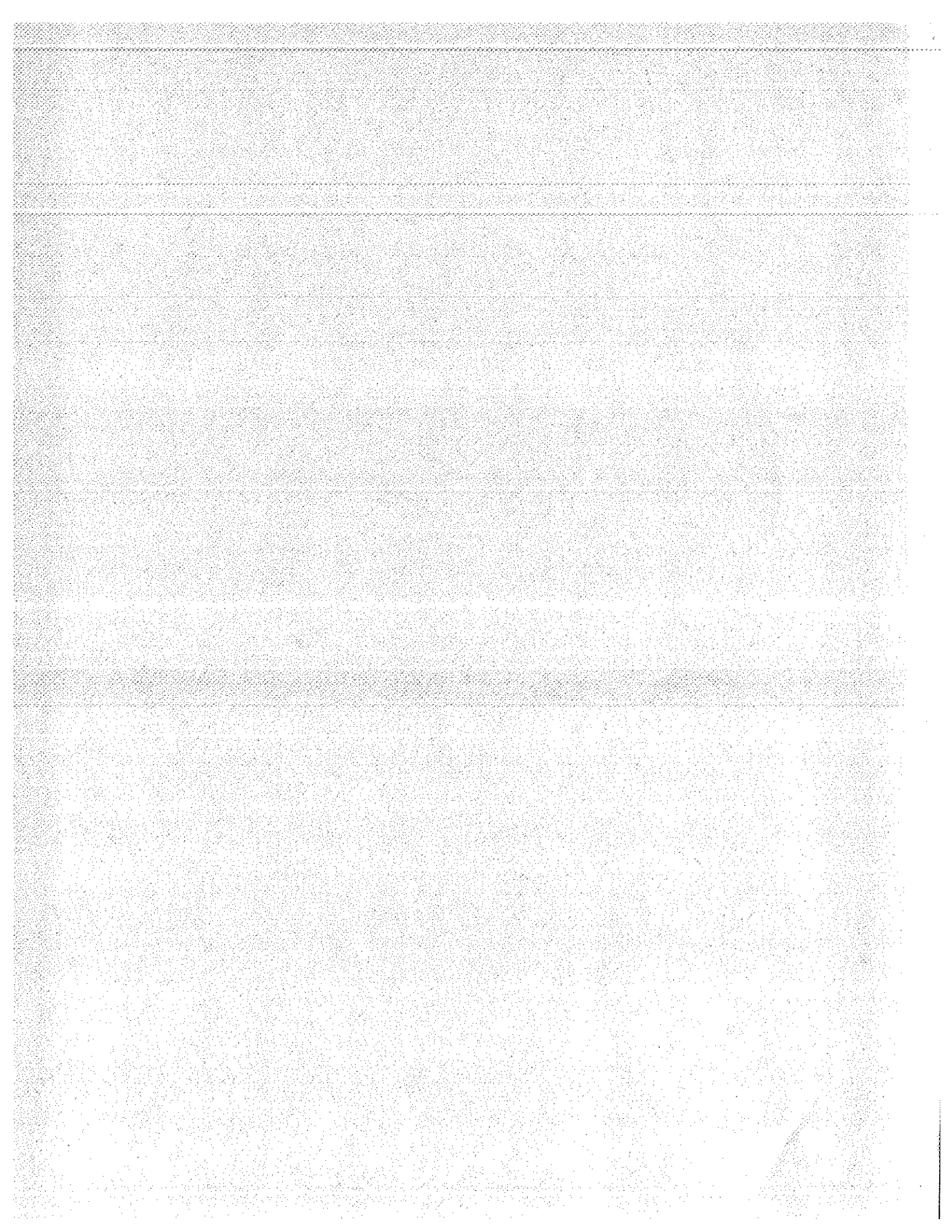
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data	Qualifiers
Sample ID: IOB2098-01 (DRAFT: Outfall 001 - Water) Reporting Units: mg/l										
Ammonia-N (Distilled)	EPA 350.2	5C07070	0.30	0.50	ND	1	03/07/05	03/07/05	U	REV QUAL QUAL COP
Sample ID: IOB2098-01 (DRAFT: Outfall 001 - Water) Reporting Units: NTU										
Turbidity	EPA 180.1	5B26046	0.040	1.0	9.2	1	02/26/05	02/26/05		
Sample ID: IOB2098-01 (DRAFT: Outfall 001 - Water) Reporting Units: umhos/cm										
Specific Conductance	EPA 120.1	5C02105	1.0	1.0	190	1	03/02/05	03/02/05		

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





LABORATORY REPORT

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

Project: Routine Outfall 001

Sampled: 02/26/05
Received: 02/26/05
Revised: 05/12/05 08:13

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

CASE NARRATIVE

- SAMPLE RECEIPT: Samples were received intact, at 5°C, on ice and with chain of custody documentation.
- HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
- PRESERVATION: Samples requiring preservation were verified prior to sample analysis.
- QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
- COMMENTS: Results that fall between the MDL and RL are 'J' flagged.
- SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.
- ADDITIONAL INFORMATION: The report has been revised to include all additional testing parameters. Due to non-compliance for the 2/11/05 sample, Cr, Fe, and Mn were analyzed and the Fe was confirmed. Also due to non-compliance, Gross Alpha was analyzed. Finally, enclosed are results for Ca, Mg, Na, K for reference only.

LABORATORY ID	CLIENT ID	MATRIX
IOB2098-01	Outfall 001	Water
IOB2098-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05
Received: 02/26/05

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: IOB2098-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					93 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					92 %				
Sample ID: IOB2098-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	
Surrogate: Dibromofluoromethane (80-120%)					103 %				
Surrogate: Toluene-d8 (80-120%)					94 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					92 %				

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05
Received: 02/26/05

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: IOB2098-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5B28001	1.1	5.0	ND	0.971	02/28/05	03/02/05	
2,4-Dinitrotoluene	EPA 625	5B28001	0.23	9.0	ND	0.971	02/28/05	03/02/05	
N-Nitrosodimethylamine	EPA 625	5B28001	0.22	8.0	ND	0.971	02/28/05	03/02/05	
Pentachlorophenol	EPA 625	5B28001	0.78	8.0	ND	0.971	02/28/05	03/02/05	
2,4,6-Trichlorophenol	EPA 625	5B28001	0.10	6.0	ND	0.971	02/28/05	03/02/05	
Surrogate: 2-Fluorophenol (30-120%)					68 %				
Surrogate: Phenol-d6 (35-120%)					74 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					96 %				
Surrogate: Nitrobenzene-d5 (45-120%)					71 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					76 %				
Surrogate: Terphenyl-d14 (45-120%)					92 %				

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2098-01 (Outfall 001 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	5C01050	0.0010	0.010	ND	0.971	03/01/05	03/03/05	
Surrogate: Decachlorobiphenyl (45-120%)					65 %				
Surrogate: Tetrachloro-m-xylene (35-120%)					58 %				

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2098-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Calcium	EPA 200.7	5D12072	0.015	0.10	15	1	04/12/05	04/12/05	
Iron	EPA 200.7	5D12072	0.0088	0.040	0.45	1	04/12/05	04/12/05	
Magnesium	EPA 200.7	5D12072	0.0030	0.020	4.7	1	04/12/05	04/12/05	
Potassium	EPA 200.7	5D12072	0.066	0.50	1.6	1	04/12/05	04/12/05	
Sodium	EPA 200.7	5D12072	0.095	0.50	12	1	04/12/05	04/12/05	
Sample ID: IOB2098-01RE1 (Outfall 001 - Water)									
Reporting Units: mg/l									
Iron	EPA 200.7	5D12072	0.0088	0.040	0.46	1	04/12/05	04/20/05	
Sample ID: IOB2098-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Chromium	EPA 200.7	5D12072	0.68	5.0	2.8	1	04/12/05	04/12/05	J
Copper	EPA 200.8	5B26036	0.49	2.0	2.5	1	02/26/05	02/26/05	
Lead	EPA 200.8	5B26036	0.13	1.0	0.35	1	02/26/05	02/26/05	J
Manganese	EPA 200.7	5D12072	3.2	20	9.1	1	04/12/05	04/12/05	J
Mercury	EPA 245.1	5B26037	0.063	0.20	ND	1	02/26/05	02/27/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 001 Report Number: IOB2098	Sampled: 02/26/05 Received: 02/26/05
--	---	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2098-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5C07070	0.30	0.50	ND	1	03/07/05	03/07/05	
Biochemical Oxygen Demand	EPA 405.1	5B26045	0.59	2.0	0.89	1	02/26/05	03/03/05	J
Chloride	EPA 300.0	5B26021	0.26	0.50	7.9	1	02/26/05	02/26/05	
Nitrate/Nitrite-N	EPA 300.0	5B26021	0.072	0.26	0.40	1	02/26/05	02/26/05	
Oil & Grease	EPA 413.1	5B28071	0.94	5.0	ND	1	02/28/05	02/28/05	
Sulfate	EPA 300.0	5B26021	0.18	0.50	18	1	02/26/05	02/26/05	
Surfactants (MBAS)	SM5540-C	5B28050	0.044	0.10	ND	1	02/28/05	02/28/05	
Total Dissolved Solids	SM2540C	5C02106	10	10	140	1	03/02/05	03/02/05	
Total Suspended Solids	EPA 160.2	5C03074	10	10	ND	1	03/03/05	03/03/05	
Sample ID: IOB2098-01 (Outfall 001 - Water)									
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	5B28051	0.10	0.10	ND	1	02/28/05	02/28/05	
Sample ID: IOB2098-01 (Outfall 001 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5B26046	0.040	1.0	9.2	1	02/26/05	02/26/05	
Sample ID: IOB2098-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	5B28115	2.2	5.0	2.7	1	02/28/05	03/01/05	J
Perchlorate	EPA 314.0	5C02057	0.80	4.0	ND	1	03/02/05	03/03/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 001 Report Number: IOB2098	Sampled: 02/26/05 Received: 02/26/05
--	---	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2098-01 (Outfall 001 - Water) - cont.									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5C02105	1.0	1.0	190	1	03/02/05	03/02/05	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05
Received: 02/26/05

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 001 (IOB2098-01) - Water	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 160.5	2	02/26/2005 10:10	02/26/2005 12:47	02/28/2005 07:00	02/28/2005 08:00
EPA 180.1	2	02/26/2005 10:10	02/26/2005 12:47	02/26/2005 17:00	02/26/2005 17:45
EPA 300.0	2	02/26/2005 10:10	02/26/2005 12:47	02/26/2005 17:00	02/26/2005 17:16
EPA 405.1	2	02/26/2005 10:10	02/26/2005 12:47	02/26/2005 16:15	03/03/2005 12:00
SM5540-C	2	02/26/2005 10:10	02/26/2005 12:47	02/28/2005 08:23	02/28/2005 09:14

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B28023 Extracted: 02/28/05										
Blank Analyzed: 02/28/2005 (5B28023-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	23.9			ug/l	25.0		96		80-120	
Surrogate: Toluene-d8	22.6			ug/l	25.0		90		80-120	
Surrogate: 4-Bromofluorobenzene	23.5			ug/l	25.0		94		80-120	

LCS Analyzed: 02/28/2005 (5B28023-BS1)

Benzene	25.6	2.0	0.28	ug/l	25.0		102		70-120	
Carbon tetrachloride	26.7	5.0	0.28	ug/l	25.0		107		70-140	
Chloroform	25.5	2.0	0.33	ug/l	25.0		102		75-130	
1,1-Dichloroethane	25.9	2.0	0.27	ug/l	25.0		104		70-135	
1,2-Dichloroethane	23.8	2.0	0.28	ug/l	25.0		95		60-150	
1,1-Dichloroethene	25.8	3.0	0.32	ug/l	25.0		103		75-135	
Ethylbenzene	27.2	2.0	0.25	ug/l	25.0		109		80-120	
Tetrachloroethene	27.1	2.0	0.32	ug/l	25.0		108		75-125	
Toluene	24.8	2.0	0.36	ug/l	25.0		99		75-120	
1,1,1-Trichloroethane	25.9	2.0	0.30	ug/l	25.0		104		75-140	
1,1,2-Trichloroethane	22.8	2.0	0.30	ug/l	25.0		91		70-125	
Trichloroethene	24.3	5.0	0.26	ug/l	25.0		97		80-120	
Trichlorofluoromethane	27.0	5.0	0.34	ug/l	25.0		108		65-145	
Vinyl chloride	27.5	5.0	0.26	ug/l	25.0		110		50-130	
Surrogate: Dibromofluoromethane	23.8			ug/l	25.0		95		80-120	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

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: 5B28023 Extracted: 02/28/05

LCS Analyzed: 02/28/2005 (5B28023-BS1)

Surrogate: Toluene-d8	22.5			ug/l	25.0		90	80-120			
Surrogate: 4-Bromofluorobenzene	22.9			ug/l	25.0		92	80-120			

Matrix Spike Analyzed: 02/28/2005 (5B28023-MS1)

Source: IOB2063-01

Benzene	25.9	2.0	0.28	ug/l	25.0	ND	104	70-120			
Carbon tetrachloride	25.7	5.0	0.28	ug/l	25.0	ND	103	70-145			
Chloroform	28.0	2.0	0.33	ug/l	25.0	ND	112	70-135			
1,1-Dichloroethane	26.2	2.0	0.27	ug/l	25.0	ND	105	65-135			
1,2-Dichloroethane	25.7	2.0	0.28	ug/l	25.0	ND	103	60-150			
1,1-Dichloroethene	27.3	3.0	0.32	ug/l	25.0	ND	109	65-140			
Ethylbenzene	25.6	2.0	0.25	ug/l	25.0	ND	102	70-130			
Tetrachloroethene	24.6	2.0	0.32	ug/l	25.0	ND	98	70-130			
Toluene	24.9	2.0	0.36	ug/l	25.0	ND	100	70-120			
1,1,1-Trichloroethane	25.9	2.0	0.30	ug/l	25.0	ND	104	75-140			
1,1,2-Trichloroethane	27.4	2.0	0.30	ug/l	25.0	ND	110	60-135			
Trichloroethene	24.3	5.0	0.26	ug/l	25.0	0.51	95	70-125			
Trichlorofluoromethane	27.4	5.0	0.34	ug/l	25.0	ND	110	55-145			
Vinyl chloride	23.1	5.0	0.26	ug/l	25.0	ND	92	40-135			
Surrogate: Dibromofluoromethane	27.5			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	22.8			ug/l	25.0		91	80-120			
Surrogate: 4-Bromofluorobenzene	23.8			ug/l	25.0		95	80-120			

Matrix Spike Dup Analyzed: 02/28/2005 (5B28023-MSD1)

Source: IOB2063-01

Benzene	26.0	2.0	0.28	ug/l	25.0	ND	104	70-120	0	20	
Carbon tetrachloride	26.2	5.0	0.28	ug/l	25.0	ND	105	70-145	2	25	
Chloroform	27.8	2.0	0.33	ug/l	25.0	ND	111	70-135	1	20	
1,1-Dichloroethane	26.6	2.0	0.27	ug/l	25.0	ND	106	65-135	2	20	
1,2-Dichloroethane	29.4	2.0	0.28	ug/l	25.0	ND	118	60-150	13	20	
1,1-Dichloroethene	28.1	3.0	0.32	ug/l	25.0	ND	112	65-140	3	20	
Ethylbenzene	27.0	2.0	0.25	ug/l	25.0	ND	108	70-130	5	20	
Tetrachloroethene	25.6	2.0	0.32	ug/l	25.0	ND	102	70-130	4	20	
Toluene	24.7	2.0	0.36	ug/l	25.0	ND	99	70-120	1	20	
1,1,1-Trichloroethane	26.6	2.0	0.30	ug/l	25.0	ND	106	75-140	3	20	
1,1,2-Trichloroethane	31.5	2.0	0.30	ug/l	25.0	ND	126	60-135	14	25	
Trichloroethene	24.2	5.0	0.26	ug/l	25.0	0.51	95	70-125	0	20	
Trichlorofluoromethane	27.7	5.0	0.34	ug/l	25.0	ND	111	55-145	1	25	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



MWH-Pasadena/Boeing Project ID: Routine Outfall 001
300 North Lake Avenue, Suite 1200 Report Number: IOB2098
Pasadena, CA 91101
Attention: Bronwyn Kelly
Sampled: 02/26/05
Received: 02/26/05

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: 5B28023 Extracted: 02/28/05											
Matrix Spike Dup Analyzed: 02/28/2005 (5B28023-MSD1)						Source: IOB2063-01					
Vinyl chloride	22.0	5.0	0.26	ug/l	25.0	ND	88	40-135	5	30	
Surrogate: Dibromofluoromethane	26.6			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	22.2			ug/l	25.0		89	80-120			
Surrogate: 4-Bromofluorobenzene	24.2			ug/l	25.0		97	80-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05
Received: 02/26/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	---------	-----------	-----------------

Batch: 5B28001 Extracted: 02/28/05

Blank Analyzed: 03/02/2005 (5B28001-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	14.4			ug/l	20.0		72		30-120	
Surrogate: Phenol-d6	14.6			ug/l	20.0		73		35-120	
Surrogate: 2,4,6-Tribromophenol	19.1			ug/l	20.0		96		45-120	
Surrogate: Nitrobenzene-d5	7.80			ug/l	10.0		78		45-120	
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79		45-120	
Surrogate: Terphenyl-d14	8.86			ug/l	10.0		89		45-120	

LCS Analyzed: 03/02/2005 (5B28001-BS1)

Bis(2-ethylhexyl)phthalate	8.90	5.0	1.1	ug/l	10.0		89		60-130	
2,4-Dinitrotoluene	7.92	9.0	0.23	ug/l	10.0		79		60-120	J
N-Nitrosodimethylamine	6.94	8.0	0.22	ug/l	10.0		69		40-120	J
Pentachlorophenol	8.46	8.0	0.78	ug/l	10.0		85		50-120	
2,4,6-Trichlorophenol	8.80	6.0	0.10	ug/l	10.0		88		60-120	
Surrogate: 2-Fluorophenol	15.0			ug/l	20.0		75		30-120	
Surrogate: Phenol-d6	14.6			ug/l	20.0		73		35-120	
Surrogate: 2,4,6-Tribromophenol	19.3			ug/l	20.0		96		45-120	
Surrogate: Nitrobenzene-d5	7.94			ug/l	10.0		79		45-120	
Surrogate: 2-Fluorobiphenyl	8.42			ug/l	10.0		84		45-120	
Surrogate: Terphenyl-d14	8.96			ug/l	10.0		90		45-120	

M-NRI

LCS Dup Analyzed: 03/02/2005 (5B28001-BSD1)

Bis(2-ethylhexyl)phthalate	9.44	5.0	1.1	ug/l	10.0		94		60-130	6	20	
2,4-Dinitrotoluene	7.70	9.0	0.23	ug/l	10.0		77		60-120	3	20	J
N-Nitrosodimethylamine	7.90	8.0	0.22	ug/l	10.0		79		40-120	13	20	J
Pentachlorophenol	8.76	8.0	0.78	ug/l	10.0		88		50-120	3	25	
2,4,6-Trichlorophenol	8.64	6.0	0.10	ug/l	10.0		86		60-120	2	20	
Surrogate: 2-Fluorophenol	14.4			ug/l	20.0		72		30-120			
Surrogate: Phenol-d6	15.0			ug/l	20.0		75		35-120			
Surrogate: 2,4,6-Tribromophenol	19.8			ug/l	20.0		99		45-120			
Surrogate: Nitrobenzene-d5	7.80			ug/l	10.0		78		45-120			
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79		45-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

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: 5B28001 Extracted: 02/28/05											
LCS Dup Analyzed: 03/02/2005 (5B28001-BSD1)											
Surrogate: Terphenyl-d14	8.80			ug/l	10.0		88	45-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5C01050 Extracted: 03/01/05											
Blank Analyzed: 03/03/2005 (5C01050-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.449			ug/l	0.500		90	45-120			
Surrogate: Tetrachloro-m-xylene	0.349			ug/l	0.500		70	35-120			
LCS Analyzed: 03/03/2005 (5C01050-BS1)											
alpha-BHC	0.393	0.010	0.0010	ug/l	0.500		79	45-115			M-NR1
Surrogate: Decachlorobiphenyl	0.438			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.336			ug/l	0.500		67	35-120			
LCS Dup Analyzed: 03/03/2005 (5C01050-BSD1)											
alpha-BHC	0.391	0.010	0.0010	ug/l	0.500		78	45-115	1	30	
Surrogate: Decachlorobiphenyl	0.440			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.353			ug/l	0.500		71	35-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B26036 Extracted: 02/26/05											
Blank Analyzed: 02/26/2005 (5B26036-BLK1)											
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							
LCS Analyzed: 02/26/2005 (5B26036-BS1)											
Copper	85.1	2.0	0.49	ug/l	80.0		106	85-115			
Lead	77.4	1.0	0.13	ug/l	80.0		97	85-115			
Matrix Spike Analyzed: 02/26/2005 (5B26036-MS1) Source: IOB2098-01											
Copper	81.4	2.0	0.49	ug/l	80.0	2.5	99	70-130			
Lead	75.9	1.0	0.13	ug/l	80.0	0.35	94	70-130			
Matrix Spike Dup Analyzed: 02/26/2005 (5B26036-MSD1) Source: IOB2098-01											
Copper	82.2	2.0	0.49	ug/l	80.0	2.5	100	70-130	1	20	
Lead	76.8	1.0	0.13	ug/l	80.0	0.35	96	70-130	1	20	
Batch: 5B26037 Extracted: 02/26/05											
Blank Analyzed: 02/27/2005 (5B26037-BLK1)											
Mercury	ND	0.20	0.063	ug/l							
LCS Analyzed: 02/27/2005 (5B26037-BS1)											
Mercury	8.07	0.20	0.063	ug/l	8.00		101	85-115			
Matrix Spike Analyzed: 02/27/2005 (5B26037-MS1) Source: IOB2015-01											
Mercury	7.67	0.20	0.063	ug/l	8.00	ND	96	70-130			
Matrix Spike Dup Analyzed: 02/27/2005 (5B26037-MSD1) Source: IOB2015-01											
Mercury	7.50	0.20	0.063	ug/l	8.00	ND	94	70-130	2	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METHOD BLANK/QC DATA
METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers	
Batch: 5D12072 Extracted: 04/12/05											
Blank Analyzed: 04/12/2005 (5D12072-BLK1)											
Calcium	ND	0.10	0.015	mg/l							
Chromium	ND	5.0	0.68	ug/l							
Iron	ND	0.040	0.0088	mg/l							
Magnesium	0.00720	0.020	0.0030	mg/l						J	
Manganese	ND	20	3.2	ug/l							
Potassium	ND	0.50	0.066	mg/l							
Sodium	ND	0.50	0.095	mg/l							
LCS Analyzed: 04/12/2005 (5D12072-BS1)											
Calcium	2.37	0.10	0.015	mg/l	2.50		95	85-115			
Chromium	493	5.0	0.68	ug/l	500		99	85-115			
Iron	0.505	0.040	0.0088	mg/l	0.500		101	85-115			
Magnesium	2.73	0.020	0.0030	mg/l	2.50		109	85-115			
Manganese	500	20	3.2	ug/l	500		100	85-115			
Potassium	4.97	0.50	0.066	mg/l	5.00		99	85-115			
Sodium	4.95	0.50	0.095	mg/l	5.00		99	85-115			
Matrix Spike Analyzed: 04/12/2005 (5D12072-MS1) Source: IOD0608-01											
Calcium	262	0.10	0.015	mg/l	2.50	260	80	70-130		M-HA	
Chromium	518	5.0	0.68	ug/l	500	12	101	70-130			
Iron	0.514	0.040	0.0088	mg/l	0.500	ND	103	70-130			
Magnesium	8.90	0.020	0.0030	mg/l	2.50	6.3	104	70-130			
Manganese	506	20	3.2	ug/l	500	ND	101	70-130			
Potassium	7.38	0.50	0.066	mg/l	5.00	2.0	108	70-130			
Sodium	178	0.50	0.095	mg/l	5.00	170	160	70-130		M-HA	
Matrix Spike Dup Analyzed: 04/12/2005 (5D12072-MSD1) Source: IOD0608-01											
Calcium	272	0.10	0.015	mg/l	2.50	260	480	70-130	4	20	M-HA
Chromium	530	5.0	0.68	ug/l	500	12	104	70-130	2	20	
Iron	0.527	0.040	0.0088	mg/l	0.500	ND	105	70-130	2	20	
Magnesium	9.16	0.020	0.0030	mg/l	2.50	6.3	114	70-130	3	20	
Manganese	516	20	3.2	ug/l	500	ND	103	70-130	2	20	
Potassium	7.70	0.50	0.066	mg/l	5.00	2.0	114	70-130	4	20	
Sodium	182	0.50	0.095	mg/l	5.00	170	240	70-130	2	20	M-HA

 Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461 Denian 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 (949) 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: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B26021 Extracted: 02/25/05											
Blank Analyzed: 02/26/2005 (5B26021-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: 02/26/2005 (5B26021-BS1)											
Chloride	4.88	0.50	0.26	mg/l	5.00		98	90-110			M-3
Sulfate	9.88	0.50	0.18	mg/l	10.0		99	90-110			
Matrix Spike Analyzed: 02/26/2005 (5B26021-MS1) Source: IOB2081-03											
Sulfate	61.1	2.5	0.90	mg/l	10.0	50	111	80-120			
Matrix Spike Dup Analyzed: 02/26/2005 (5B26021-MSD1) Source: IOB2081-03											
Sulfate	60.7	2.5	0.90	mg/l	10.0	50	107	80-120	1	20	
Batch: 5B26045 Extracted: 02/26/05											
Blank Analyzed: 03/03/2005 (5B26045-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/03/2005 (5B26045-BS1)											
Biochemical Oxygen Demand	200	100	30	mg/l	198		101	85-115			
LCS Dup Analyzed: 03/03/2005 (5B26045-BSD1)											
Biochemical Oxygen Demand	194	100	30	mg/l	198		98	85-115	3	20	
Batch: 5B26046 Extracted: 02/26/05											
Blank Analyzed: 02/26/2005 (5B26046-BLK1)											
Turbidity	0.0500	1.0	0.040	NTU							J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Routine Outfall 001
Report Number: IOB2098

Sampled: 02/26/05
Received: 02/26/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	Data Limit	Qualifiers
Batch: 5B26046 Extracted: 02/26/05											
Duplicate Analyzed: 02/26/2005 (5B26046-DUP1)						Source: IOB2071-01					
Turbidity	1.80	1.0	0.040	NTU		1.8			0	20	
Batch: 5B28050 Extracted: 02/28/05											
Blank Analyzed: 02/28/2005 (5B28050-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 02/28/2005 (5B28050-BS1)											
Surfactants (MBAS)	0.257	0.10	0.044	mg/l	0.250		103	90-110			
Matrix Spike Analyzed: 02/28/2005 (5B28050-MS1)						Source: IOB2098-01					
Surfactants (MBAS)	0.266	0.10	0.044	mg/l	0.250	ND	106	50-125			
Matrix Spike Dup Analyzed: 02/28/2005 (5B28050-MSD1)						Source: IOB2098-01					
Surfactants (MBAS)	0.280	0.10	0.044	mg/l	0.250	ND	112	50-125	5	20	
Batch: 5B28071 Extracted: 02/28/05											
Blank Analyzed: 02/28/2005 (5B28071-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 02/28/2005 (5B28071-BS1)											
Oil & Grease	16.7	5.0	0.94	mg/l	20.0		84	65-120			M-NRI
LCS Dup Analyzed: 02/28/2005 (5B28071-BSD1)											
Oil & Grease	17.7	5.0	0.94	mg/l	20.0		88	65-120	6	20	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B28115 Extracted: 02/28/05											
Blank Analyzed: 03/01/2005 (5B28115-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/01/2005 (5B28115-BS1)											
Total Cyanide	197	5.0	2.2	ug/l	200		98	90-110			
Matrix Spike Analyzed: 03/01/2005 (5B28115-MS1) Source: IOB2064-01											
Total Cyanide	202	5.0	2.2	ug/l	200	ND	101	70-115			
Matrix Spike Dup Analyzed: 03/01/2005 (5B28115-MSD1) Source: IOB2064-01											
Total Cyanide	210	5.0	2.2	ug/l	200	ND	105	70-115	4	15	
Batch: 5C02057 Extracted: 03/02/05											
Blank Analyzed: 03/02/2005 (5C02057-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 03/02/2005 (5C02057-BS1)											
Perchlorate	50.9	4.0	0.80	ug/l	50.0		102	85-115			
Matrix Spike Analyzed: 03/02/2005 (5C02057-MS1) Source: IOB1811-01											
Perchlorate	56.1	4.0	0.80	ug/l	50.0	ND	112	80-120			
Matrix Spike Dup Analyzed: 03/02/2005 (5C02057-MSD1) Source: IOB1811-01											
Perchlorate	55.3	4.0	0.80	ug/l	50.0	ND	111	80-120	1	20	
Batch: 5C02105 Extracted: 03/02/05											
Duplicate Analyzed: 03/02/2005 (5C02105-DUP1) Source: IOB1786-01											
Specific Conductance	74.5	1.0	1.0	umhos/cm		75			1	5	

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5C02106 Extracted: 03/02/05											
Blank Analyzed: 03/02/2005 (5C02106-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/02/2005 (5C02106-BS1)											
Total Dissolved Solids	1030	10	10	mg/l	1000		103	90-110			
Duplicate Analyzed: 03/02/2005 (5C02106-DUP1)											
Total Dissolved Solids	1120	10	10	mg/l		1100			2	10	
Batch: 5C03074 Extracted: 03/03/05											
Blank Analyzed: 03/03/2005 (5C03074-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/03/2005 (5C03074-BS1)											
Total Suspended Solids	983	10	10	mg/l	1000		98	85-115			
Duplicate Analyzed: 03/03/2005 (5C03074-DUP1)											
Total Suspended Solids	21.0	10	10	mg/l		ND				10	
Batch: 5C07070 Extracted: 03/07/05											
Blank Analyzed: 03/07/2005 (5C07070-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/07/2005 (5C07070-BS1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0		95	80-115			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05
Received: 02/26/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5C07070 Extracted: 03/07/05											
Matrix Spike Analyzed: 03/07/2005 (5C07070-MS1)						Source: IOB2063-01					
Ammonia-N (Distilled)	9.80	0.50	0.30	mg/l	10.0	ND	98	70-120			
Matrix Spike Dup Analyzed: 03/07/2005 (5C07070-MSD1)						Source: IOB2063-01					
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0	ND	95	70-120	3	15	

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

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
IOB2098-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	5.0	10.00
IOB2098-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0.00070	0.010	0.0100
IOB2098-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB2098-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0.17	5.0	5.00
IOB2098-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOB2098-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	9.0	9.10
IOB2098-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	1.00	5.0	4.00
IOB2098-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOB2098-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOB2098-01	BOD	Biochemical Oxygen Demand	mg/l	0.89	2.0	20
IOB2098-01	Chloride - 300.0	Chloride	mg/l	7.90	0.50	150
IOB2098-01	Chromium-200.7	Chromium	ug/l	2.80	5.0	8.10
IOB2098-01	Copper-200.8	Copper	ug/l	2.50	2.0	7.10
IOB2098-01	Cyanide-335.2 Sppb	Total Cyanide	ug/l	2.70	5.0	4.30
IOB2098-01	Iron-200.7	Iron	mg/l	0.45	0.040	0.30
IOB2098-01	Lead-200.8	Lead	ug/l	0.35	1.0	2.60
IOB2098-01	Manganese-200.7	Manganese	ug/l	9.10	20	50
IOB2098-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.012	0.10	0.50
IOB2098-01	Mercury - 245.1	Mercury	ug/l	0.047	0.20	0.20
IOB2098-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.40	0.26	8.00
IOB2098-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB2098-01	Sulfate-300.0	Sulfate	mg/l	18	0.50	300
IOB2098-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	140	10	950
IOB2098-01RE1	Iron-200.7	Iron	mg/l	0.46	0.040	0.30
IOB2098-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB2098-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

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 unknown quality.
- 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-HA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- M-NRI** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- 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

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

Project ID: Routine Outfall 001

Report Number: IOB2098

Sampled: 02/26/05

Received: 02/26/05

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 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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR

Samples: IOB2098-01

Analysis Performed: EDD + Level 4

Samples: IOB2098-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4

Samples: IOB2098-01

Analysis Performed: Gross Alpha

Samples: IOB2098-01

Analysis Performed: Radium, Combined

Samples: IOB2098-01

Del Mar Analytical, Irvine

Michele Harper

Project Manager

(146)

JOB 2098

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 02/17/05

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Routine Outfall 001		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	
Project Manager: Bronwyn Kelly		Sample Matrix		Preservative	
Sampler: P. Walsh		Date/Time		Bottle #	
Sample Description	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #
Outfall 001	Poly-1L	1	2-26-05 10:50	HNO3	1A
Outfall 001-Dup	Poly-1L	1		HNO3	1B
Outfall 001	Poly-1L	1		None	2
Outfall 001	VOAs	3		HCl	3A, 3B, 3C
Outfall 001	1L Amber	2		None	4A, 4B
Outfall 001	1L Amber	2		HCl	5A, 5B
Outfall 001	Poly-500 ml	1		NaOH	6
Outfall 001	Poly-1L	1		None	7
Outfall 001	Poly-500 ml	2		None	8A, 8B
Outfall 001	Poly-500 ml	2		None	9A, 9B
Outfall 001	Poly-500 ml	2		None	10A, 10B
Outfall 001	Poly-500 ml	1		H2SO4	11
Outfall 001	1L Amber	2		None	12A, 12B
Outfall 001	1L Amber	2		None	13A, 13B
Trip Blank	VOAs	3		HCl	14A, 14B, 14C
Relinquished By: <i>[Signature]</i>	Date/Time: 2-26-05 10:50	Received By: <i>[Signature]</i>	Date/Time: 2-26-05 10:50		
Relinquished By: <i>[Signature]</i>	Date/Time: 2/26/05 12:45	Received By: <i>[Signature]</i>	Date/Time: 2/26/05 12:45		
Relinquished By: <i>[Signature]</i>	Date/Time: 2/26/05 12:45	Received By: <i>[Signature]</i>	Date/Time: 2/26/05 12:45		

Field readings: Temp = 55.4 pH = 6.8	Comments: 24 TAT 24 TAT
2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	
Alpha BHC (608)	
Ammonia-N	
Conductivity	
Turbidity, TDS, TSS	
Perchlorate	
Cl, SO4, NO3+NO2-N, Surfactants (MBAS)	
BOD5(20 degrees C)	
Cyanide (total recoverable)	
Oil & Grease (EPA 413.1)	
TCDD (and all congeners)	
VOCs 624 + xylenes	
Settleable Solids	
Total Recoverable Metals: Cu, Pb, Hg	

ANALYSIS REQUIRED	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: _____

Temp = 55.4
pH = 6.8

24 TAT
24 TAT

24 TAT
24 TAT

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: _____

Received By: *[Signature]* Date/Time: 2-26-05 10:50
Received By: *[Signature]* Date/Time: 2-26-05 10:50
Received By: *[Signature]* Date/Time: 2-26-05 12:45

Fredh Aug 2.26.05 12:45

March 23, 2005

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

Attention: Bronwyn Kelly

Project: Routine Outfall 001
Sampled: 02/26/05
Del Mar Analytical Number: IOB2098

Dear Ms. Kelly:

Alta Analytical Laboratory performed the EPA Method 1613 Dioxin analysis 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	IOB2098-01	25812-001

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 at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL


Michele Harper
Project Manager



March 10, 2005

Alta Project I.D.: 25812

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 March 01, 2005 under your Project Name "IOB2098". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Martha M. Maier".

Martha M. Maier
Director of HRMS Services



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762
FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: 3/1/2005

Alta Lab. ID

Client Sample ID

25812-001

IOB2098-01

SECTION II



Method Blank		EPA Method 1613					
Matrix:	Aqueous	QC Batch No.:	6571	Lab Sample:	0-MB001		
Sample Size:	1.000 L	Date Extracted:	4-Mar-05	Date Analyzed DB-5:	9-Mar-05		
				Date Analyzed DB-225:	NA		
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	3.17		IS 13C-2,3,7,8-TCDD	79.8	25 - 164	
1,2,3,7,8-PeCDD	ND	2.85		13C-1,2,3,7,8-PeCDD	67.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	7.88		13C-1,2,3,4,7,8-HxCDD	77.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	7.76		13C-1,2,3,6,7,8-HxCDD	88.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	7.78		13C-1,2,3,4,6,7,8-HpCDD	63.7	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	6.25		13C-OCDD	44.4	17 - 157	
OCDD	ND	15.4		13C-2,3,7,8-TCDF	79.2	24 - 169	
2,3,7,8-TCDF	ND	4.50		13C-1,2,3,7,8-PeCDF	66.2	24 - 185	
1,2,3,7,8-PeCDF	ND	5.76		13C-2,3,4,7,8-PeCDF	67.5	21 - 178	
2,3,4,7,8-PeCDF	ND	4.98		13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152	
1,2,3,4,7,8-HxCDF	ND	3.01		13C-1,2,3,6,7,8-HxCDF	81.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	2.73		13C-2,3,4,6,7,8-HxCDF	80.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	3.11		13C-1,2,3,7,8,9-HxCDF	74.3	29 - 147	
1,2,3,7,8,9-HxCDF	ND	5.02		13C-1,2,3,4,6,7,8-HpCDF	65.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	4.70		13C-1,2,3,4,7,8,9-HpCDF	64.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	5.90		13C-OCDF	51.8	17 - 157	
OCDF	ND	15.0		CRS 37Cl-2,3,7,8-TCDD	84.6	35 - 197	
Totals				Footnotes			
Total TCDD	ND	3.17		a. Sample specific estimated detection limit.			
Total PeCDD	ND	2.85		b. Estimated maximum possible concentration.			
Total HxCDD	ND	7.80		c. Method detection limit.			
Total HpCDD	ND	6.25		d. Lower control limit - upper control limit.			
Total TCDF	ND	4.50					
Total PeCDF	ND	5.36					
Total HxCDF	ND	3.36					
Total HpCDF	ND	5.21					

Analyst: JMH

Approved By: Martha M. Maier 10-Mar-2005 08:12

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	6571	Lab Sample:	0-OPR001	
Sample Size:	1.000 L	Date Extracted:	4-Mar-05	Date Analyzed DB-5:	8-Mar-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	9.19	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	67.1	25 - 164
1,2,3,7,8-PeCDD	50.0	45.5	35 - 71	13C-1,2,3,7,8-PeCDD	61.4	25 - 181
1,2,3,4,7,8-HxCDD	50.0	47.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	60.9	32 - 141
1,2,3,6,7,8-HxCDD	50.0	45.2	38 - 67	13C-1,2,3,6,7,8-HxCDD	67.6	28 - 130
1,2,3,7,8,9-HxCDD	50.0	47.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	66.0	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	49.1	35 - 70	13C-OCDD	64.3	17 - 157
OCDD	100	98.3	78 - 144	13C-2,3,7,8-TCDF	72.7	24 - 169
2,3,7,8-TCDF	10.0	9.57	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	58.0	24 - 185
1,2,3,7,8-PeCDF	50.0	49.9	40 - 67	13C-2,3,4,7,8-PeCDF	60.4	21 - 178
2,3,4,7,8-PeCDF	50.0	50.3	34 - 80	13C-1,2,3,4,7,8-HxCDF	46.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	51.5	36 - 67	13C-1,2,3,6,7,8-HxCDF	52.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	51.4	42 - 65	13C-2,3,4,6,7,8-HxCDF	53.1	28 - 136
2,3,4,6,7,8-HxCDF	50.0	50.4	35 - 78	13C-1,2,3,7,8,9-HxCDF	55.3	29 - 147
1,2,3,7,8,9-HxCDF	50.0	49.8	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	57.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	51.7	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	60.2	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	52.5	39 - 69	13C-OCDF	66.3	17 - 157
OCDF	100	103	63 - 170	<u>CRS</u> 37Cl-2,3,7,8-TCDD	80.8	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 10-Mar-2005 08:12



Sample ID: IOB2098-01		EPA Method 1613			
Client Data		Sample Data		Laboratory Data	
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25812-001
Project:	IOB2098	Sample Size:	1.015 L	QC Batch No.:	6571
Date Collected:	26-Feb-05			Date Analyzed DB-5:	8-Mar-05
Time Collected:	1010			Date Analyzed DB-225:	NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.873		IS 13C-2,3,7,8-TCDD	62.6 25 - 164
1,2,3,7,8-PeCDD	ND	0.921		13C-1,2,3,7,8-PeCDD	55.9 25 - 181
1,2,3,4,7,8-HxCDD	ND	1.50		13C-1,2,3,4,7,8-HxCDD	58.3 32 - 141
1,2,3,6,7,8-HxCDD	ND	1.59		13C-1,2,3,6,7,8-HxCDD	59.7 28 - 130
1,2,3,7,8,9-HxCDD	ND	1.54		13C-1,2,3,4,6,7,8-HpCDD	58.5 23 - 140
1,2,3,4,6,7,8-HpCDD	4.28		J	13C-OCDD	53.8 17 - 157
OCDD	34.4		J	13C-2,3,7,8-TCDF	65.7 24 - 169
2,3,7,8-TCDF	ND	1.04		13C-1,2,3,7,8-PeCDF	54.8 24 - 185
1,2,3,7,8-PeCDF	ND	1.73		13C-2,3,4,7,8-PeCDF	56.1 21 - 178
2,3,4,7,8-PeCDF	ND	1.59		13C-1,2,3,4,7,8-HxCDF	43.4 26 - 152
1,2,3,4,7,8-HxCDF	ND	0.742		13C-1,2,3,6,7,8-HxCDF	47.8 26 - 123
1,2,3,6,7,8-HxCDF	ND	0.690		13C-2,3,4,6,7,8-HxCDF	48.9 28 - 136
2,3,4,6,7,8-HxCDF	ND	0.778		13C-1,2,3,7,8,9-HxCDF	50.5 29 - 147
1,2,3,7,8,9-HxCDF	ND	1.12		13C-1,2,3,4,6,7,8-HpCDF	48.0 28 - 143
1,2,3,4,6,7,8-HpCDF	ND	1.59		13C-1,2,3,4,7,8,9-HpCDF	53.3 26 - 138
1,2,3,4,7,8,9-HpCDF	ND	1.62		13C-OCDF	58.5 17 - 157
OCDF	ND	2.71		CRS 37Cl-2,3,7,8-TCDD	82.0 35 - 197
Totals				Footnotes	
Total TCDD	ND	0.873		a. Sample specific estimated detection limit.	
Total PeCDD	ND	0.921		b. Estimated maximum possible concentration.	
Total HxCDD	ND	1.54		c. Method detection limit.	
Total HpCDD	9.41			d. Lower control limit - upper control limit.	
Total TCDF	ND	1.04			
Total PeCDF	ND	1.66			
Total HxCDF	ND	0.819			
Total HpCDF	ND	1.60			

Analyst: JMH

Approved By: Martha M. Maier 10-Mar-2005 08:12

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

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

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

CURRENT CERTIFICATIONS

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)



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
 2526 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IOB2098

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 - SUB
 1104 Windfield Way
 El Dorado Hills, CA 95762
 Phone: (916) 933-1640
 Fax: (916) 933-0940

25812 1.1°C

EXACT COPY OF ORIGINAL
 Init UBB 03/01/05

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

Analysis	Expiration	Comments
Sample ID: IOB2098-01 Water	Sampled: 02/26/05 10:10	Instant Notification
1613-Dioxin-HR	03/05/05 10:10	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4	03/26/05 10:10	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IOB2098-01G)		
1 L Amber (IOB2098-01H)		

SAMPLE INTEGRITY:

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

Released By Vu Banch Date 2-28-05 Time 1700 Received By Bethuna G. Benedict Date 3/1/05 Time 0853

May 10, 2005

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

Attention: Bronwyn Kelly

Project: Routine Outfall 001
Sampled: 02/26/05
Del Mar Analytical Number: IOB2098

Dear Ms. Kelly:

Eberline Services performed the gross alpha analysis by (EPA 900.0) analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	Eberline ID
Outfall 001	IOB2098-01	R504069-8412

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 at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL



Michele Harper
Project Manager



EBERLINE SERVICES

May 3, 2005

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

Reference: Del Mar Analytical Project No. IOB2098
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R504069-8412

Dear Ms. Harper:

Enclosed are results from the analysis of one water sample received at Eberline Services on April 12, 2005. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analysis was gross alpha (EPA900.0). The QC LCS, blank analysis, sample duplicate, and matrix spike results for the analysis were within the limits defined in Eberline Services Quality Control Procedures Manual.

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

Regards,

cc: Melissa Mannion
Senior Program Manager

MC/Mnjy

*Enclosure: Report
Subcontract Form
Receipt checklist
Invoice*

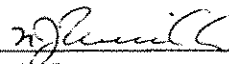
Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

Eberline Services

ANALYSIS RESULTS

SDG <u>8412</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R504069-01</u>	Contract <u>PROJECT# 1082098</u>
Received Date <u>04/12/05</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
1082098-01	8412-001	02/26/05	04/18/05	GrossAlpha	0.976 ± 0.84	pCi/L	0.929

Certified by <u></u>
Report Date <u>05/02/05</u>
Page 1

Eberline Services

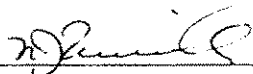
QC RESULTS

SDG <u>8412</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R504069-01</u>	Contract <u>PROJECT# IOB2098</u>
Received Date <u>04/12/05</u>	Matrix <u>WATER</u>

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>	8412-002	GrossAlpha	10.4 ± 1.2	pCi/Smpl	11.2	0.347	93% recovery
<u>BLANK</u>	8412-003	GrossAlpha	-0.123 ± 0.13	pCi/Smpl	NA	0.408	<MDA

<u>DUPLICATES</u>				<u>ORIGINALS</u>			
Sample ID	Nuclide	Results ± 2σ	MDA	Sample ID	Results ± 2σ	MDA	RPD (Tot) Eval
8412-004	GrossAlpha	0.674 ± 0.67	0.985	8412-001	0.976 ± 0.84	0.929	37 200 satis.

<u>SPIKED SAMPLE</u>				<u>ORIGINAL SAMPLE</u>				
Sample ID	Nuclide	Results ± 2σ	MDA	Sample ID	Results ± 2σ	MDA	Added	%Recv
8412-005	GrossAlpha	50.0 ± 4.3	0.939	8412-001	0.976 ± 0.84	0.929	76.6	64

Certified by 
 Report Date 05/02/05
 Page 2



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) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB2098

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Eberline Services 2030 Wright Avenue Richmond, CA 94804 Phone : (510) 235-2633 Fax: (510) 235-0438

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

Analysis	Expiration	Comments
Sample ID: IOB2098-01 Water Sampled: 02/26/05 10:10		
EDD + Level 4-OUT	03/26/05 10:10	Instant Notification **LEVEL IV QC, ACCESS 7 EDD**
Gross Alpha-O	02/26/06 10:10	900.0, IF RESULT > 15 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/26/06 10:10	HOLD for Gross Alpha; EPA 903.1 & 904.0
Containers Supplied:		
1 liter Poly w/HNO3 (IOB2098-01A)		
1 liter Poly w/HNO3 (IOB2098-01B)		
500 ml Poly (IOB2098-01M)		

sample description - small amount of sediments received 4/12/05

*JK
4/12/05*

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

<i>[Signature]</i>	4/11/05		<i>Alex Telecky</i>	4/12/05	10:00
Released By	Date	Time	Received By	Date	Time

Released By	Date	Time	Received By	Date	Time
-------------	------	------	-------------	------	------



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL. MAR WALKY City IRVINE State CA

Date/Time received 4/12/05 10:00 CoC No. IOB 2098

Container I.D. No. DEL. MAR Requested TAT (Days) STAN P.O. Received Yes [] No []

INSPECTION

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

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____

15. Inspected by AK Date: 4/12/05 Time: 10:00

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

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

AK
4/12/05

APPENDIX G

Section 16

February Outfall 002

AMEC Data Validation Reports

Del Mar Analytical Laboratory Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF26
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 1

Laboratory Alta

Date: March 4, 2005

Reviewer K. Shadowlight

Reviewer's Signature

Analysis/Method Dioxins

K. Shadowlight

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 assigned for the following:
Holding Times	* Detects below the lower method calibration level
GC/MS Tune/Inst. Performance	
Calibration	
Method 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 GROUP: IOB0418

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 #: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 3, 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 Functional Guidelines For Chlorinated Dioxin/Furan Data Review (8/02)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 002	IOB0418-01	25765-001	water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C \pm 2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0.3°C; however, the sample was not noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the sample was couriered directly to the 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 container. The EPA ID was added to the sample result summary report 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

There was one initial calibration, analyzed 08/30/04. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6540-MB001) was extracted and analyzed with the sample in this SDG. There were no 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

The laboratory extracted and analyzed one Ongoing Precision and Recovery (OPR) sample (6540-OPR001) with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of the Method 1613. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

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

2.7.2 Field Duplicates

No field duplicate samples were identified for this SDG.

2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the lower method calibration level (MCL) were qualified as estimated, "J." No further qualifications were required.



Sample ID: IOB0418-01 *Outfall 002* EPA Method 1613

Client Data
 Name: Del Mar Analytical, Irvine
 Project: IOB0418
 Date Collected: 4-Feb-05
 Time Collected: 1126

Sample Data
 Matrix: Aqueous
 Sample Size: 1.005 L

Laboratory Data
 Lab Sample: 25765-001
 QC Batch No.: 6540
 Date Analyzed DB-5: 26-Feb-05
 Date Received: 23-Feb-05
 Date Extracted: 23-Feb-05
 Date Analyzed DB-225: NA

Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	3.23			13C-2,3,7,8-TCDD	64.6	25 - 164	
1,2,3,7,8-PeCDD	ND	2.73			13C-1,2,3,7,8-PeCDD	54.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	5.19			13C-1,2,3,4,7,8-HxCDD	61.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	5.18			13C-1,2,3,6,7,8-HxCDD	73.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	5.16			13C-1,2,3,4,6,7,8-HpCDD	65.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	7.32			13C-OCDD	58.8	17 - 157	
OCDD	17.3			J	13C-2,3,7,8-TCDF	67.4	24 - 169	
2,3,7,8-TCDF	ND	3.44			13C-1,2,3,7,8-PeCDF	52.9	24 - 185	
1,2,3,7,8-PeCDF	ND	4.78			13C-2,3,4,7,8-PeCDF	54.4	21 - 178	
2,3,4,7,8-PeCDF	ND	4.38			13C-1,2,3,4,7,8-HxCDF	53.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	1.93			13C-1,2,3,6,7,8-HxCDF	65.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	1.83			13C-2,3,4,6,7,8-HxCDF	62.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	2.05			13C-1,2,3,7,8,9-HxCDF	59.1	29 - 147	
1,2,3,7,8,9-HxCDF	ND	3.01			13C-1,2,3,4,6,7,8-HpCDF	65.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	4.34			13C-1,2,3,4,7,8,9-HpCDF	67.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	4.90			13C-OCDF	62.4	17 - 157	
OCDF	ND	11.7			CRS 37Cl-2,3,7,8-TCDD	69.9	35 - 197	

Totals

Total TCDD	ND	3.23		
Total PeCDD	ND	2.73		
Total HxCDD	ND	5.17		
Total HpCDD	ND	7.32		
Total TCDF	ND	3.44		
Total PeCDF	ND	4.57		
Total HxCDF	ND	2.16		
Total HpCDF	ND	4.58		

Footnotes

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

Analyst: JMH

AMEC VALIDATED

Approved By: Martha M. Maier 28-Feb-2005 10:20

LEVEL IV



DATA VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: HYDRAZINES

SAMPLE DELIVERY GROUP: IOB0418

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 #: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Hydrazines
QC Level: Level IV
No. of Samples: 1
Reviewer: P. Meeks
Date of Review: March 29, 2005

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

Table 1. Sample identification

EPA ID	Del Mar ID	Laboratory ID	Matrix	COC Method
Outfall 002	IOB0418-01	939456	water	Hydrazines by 8315

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC from the field to Del Mar was signed and dated by field and laboratory personnel, and the transfer COC from Del Mar to Truesdail Laboratories was signed and dated by personnel from both laboratories. Both the original COC and transfer COCs requested only monomethyl hydrazine analysis; however, unsymmetrical dimethyl hydrazine and hydrazine were also reported. As the sample was transported to Del Mar and then to Truesdail by courier, no custody seals were required. Truesdail Laboratories did not list the Outfall 002 ID on the Form I; therefore, the reviewer hand-corrected the Form I to include this information. No qualifications were required.

2.1.3 Holding Times

The holding time was assessed by comparing the date of collection with the date of analysis. The three-day extraction holding time for the hydrazine analysis was met and the sample was analyzed within three days of extraction. No qualifications were required.

2.2 CALIBRATION

The five-point initial calibrations were analyzed 02/08/05, with correlation coefficients of ≥ 0.995 for the hydrazines. The ICV and CCV bracketing the sample analyses had recoveries for the hydrazines within the QC limits of 85-115%. No qualifications were required.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One laboratory control sample/laboratory control sample duplicate was analyzed with this SDG. The hydrazines were recovered within the laboratory-established control limits of 70%-130%, and the RPD was within the control limit of $\leq 20\%$. No qualifications were required.

2.5 SURROGATES RECOVERY

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

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MSD/MSD analyses were performed on Outfall 002. The recoveries for the hydrazines were within the laboratory QC limits of 0-150%; however, both recoveries were $\geq 10\%$. The RPDs were within the QC limit of $\leq 20\%$. No qualifications were required.

2.7 FIELD QC SAMPLES

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

2.7.1 Field Blanks and Equipment Rinsates

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

2.7.2 Field Duplicates

There were no field duplicate samples in this SDG.

2.8 COMPOUND IDENTIFICATION

The sample was analyzed by HPLC for monomethyl hydrazine, unsymmetrical dimethyl hydrazine, and hydrazine by Method 8315. Compound identification was verified, and review of the raw data indicated no compound identification errors. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

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

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

REPORT

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

Attention: Michele Harper
Sample: Liquid / 1 Sample
Project Name: IOB0418
P.O. Number: IOB0418
Method Number: 8315 (Modified)
Investigation: Hydrazines in Liquid

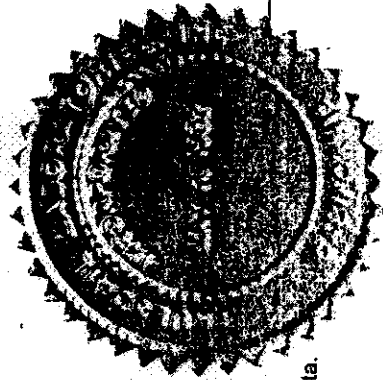
Laboratory No: 939456
Report Date: February 9, 2005
Sampling Date: February 4, 2005
Receiving Date: February 7, 2005
Extraction Date: February 7, 2005
Analysis Date: February 8, 2005
Units: µg/L
Dilution Factor: 1
Reported By: JS

Page 1 of 1

Analytical Results

Sample ID	Sample Description	Monomethyl Hydrazine		Unsymmetrical Dimethyl Hydrazine		Hydrazine	
		Raw	Qual	Raw	Qual	Raw	Qual
704733-MB	Method Blank	ND	*	ND	*	ND	*
939456	Outfall 002	ND	U	ND	U	ND	U
MDL		1.2		0.27		0.39	
PQL		5.0		5.0		1.0	

PM 3/30/05



* Analytical Not Validated

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

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

Xuan Dang, Project Manager
Environmental Services

LEVEL IV

AMEC VALIDATED

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these laboratories.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711MT59
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 1

Laboratory Del Mar

Date: 03/30/05

Reviewer P. Meeks

Reviewer's Signature

Analysis/Method Metals

P. Meeks

ACTION ITEMS*

1. Case Narrative Deficiencies
2. Out of Scope Analyses
3. Analyses Not Conducted
4. Missing Hardcopy Deliverables
5. Incorrect Hardcopy Deliverables
6. Deviations from Analysis Protocol, e.g.,
 - Holding Times
 - GC/MS Tune/Inst. Performance
 - Calibrations
 - Blanks
 - Surrogates
 - Matrix Spike/Dup LCS
 - Field QC
 - Internal Standard Performance
 - Compound Identification and Quantitation
 - System Performance

COMMENTS^a | Acceptable as reviewed.

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



DATA VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: METALS

SAMPLE DELIVERY GROUP: IOB0418

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#: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 30, 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 6010B for Inductively Coupled Plasma*, 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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB0418
Analysis: MET

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 002	Outfall 002	IOB0418-01	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 sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. Duplicate samples were submitted for the sample in this SDG; however, duplicate analyses were not required. No sample qualifications were required.

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

As the sample was not analyzed by ICP/MS, the ICP/MS tune requirements are not applicable.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for the ICP metals. The reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

2.4 BLANKS

Boron was detected in the bracketing CCBs, but not at sufficient concentrations to qualify the site sample. No other detects were reported in the method blanks or CCBs and no 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 analyses, but were not run on the day the site sample was analyzed. The recoveries for the interferences and the other spiked analytes were within the control limits of 80-120%. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP LCS sample was identified as 5B07068-BS1. The LCS results on the summary forms and in the raw data were within the laboratory-established ICP control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

MS/MSD analyses were performed on Outfall 002. The RPDs were less than the control limit of 20% and no qualifications were required.

2.8 MATRIX SPIKE

MS/MSD analyses were performed on Outfall 002. All recoveries were within the AMEC control limits of 75-125% and no qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of this sample; 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 sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.11 INTERNAL STANDARDS PERFORMANCE

As the sample was not analyzed by ICP/MS, the ICP-MS internal standard recoveries are not applicable.

2.12 SAMPLE RESULT VERIFICATION

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

2.13 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 sample in this SDG 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 sample.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3229
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4007 FAX (949) 370-1044
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9500
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0855
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-1622

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									Res Qual Qual Code
Vanadium	EPA 200.7	5B07068	1.4	10	ND	1	02/07/05	02/07/05	

LEVEL IV

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE



Del Mar Analytical

17461 Desian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-329
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 570-4667 FAX (949) 370-1114
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9668
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0883
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-302

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.					Sampled: 02/04/05					Raw Qual
Reporting Units: mg/l										Qual Code
Boron	EPA 200.7	5B07068	0.0074	0.050	0.11	1	02/07/05	02/07/05		

AMEC VALIDATED

LEVEL 1

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

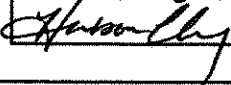
CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711PP21
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 1

Laboratory Del Mar
 Reviewer H. Chang
 Analysis/Method Pesticides PCBs/608

Date: March 31, 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.,	Sample was qualified due to %Ds above 15% in continuing calibration.
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: PESTICIDES/PCBs

SAMPLE DELIVERY GROUP: IOB0418

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#: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Pesticides/PCBs
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: H. Chang
Date of Review: March 31, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedures (DVP-4, Rev.2)*, *EPA Method 608*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the summary form 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	Method
Outfall 002	Outfall 002	IOB0418-01	water	608

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 sample was received at the laboratory with cooler temperature within limits of 4°C ±2°C. The analysis did not require preservation, and no preservation was noted in the field. The COC noted that the samples were received intact. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 PESTICIDES INSTRUMENT PERFORMANCE

No resolution check standards or breakdown check standards are required by Method 608 for pesticides, and according to the raw data provided, a resolution check standard was not analyzed by the laboratory. The laboratory analyzed a endrin/DDT breakdown check standard with a breakdown of ≤20% for individual components (4,4-DDT and endrin) and ≤30% for the total, as suggested in the National Functional Guidelines. A review of the raw data indicated that the resolution of the pesticide compounds were adequate.

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

2.3 CALIBRATION

2.3.1 Analytical Sequence

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

2.3.2 Initial Calibration

There was one initial calibration dated 01/17/05 associated with the pesticide analysis of this SDG, which consisted of six point calibrations for the single component pesticides on two analytical columns. The %RSDs were within the EPA Method 608 QC limit of $\leq 10\%$ or the r^2 values were ≥ 0.995 on both analytical columns. There was no initial calibration reported for toxaphene; however, a toxaphene ICV was analyzed just prior to sample analysis and was utilized as the identification standard. An ICV was analyzed immediately following each of the initial calibrations. The %Ds for all target compounds were within the QC limits of 15% on both analytical columns. A representative number of %RSDs and ICV %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

There was one initial calibration dated 01/14/05 associated with the PCB analysis in this SDG which consisted of five points for Aroclor 1016 and Aroclor 1260. The average %RSD for Aroclor 1016 and Aroclor 1260 were $\leq 10\%$. Although the laboratory provided an initial calibration checklist for Aroclors 1221, 1232, 1242, 1248, and 1254, there were no raw data or calibration summaries included for the Aroclors 1221, 1232, 1248, or 1254. An ICV containing Aroclors 1016 and 1260 was analyzed immediately following each of the initial calibrations. The %Ds for all target compounds were within the QC limits of 15% on both analytical columns. A representative number of %RSDs and ICV %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.3.3 Continuing Calibration

An ICV was analyzed prior to the sample analysis and was evaluated as a daily continuing calibration standard. The laboratory analyzed two calibration standards following the sample analysis. The %Ds for 4,4'-DDT and methoxychlor were above 15% in one of the continuing calibration on the primary column (channel B). These compounds were qualified as estimated nondetects, "UJ." All %Ds were $\leq 15\%$ in the primary column in the other continuing calibrations. Since there were no detects in the sample requiring confirmation, confirmation column (channel A) data were not assessed.

The PCB analysis for this SDG was bracketed by two CCVs with the %Ds for Aroclor 1016 and Aroclor 1260 in both CCVs $\leq 15\%$ on the primary column (channel A). A representative number of %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.4 BLANKS

2.4.1 Instrument Blanks

An instrument blank was analyzed at the beginning of each analytical sequence. There were no target compound detects in the instrument blank. No qualifications were necessary.

2.4.2 Method Blanks

One water method blank (5B08078-BLK1) was extracted and analyzed with the sample in this SDG. There were no detects for target compounds in the method blank. Review of the chromatograms showed no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (5B08078-BS1/BSD1) was extracted and analyzed with this SDG. The recoveries for all spiked pesticide target compounds and Aroclors were within the laboratory-established QC limits and the RPDs were $\leq 30\%$. A representative number of recoveries were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.6 SURROGATE RECOVERY

The sample and all QC samples were fortified with the surrogate compounds decachlorobiphenyl and tetrachloro-m-xylene. Surrogate recoveries for the pesticide and PCB analyses of the samples were within the laboratory-established QC limits. The recoveries were calculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses associated with this SDG. Method accuracy and precision were assessed based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 SAMPLE CLEANUP PERFORMANCE

According to the laboratory extraction benchsheets, PCB extracts were acid washed. No other cleanups were performed. No qualifications were required.

2.9 FIELD QC SAMPLES

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

2.9.1 Field Blanks and Equipment Rinsates

There were no field QC samples associated with the samples in this SDG. No qualifications were required.

2.9.2 Field Duplicates

There were no field duplicate samples associated with the sample in this SDG.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for pesticide target compounds and PCBs by EPA Method 608. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for the samples in this SDG. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified for this SDG. Since there were no detects reported in the samples, quantitation was verified by recalculating a representative number of blank spike and surrogate recoveries. Reporting limits were supported by the low level standard of the initial calibration and the laboratory MDL studies. The water reporting limits were not adjusted for the actual sample volume. Results were reported in ug/L (ppb). No qualifications were required.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-1297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 373-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 525-8596 FAX (658) 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: Annual Outfall 002
 Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Raw Data	Qual Comments
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont. Sampled: 02/04/05											
Reporting Units: ug/l											
Aldrin	EPA 608	5B08078	0.029	0.10	ND	0.943	02/08/05	02/08/05		u	
alpha-BHC	EPA 608	5B08078	0.00049	0.010	ND	0.943	02/08/05	02/08/05			
beta-BHC	EPA 608	5B08078	0.011	0.10	ND	0.943	02/08/05	02/08/05			
delta-BHC	EPA 608	5B08078	0.010	0.20	ND	0.943	02/08/05	02/08/05			
gamma-BHC (Lindane)	EPA 608	5B08078	0.0097	0.10	ND	0.943	02/08/05	02/08/05			
Chlordane	EPA 608	5B08078	0.18	1.0	ND	0.943	02/08/05	02/08/05			
4,4'-DDD	EPA 608	5B08078	0.011	0.10	ND	0.943	02/08/05	02/08/05			
4,4'-DDE	EPA 608	5B08078	0.017	0.10	ND	0.943	02/08/05	02/08/05			
4,4'-DDT	EPA 608	5B08078	0.015	0.10	ND	0.943	02/08/05	02/08/05		u	
Dieldrin	EPA 608	5B08078	0.010	0.10	ND	0.943	02/08/05	02/08/05		u	
Endosulfan I	EPA 608	5B08078	0.015	0.10	ND	0.943	02/08/05	02/08/05			
Endosulfan II	EPA 608	5B08078	0.037	0.10	ND	0.943	02/08/05	02/08/05			
Endosulfan sulfate	EPA 608	5B08078	0.013	0.20	ND	0.943	02/08/05	02/08/05			
Endrin	EPA 608	5B08078	0.0082	0.10	ND	0.943	02/08/05	02/08/05			
Endrin aldehyde	EPA 608	5B08078	0.045	0.10	ND	0.943	02/08/05	02/08/05			
Endrin ketone	EPA 608	5B08078	0.020	0.10	ND	0.943	02/08/05	02/08/05			
Heptachlor	EPA 608	5B08078	0.030	0.10	ND	0.943	02/08/05	02/08/05			
Heptachlor epoxide	EPA 608	5B08078	0.012	0.10	ND	0.943	02/08/05	02/08/05			
Methoxychlor	EPA 608	5B08078	0.034	0.10	ND	0.943	02/08/05	02/08/05		u	
Toxaphene	EPA 608	5B08078	0.77	5.0	ND	0.943	02/08/05	02/08/05		u	
Surrogate: Tetrachloro-m-xylene (35-120%)											
Surrogate: Decachlorobiphenyl (45-120%)											
Surrogate: Tetrachloro-m-xylene (35-120%)											
Surrogate: Decachlorobiphenyl (45-120%)											

AMCO VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Darian 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 (949) 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) 785-0131
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									
Aroclor 1016	EPA 608	5B08078	0.067	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1221	EPA 608	5B08078	0.057	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1232	EPA 608	5B08078	0.13	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1242	EPA 608	5B08078	0.12	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1248	EPA 608	5B08078	0.21	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1254	EPA 608	5B08078	0.16	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1260	EPA 608	5B08078	0.17	1.0	ND	0.943	02/08/05	02/08/05	
Surrogate: Decachlorobiphenyl (45-120%)					101 %				

Raw Data
Outfall
Coole



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 T711RA4
 Task Order 313150010
 SDG No. Multiple
 No. of Analyses 11

Laboratory Del Mar
 Reviewer P. Meeks
 Analysis/Method Radionuclides

Date: 03/24/05
 Reviewer's Signature
P. Meeks

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications applied for:
Holding Times	1. Exceeded holding times.
GC/MS Tune/Inst. Performance	2. Matrix spike recovery outlier.
Calibrations	3. Laboratory duplicate RPD outlier.
Blanks	4. Incorrect sample container.
Surrogates	5. Detector efficiency outliers.
Matrix Spike/Dup LCS	6. Incorrect sample preservation.
Field QC	7. <i>Reanalysis rejected in favor of original result</i>
Internal Standard Performance	Three tritium results rejected due to incorrect sample preservation.
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: RADIONUCLIDES

SAMPLE DELIVERY GROUPS:

IOB0418, IOB0980, IOB0993, IOB0996, IOB0997,
IOB1001, IOB1004, IOB1014, & IOB1069

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#: IOB0418, IOB0980, IOB0993, IOB0996, IOB0997,
IOB1001, IOB1004, IOB1014, & IOB1069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 11
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 23, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0*, and validation procedures outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 002	IOB0418-01	8237-001	water	900.0, 905.0, 906.0
Outfall 001	IOB0980-01	8265-001	water	900.0, 905.0, 906.0
Outfall 001RE1	IOB0980-01RE1	8265-001	water	900.0
Outfall 007	IOB0993-01	8261-001	water	900.0, 905.0, 906.0
Outfall 009	IOB0996-01	8262-001	water	900.0, 905.0, 906.0
Outfall 008	IOB0997-01	8266-001	water	900.0, 905.0, 906.0
Outfall 010	IOB1001-01	8267-001	water	900.0, 905.0, 906.0
Outfall 011	IOB1004-01	8263-001	water	900.0, 905.0, 906.0
Outfall 011	IOB1014-01	8264-001	water	900.0, 905.0, 906.0
Outfall 003 Filtered	IOB1069-01	8268-001	water	900.0, 905.0, 906.0
Outfall 003 Unfiltered	IOB1069-02	8268-002	water	900.0, 905.0, 906.0
Outfall 003 Substrate	IOB1069-03	8269-001	water	901.1

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

Most samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4\pm 2^{\circ}\text{C}$. After the analyses were completed, Del Mar Analytical sent extra volume of Outfall 001 to Eberline for gross alpha reanalysis. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. All samples were received intact and in good condition.

According to the Eberline login sheet, Outfall 002 was received unpreserved. It was confirmed in correspondence with Eberline dated 01/31/05, that the gross alpha, gross beta, and strontium samples were not preserved upon receipt; therefore, the nondetected strontium result for Outfall 002 was qualified as estimated, "UJ." According to the Los Angeles Water Quality Control Board (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved and filtered aliquots should be preserved after filtration.

Eberline noted on their login sheets that Outfall 007, Outfall 008, Outfall 009 and Outfall 010 were received preserved, in plastic containers. Per the method, tritium samples should not be preserved. Per a telephone conversation with M. Mannion of Eberline, the pH of these samples was adjusted back to about 7 upon receipt at Eberline. Due to the improper pH adjustments, the tritium results for Outfall 007, Outfall 008, Outfall 009, and Outfall 010 were rejected, "R." Additional, unpreserved aliquots of Outfall 007, Outfall 008, Outfall 009, and Outfall 010 were sent from Del Mar to Eberline for tritium reanalysis. These results were not available at the time of this report.

Additionally, according to the 01/12/05 LARWQCB guidance letter, samples collected for tritium analysis should be submitted in glass containers to avoid potential loss of tritium by sorption onto the plastic container. As the Outfall 007, Outfall 008, Outfall 009 and Outfall 010 tritium samples were previously rejected, no further qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel and the transfer COCs were signed by personnel from both laboratories. Filtered, unfiltered, and substrate analyses were requested for Outfall 011 (IOB1014) on the original COC from the field to Del Mar. These instructions did not appear on the transfer COC to Eberline and subsequently only filtered unanalyses were performed. The remaining original and transfer COCs accounted for the samples and analyses presented in this data package. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. A reanalysis for gross alpha was requested for Outfall 001. To distinguish between the two results, the reviewer added an "RE1," suffix to the Outfall 001 and Del Mar Analytical IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and strontium samples were analyzed within 180 days of collection. The Outfall 002 and Outfall 003 Unfiltered gross alpha and gross beta samples were analyzed beyond the five day holding time for unpreserved samples; therefore, these gross alpha and gross beta results were qualified as estimated, "J," for detects and, "UJ," for nondetects. No further qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha

The initial calibration included with the data was performed in February 2003. All detector efficiencies were below 20%; therefore, the gross alpha results were qualified as estimated, "UJ," for nondetects and, "J," for detects, unless otherwise rejected (see section 2.10).

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur.

Gross Beta and Strontium-90

The initial calibrations were performed in June 1997. All gross beta detector efficiencies were at least 20% and were considered acceptable. All strontium chemical yields were at least 65% and were considered acceptable and the strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

Cesium

The reviewer confirmed that the 662 KeV peak was used for quantitation, with an efficiency of 85%. No qualifications were necessary.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Three blank spikes (8261-002, 8237-002, 8269-002) were analyzed in association with the samples in these SDGs. The gross alpha, gross beta, and strontium recoveries for 8261-002 were outside of the 3-sigma limits, but all had acceptable recoveries of 80%, 88%, and 108%, respectively. The remaining blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analysis on Outfall 002, Outfall 007, and Outfall 003 Substrate. The gross alpha and tritium RPDs were greater than 20% for Outfall 007. The gross alpha results were within 3-sigma and were considered acceptable, but the tritium result was just above 3-sigma; however, as no tritium detects were retained (see section 2.1.1), no qualifications were required. The remaining RPD were $\leq 20\%$. No further qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed matrix spike analyses on Outfall 002 and Outfall 007 for gross alpha, gross beta, and tritium. The Outfall 002 recovery for gross alpha was below 3-sigma; therefore, the gross alpha results in all samples except Outfall 007 were qualified as estimated, "J," for detects and, "UJ," for nondetects. As Outfall 007 had an acceptable recovery for gross alpha, no qualifications were applied. The remaining recoveries were within the 3-sigma limits. No further qualifications were necessary.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these data packages. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted.

The original planchet for gross alpha in Outfall 001 was recounted once per a request from MWH personnel. The recount yielded an equivalent result as the original count and was not reported. The sample was later reanalyzed from extra sample volume provided by Del Mar Analytical, and was reported as Outfall 001 RE1. As the two gross alpha results were similar, the reviewer rejected, "R," the reanalysis, Outfall 001 RE1, in favor of the original result, Outfall 001. No further qualifications were necessary.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8237</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502073-01</u>	Contract <u>PROJECT# 1080418</u>
Received Date <u>02/08/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Outfall 002 1080418-01	8237-001		02/04/05	03/02/05	GrossAlpha	0.865 ± 2.9	pCi/L	4.35	UT	H, R, G
				03/02/05	Gross Beta	4.17 ± 3.4	pCi/L	5.53	UT	H
				02/28/05	H3	5.86 ± 94	pCi/L	158	UT	*I
				02/25/05	Sr90	0.010 ± 0.22	pCi/L	0.420	UT	*I

mm 3/24/05

AMEC VALIDATED
LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/08/05</u>
Page 1

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

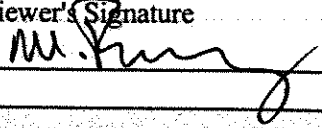
Package ID T711SV38
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 1

Laboratory Del Mar

Reviewer M. Pokorny

Analysis/Method Semivolatiles

Date: March 31, 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., 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	Qualifications required for calibration and LCS outliers.
COMMENTS ^b	

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IOB0418

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#: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: M. Pokorny
Date of Review: March 31, 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 Semivolatile Organics (DVP-3, Rev. 2)*, *EPA Method 625*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 002	Outfall 002	IOB0418-01	water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C, at 2°C. The analysis did not require preservation, and no preservation was noted in the field. The COC noted that the sample was received intact. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 GC/MS TUNING

The DFTPP tunes met the criteria specified in Method 625, and the sample was analyzed within 12 hours of the DFTPP injection time. No qualifications were required.

2.3 CALIBRATION

The initial calibration associated with this SDG was dated 01/10/05. The average RRFs for were ≥ 0.05 and the %RSDs were $\leq 35\%$ or $r^2 \geq 0.995$ for all target compounds except for the r^2 value for 2,4-dinitrophenol. 2,4-Dinitrophenol was qualified as an estimated nondetect, "UJ," in the sample of this SDG. A representative number of average RRFs and %RSDs were checked from the raw data, and no calculation or transcription errors were noted. The continuing calibration associated with the sample analysis was analyzed 02/10/05. The RRFs for all target compounds were ≥ 0.05 , and the %Ds were $\leq 20\%$, except for the %Ds for benzoic acid, 2,4-dinitrophenol, 4-nitrophenol, and benzidine. Benzoic acid, 2,4-dinitrophenol, 4-nitrophenol, and benzidine were qualified as estimated nondetects, "UJ," in the sample of this SDG, unless otherwise rejected. A representative number of RRFs and %Ds were checked from the raw data, and no calculation or transcription errors were noted. No further qualifications were required.

2.4 BLANKS

One method blank (5B06005-BLK1) was extracted and analyzed with this SDG. No target compounds were reported in the method blank. Review of the raw data indicated no reportable false negatives or false positives.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/ blank spike duplicate pair (5B06005-BS1/BSD1) was extracted and analyzed with this SDG. For blank spike/blank spike duplicate pairs, qualifications are applied, if necessary, to the associated samples based on those recoveries consistently outside of the laboratory-established QC limits in both the blank spike and blank spike duplicate. Results for those compounds with recoveries not consistent within the pair, with RPDs above the QC limit, are qualified as estimated, "UJ," for nondetects and "J" for detects, in the associated samples. All percent recoveries and RPDs were within the laboratory QC limits except for benzidine which was not recovered in the BS and BSD. The sample of this SDG had benzidine rejected, "R." A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No further qualifications were required.

2.6 SURROGATE RECOVERY

The sample surrogate recoveries were within the laboratory QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were associated with this SDG. Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

There were no field QC samples associated with this SDG. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

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

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low level of the initial calibration and the method detection limit study. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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

2.13 SYSTEM PERFORMANCE

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



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05

Received: 02/04/05

DRAFT: 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	Perf Qual	Anal Code
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.					Sampled: 02/04/05						
Reporting Units: ug/l											
Fluoranthene	EPA 625	5B06005	0.089	0.50	ND	0.957	02/06/05	02/10/05			
Fluorene	EPA 625	5B06005	0.075	0.50	ND	0.957	02/06/05	02/10/05			
Hexachlorobenzene	EPA 625	5B06005	0.13	1.0	ND	0.957	02/06/05	02/10/05			
Hexachlorobutadiene	EPA 625	5B06005	0.38	2.0	ND	0.957	02/06/05	02/10/05			
Hexachlorocyclopentadiene	EPA 625	5B06005	1.8	5.0	ND	0.957	02/06/05	02/10/05			
Hexachloroethane	EPA 625	5B06005	0.51	3.0	ND	0.957	02/06/05	02/10/05			
Indeno(1,2,3-cd)pyrene	EPA 625	5B06005	0.19	2.0	ND	0.957	02/06/05	02/10/05			
Isophorone	EPA 625	5B06005	0.059	1.0	ND	0.957	02/06/05	02/10/05			
2-Methylnaphthalene	EPA 625	5B06005	0.13	1.0	ND	0.957	02/06/05	02/10/05			
2-Methylphenol	EPA 625	5B06005	0.28	2.0	ND	0.957	02/06/05	02/10/05			
4-Methylphenol	EPA 625	5B06005	0.20	5.0	ND	0.957	02/06/05	02/10/05			
Naphthalene	EPA 625	5B06005	0.13	1.0	ND	0.957	02/06/05	02/10/05			
2-Nitroaniline	EPA 625	5B06005	0.18	5.0	ND	0.957	02/06/05	02/10/05			
3-Nitroaniline	EPA 625	5B06005	0.35	5.0	ND	0.957	02/06/05	02/10/05			
4-Nitroaniline	EPA 625	5B06005	0.49	5.0	ND	0.957	02/06/05	02/10/05			
Nitrobenzene	EPA 625	5B06005	0.10	1.0	ND	0.957	02/06/05	02/10/05			
2-Nitrophenol	EPA 625	5B06005	0.23	2.0	ND	0.957	02/06/05	02/10/05			
4-Nitrophenol	EPA 625	5B06005	6.6	10	ND	0.957	02/06/05	02/10/05			
N-Nitrosodimethylamine	EPA 625	5B06005	0.22	2.0	ND	0.957	02/06/05	02/10/05			
N-Nitroso-di-n-propylamine	EPA 625	5B06005	0.18	2.0	ND	0.957	02/06/05	02/10/05			
N-Nitrosodiphenylamine	EPA 625	5B06005	0.077	1.0	ND	0.957	02/06/05	02/10/05			
Pentachlorophenol	EPA 625	5B06005	0.78	2.0	ND	0.957	02/06/05	02/10/05			
Phenanthrene	EPA 625	5B06005	0.071	0.50	ND	0.957	02/06/05	02/10/05			
Phenol	EPA 625	5B06005	0.14	1.0	ND	0.957	02/06/05	02/10/05			
Pyrene	EPA 625	5B06005	0.059	0.50	ND	0.957	02/06/05	02/10/05			
1,2,4-Trichlorobenzene	EPA 625	5B06005	0.10	1.0	ND	0.957	02/06/05	02/10/05			
2,4,5-Trichlorophenol	EPA 625	5B06005	0.075	2.0	ND	0.957	02/06/05	02/10/05			
2,4,6-Trichlorophenol	EPA 625	5B06005	0.10	1.0	ND	0.957	02/06/05	02/10/05			
Surrogate: 2-Fluorophenol (35-120%)											66 %
Surrogate: Phenol-d6 (45-120%)											66 %
Surrogate: 2,4,6-Tribromophenol (50-125%)											74 %
Surrogate: Nitrobenzene-d5 (45-120%)											67 %
Surrogate: 2-Fluorobiphenyl (45-120%)											67 %
Surrogate: Terphenyl-d14 (45-135%)											72 %

Handwritten notes: "Perf Qual" and "Anal Code" in the header. A vertical line with arrows at both ends spans the table rows, with "U" and "C" written near the top and bottom of the line.

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

AMEC VALIDATED

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. IOB0418 <Page 21 of 53>

LEVEL IV

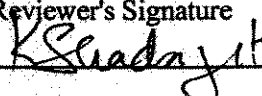
CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711TF42
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 1

Laboratory Del Mar Analytical
 Reviewer K. Shadowlight
 Analysis/Method TPH-Extractable

Date April 1, 2005
 Reviewer's Signature


ACTION ITEMS*	
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	
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	Acceptable as reviewed
* 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: TPH/EXTRACTABLE

SAMPLE DELIVERY GROUP: IOB0418

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#: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: TPH-Extractable
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 1, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D Extractable Total Fuel Hydrocarbons by GC (DVP-8, Rev. 2)*, USEPA SW-846 Method 8015M, and validation guidelines outlined in the *USEPA CLP National Functional Guidelines for Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 002	Outfall 002	IOB0418-01	water	8015M/EFH

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 sample in this SDG was received at Del Mar Analytical laboratory on ice within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The Del Mar Analytical case narrative noted that the sample containers were received intact. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 CALIBRATION

The initial calibration associated with the sample analysis was analyzed on 11/16/04. The %RSD was within the QC limit of $\leq 20\%$. The %Ds for the initial calibration verification (ICV) and continuing calibrations associated with the sample analysis were $\leq 15\%$. The %RSD and %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.3 METHOD BLANKS

One method blank (5B05045-BLK1) was extracted and analyzed with the sample in this SDG. EFH (C13-C22) was not present above the MDL in the method blank or in the instrument blank analyzed at the beginning of the analytical sequence. Review of the chromatograms showed no false negatives. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One method blank spike/blank spike duplicate pair (5B05045-BS1/5B05045-BS1D) was extracted and analyzed with the sample in this SDG. The recoveries of alkane range C13-C40 from spiked diesel was within the laboratory-established QC limits of 40-120% and the RPD was $\leq 25\%$. The recoveries and RPD were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.5 SURROGATE RECOVERY

The sample and QC were fortified with the surrogate compound n-octacosane. The surrogate recoveries were within the laboratory-established QC limits of 40-125%. The recovery was calculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses associated with the sample of this SDG. Evaluation of method accuracy and precision was based on the BS/BSD results. No qualifications were required.

2.7 FIELD QC SAMPLES

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

2.7.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples associated with the site sample in this SDG. No qualifications were required.

2.7.2 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.8 COMPOUND IDENTIFICATION

The laboratory analyzed for EFH n-alkane range C13-C22 by EPA SW846 Method 8015M. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for this SDG. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified for this SDG by recalculating any sample detect, blank spike recoveries, and a representative number of surrogate recoveries. Reporting limits were supported by the low level standard of the initial calibration and by the laboratory MDL. The reporting limit was not adjusted for sample amount; however, the dilution factor on the sample result summary reflected the sample amount extracted. No qualifications were required.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8596 FAX (658) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. # 3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05

Received: 02/04/05

DRAFT: EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
EFH (C13 - C22)	EPA 8015B	5B05045	0.082	0.50	ND	0.952	02/05/05	02/06/05	LL
Surrogate: n-Octacosane (40-125%)					73 %				

Per Qual Cool

NOT VALIDATED

[Faint signature and text]

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

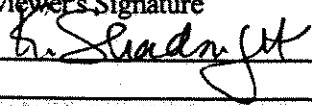
CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711TF43
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 2

Laboratory Del Mar Analytical
 Reviewer K. Shadowlight
 Analysis/Method TPH-Purgeable

Date April 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	
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	Acceptable as reviewed
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: TPH/PURGEABLE

SAMPLE DELIVERY GROUP: IOB0418

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#: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: TPH-Purgeable
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 1, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D Extractable Total Fuel Hydrocarbons by GC (DVP-8, Rev. 2)*, USEPA SW-846 Method 8015M, and validation guidelines outlined in the *USEPA CLP National Functional Guidelines for Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 002	Outfall 002	IOB0418-01	water	8015M/GRO
Trip Blank	Trip Blank	IOB0418-02	water	8015M/GRO

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 this SDG were received at Del Mar Analytical laboratory on ice within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The Del Mar Analytical case narrative noted that the samples were received intact, and the COC indicated the samples were properly preserved; however, information regarding absence of headspace was not provided. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 CALIBRATION

Two gasoline standard initial calibrations dated 08/20/04 and 11/22/04 were associated with this SDG. The %RSDs for GRO (C4-C12) were within the QC limit of $\leq 20\%$. An initial calibration verification (ICV) was not provided in the data package. The %Ds for the CCVs bracketing the sample analyses were within the Method QC limit of $\leq 15\%$. The %RSD and %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.3 METHOD BLANKS

Two water method blanks (5B10007-BLK1 and 5B11004-BLK1) were associated with this SDG. GRO (C4-C12) was not detected above the MDL in either of the method blanks. Review of the raw data indicated no false negative results. No qualifications were necessary.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two water method blank spikes (5B10007-BS1 and 5B11004-BS1) were associated with this SDG. GRO (C4-C12) was recovered within the laboratory-established QC limits of 70-140% in both blank spikes. The recoveries were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.5 SURROGATE RECOVERY

The samples and QC were fortified with the surrogate compound bromofluorobenzene (BFB). The surrogate recovery was within the laboratory QC limits of 65-140% for the samples. The recovery was calculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed for this SDG; therefore, evaluation of method accuracy was based on the blank spike results. No qualifications were required.

2.7 FIELD QC SAMPLES

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

2.7.1 Trip Blanks, Field Blanks, and Equipment Rinsates

Sample Trip Blank was the trip blank associated with this SDG. Target compound GRO was not detected in the trip blank. There were no other field QC samples associated with this SDG. No qualifications were required.

2.7.2 Field Duplicates

There were no field duplicate samples in this SDG.

2.8 COMPOUND IDENTIFICATION

The laboratory analyzed for GRO (C4-C12) by EPA SW-846 Method 8015M. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for the samples in this SDG. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified for this SDG by recalculating any sample detects, blank spike recoveries, and a representative number of surrogate recoveries. Reporting limits were supported by the low level standard of the initial calibrations and by the laboratory MDL. No qualifications were required.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05

Received: 02/04/05

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	5B11004	0.050	0.10	ND	1	02/11/05	02/11/05	U
Surrogate: 4-BFB (FID) (65-140%)					71 %				
Sample ID: IOB0418-02 (DRAFT: Trip Blank - Water)					Sampled: 02/04/05				
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	5B10007	0.050	0.10	ND	1	02/10/05	02/10/05	U
Surrogate: 4-BFB (FID) (65-140%)					127 %				

*Paul
Cool*

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

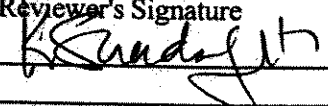
Package ID T711VO67
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 1

Laboratory Del Mar Analytical-AZ

Reviewer K. Shadowlight

Analysis/Method Volatiles

Date April 1, 2005
 Reviewer's Signature


ACTION ITEMS*	
1. Case Narrative	
Deficiencies	
2. Out of Scope	
Analyses	
3. Analyses Not Conducted	CCV (see calibration section)
4. Missing Hardcopy	
Deliverables	
5. Incorrect Hardcopy	
Deliverables	
6. Deviations from Analysis	
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	Acceptable as reviewed
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IOB0418

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 #: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles (1,4-dioxane)
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 1, 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 SW-846 8260B* and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No. Del Mar, CA	Lab No. Del Mar, AZ	Matrix	Method
Outfall 002	Outfall 002	IOB0418-01	POB0170-01	water	8260B

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 Del Mar within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The sample was subcontracted to Del Mar (Phoenix) for 1,4-dioxane analysis. The sample was properly preserved. The COC and transfer COC noted that the sample was received intact; however, information regarding absence of headspace was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC and transfer COC were signed by field and laboratory personnel. As the sample was couriered directly to the laboratory from the field, custody seals were not required. According to the transfer COC, there were no custody seals present on the coolers received by Del Mar Analytical in Arizona. The EPA ID was added to the sample result summary report by the reviewer. No qualifications were required.

2.1.3 Holding Times

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

2.2 GC/MS TUNING

The ion abundance windows were consistent with those specified in EPA Method 8260B. All ion abundances were within the established windows, and the sample was analyzed within 12 hours of the BFB injection time. No qualifications were required.

2.3 CALIBRATION

One initial calibration, dated 02/01/05, was associated with this SDG. The average RRF for 1,4-dioxane was ≥ 0.05 and the %RSD was $\leq 15\%$. The laboratory reported the continuing calibration and the blank spike (P5B1408-BS1) from the same analysis. As the analysis cannot be reported as both a CCV and a blank spike, the reviewer reported P5B1408-BS1 as the continuing calibration. The RRF for 1,4-dioxane was ≥ 0.05 and the %D was $\leq 20\%$. The %RSD and average RRF for 1,4-dioxane in the initial calibration, and the %D and RRF for 1,4-dioxane in the continuing calibration were recalculated from the raw data, and no calculation or transcription errors were found. No qualifications were required.

2.4 BLANKS

One water method blank (P5B1408-BLK1) was associated with this SDG. Target compound 1,4-dioxane was not detected in the method blank. The method blank raw data showed no evidence of a false negative. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory analyzed a blank spike/blank spike duplicate pair (P5B1408-BS1/BS1D) with this SDG; however, P5B1408-BS1 was reported as the CCV (see section 2.3); therefore, P5B1408-BS1D was evaluated as a single blank spike. The recovery for 1,4-dioxane was within the QC limits of 70-130%. The recovery was recalculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The samples and QC were fortified with dibromofluoromethane. The surrogate was recovered within the laboratory QC limits of 80-125%. The surrogate recovery for this sample was recalculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were associated with this SDG. Evaluation of method accuracy was based on blank spike results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

The sample in this SDG had no associated trip blank. No qualifications were required.

2.8.1.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples were within the control limits established by the continuing calibration standards: +100%/-50% for internal standard areas and ± 0.50 minutes for retention times. 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 1,4-dioxane by Method 8260B/SIM. 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 limit was supported by the lowest concentration of the initial calibration standards and by the undated MDL supplied by the laboratory. Compound quantitation was verified by recalculating blank spike and surrogate recoveries from the raw data. No calculation or transcription errors were noted. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs are not typically reported for SIM methods.

2.13 SYSTEM PERFORMANCE

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



17461 Darian 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 (949) 370-1016
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8596 FAX (658) 505-9668
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0243 FAX (480) 785-085
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical - Irvine
 17461 Darian Ave. Suite 100
 Irvine, CA 92614
 Attention: Michele Harper

Project ID: IOB0418
 Report Number: POB0170

Sampled: 02/04/05
 Received: 02/08/05

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POB0170-01 (IOB0418-01 - Water)		Dot fall 002							
Reporting Units: ug/l									
1,4-Dioxane	EPA 8260B	P5B1408	0.49	1.0	ND	1	02/14/05	02/14/05	Rec Qual / Qual Note
Surrogate: Dibromofluoromethane (80-125%)					92 %				u

AMEC VALIDATED

LEVEL IV

Del Mar Analytical - Phoenix
 Karen Maxwell
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO68
 Task Order 313150010
 SDG No. IOB0418

No. of Analyses 2

Laboratory Del Mar Analytical
 Reviewer K. Shadowlight
 Analysis/Method Volatiles

Date April 01, 2005
 Reviewer's Signature K. Shadowlight

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	Qualifications were assigned for continuing calibration %D outliers
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 GROUP: IOB0418

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#: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 31, 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 002	Outfall 002	IOB0418-01	water	624
Trip Blank	Trip Blank	IOB0418-02	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 this SDG were received at the laboratory within the temperature limits of 4°C ±2°C, at 4°C. The samples were properly preserved. The COC 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 COC was signed and dated by both field and laboratory personnel. The COC accounted for the analyses presented in this SDG. 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

Two initial calibration dated 11/03/04 (trichlorotrifluoroethane, acrolein, and acrylonitrile only) and 02/01/05 were associated with this SDG. The average RRFs were ≥0.05 for all compounds listed on the sample result summaries. The %RSDs were ≤35% for the target compounds analyzed by EPA Method 624. One continuing calibration dated 02/06/05 was associated with the sample analyses. The %Ds for 2-chloroethylvinyl ether, acrolein, and acrylonitrile exceeded 20% in the continuing calibration; therefore, the nondetect results for 2-chloroethyl vinyl ether, acrolein, and acrylonitrile were qualified as estimated, "UJ," in sample Outfall 002. No qualifications were required for the Trip Blank. A representative number of %RSDs and average RRFs from the initial calibrations, and %Ds and RRFs from the continuing calibrations were recalculated from the raw data, and no calculation or transcription errors were found. No further qualifications were required.

2.4 BLANKS

One water method blank (5B06020-BLK1) was 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

One water blank spike (5B06020-BS1) was 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

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

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with this SDG. 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 this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples in this SDG 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 the volatile target compounds by EPA Method 624. A TIC search was performed for requested target compounds 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane, as these compounds were not included in the calibration (see section 2.11). Neither compound was detected as a TIC. Chromatograms, retention times, and spectra for the samples and QC were examined and no target compound identification problems were noted. No further 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 standards and by the MDL study. Calibration was not performed for target compounds 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane; therefore, the laboratory performed only a TIC search for those compounds. Nondetects for both compounds were qualified as estimated, "UJ," in sample Outfall 002. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in $\mu\text{g/L}$ (ppb). No calculation or transcription errors were noted. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

The laboratory did not provide TICs for this SDG. 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.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: ug/l									
Sampled: 02/04/05									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	US
Cyclohexane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	US
Sample ID: IOB0418-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Sampled: 02/04/05									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	U
Cyclohexane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	U

Rev Qual | Qual |
 US | X II |
 US | X II |
 U |
 U |

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

VALID

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL IV



17461 Denan Ave., Suite 100, Irvine, CA 92614 (949) 251-1022 FAX (949) 260-3207
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 570-4667 FAX (909) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 735-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

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: IOB0418-01 (DRAFT: Outfall 002 - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Acrolein	EPA 624	5B06020	4.6	50	ND	1	02/06/05	02/06/05	Rev Qual / Qual Code US / C
Acrylonitrile	EPA 624	5B06020	5.1	50	ND	1	02/06/05	02/06/05	↓ / ↓
2-Chloroethyl vinyl ether	EPA 624	5B06020	1.3	5.0	ND	1	02/06/05	02/06/05	
Surrogate: Dibromofluoromethane (80-120%)					106 %				
Surrogate: Toluene-d8 (80-120%)					99 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				
Sample ID: IOB0418-02 (DRAFT: Trip Blank - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Acrolein	EPA 624	5B06020	4.6	50	ND	1	02/06/05	02/06/05	Rev Qual / Qual Code u /
Acrylonitrile	EPA 624	5B06020	5.1	50	ND	1	02/06/05	02/06/05	↓ /
2-Chloroethyl vinyl ether	EPA 624	5B06020	1.3	5.0	ND	1	02/06/05	02/06/05	
Surrogate: Dibromofluoromethane (80-120%)					105 %				
Surrogate: Toluene-d8 (80-120%)					101 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

QC VALIDATED

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB0418 <Page 8 of 53>

LEVEL IV



17461 Derran Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-1297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9089
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

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: IOB0418-01 (DRAFT: Outfall 002 - Water)					Sampled: 02/04/05					Rev Qual
Reporting Units: ug/l										Qual code
Benzene	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	u	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5B06020	1.2	5.0	ND	1	02/06/05	02/06/05		
Carbon tetrachloride	EPA 624	5B06020	0.28	5.0	ND	1	02/06/05	02/06/05		
Chloroform	EPA 624	5B06020	0.33	2.0	ND	1	02/06/05	02/06/05		
1,1-Dichloroethane	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05		
1,2-Dichloroethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05		
1,1-Dichloroethene	EPA 624	5B06020	0.32	3.0	ND	1	02/06/05	02/06/05		
Ethylbenzene	EPA 624	5B06020	0.25	2.0	ND	1	02/06/05	02/06/05		
Tetrachloroethene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05		
Toluene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05		
1,1,1-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05		
1,1,2-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05		
Trichloroethene	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05		
Trichlorofluoromethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05		
Vinyl chloride	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05		
Xylenes, Total	EPA 624	5B06020	0.52	4.0	ND	1	02/06/05	02/06/05		
Surrogate: Dibromofluoromethane (80-120%)					106 %					
Surrogate: Toluene-d3 (80-120%)					99 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %					
Sample ID: IOB0418-02 (DRAFT: Trip Blank - Water)					Sampled: 02/04/05					Rev Qual
Reporting Units: ug/l										Qual code
Benzene	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	u	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5B06020	1.2	5.0	ND	1	02/06/05	02/06/05		
Carbon tetrachloride	EPA 624	5B06020	0.28	5.0	ND	1	02/06/05	02/06/05		
Chloroform	EPA 624	5B06020	0.33	2.0	ND	1	02/06/05	02/06/05		
1,1-Dichloroethane	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05		
1,2-Dichloroethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05		
1,1-Dichloroethene	EPA 624	5B06020	0.32	3.0	ND	1	02/06/05	02/06/05		
Ethylbenzene	EPA 624	5B06020	0.25	2.0	ND	1	02/06/05	02/06/05		
Tetrachloroethene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05		
Toluene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05		
1,1,1-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05		
1,1,2-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05		
Trichloroethene	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05		
Trichlorofluoromethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05		
Vinyl chloride	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05		
Xylenes, Total	EPA 624	5B06020	0.52	4.0	ND	1	02/06/05	02/06/05		
Surrogate: Dibromofluoromethane (80-120%)					105 %					
Surrogate: Toluene-d8 (80-120%)					101 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %					

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

UNDATED

LEVEL III



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 765-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

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: IOB0418-01 (DRAFT: Outfall 002 - Water)					Sampled: 02/04/05					Rev Qual
Reporting Units: ug/l										Qual
Bromodichloromethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	u	
Bromoform	EPA 624	5B06020	0.32	5.0	ND	1	02/06/05	02/06/05		
Bromomethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05		
Chlorobenzene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05		
Chloroethane	EPA 624	5B06020	0.33	5.0	ND	1	02/06/05	02/06/05		
Chloromethane	EPA 624	5B06020	0.30	5.0	ND	1	02/06/05	02/06/05		
Dibromochloromethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05		
1,2-Dichlorobenzene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05		
1,3-Dichlorobenzene	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05		
1,4-Dichlorobenzene	EPA 624	5B06020	0.37	2.0	ND	1	02/06/05	02/06/05		
trans-1,2-Dichloroethene	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05		
1,2-Dichloropropane	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05		
cis-1,3-Dichloropropene	EPA 624	5B06020	0.22	2.0	ND	1	02/06/05	02/06/05		
trans-1,3-Dichloropropene	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05		
Methylene chloride	EPA 624	5B06020	0.48	5.0	ND	1	02/06/05	02/06/05		
1,1,2,2-Tetrachloroethane	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05		
Surrogate: Dibromofluoromethane (80-120%)					106 %					
Surrogate: Toluene-d8 (80-120%)					99 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %					
Sample ID: IOB0418-02 (DRAFT: Trip Blank - Water)					Sampled: 02/04/05					Rev Qual
Reporting Units: ug/l										Qual
Bromodichloromethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	u	
Bromoform	EPA 624	5B06020	0.32	5.0	ND	1	02/06/05	02/06/05		
Bromomethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05		
Chlorobenzene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05		
Chloroethane	EPA 624	5B06020	0.33	5.0	ND	1	02/06/05	02/06/05		
Chloromethane	EPA 624	5B06020	0.30	5.0	ND	1	02/06/05	02/06/05		
Dibromochloromethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05		
1,2-Dichlorobenzene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05		
1,3-Dichlorobenzene	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05		
1,4-Dichlorobenzene	EPA 624	5B06020	0.37	2.0	ND	1	02/06/05	02/06/05		
trans-1,2-Dichloroethene	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05		
1,2-Dichloropropane	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05		
cis-1,3-Dichloropropene	EPA 624	5B06020	0.22	2.0	ND	1	02/06/05	02/06/05		
trans-1,3-Dichloropropene	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05		
Methylene chloride	EPA 624	5B06020	0.48	5.0	ND	1	02/06/05	02/06/05		
1,1,2,2-Tetrachloroethane	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05		
Surrogate: Dibromofluoromethane (80-120%)					105 %					
Surrogate: Toluene-d8 (80-120%)					101 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %					

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

VALIDATED

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS
SAMPLE DELIVERY GROUP: IOB0418

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 #: IOB0418
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
Reviewer: L. Jarusewic
Date of Review: March 30, 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 300.0, 350.2, 415.1, 418.1, 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 002	Outfall 002	IOB0418-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analyses and sample presented in this SDG. As the laboratory did not append the client ID with an "RE1" suffix for the sulfate reanalysis, the reviewer edited the Form I to include this information. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the dates of collection with the dates of analyses. The 28-day analytical holding time for ammonia, sulfate, total organic carbon, conductivity, and total recoverable hydrocarbons, 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 . The initial and continuing calibration verification 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. No qualifications were required.

2.3 BLANKS

Total organic carbon was reported in a bracketing CCB at -0.70 mg/L ; however, the CCB result was insufficient to qualify the Outfall 002 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 SAMPLE

The laboratory control sample and laboratory control sample duplicate (total recoverable hydrocarbons only) recoveries were within the laboratory-established control limits. No qualifications were required.

2.5 SURROGATES RECOVERY

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

2.6 LABORATORY DUPLICATES

No MS/MSD analyses were 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

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

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 Is 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." The original and the reanalysis for sulfate in sample Outfall 002 yielded similar results; therefore, the reanalysis result for sample Outfall 002RE1 was rejected, "R," in favor of the original analysis result, Outfall 002. No further qualifications were required.

2.11 FIELD QC SAMPLE

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

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB0418
Analysis: General Minerals

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



Del Mar Analytical

17461 Del Mar Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 266-3291
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1044
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-6396 FAX (619) 505-0681
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0671
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: mg/l									
Sampled: 02/04/05									
Total Recoverable Hydrocarbons	EPA 418.1	5B09073	0.31	1.0	ND	1	02/09/05	02/09/05	U

REV
 QUAL
 CODE

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



17461 Delian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-8371
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1100
 5464 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9600
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0050
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3620

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B07083	0.30	0.50	ND	1	02/07/05	02/07/05	u
Sulfate	EPA 300.0	5B04059	1.8	5.0	310	10	02/04/05	02/05/05	
Total Organic Carbon	EPA 415.1	5B14062	0.25	1.0	4.7	1	02/14/05	02/15/05	

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17451 Derian Ave., Suite 700, Irvine, CA 92614 (949) 261-7022 FAX (949) 260-1277
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1010
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 513-9166
 8830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0041 FAX (480) 785-0088
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3620

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

J 3/30/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01RE1 (DRAFT: Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Sulfate	EPA 300.0	5B07057	1.8	5.0	310	10	02/07/05	02/07/05	R D

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Durian Ave., Suite 100, Irvine, CA 92614 (949) 261-1031 FAX (949) 300-0111
 1014 E. Cooley Dr., Suite A, Colton, CA 92524 (909) 370-4667 FAX (949) 370-7111
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 595-8596 FAX (619) 505-0911
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0011
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3620

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.									
Reporting Units: NTU									
Sampled: 02/04/05									
Turbidity	EPA 180.1	5B05048	0.040	1.0	0.62	1	02/05/05	02/05/05	J DNQ

REV. QUAL. CODE

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17401 Denan Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-30
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-10
 9494 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-96
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-08
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-36

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

DRAFT: INORGANICS

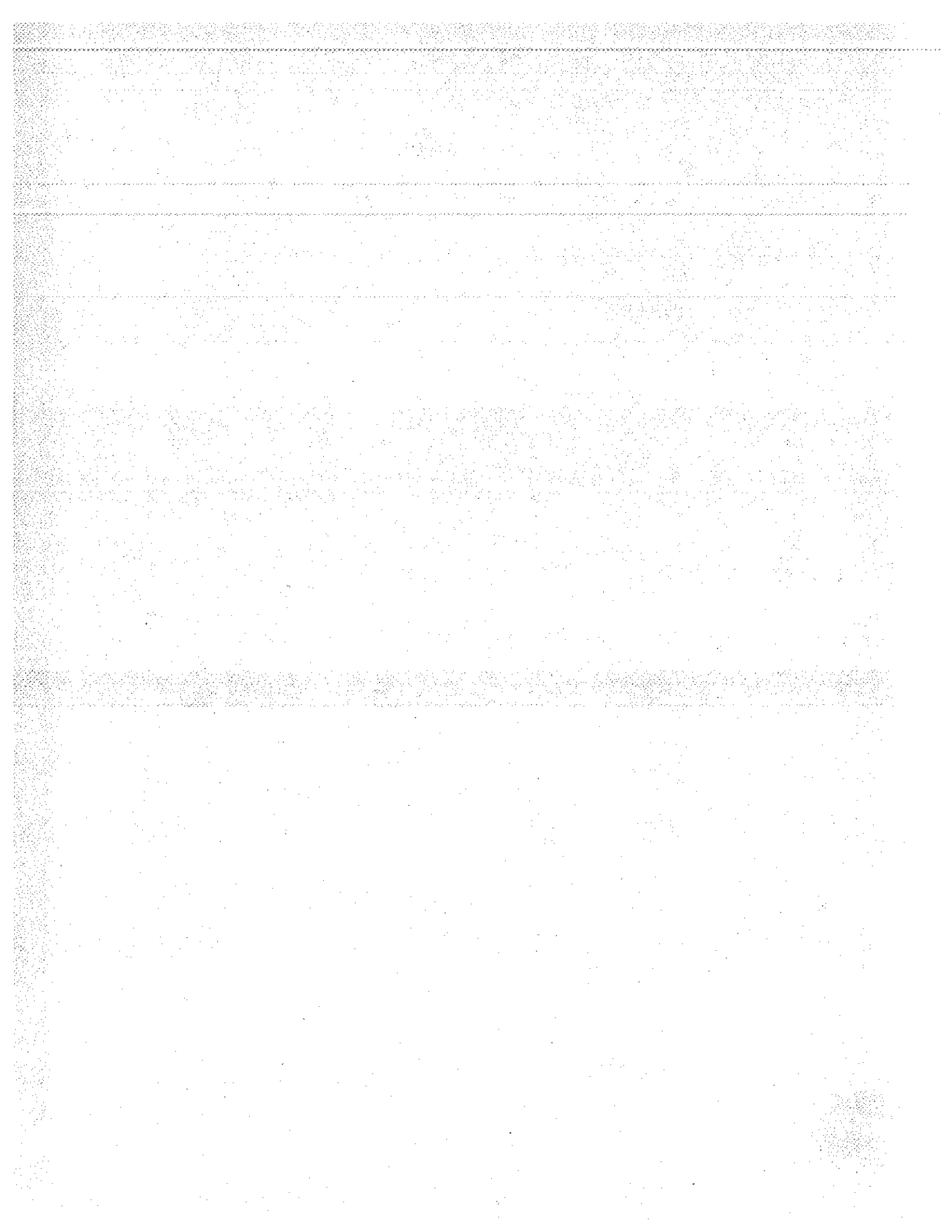
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (DRAFT: Outfall 002 - Water) - cont.									
Reporting Units: umhos/cm									
Specific Conductance									
	EPA 120.1	5B08083	1.0	1.0	1100	1	02/08/05	02/08/05	REY QUAL QUAL CODE

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





LABORATORY REPORT

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

Project: Annual Outfall 002

Sampled: 02/04/05
Received: 02/04/05
Issued: 04/02/05 13:42

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IOB0418-01	Outfall 002	Water
IOB0418-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical, Irvine
Michele Harper
Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

CORRECTIVE ACTION REPORT

Department: GCMS-Semivolatiles

Date: 02/11/2005

Method: EPA 625

Matrix: Water

QC Batch: 5B06005

Identification and Definition of Problem:

The percent recovery for benzidine in the LCS was below method acceptance limits.

Determination of the Cause of the Problem:

Benzidine is known to be a problematic compound. According to the EPA, it can be subject to oxidative losses during solvent extraction and its chromatographic behavior is poor.

Corrective Action Taken:

All results reported for benzidine are potentially biased low and can be considered estimates only.

Quality Assurance Approval:

Dave Dawes

Date: 03/04/2005 05:23 PM

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water)					Sampled: 02/04/05				
Reporting Units: mg/l									
Total Recoverable Hydrocarbons	EPA 418.1	5B09073	0.31	1.0	ND	1	02/09/05	02/09/05	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
EFH (C13 - C22)	EPA 8015B	5B05045	0.082	0.50	ND	0.952	02/05/05	02/06/05	
Surrogate: n-Octacosane (40-125%)					73 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	5B11004	0.050	0.10	ND	1	02/11/05	02/11/05	
Surrogate: 4-BFB (FID) (65-140%)					71 %				
Sample ID: IOB0418-02 (Trip Blank - Water)					Sampled: 02/04/05				
Reporting Units: mg/l									
GRO (C4 - C12)	EPA 8015 Mod.	5B10007	0.050	0.10	ND	1	02/10/05	02/10/05	
Surrogate: 4-BFB (FID) (65-140%)					127 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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: IOB0418-01 (Outfall 002 - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Benzene	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5B06020	1.2	5.0	ND	1	02/06/05	02/06/05	
Carbon tetrachloride	EPA 624	5B06020	0.28	5.0	ND	1	02/06/05	02/06/05	
Chloroform	EPA 624	5B06020	0.33	2.0	ND	1	02/06/05	02/06/05	
1,1-Dichloroethane	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05	
1,2-Dichloroethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	
1,1-Dichloroethene	EPA 624	5B06020	0.32	3.0	ND	1	02/06/05	02/06/05	
Ethylbenzene	EPA 624	5B06020	0.25	2.0	ND	1	02/06/05	02/06/05	
Tetrachloroethene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05	
Toluene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05	
1,1,1-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	
1,1,2-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	
Trichloroethene	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05	
Trichlorofluoromethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05	
Vinyl chloride	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05	
Xylenes, Total	EPA 624	5B06020	0.52	4.0	ND	1	02/06/05	02/06/05	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					106 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					99 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					95 %				

Sample ID: IOB0418-02 (Trip Blank - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Benzene	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5B06020	1.2	5.0	ND	1	02/06/05	02/06/05	
Carbon tetrachloride	EPA 624	5B06020	0.28	5.0	ND	1	02/06/05	02/06/05	
Chloroform	EPA 624	5B06020	0.33	2.0	ND	1	02/06/05	02/06/05	
1,1-Dichloroethane	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05	
1,2-Dichloroethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	
1,1-Dichloroethene	EPA 624	5B06020	0.32	3.0	ND	1	02/06/05	02/06/05	
Ethylbenzene	EPA 624	5B06020	0.25	2.0	ND	1	02/06/05	02/06/05	
Tetrachloroethene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05	
Toluene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05	
1,1,1-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	
1,1,2-Trichloroethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	
Trichloroethene	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05	
Trichlorofluoromethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05	
Vinyl chloride	EPA 624	5B06020	0.26	5.0	ND	1	02/06/05	02/06/05	
Xylenes, Total	EPA 624	5B06020	0.52	4.0	ND	1	02/06/05	02/06/05	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					105 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					101 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					95 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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: IOB0418-01 (Outfall 002 - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Bromodichloromethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	
Bromoform	EPA 624	5B06020	0.32	5.0	ND	1	02/06/05	02/06/05	
Bromomethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05	
Chlorobenzene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05	
Chloroethane	EPA 624	5B06020	0.33	5.0	ND	1	02/06/05	02/06/05	
Chloromethane	EPA 624	5B06020	0.30	5.0	ND	1	02/06/05	02/06/05	
Dibromochloromethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	
1,2-Dichlorobenzene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05	
1,3-Dichlorobenzene	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05	
1,4-Dichlorobenzene	EPA 624	5B06020	0.37	2.0	ND	1	02/06/05	02/06/05	
trans-1,2-Dichloroethene	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05	
1,2-Dichloropropane	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05	
cis-1,3-Dichloropropene	EPA 624	5B06020	0.22	2.0	ND	1	02/06/05	02/06/05	
trans-1,3-Dichloropropene	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05	
Methylene chloride	EPA 624	5B06020	0.48	5.0	ND	1	02/06/05	02/06/05	
1,1,2,2-Tetrachloroethane	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05	
Surrogate: Dibromofluoromethane (80-120%)					106 %				
Surrogate: Toluene-d8 (80-120%)					99 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

Sample ID: IOB0418-02 (Trip Blank - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Bromodichloromethane	EPA 624	5B06020	0.30	2.0	ND	1	02/06/05	02/06/05	
Bromoform	EPA 624	5B06020	0.32	5.0	ND	1	02/06/05	02/06/05	
Bromomethane	EPA 624	5B06020	0.34	5.0	ND	1	02/06/05	02/06/05	
Chlorobenzene	EPA 624	5B06020	0.36	2.0	ND	1	02/06/05	02/06/05	
Chloroethane	EPA 624	5B06020	0.33	5.0	ND	1	02/06/05	02/06/05	
Chloromethane	EPA 624	5B06020	0.30	5.0	ND	1	02/06/05	02/06/05	
Dibromochloromethane	EPA 624	5B06020	0.28	2.0	ND	1	02/06/05	02/06/05	
1,2-Dichlorobenzene	EPA 624	5B06020	0.32	2.0	ND	1	02/06/05	02/06/05	
1,3-Dichlorobenzene	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05	
1,4-Dichlorobenzene	EPA 624	5B06020	0.37	2.0	ND	1	02/06/05	02/06/05	
trans-1,2-Dichloroethene	EPA 624	5B06020	0.27	2.0	ND	1	02/06/05	02/06/05	
1,2-Dichloropropane	EPA 624	5B06020	0.35	2.0	ND	1	02/06/05	02/06/05	
cis-1,3-Dichloropropene	EPA 624	5B06020	0.22	2.0	ND	1	02/06/05	02/06/05	
trans-1,3-Dichloropropene	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05	
Methylene chloride	EPA 624	5B06020	0.48	5.0	ND	1	02/06/05	02/06/05	
1,1,2,2-Tetrachloroethane	EPA 624	5B06020	0.24	2.0	ND	1	02/06/05	02/06/05	
Surrogate: Dibromofluoromethane (80-120%)					105 %				
Surrogate: Toluene-d8 (80-120%)					101 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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: IOB0418-01 (Outfall 002 - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Acrolein	EPA 624	5B06020	4.6	50	ND	1	02/06/05	02/06/05	
Acrylonitrile	EPA 624	5B06020	5.1	50	ND	1	02/06/05	02/06/05	
2-Chloroethyl vinyl ether	EPA 624	5B06020	1.3	5.0	ND	1	02/06/05	02/06/05	
Surrogate: Dibromofluoromethane (80-120%)					106 %				
Surrogate: Toluene-d8 (80-120%)					99 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				
Sample ID: IOB0418-02 (Trip Blank - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Acrolein	EPA 624	5B06020	4.6	50	ND	1	02/06/05	02/06/05	
Acrylonitrile	EPA 624	5B06020	5.1	50	ND	1	02/06/05	02/06/05	
2-Chloroethyl vinyl ether	EPA 624	5B06020	1.3	5.0	ND	1	02/06/05	02/06/05	
Surrogate: Dibromofluoromethane (80-120%)					105 %				
Surrogate: Toluene-d8 (80-120%)					101 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	
Cyclohexane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	
Sample ID: IOB0418-02 (Trip Blank - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	
Cyclohexane	EPA 624 (MOD.)	5B06020	N/A	2.5	ND	1	02/06/05	02/06/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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: IOB0418-01 (Outfall 002 - Water)					Sampled: 02/04/05				
Reporting Units: ug/l									
Acenaphthene	EPA 625	5B06005	0.10	0.50	ND	0.957	02/06/05	02/10/05	
Acenaphthylene	EPA 625	5B06005	0.10	0.50	ND	0.957	02/06/05	02/10/05	
Aniline	EPA 625	5B06005	2.9	10	ND	0.957	02/06/05	02/10/05	
Anthracene	EPA 625	5B06005	0.083	0.50	ND	0.957	02/06/05	02/10/05	
Benzidine	EPA 625	5B06005	5.2	6.0	ND	0.957	02/06/05	02/10/05	
Benzoic acid	EPA 625	5B06005	3.7	20	ND	0.957	02/06/05	02/10/05	
Benzo(a)anthracene	EPA 625	5B06005	0.038	5.0	ND	0.957	02/06/05	02/10/05	
Benzo(a)pyrene	EPA 625	5B06005	0.14	2.0	ND	0.957	02/06/05	02/10/05	
Benzo(b)fluoranthene	EPA 625	5B06005	0.050	2.0	ND	0.957	02/06/05	02/10/05	
Benzo(g,h,i)perylene	EPA 625	5B06005	0.059	5.0	ND	0.957	02/06/05	02/10/05	
Benzo(k)fluoranthene	EPA 625	5B06005	0.053	0.50	ND	0.957	02/06/05	02/10/05	
Benzyl alcohol	EPA 625	5B06005	0.21	5.0	ND	0.957	02/06/05	02/10/05	
Bis(2-chloroethoxy)methane	EPA 625	5B06005	0.072	0.50	ND	0.957	02/06/05	02/10/05	
Bis(2-chloroethyl)ether	EPA 625	5B06005	0.084	0.50	ND	0.957	02/06/05	02/10/05	
Bis(2-chloroisopropyl)ether	EPA 625	5B06005	0.11	0.50	ND	0.957	02/06/05	02/10/05	
Bis(2-ethylhexyl)phthalate	EPA 625	5B06005	1.1	5.0	ND	0.957	02/06/05	02/10/05	
4-Bromophenyl phenyl ether	EPA 625	5B06005	0.12	1.0	ND	0.957	02/06/05	02/10/05	
Butyl benzyl phthalate	EPA 625	5B06005	0.34	5.0	ND	0.957	02/06/05	02/10/05	
4-Chloroaniline	EPA 625	5B06005	0.20	2.0	ND	0.957	02/06/05	02/10/05	
2-Chloronaphthalene	EPA 625	5B06005	0.059	0.50	ND	0.957	02/06/05	02/10/05	
4-Chloro-3-methylphenol	EPA 625	5B06005	0.34	2.0	ND	0.957	02/06/05	02/10/05	
4-Chlorophenyl phenyl ether	EPA 625	5B06005	0.056	0.50	ND	0.957	02/06/05	02/10/05	
2-Chlorophenol	EPA 625	5B06005	0.12	1.0	ND	0.957	02/06/05	02/10/05	
Chrysene	EPA 625	5B06005	0.072	0.50	ND	0.957	02/06/05	02/10/05	
Dibenz(a,h)anthracene	EPA 625	5B06005	0.083	0.50	ND	0.957	02/06/05	02/10/05	
Dibenzofuran	EPA 625	5B06005	0.075	0.50	ND	0.957	02/06/05	02/10/05	
Di-n-butyl phthalate	EPA 625	5B06005	0.26	2.0	ND	0.957	02/06/05	02/10/05	
1,2-Dichlorobenzene	EPA 625	5B06005	0.11	0.50	ND	0.957	02/06/05	02/10/05	
1,3-Dichlorobenzene	EPA 625	5B06005	0.13	0.50	ND	0.957	02/06/05	02/10/05	
1,4-Dichlorobenzene	EPA 625	5B06005	0.050	0.50	ND	0.957	02/06/05	02/10/05	
3,3-Dichlorobenzidine	EPA 625	5B06005	0.93	5.0	ND	0.957	02/06/05	02/10/05	
2,4-Dichlorophenol	EPA 625	5B06005	0.21	2.0	ND	0.957	02/06/05	02/10/05	
Diethyl phthalate	EPA 625	5B06005	0.12	1.0	ND	0.957	02/06/05	02/10/05	
2,4-Dimethylphenol	EPA 625	5B06005	0.31	2.0	ND	0.957	02/06/05	02/10/05	
Dimethyl phthalate	EPA 625	5B06005	0.081	0.50	ND	0.957	02/06/05	02/10/05	
4,6-Dinitro-2-methylphenol	EPA 625	5B06005	0.38	5.0	ND	0.957	02/06/05	02/10/05	
2,4-Dinitrophenol	EPA 625	5B06005	2.7	5.0	ND	0.957	02/06/05	02/10/05	
2,4-Dinitrotoluene	EPA 625	5B06005	0.23	5.0	ND	0.957	02/06/05	02/10/05	
2,6-Dinitrotoluene	EPA 625	5B06005	0.24	5.0	ND	0.957	02/06/05	02/10/05	
Di-n-octyl phthalate	EPA 625	5B06005	0.17	5.0	ND	0.957	02/06/05	02/10/05	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B06005	0.087	1.0	ND	0.957	02/06/05	02/10/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

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: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									
Fluoranthene	EPA 625	5B06005	0.089	0.50	ND	0.957	02/06/05	02/10/05	
Fluorene	EPA 625	5B06005	0.075	0.50	ND	0.957	02/06/05	02/10/05	
Hexachlorobenzene	EPA 625	5B06005	0.13	1.0	ND	0.957	02/06/05	02/10/05	
Hexachlorobutadiene	EPA 625	5B06005	0.38	2.0	ND	0.957	02/06/05	02/10/05	
Hexachlorocyclopentadiene	EPA 625	5B06005	1.8	5.0	ND	0.957	02/06/05	02/10/05	
Hexachloroethane	EPA 625	5B06005	0.51	3.0	ND	0.957	02/06/05	02/10/05	
Indeno(1,2,3-cd)pyrene	EPA 625	5B06005	0.19	2.0	ND	0.957	02/06/05	02/10/05	
Isophorone	EPA 625	5B06005	0.059	1.0	ND	0.957	02/06/05	02/10/05	
2-Methylnaphthalene	EPA 625	5B06005	0.13	1.0	ND	0.957	02/06/05	02/10/05	
2-Methylphenol	EPA 625	5B06005	0.28	2.0	ND	0.957	02/06/05	02/10/05	
4-Methylphenol	EPA 625	5B06005	0.20	5.0	ND	0.957	02/06/05	02/10/05	
Naphthalene	EPA 625	5B06005	0.13	1.0	ND	0.957	02/06/05	02/10/05	
2-Nitroaniline	EPA 625	5B06005	0.18	5.0	ND	0.957	02/06/05	02/10/05	
3-Nitroaniline	EPA 625	5B06005	0.35	5.0	ND	0.957	02/06/05	02/10/05	
4-Nitroaniline	EPA 625	5B06005	0.49	5.0	ND	0.957	02/06/05	02/10/05	
Nitrobenzene	EPA 625	5B06005	0.10	1.0	ND	0.957	02/06/05	02/10/05	
2-Nitrophenol	EPA 625	5B06005	0.23	2.0	ND	0.957	02/06/05	02/10/05	
4-Nitrophenol	EPA 625	5B06005	6.6	10	ND	0.957	02/06/05	02/10/05	
N-Nitrosodimethylamine	EPA 625	5B06005	0.22	2.0	ND	0.957	02/06/05	02/10/05	
N-Nitroso-di-n-propylamine	EPA 625	5B06005	0.18	2.0	ND	0.957	02/06/05	02/10/05	
N-Nitrosodiphenylamine	EPA 625	5B06005	0.077	1.0	ND	0.957	02/06/05	02/10/05	
Pentachlorophenol	EPA 625	5B06005	0.78	2.0	ND	0.957	02/06/05	02/10/05	
Phenanthrene	EPA 625	5B06005	0.071	0.50	ND	0.957	02/06/05	02/10/05	
Phenol	EPA 625	5B06005	0.14	1.0	ND	0.957	02/06/05	02/10/05	
Pyrene	EPA 625	5B06005	0.059	0.50	ND	0.957	02/06/05	02/10/05	
1,2,4-Trichlorobenzene	EPA 625	5B06005	0.10	1.0	ND	0.957	02/06/05	02/10/05	
2,4,5-Trichlorophenol	EPA 625	5B06005	0.075	2.0	ND	0.957	02/06/05	02/10/05	
2,4,6-Trichlorophenol	EPA 625	5B06005	0.10	1.0	ND	0.957	02/06/05	02/10/05	
Surrogate: 2-Fluorophenol (35-120%)					66 %				
Surrogate: Phenol-d6 (45-120%)					66 %				
Surrogate: 2,4,6-Tribromophenol (50-125%)					74 %				
Surrogate: Nitrobenzene-d5 (45-120%)					67 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					67 %				
Surrogate: Terphenyl-d14 (45-135%)					72 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									
Aldrin	EPA 608	5B08078	0.029	0.10	ND	0.943	02/08/05	02/08/05	
alpha-BHC	EPA 608	5B08078	0.00049	0.010	ND	0.943	02/08/05	02/08/05	
beta-BHC	EPA 608	5B08078	0.011	0.10	ND	0.943	02/08/05	02/08/05	
delta-BHC	EPA 608	5B08078	0.010	0.20	ND	0.943	02/08/05	02/08/05	
gamma-BHC (Lindane)	EPA 608	5B08078	0.0097	0.10	ND	0.943	02/08/05	02/08/05	
Chlordane	EPA 608	5B08078	0.18	1.0	ND	0.943	02/08/05	02/08/05	
4,4'-DDD	EPA 608	5B08078	0.011	0.10	ND	0.943	02/08/05	02/08/05	
4,4'-DDE	EPA 608	5B08078	0.017	0.10	ND	0.943	02/08/05	02/08/05	
4,4'-DDT	EPA 608	5B08078	0.015	0.10	ND	0.943	02/08/05	02/08/05	
Dieldrin	EPA 608	5B08078	0.010	0.10	ND	0.943	02/08/05	02/08/05	
Endosulfan I	EPA 608	5B08078	0.015	0.10	ND	0.943	02/08/05	02/08/05	
Endosulfan II	EPA 608	5B08078	0.037	0.10	ND	0.943	02/08/05	02/08/05	
Endosulfan sulfate	EPA 608	5B08078	0.013	0.20	ND	0.943	02/08/05	02/08/05	
Endrin	EPA 608	5B08078	0.0082	0.10	ND	0.943	02/08/05	02/08/05	
Endrin aldehyde	EPA 608	5B08078	0.045	0.10	ND	0.943	02/08/05	02/08/05	
Endrin ketone	EPA 608	5B08078	0.020	0.10	ND	0.943	02/08/05	02/08/05	
Heptachlor	EPA 608	5B08078	0.030	0.10	ND	0.943	02/08/05	02/08/05	
Heptachlor epoxide	EPA 608	5B08078	0.012	0.10	ND	0.943	02/08/05	02/08/05	
Methoxychlor	EPA 608	5B08078	0.034	0.10	ND	0.943	02/08/05	02/08/05	
Toxaphene	EPA 608	5B08078	0.77	5.0	ND	0.943	02/08/05	02/08/05	
Surrogate: Tetrachloro-m-xylene (35-120%)									77 %
Surrogate: Decachlorobiphenyl (45-120%)									77 %
Surrogate: Tetrachloro-m-xylene (35-120%)									77 %
Surrogate: Decachlorobiphenyl (45-120%)									77 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									
Aroclor 1016	EPA 608	5B08078	0.067	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1221	EPA 608	5B08078	0.057	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1232	EPA 608	5B08078	0.13	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1242	EPA 608	5B08078	0.12	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1248	EPA 608	5B08078	0.21	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1254	EPA 608	5B08078	0.16	1.0	ND	0.943	02/08/05	02/08/05	
Aroclor 1260	EPA 608	5B08078	0.17	1.0	ND	0.943	02/08/05	02/08/05	
Surrogate: Decachlorobiphenyl (45-120%)					101 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
Arsenic	EPA 200.7	5B07068	0.0038	0.0050	ND	1	02/07/05	02/07/05	
Barium	EPA 200.7	5B07068	0.0028	0.010	0.063	1	02/07/05	02/07/05	
Boron	EPA 200.7	5B07068	0.0074	0.050	0.11	1	02/07/05	02/07/05	
Iron	EPA 200.7	5B07068	0.0088	0.040	0.016	1	02/07/05	02/07/05	J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									
Antimony	EPA 200.8	5B07075	0.18	2.0	ND	1	02/07/05	02/07/05	
Beryllium	EPA 200.7	5B07068	0.62	2.0	ND	1	02/07/05	02/07/05	
Cadmium	EPA 200.8	5B07075	0.015	1.0	0.025	1	02/07/05	02/07/05	J
Chromium	EPA 200.7	5B07068	0.68	5.0	1.4	1	02/07/05	02/07/05	J
Cobalt	EPA 200.7	5B07068	0.89	10	ND	1	02/07/05	02/07/05	
Copper	EPA 200.8	5B07075	0.49	2.0	1.8	1	02/07/05	02/07/05	J
Lead	EPA 200.8	5B07075	0.13	1.0	ND	1	02/07/05	02/07/05	
Manganese	EPA 200.7	5B07068	3.2	20	41	1	02/07/05	02/07/05	
Mercury	EPA 245.1	5B07054	0.063	0.20	0.11	1	02/07/05	02/07/05	J
Nickel	EPA 200.7	5B07068	2.0	10	ND	1	02/07/05	02/07/05	
Selenium	EPA 200.8	5B07075	0.36	2.0	0.90	1	02/07/05	02/07/05	J
Silver	EPA 200.8	5B07075	0.089	1.0	ND	1	02/07/05	02/07/05	
Thallium	EPA 200.8	5B07075	0.075	1.0	ND	1	02/07/05	02/07/05	
Vanadium	EPA 200.7	5B07068	1.4	10	ND	1	02/07/05	02/07/05	
Zinc	EPA 200.7	5B07068	3.7	20	ND	1	02/07/05	02/07/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B07083	0.30	0.50	ND	1	02/07/05	02/07/05	
Biochemical Oxygen Demand	EPA 405.1	5B04121	0.59	2.0	0.69	1	02/04/05	02/09/05	J
Chloride	EPA 300.0	5B04059	2.6	5.0	44	10	02/04/05	02/05/05	
Fluoride	EPA 300.0	5B04059	0.10	0.50	0.45	1	02/04/05	02/05/05	B, J
Nitrate/Nitrite-N	EPA 300.0	5B04059	0.072	0.26	0.090	1	02/04/05	02/05/05	J
Oil & Grease	EPA 413.1	5B07085	0.94	5.0	ND	1	02/07/05	02/07/05	
Residual Chlorine	EPA 330.5	5B04086	0.10	0.10	ND	1	02/04/05	02/04/05	
Sulfate	EPA 300.0	5B04059	1.8	5.0	310	10	02/04/05	02/05/05	
Surfactants (MBAS)	SM5540-C	5B04126	0.044	0.10	ND	1	02/04/05	02/04/05	
Total Dissolved Solids	SM2540C	5B07090	10	10	760	1	02/07/05	02/07/05	
Total Organic Carbon	EPA 415.1	5B14062	0.25	1.0	4.7	1	02/14/05	02/15/05	
Total Suspended Solids	EPA 160.2	5B07109	10	10	ND	1	02/07/05	02/07/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01RE1 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: mg/l									
Sulfate	EPA 300.0	5B07057	1.8	5.0	310	10	02/07/05	02/07/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05

Received: 02/04/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	5B04084	0.10	0.10	ND	1	02/04/05	02/04/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: NTU									
Turbidity	EPA 180.1	5B05048	0.040	1.0	0.62	1	02/05/05	02/05/05	J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	5B06001	2.2	5.0	ND	1	02/06/05	02/07/05	
Perchlorate	EPA 314.0	5B07056	0.80	4.0	ND	1	02/07/05	02/08/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B08083	1.0	1.0	1100	1	02/08/05	02/08/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0418-01 (Outfall 002 - Water) - cont.					Sampled: 02/04/05				
Reporting Units: ug/l									
1,4-Dioxane	EPA 8260B	P5B1408	0.49	1.0	ND	1	02/14/05	02/14/05	
Surrogate: Dibromofluoromethane (80-125%)					92 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 002 (IOB0418-01) - Water					
EPA 160.5	2	02/04/2005 11:26	02/04/2005 18:00	02/04/2005 21:00	02/04/2005 22:00
EPA 180.1	2	02/04/2005 11:26	02/04/2005 18:00	02/05/2005 10:00	02/05/2005 10:45
EPA 300.0	2	02/04/2005 11:26	02/04/2005 18:00	02/04/2005 23:30	02/05/2005 00:05
EPA 330.5	1	02/04/2005 11:26	02/04/2005 18:00	02/04/2005 21:15	02/04/2005 21:15
EPA 405.1	2	02/04/2005 11:26	02/04/2005 18:00	02/04/2005 21:37	02/09/2005 21:00
EPA 624	3	02/04/2005 11:26	02/04/2005 18:00	02/06/2005 00:00	02/06/2005 21:10
SM5540-C	2	02/04/2005 11:26	02/04/2005 18:00	02/04/2005 20:30	02/04/2005 22:05
Sample ID: Trip Blank (IOB0418-02) - Water					
EPA 624	3	02/04/2005 14:50	02/04/2005 18:00	02/06/2005 00:00	02/06/2005 20:39

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B09073 Extracted: 02/09/05											
Blank Analyzed: 02/09/2005 (5B09073-BLK1)											
Total Recoverable Hydrocarbons	ND	1.0	0.31	mg/l							
LCS Analyzed: 02/09/2005 (5B09073-BS1)											
Total Recoverable Hydrocarbons	4.18	1.0	0.31	mg/l	5.00		84	65-120			M-NR1
LCS Dup Analyzed: 02/09/2005 (5B09073-BSD1)											
Total Recoverable Hydrocarbons	4.33	1.0	0.31	mg/l	5.00		87	65-120	4	20	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B05045 Extracted: 02/05/05										
Blank Analyzed: 02/05/2005 (5B05045-BLK1)										
EFH (C13 - C22)	ND	0.50	0.082	mg/l						
EFH (C13 - C40)	ND	0.50	0.082	mg/l						
Surrogate: n-Octacosane	0.145			mg/l	0.200		72 40-125			
LCS Analyzed: 02/05/2005 (5B05045-BS1)										
EFH (C13 - C40)	0.568	0.50	0.082	mg/l	0.775		73 40-120			M-NR1
Surrogate: n-Octacosane	0.152			mg/l	0.200		76 40-125			
LCS Dup Analyzed: 02/05/2005 (5B05045-BSD1)										
EFH (C13 - C40)	0.492	0.50	0.082	mg/l	0.775		63 40-120	14	25	J
Surrogate: n-Octacosane	0.143			mg/l	0.200		72 40-125			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B10007 Extracted: 02/10/05											
Blank Analyzed: 02/10/2005 (5B10007-BLK1)											
GRO (C4 - C12)	ND	0.10	0.050	mg/l							
Surrogate: 4-BFB (FID)	0.0116			mg/l	0.0100		116	65-140			
LCS Analyzed: 02/10/2005 (5B10007-BS1)											
GRO (C4 - C12)	0.564	0.10	0.050	mg/l	0.800		70	70-140			
Surrogate: 4-BFB (FID)	0.0338			mg/l	0.0300		113	65-140			
Matrix Spike Analyzed: 02/10/2005 (5B10007-MS1)											
						Source: IOB0220-01					
GRO (C4 - C12)	0.282	0.10	0.050	mg/l	0.220	ND	128	60-140			
Surrogate: 4-BFB (FID)	0.0125			mg/l	0.0100		125	65-140			
Matrix Spike Dup Analyzed: 02/10/2005 (5B10007-MSD1)											
						Source: IOB0220-01					
GRO (C4 - C12)	0.278	0.10	0.050	mg/l	0.220	ND	126	60-140	1	20	
Surrogate: 4-BFB (FID)	0.0126			mg/l	0.0100		126	65-140			
Batch: 5B11004 Extracted: 02/11/05											
Blank Analyzed: 02/11/2005 (5B11004-BLK1)											
GRO (C4 - C12)	ND	0.10	0.050	mg/l							
Surrogate: 4-BFB (FID)	0.00844			mg/l	0.0100		84	65-140			
LCS Analyzed: 02/11/2005 (5B11004-BS1)											
GRO (C4 - C12)	0.860	0.10	0.050	mg/l	0.800		108	70-140			
Surrogate: 4-BFB (FID)	0.0305			mg/l	0.0300		102	65-140			
Matrix Spike Analyzed: 02/11/2005 (5B11004-MS1)											
						Source: IOB0213-03					
GRO (C4 - C12)	0.234	0.10	0.050	mg/l	0.220	ND	106	60-140			
Surrogate: 4-BFB (FID)	0.0109			mg/l	0.0100		109	65-140			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B11004 Extracted: 02/11/05											
Matrix Spike Dup Analyzed: 02/11/2005 (5B11004-MSD1)						Source: IOB0213-03					
GRO (C4 - C12)	0.240	0.10	0.050	mg/l	0.220	ND	109	60-140	3	20	
Surrogate: 4-BFB (FID)	0.0105			mg/l	0.0100		105	65-140			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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	Data Limit	Qualifiers
Batch: 5B06020 Extracted: 02/06/05										
Blank Analyzed: 02/06/2005 (5B06020-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	25.2			ug/l	25.0		101	80-120		
Surrogate: Toluene-d8	25.0			ug/l	25.0		100	80-120		
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	25.0		94	80-120		
LCS Analyzed: 02/06/2005 (5B06020-BS1)										
Benzene	25.1	2.0	0.28	ug/l	25.0		100	70-120		
Carbon tetrachloride	25.0	5.0	0.28	ug/l	25.0		100	70-140		
Chloroform	24.9	2.0	0.33	ug/l	25.0		100	75-130		
1,1-Dichloroethane	25.5	2.0	0.27	ug/l	25.0		102	70-135		
1,2-Dichloroethane	25.0	2.0	0.28	ug/l	25.0		100	60-150		
1,1-Dichloroethene	25.4	3.0	0.32	ug/l	25.0		102	75-135		
Ethylbenzene	25.9	2.0	0.25	ug/l	25.0		104	80-120		
Tetrachloroethene	23.4	2.0	0.32	ug/l	25.0		94	75-125		
Toluene	24.6	2.0	0.36	ug/l	25.0		98	75-120		
1,1,1-Trichloroethane	25.0	2.0	0.30	ug/l	25.0		100	75-140		
1,1,2-Trichloroethane	25.1	2.0	0.30	ug/l	25.0		100	70-125		
Trichloroethene	24.2	5.0	0.26	ug/l	25.0		97	80-120		
Trichlorofluoromethane	27.5	5.0	0.34	ug/l	25.0		110	65-145		
Vinyl chloride	24.3	5.0	0.26	ug/l	25.0		97	50-130		
Surrogate: Dibromofluoromethane	25.3			ug/l	25.0		101	80-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
Received: 02/04/05

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: 5B06020 Extracted: 02/06/05
LCS Analyzed: 02/06/2005 (5B06020-BS1)

Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	25.0			ug/l	25.0		100	80-120			

Matrix Spike Analyzed: 02/06/2005 (5B06020-MS1)
Source: IOA1928-01

Benzene	26.5	2.0	0.28	ug/l	25.0	ND	106	70-120			
Carbon tetrachloride	26.2	5.0	0.28	ug/l	25.0	ND	105	70-145			
Chloroform	26.5	2.0	0.33	ug/l	25.0	ND	106	70-135			
1,1-Dichloroethane	26.7	2.0	0.27	ug/l	25.0	ND	107	65-135			
1,2-Dichloroethane	26.9	2.0	0.28	ug/l	25.0	ND	108	60-150			
1,1-Dichloroethene	26.6	3.0	0.32	ug/l	25.0	ND	106	65-140			
Ethylbenzene	26.8	2.0	0.25	ug/l	25.0	ND	107	70-130			
Tetrachloroethene	24.5	2.0	0.32	ug/l	25.0	ND	98	70-130			
Toluene	25.6	2.0	0.36	ug/l	25.0	ND	102	70-120			
1,1,1-Trichloroethane	26.8	2.0	0.30	ug/l	25.0	ND	107	75-140			
1,1,2-Trichloroethane	27.2	2.0	0.30	ug/l	25.0	ND	109	60-135			
Trichloroethene	24.9	5.0	0.26	ug/l	25.0	ND	100	70-125			
Trichlorofluoromethane	29.3	5.0	0.34	ug/l	25.0	ND	117	55-145			
Vinyl chloride	24.9	5.0	0.26	ug/l	25.0	ND	100	40-135			
Surrogate: Dibromofluoromethane	25.9			ug/l	25.0		104	80-120			
Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	25.4			ug/l	25.0		102	80-120			

Matrix Spike Dup Analyzed: 02/06/2005 (5B06020-MSD1)
Source: IOA1928-01

Benzene	26.6	2.0	0.28	ug/l	25.0	ND	106	70-120	0	20	
Carbon tetrachloride	25.8	5.0	0.28	ug/l	25.0	ND	103	70-145	2	25	
Chloroform	26.2	2.0	0.33	ug/l	25.0	ND	105	70-135	1	20	
1,1-Dichloroethane	26.4	2.0	0.27	ug/l	25.0	ND	106	65-135	1	20	
1,2-Dichloroethane	27.3	2.0	0.28	ug/l	25.0	ND	109	60-150	1	20	
1,1-Dichloroethene	25.2	3.0	0.32	ug/l	25.0	ND	101	65-140	5	20	
Ethylbenzene	26.8	2.0	0.25	ug/l	25.0	ND	107	70-130	0	20	
Tetrachloroethene	24.6	2.0	0.32	ug/l	25.0	ND	98	70-130	0	20	
Toluene	25.3	2.0	0.36	ug/l	25.0	ND	101	70-120	1	20	
1,1,1-Trichloroethane	26.4	2.0	0.30	ug/l	25.0	ND	106	75-140	2	20	
1,1,2-Trichloroethane	28.2	2.0	0.30	ug/l	25.0	ND	113	60-135	4	25	
Trichloroethene	25.0	5.0	0.26	ug/l	25.0	ND	100	70-125	0	20	
Trichlorofluoromethane	28.1	5.0	0.34	ug/l	25.0	ND	112	55-145	4	25	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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: 5B06020 Extracted: 02/06/05											
Matrix Spike Dup Analyzed: 02/06/2005 (5B06020-MSD1)						Source: IOA1928-01					
Vinyl chloride	26.7	5.0	0.26	ug/l	25.0	ND	107	40-135	7	30	
Surrogate: Dibromofluoromethane	25.6			ug/l	25.0		102	80-120			
Surrogate: Toluene-d8	24.6			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	Data Limit	Qualifiers
Batch: 5B06020 Extracted: 02/06/05										
Blank Analyzed: 02/06/2005 (5B06020-BLK1)										
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.34	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.24	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	ND	5.0	0.48	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	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	2.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	0.50	0.26	ug/l						
Xylenes, Total	ND	4.0	0.52	ug/l						
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101		80-120	
Surrogate: Toluene-d8	25.0			ug/l	25.0		100		80-120	
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	25.0		94		80-120	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B06020 Extracted: 02/06/05											
LCS Analyzed: 02/06/2005 (5B06020-BS1)											
Benzene	25.1	1.0	0.28	ug/l	25.0		100	70-120			
Bromodichloromethane	25.1	2.0	0.30	ug/l	25.0		100	70-140			
Bromoform	23.7	5.0	0.32	ug/l	25.0		95	55-135			
Bromomethane	25.8	5.0	0.34	ug/l	25.0		103	60-140			
Carbon tetrachloride	25.0	0.50	0.28	ug/l	25.0		100	70-140			
Chlorobenzene	23.7	2.0	0.36	ug/l	25.0		95	80-125			
Chloroethane	24.6	5.0	0.33	ug/l	25.0		98	60-145			
Chloroform	24.9	2.0	0.33	ug/l	25.0		100	75-130			
Chloromethane	23.8	5.0	0.30	ug/l	25.0		95	40-145			
Dibromochloromethane	24.5	2.0	0.28	ug/l	25.0		98	65-145			
1,2-Dichlorobenzene	24.6	2.0	0.32	ug/l	25.0		98	80-120			
1,3-Dichlorobenzene	24.0	2.0	0.35	ug/l	25.0		96	80-120			
1,4-Dichlorobenzene	23.8	2.0	0.37	ug/l	25.0		95	80-120			
1,1-Dichloroethane	25.5	2.0	0.27	ug/l	25.0		102	70-135			
1,2-Dichloroethane	25.0	0.50	0.28	ug/l	25.0		100	60-150			
1,1-Dichloroethene	25.4	5.0	0.32	ug/l	25.0		102	75-135			
trans-1,2-Dichloroethene	25.9	2.0	0.27	ug/l	25.0		104	70-130			
1,2-Dichloropropane	25.0	2.0	0.35	ug/l	25.0		100	70-120			
cis-1,3-Dichloropropene	25.7	2.0	0.22	ug/l	25.0		103	75-130			
trans-1,3-Dichloropropene	25.9	2.0	0.24	ug/l	25.0		104	75-135			
Ethylbenzene	25.9	2.0	0.25	ug/l	25.0		104	80-120			
Methylene chloride	25.5	5.0	0.48	ug/l	25.0		102	60-135			
1,1,2,2-Tetrachloroethane	23.5	2.0	0.24	ug/l	25.0		94	60-135			
Tetrachloroethene	23.4	2.0	0.32	ug/l	25.0		94	75-125			
Toluene	24.6	2.0	0.36	ug/l	25.0		98	75-120			
1,1,1-Trichloroethane	25.0	2.0	0.30	ug/l	25.0		100	75-140			
1,1,2-Trichloroethane	25.1	2.0	0.30	ug/l	25.0		100	70-125			
Trichloroethene	24.2	2.0	0.26	ug/l	25.0		97	80-120			
Trichlorofluoromethane	27.5	5.0	0.34	ug/l	25.0		110	65-145			
Vinyl chloride	24.3	0.50	0.26	ug/l	25.0		97	50-130			
Surrogate: Dibromofluoromethane	25.3			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	25.0			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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: 5B06020 Extracted: 02/06/05											
Matrix Spike Analyzed: 02/06/2005 (5B06020-MS1)						Source: IOA1928-01					
Benzene	26.5	1.0	0.28	ug/l	25.0	ND	106	70-120			
Bromodichloromethane	26.5	2.0	0.30	ug/l	25.0	ND	106	70-140			
Bromoform	26.1	5.0	0.32	ug/l	25.0	ND	104	55-140			
Bromomethane	27.1	5.0	0.34	ug/l	25.0	ND	108	50-145			
Carbon tetrachloride	26.2	0.50	0.28	ug/l	25.0	ND	105	70-145			
Chlorobenzene	24.6	2.0	0.36	ug/l	25.0	ND	98	80-125			
Chloroethane	26.2	5.0	0.33	ug/l	25.0	ND	105	50-145			
Chloroform	26.5	2.0	0.33	ug/l	25.0	ND	106	70-135			
Chloromethane	24.7	5.0	0.30	ug/l	25.0	ND	99	35-145			
Dibromochloromethane	26.3	2.0	0.28	ug/l	25.0	ND	105	65-145			
1,2-Dichlorobenzene	25.5	2.0	0.32	ug/l	25.0	ND	102	75-130			
1,3-Dichlorobenzene	24.6	2.0	0.35	ug/l	25.0	ND	98	75-130			
1,4-Dichlorobenzene	24.3	2.0	0.37	ug/l	25.0	ND	97	80-120			
1,1-Dichloroethane	26.7	2.0	0.27	ug/l	25.0	ND	107	65-135			
1,2-Dichloroethane	26.9	0.50	0.28	ug/l	25.0	ND	108	60-150			
1,1-Dichloroethene	26.6	5.0	0.32	ug/l	25.0	ND	106	65-140			
trans-1,2-Dichloroethene	26.8	2.0	0.27	ug/l	25.0	ND	107	65-135			
1,2-Dichloropropane	26.5	2.0	0.35	ug/l	25.0	ND	106	65-130			
cis-1,3-Dichloropropene	27.0	2.0	0.22	ug/l	25.0	ND	108	70-140			
trans-1,3-Dichloropropene	27.7	2.0	0.24	ug/l	25.0	ND	111	70-140			
Ethylbenzene	26.8	2.0	0.25	ug/l	25.0	ND	107	70-130			
Methylene chloride	28.6	5.0	0.48	ug/l	25.0	0.84	111	60-135			
1,1,2,2-Tetrachloroethane	26.6	2.0	0.24	ug/l	25.0	ND	106	60-145			
Tetrachloroethene	24.5	2.0	0.32	ug/l	25.0	ND	98	70-130			
Toluene	25.6	2.0	0.36	ug/l	25.0	ND	102	70-120			
1,1,1-Trichloroethane	26.8	2.0	0.30	ug/l	25.0	ND	107	75-140			
1,1,2-Trichloroethane	27.2	2.0	0.30	ug/l	25.0	ND	109	60-135			
Trichloroethene	24.9	2.0	0.26	ug/l	25.0	ND	100	70-125			
Trichlorofluoromethane	29.3	5.0	0.34	ug/l	25.0	ND	117	55-145			
Vinyl chloride	24.9	0.50	0.26	ug/l	25.0	ND	100	40-135			
Surrogate: Dibromofluoromethane	25.9			ug/l	25.0		104	80-120			
Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	25.4			ug/l	25.0		102	80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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: 5B06020 Extracted: 02/06/05											
Matrix Spike Dup Analyzed: 02/06/2005 (5B06020-MSD1)						Source: IOA1928-01					
Benzene	26.6	1.0	0.28	ug/l	25.0	ND	106	70-120	0	20	
Bromodichloromethane	26.6	2.0	0.30	ug/l	25.0	ND	106	70-140	0	20	
Bromoform	27.2	5.0	0.32	ug/l	25.0	ND	109	55-140	4	25	
Bromomethane	28.8	5.0	0.34	ug/l	25.0	ND	115	50-145	6	25	
Carbon tetrachloride	25.8	0.50	0.28	ug/l	25.0	ND	103	70-145	2	25	
Chlorobenzene	24.9	2.0	0.36	ug/l	25.0	ND	100	80-125	1	20	
Chloroethane	27.2	5.0	0.33	ug/l	25.0	ND	109	50-145	4	25	
Chloroform	26.2	2.0	0.33	ug/l	25.0	ND	105	70-135	1	20	
Chloromethane	26.0	5.0	0.30	ug/l	25.0	ND	104	35-145	5	25	
Dibromochloromethane	26.8	2.0	0.28	ug/l	25.0	ND	107	65-145	2	25	
1,2-Dichlorobenzene	26.1	2.0	0.32	ug/l	25.0	ND	104	75-130	2	20	
1,3-Dichlorobenzene	24.9	2.0	0.35	ug/l	25.0	ND	100	75-130	1	20	
1,4-Dichlorobenzene	24.8	2.0	0.37	ug/l	25.0	ND	99	80-120	2	20	
1,1-Dichloroethane	26.4	2.0	0.27	ug/l	25.0	ND	106	65-135	1	20	
1,2-Dichloroethane	27.3	0.50	0.28	ug/l	25.0	ND	109	60-150	1	20	
1,1-Dichloroethene	25.2	5.0	0.32	ug/l	25.0	ND	101	65-140	5	20	
trans-1,2-Dichloroethene	26.8	2.0	0.27	ug/l	25.0	ND	107	65-135	0	20	
1,2-Dichloropropane	26.5	2.0	0.35	ug/l	25.0	ND	106	65-130	0	20	
cis-1,3-Dichloropropene	27.6	2.0	0.22	ug/l	25.0	ND	110	70-140	2	20	
trans-1,3-Dichloropropene	28.0	2.0	0.24	ug/l	25.0	ND	112	70-140	1	25	
Ethylbenzene	26.8	2.0	0.25	ug/l	25.0	ND	107	70-130	0	20	
Methylene chloride	29.0	5.0	0.48	ug/l	25.0	0.84	113	60-135	1	20	
1,1,1,2-Tetrachloroethane	27.5	2.0	0.24	ug/l	25.0	ND	110	60-145	3	30	
Tetrachloroethene	24.6	2.0	0.32	ug/l	25.0	ND	98	70-130	0	20	
Toluene	25.3	2.0	0.36	ug/l	25.0	ND	101	70-120	1	20	
1,1,1-Trichloroethane	26.4	2.0	0.30	ug/l	25.0	ND	106	75-140	2	20	
1,1,2-Trichloroethane	28.2	2.0	0.30	ug/l	25.0	ND	113	60-135	4	25	
Trichloroethene	25.0	2.0	0.26	ug/l	25.0	ND	100	70-125	0	20	
Trichlorofluoromethane	28.1	5.0	0.34	ug/l	25.0	ND	112	55-145	4	25	
Vinyl chloride	26.7	0.50	0.26	ug/l	25.0	ND	107	40-135	7	30	
Surrogate: Dibromofluoromethane	25.6			ug/l	25.0		102	80-120			
Surrogate: Toluene-d8	24.6			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B06020 Extracted: 02/06/05											
Blank Analyzed: 02/06/2005 (5B06020-BLK1)											
Acrolein	ND	50	4.6	ug/l							
Acrylonitrile	ND	50	5.1	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l							
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	25.0			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	25.0		94	80-120			
LCS Analyzed: 02/06/2005 (5B06020-BS1)											
2-Chloroethyl vinyl ether	25.4	5.0	1.3	ug/l	25.0		102	20-175			
Surrogate: Dibromofluoromethane	25.3			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	25.0			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B06020 Extracted: 02/06/05										
Blank Analyzed: 02/06/2005 (5B06020-BLK1)										
Cyclohexane	ND	2.5	N/A	ug/l						
1,2-Dichloro-1,1,2-trifluoroethane	ND	2.5	N/A	ug/l						

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



17461Derian 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 (949) 370-1046
 9484 Chesapeake Dr., Suite 605, 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

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	Data Limit	Qualifiers
Batch: 5B06005 Extracted: 02/06/05										
Blank Analyzed: 02/09/2005-02/10/2005 (5B06005-BLK1)										
Acenaphthene	ND	0.50	0.10	ug/l						
Acenaphthylene	ND	0.50	0.10	ug/l						
Aniline	ND	10	2.9	ug/l						
Anthracene	ND	0.50	0.083	ug/l						
Benzidine	ND	6.0	5.2	ug/l						
Benzoic acid	ND	20	3.7	ug/l						
Benzo(a)anthracene	ND	5.0	0.038	ug/l						
Benzo(a)pyrene	ND	2.0	0.14	ug/l						
Benzo(b)fluoranthene	ND	2.0	0.050	ug/l						
Benzo(g,h,i)perylene	ND	5.0	0.059	ug/l						
Benzo(k)fluoranthene	ND	0.50	0.053	ug/l						
Benzyl alcohol	ND	5.0	0.21	ug/l						
Bis(2-chloroethoxy)methane	ND	0.50	0.072	ug/l						
Bis(2-chloroethyl)ether	ND	0.50	0.084	ug/l						
Bis(2-chloroisopropyl)ether	ND	0.50	0.11	ug/l						
Bis(2-ethylhexyl)phthalate	ND	5.0	1.1	ug/l						
4-Bromophenyl phenyl ether	ND	1.0	0.12	ug/l						
Butyl benzyl phthalate	ND	5.0	0.34	ug/l						
4-Chloroaniline	ND	2.0	0.20	ug/l						
2-Chloronaphthalene	ND	0.50	0.059	ug/l						
4-Chloro-3-methylphenol	ND	2.0	0.34	ug/l						
4-Chlorophenyl phenyl ether	ND	0.50	0.056	ug/l						
2-Chlorophenol	ND	1.0	0.12	ug/l						
Chrysene	ND	0.50	0.072	ug/l						
Dibenz(a,h)anthracene	ND	0.50	0.083	ug/l						
Dibenzofuran	ND	0.50	0.075	ug/l						
Di-n-butyl phthalate	ND	2.0	0.26	ug/l						
1,2-Dichlorobenzene	ND	0.50	0.11	ug/l						
1,3-Dichlorobenzene	ND	0.50	0.13	ug/l						
1,4-Dichlorobenzene	ND	0.50	0.050	ug/l						
3,3-Dichlorobenzidine	ND	5.0	0.93	ug/l						
2,4-Dichlorophenol	ND	2.0	0.21	ug/l						
Diethyl phthalate	ND	1.0	0.12	ug/l						
2,4-Dimethylphenol	ND	2.0	0.31	ug/l						
Dimethyl phthalate	ND	0.50	0.081	ug/l						

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B06005 Extracted: 02/06/05										
Blank Analyzed: 02/09/2005-02/10/2005 (5B06005-BLK1)										
4,6-Dinitro-2-methylphenol	ND	5.0	0.38	ug/l						
2,4-Dinitrophenol	ND	5.0	2.7	ug/l						
2,4-Dinitrotoluene	ND	5.0	0.23	ug/l						
2,6-Dinitrotoluene	ND	5.0	0.24	ug/l						
Di-n-octyl phthalate	ND	5.0	0.17	ug/l						
1,2-Diphenylhydrazine/Azobenzene	ND	1.0	0.087	ug/l						
Fluoranthene	ND	0.50	0.089	ug/l						
Fluorene	ND	0.50	0.075	ug/l						
Hexachlorobenzene	ND	1.0	0.13	ug/l						
Hexachlorobutadiene	ND	2.0	0.38	ug/l						
Hexachlorocyclopentadiene	ND	5.0	1.8	ug/l						
Hexachloroethane	ND	3.0	0.51	ug/l						
Indeno(1,2,3-cd)pyrene	ND	2.0	0.19	ug/l						
Isophorone	ND	1.0	0.059	ug/l						
2-Methylnaphthalene	ND	1.0	0.13	ug/l						
2-Methylphenol	ND	2.0	0.28	ug/l						
4-Methylphenol	ND	5.0	0.20	ug/l						
Naphthalene	ND	1.0	0.13	ug/l						
2-Nitroaniline	ND	5.0	0.18	ug/l						
3-Nitroaniline	ND	5.0	0.35	ug/l						
4-Nitroaniline	ND	5.0	0.49	ug/l						
Nitrobenzene	ND	1.0	0.10	ug/l						
2-Nitrophenol	ND	2.0	0.23	ug/l						
4-Nitrophenol	ND	10	6.6	ug/l						
N-Nitrosodimethylamine	ND	2.0	0.22	ug/l						
N-Nitroso-di-n-propylamine	ND	2.0	0.18	ug/l						
N-Nitrosodiphenylamine	ND	1.0	0.077	ug/l						
Pentachlorophenol	ND	2.0	0.78	ug/l						
Phenanthrene	ND	0.50	0.071	ug/l						
Phenol	ND	1.0	0.14	ug/l						
Pyrene	ND	0.50	0.059	ug/l						
1,2,4-Trichlorobenzene	ND	1.0	0.10	ug/l						
2,4,5-Trichlorophenol	ND	2.0	0.075	ug/l						
2,4,6-Trichlorophenol	ND	1.0	0.10	ug/l						
Surrogate: 2-Fluorophenol	14.1			ug/l	20.0	70	35-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-----	-----------	-----------------

Batch: 5B06005 Extracted: 02/06/05

Blank Analyzed: 02/09/2005-02/10/2005 (5B06005-BLK1)

Surrogate: Phenol-d6	13.1			ug/l	20.0		66	45-120		
Surrogate: 2,4,6-Tribromophenol	12.9			ug/l	20.0		64	50-125		
Surrogate: Nitrobenzene-d5	6.52			ug/l	10.0		65	45-120		
Surrogate: 2-Fluorobiphenyl	6.12			ug/l	10.0		61	45-120		
Surrogate: Terphenyl-d14	5.76			ug/l	10.0		58	45-135		

LCS Analyzed: 02/09/2005-02/10/2005 (5B06005-BS1)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	RPD	RPD Limit	Data Qualifiers
Acenaphthene	8.30	0.50	0.10	ug/l	10.0		83	55-120		M-NR1
Acenaphthylene	8.56	0.50	0.10	ug/l	10.0		86	55-120		
Aniline	7.38	10	2.9	ug/l	10.0		74	30-120		J
Anthracene	8.76	0.50	0.083	ug/l	10.0		88	60-120		
Benzidine	ND	6.0	5.2	ug/l	10.0			20-180		L2
Benzoic acid	5.40	20	3.7	ug/l	10.0		54	30-125		J
Benzo(a)anthracene	8.68	5.0	0.038	ug/l	10.0		87	65-120		
Benzo(a)pyrene	9.36	2.0	0.14	ug/l	10.0		94	55-125		
Benzo(b)fluoranthene	8.70	2.0	0.050	ug/l	10.0		87	50-125		
Benzo(g,h,i)perylene	9.34	5.0	0.059	ug/l	10.0		93	35-160		
Benzo(k)fluoranthene	7.88	0.50	0.053	ug/l	10.0		79	50-125		
Benzyl alcohol	7.02	5.0	0.21	ug/l	10.0		70	40-130		
Bis(2-chloroethoxy)methane	7.06	0.50	0.072	ug/l	10.0		71	55-120		
Bis(2-chloroethyl)ether	6.88	0.50	0.084	ug/l	10.0		69	50-120		
Bis(2-chloroisopropyl)ether	7.34	0.50	0.11	ug/l	10.0		73	50-120		
Bis(2-ethylhexyl)phthalate	8.26	5.0	1.1	ug/l	10.0		83	65-125		
4-Bromophenyl phenyl ether	7.98	1.0	0.12	ug/l	10.0		80	55-125		
Butyl benzyl phthalate	8.36	5.0	0.34	ug/l	10.0		84	60-125		
4-Chloroaniline	7.50	2.0	0.20	ug/l	10.0		75	55-120		
2-Chloronaphthalene	8.16	0.50	0.059	ug/l	10.0		82	60-120		
4-Chloro-3-methylphenol	9.06	2.0	0.34	ug/l	10.0		91	60-120		
4-Chlorophenyl phenyl ether	8.00	0.50	0.056	ug/l	10.0		80	55-120		
2-Chlorophenol	7.86	1.0	0.12	ug/l	10.0		79	45-120		
Chrysene	8.18	0.50	0.072	ug/l	10.0		82	65-120		
Dibenz(a,h)anthracene	9.48	0.50	0.083	ug/l	10.0		95	40-160		
Dibenzofuran	8.22	0.50	0.075	ug/l	10.0		82	60-120		
Di-n-butyl phthalate	8.94	2.0	0.26	ug/l	10.0		89	65-125		
1,2-Dichlorobenzene	7.08	0.50	0.11	ug/l	10.0		71	40-120		
1,3-Dichlorobenzene	6.74	0.50	0.13	ug/l	10.0		67	40-120		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B06005 Extracted: 02/06/05										
LCS Analyzed: 02/09/2005-02/10/2005 (5B06005-BS1)										
1,4-Dichlorobenzene	6.84	0.50	0.050	ug/l	10.0	68	40-120			M-NR1
3,3-Dichlorobenzidine	7.56	5.0	0.93	ug/l	10.0	76	50-170			
2,4-Dichlorophenol	7.18	2.0	0.21	ug/l	10.0	72	55-120			
Diethyl phthalate	7.94	1.0	0.12	ug/l	10.0	79	60-120			
2,4-Dimethylphenol	5.28	2.0	0.31	ug/l	10.0	53	35-120			
Dimethyl phthalate	7.82	0.50	0.081	ug/l	10.0	78	60-120			
4,6-Dinitro-2-methylphenol	7.38	5.0	0.38	ug/l	10.0	74	55-120			
2,4-Dinitrophenol	7.14	5.0	2.7	ug/l	10.0	71	40-140			
2,4-Dinitrotoluene	7.72	5.0	0.23	ug/l	10.0	77	60-140			
2,6-Dinitrotoluene	7.46	5.0	0.24	ug/l	10.0	75	65-125			
Di-n-octyl phthalate	8.16	5.0	0.17	ug/l	10.0	82	60-130			
1,2-Diphenylhydrazine/Azobenzene	8.18	1.0	0.087	ug/l	10.0	82	60-120			
Fluoranthene	9.12	0.50	0.089	ug/l	10.0	91	55-125			
Fluorene	8.48	0.50	0.075	ug/l	10.0	85	60-120			
Hexachlorobenzene	8.14	1.0	0.13	ug/l	10.0	81	50-120			
Hexachlorobutadiene	7.36	2.0	0.38	ug/l	10.0	74	45-120			
Hexachlorocyclopentadiene	6.78	5.0	1.8	ug/l	10.0	68	10-130			
Hexachloroethane	6.92	3.0	0.51	ug/l	10.0	69	40-120			
Indeno(1,2,3-cd)pyrene	8.92	2.0	0.19	ug/l	10.0	89	35-150			
Isophorone	7.20	1.0	0.059	ug/l	10.0	72	55-120			
2-Methylnaphthalene	8.58	1.0	0.13	ug/l	10.0	86	50-120			
2-Methylphenol	7.16	2.0	0.28	ug/l	10.0	72	45-120			
4-Methylphenol	5.94	5.0	0.20	ug/l	10.0	59	45-120			
Naphthalene	7.94	1.0	0.13	ug/l	10.0	79	50-120			
2-Nitroaniline	8.10	5.0	0.18	ug/l	10.0	81	60-130			
3-Nitroaniline	7.34	5.0	0.35	ug/l	10.0	73	50-140			
4-Nitroaniline	7.56	5.0	0.49	ug/l	10.0	76	45-160			
Nitrobenzene	7.58	1.0	0.10	ug/l	10.0	76	50-120			
2-Nitrophenol	8.10	2.0	0.23	ug/l	10.0	81	55-120			
4-Nitrophenol	9.36	10	6.6	ug/l	10.0	94	50-135			J
N-Nitrosodimethylamine	9.66	2.0	0.22	ug/l	10.0	97	40-120			
N-Nitroso-di-n-propylamine	6.64	2.0	0.18	ug/l	10.0	66	50-120			
N-Nitrosodiphenylamine	7.72	1.0	0.077	ug/l	10.0	77	60-120			
Pentachlorophenol	8.52	2.0	0.78	ug/l	10.0	85	50-125			
Phenanthrene	8.68	0.50	0.071	ug/l	10.0	87	55-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B06005 Extracted: 02/06/05											
LCS Analyzed: 02/09/2005-02/10/2005 (5B06005-BS1)											
Phenol	7.24	1.0	0.14	ug/l	10.0	72	45-120				M-NR1
Pyrene	8.78	0.50	0.059	ug/l	10.0	88	50-120				
1,2,4-Trichlorobenzene	7.48	1.0	0.10	ug/l	10.0	75	50-120				
2,4,5-Trichlorophenol	8.60	2.0	0.075	ug/l	10.0	86	60-120				
2,4,6-Trichlorophenol	8.52	1.0	0.10	ug/l	10.0	85	60-120				
Surrogate: 2-Fluorophenol	16.6			ug/l	20.0	83	35-120				
Surrogate: Phenol-d6	14.4			ug/l	20.0	72	45-120				
Surrogate: 2,4,6-Tribromophenol	16.8			ug/l	20.0	84	50-125				
Surrogate: Nitrobenzene-d5	7.78			ug/l	10.0	78	45-120				
Surrogate: 2-Fluorobiphenyl	8.06			ug/l	10.0	81	45-120				
Surrogate: Terphenyl-d14	8.02			ug/l	10.0	80	45-135				
LCS Dup Analyzed: 02/09/2005-02/10/2005 (5B06005-BSD1)											
Acenaphthene	7.74	0.50	0.10	ug/l	10.0	77	55-120	7	20		
Acenaphthylene	8.16	0.50	0.10	ug/l	10.0	82	55-120	5	20		
Aniline	7.26	10	2.9	ug/l	10.0	73	30-120	2	25		J
Anthracene	7.92	0.50	0.083	ug/l	10.0	79	60-120	10	20		
Benzidine	ND	6.0	5.2	ug/l	10.0		20-180		35		L2
Benzoic acid	6.08	20	3.7	ug/l	10.0	61	30-125	12	30		J
Benzo(a)anthracene	8.12	5.0	0.038	ug/l	10.0	81	65-120	7	20		
Benzo(a)pyrene	8.70	2.0	0.14	ug/l	10.0	87	55-125	7	25		
Benzo(b)fluoranthene	8.42	2.0	0.050	ug/l	10.0	84	50-125	3	25		
Benzo(g,h,i)perylene	8.48	5.0	0.059	ug/l	10.0	85	35-160	10	25		
Benzo(k)fluoranthene	7.22	0.50	0.053	ug/l	10.0	72	50-125	9	20		
Benzyl alcohol	7.78	5.0	0.21	ug/l	10.0	78	40-130	10	20		
Bis(2-chloroethoxy)methane	7.48	0.50	0.072	ug/l	10.0	75	55-120	6	20		
Bis(2-chloroethyl)ether	6.94	0.50	0.084	ug/l	10.0	69	50-120	1	20		
Bis(2-chloroisopropyl)ether	7.44	0.50	0.11	ug/l	10.0	74	50-120	1	20		
Bis(2-ethylhexyl)phthalate	7.78	5.0	1.1	ug/l	10.0	78	65-125	6	20		
4-Bromophenyl phenyl ether	7.38	1.0	0.12	ug/l	10.0	74	55-125	8	25		
Butyl benzyl phthalate	7.62	5.0	0.34	ug/l	10.0	76	60-125	9	20		
4-Chloroaniline	7.18	2.0	0.20	ug/l	10.0	72	55-120	4	25		
2-Chloronaphthalene	7.48	0.50	0.059	ug/l	10.0	75	60-120	9	20		
4-Chloro-3-methylphenol	8.38	2.0	0.34	ug/l	10.0	84	60-120	8	25		
4-Chlorophenyl phenyl ether	7.66	0.50	0.056	ug/l	10.0	77	55-120	4	20		
2-Chlorophenol	7.28	1.0	0.12	ug/l	10.0	73	45-120	8	25		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B06005 Extracted: 02/06/05											
LCS Dup Analyzed: 02/09/2005-02/10/2005 (5B06005-BSD1)											
Chrysene	7.66	0.50	0.072	ug/l	10.0		77	65-120	7	20	
Dibenz(a,h)anthracene	8.72	0.50	0.083	ug/l	10.0		87	40-160	8	25	
Dibenzofuran	7.72	0.50	0.075	ug/l	10.0		77	60-120	6	20	
Di-n-butyl phthalate	8.20	2.0	0.26	ug/l	10.0		82	65-125	9	20	
1,2-Dichlorobenzene	6.24	0.50	0.11	ug/l	10.0		62	40-120	13	25	
1,3-Dichlorobenzene	5.90	0.50	0.13	ug/l	10.0		59	40-120	13	25	
1,4-Dichlorobenzene	6.00	0.50	0.050	ug/l	10.0		60	40-120	13	25	
3,3-Dichlorobenzidine	6.98	5.0	0.93	ug/l	10.0		70	50-170	8	25	
2,4-Dichlorophenol	7.58	2.0	0.21	ug/l	10.0		76	55-120	5	20	
Diethyl phthalate	7.80	1.0	0.12	ug/l	10.0		78	60-120	2	20	
2,4-Dimethylphenol	6.32	2.0	0.31	ug/l	10.0		63	35-120	18	25	
Dimethyl phthalate	7.66	0.50	0.081	ug/l	10.0		77	60-120	2	20	
4,6-Dinitro-2-methylphenol	7.26	5.0	0.38	ug/l	10.0		73	55-120	2	25	
2,4-Dinitrophenol	7.64	5.0	2.7	ug/l	10.0		76	40-140	7	25	
2,4-Dinitrotoluene	7.36	5.0	0.23	ug/l	10.0		74	60-140	5	20	
2,6-Dinitrotoluene	7.28	5.0	0.24	ug/l	10.0		73	65-125	2	20	
Di-n-octyl phthalate	7.70	5.0	0.17	ug/l	10.0		77	60-130	6	20	
1,2-Diphenylhydrazine/Azobenzene	8.04	1.0	0.087	ug/l	10.0		80	60-120	2	25	
Fluoranthene	8.44	0.50	0.089	ug/l	10.0		84	55-125	8	20	
Fluorene	7.96	0.50	0.075	ug/l	10.0		80	60-120	6	20	
Hexachlorobenzene	7.62	1.0	0.13	ug/l	10.0		76	50-120	7	20	
Hexachlorobutadiene	5.96	2.0	0.38	ug/l	10.0		60	45-120	21	25	
Hexachlorocyclopentadiene	5.60	5.0	1.8	ug/l	10.0		56	10-130	19	30	
Hexachloroethane	5.60	3.0	0.51	ug/l	10.0		56	40-120	21	25	
Indeno(1,2,3-cd)pyrene	8.50	2.0	0.19	ug/l	10.0		85	35-150	5	25	
Isophorone	7.54	1.0	0.059	ug/l	10.0		75	55-120	5	20	
2-Methylnaphthalene	7.48	1.0	0.13	ug/l	10.0		75	50-120	14	20	
2-Methylphenol	7.50	2.0	0.28	ug/l	10.0		75	45-120	5	20	
4-Methylphenol	6.98	5.0	0.20	ug/l	10.0		70	45-120	16	20	
Naphthalene	7.24	1.0	0.13	ug/l	10.0		72	50-120	9	20	
2-Nitroaniline	7.88	5.0	0.18	ug/l	10.0		79	60-130	3	20	
3-Nitroaniline	7.56	5.0	0.35	ug/l	10.0		76	50-140	3	25	
4-Nitroaniline	7.30	5.0	0.49	ug/l	10.0		73	45-160	3	20	
Nitrobenzene	7.02	1.0	0.10	ug/l	10.0		70	50-120	8	25	
2-Nitrophenol	7.50	2.0	0.23	ug/l	10.0		75	55-120	8	25	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B06005 Extracted: 02/06/05											
LCS Dup Analyzed: 02/09/2005-02/10/2005 (5B06005-BSD1)											
4-Nitrophenol	8.96	10	6.6	ug/l	10.0	90	50-135	4	25		J
N-Nitrosodimethylamine	7.92	2.0	0.22	ug/l	10.0	79	40-120	20	20		
N-Nitroso-di-n-propylamine	7.62	2.0	0.18	ug/l	10.0	76	50-120	14	20		
N-Nitrosodiphenylamine	7.06	1.0	0.077	ug/l	10.0	71	60-120	9	20		
Pentachlorophenol	7.56	2.0	0.78	ug/l	10.0	76	50-125	12	25		
Phenanthrene	7.80	0.50	0.071	ug/l	10.0	78	55-120	11	20		
Phenol	7.12	1.0	0.14	ug/l	10.0	71	45-120	2	25		
Pyrene	8.12	0.50	0.059	ug/l	10.0	81	50-120	8	25		
1,2,4-Trichlorobenzene	6.12	1.0	0.10	ug/l	10.0	61	50-120	20	20		
2,4,5-Trichlorophenol	8.48	2.0	0.075	ug/l	10.0	85	60-120	1	20		
2,4,6-Trichlorophenol	8.28	1.0	0.10	ug/l	10.0	83	60-120	3	20		
Surrogate: 2-Fluorophenol	14.4			ug/l	20.0	72	35-120				
Surrogate: Phenol-d6	14.4			ug/l	20.0	72	45-120				
Surrogate: 2,4,6-Tribromophenol	15.4			ug/l	20.0	77	50-125				
Surrogate: Nitrobenzene-d5	7.30			ug/l	10.0	73	45-120				
Surrogate: 2-Fluorobiphenyl	7.50			ug/l	10.0	75	45-120				
Surrogate: Terphenyl-d14	7.26			ug/l	10.0	73	45-135				

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------------------	---------	-----------	-----------------

Batch: 5B08078 Extracted: 02/08/05

Blank Analyzed: 02/08/2005 (5B08078-BLK1)

Aldrin	ND	0.10	0.029	ug/l						
alpha-BHC	ND	0.10	0.010	ug/l						
alpha-BHC	ND	0.010	0.00049	ug/l						
beta-BHC	ND	0.10	0.011	ug/l						
delta-BHC	ND	0.20	0.010	ug/l						
gamma-BHC (Lindane)	ND	0.10	0.0097	ug/l						
Chlordane	ND	1.0	0.18	ug/l						
4,4'-DDD	ND	0.10	0.011	ug/l						
4,4'-DDE	ND	0.10	0.017	ug/l						
4,4'-DDT	ND	0.10	0.015	ug/l						
Dieldrin	ND	0.10	0.010	ug/l						
Endosulfan I	ND	0.10	0.015	ug/l						
Endosulfan II	ND	0.10	0.037	ug/l						
Endosulfan sulfate	ND	0.20	0.013	ug/l						
Endrin	ND	0.10	0.0082	ug/l						
Endrin aldehyde	ND	0.10	0.045	ug/l						
Endrin ketone	ND	0.10	0.020	ug/l						
Heptachlor	ND	0.10	0.030	ug/l						
Heptachlor epoxide	ND	0.10	0.012	ug/l						
Methoxychlor	ND	0.10	0.034	ug/l						
Toxaphene	ND	5.0	0.77	ug/l						
Surrogate: Tetrachloro-m-xylene	0.273			ug/l	0.500		55	35-120		
Surrogate: Decachlorobiphenyl	0.358			ug/l	0.500		72	45-120		
Surrogate: Tetrachloro-m-xylene	0.273			ug/l	0.500		55	35-120		
Surrogate: Decachlorobiphenyl	0.358			ug/l	0.500		72	45-120		

LCS Analyzed: 02/08/2005 (5B08078-BS1)

Aldrin	0.396	0.10	0.029	ug/l	0.500		79	45-115		
alpha-BHC	0.466	0.10	0.010	ug/l	0.500		93	45-115		
alpha-BHC	0.466	0.010	0.00049	ug/l	0.500		93	45-115		
beta-BHC	0.424	0.10	0.011	ug/l	0.500		85	50-115		
delta-BHC	0.495	0.20	0.010	ug/l	0.500		99	55-120		
gamma-BHC (Lindane)	0.462	0.10	0.0097	ug/l	0.500		92	45-115		
4,4'-DDD	0.440	0.10	0.011	ug/l	0.500		88	60-120		
4,4'-DDE	0.442	0.10	0.017	ug/l	0.500		88	55-120		
4,4'-DDT	0.426	0.10	0.015	ug/l	0.500		85	60-130		

M-NR1

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B08078 Extracted: 02/08/05										
LCS Analyzed: 02/08/2005 (5B08078-BS1)										
Dieldrin	0.429	0.10	0.010	ug/l	0.500		86 55-120			M-NR1
Endosulfan I	0.420	0.10	0.015	ug/l	0.500		84 50-115			
Endosulfan II	0.404	0.10	0.037	ug/l	0.500		81 60-125			
Endosulfan sulfate	0.410	0.20	0.013	ug/l	0.500		82 60-120			
Endrin	0.418	0.10	0.0082	ug/l	0.500		84 55-125			
Endrin aldehyde	0.394	0.10	0.045	ug/l	0.500		79 55-115			
Endrin ketone	0.424	0.10	0.020	ug/l	0.500		85 60-120			
Heptachlor	0.434	0.10	0.030	ug/l	0.500		87 45-115			
Heptachlor epoxide	0.416	0.10	0.012	ug/l	0.500		83 50-120			
Methoxychlor	0.393	0.10	0.034	ug/l	0.500		79 60-135			
Surrogate: Tetrachloro-m-xylene	0.376			ug/l	0.500		75 35-120			
Surrogate: Decachlorobiphenyl	0.389			ug/l	0.500		78 45-120			
Surrogate: Tetrachloro-m-xylene	0.376			ug/l	0.500		75 35-120			
Surrogate: Decachlorobiphenyl	0.389			ug/l	0.500		78 45-120			
LCS Dup Analyzed: 02/08/2005 (5B08078-BSD1)										
Aldrin	0.339	0.10	0.029	ug/l	0.500		68 45-115	16	30	
alpha-BHC	0.433	0.10	0.010	ug/l	0.500		87 45-115	7	30	
alpha-BHC	0.433	0.010	0.00049	ug/l	0.500		87 45-115	7	30	
beta-BHC	0.398	0.10	0.011	ug/l	0.500		80 50-115	6	30	
delta-BHC	0.464	0.20	0.010	ug/l	0.500		93 55-120	6	30	
gamma-BHC (Lindane)	0.431	0.10	0.0097	ug/l	0.500		86 45-115	7	30	
4,4'-DDD	0.427	0.10	0.011	ug/l	0.500		85 60-120	3	30	
4,4'-DDE	0.420	0.10	0.017	ug/l	0.500		84 55-120	5	30	
4,4'-DDT	0.412	0.10	0.015	ug/l	0.500		82 60-130	3	30	
Dieldrin	0.408	0.10	0.010	ug/l	0.500		82 55-120	5	30	
Endosulfan I	0.396	0.10	0.015	ug/l	0.500		79 50-115	6	30	
Endosulfan II	0.385	0.10	0.037	ug/l	0.500		77 60-125	5	30	
Endosulfan sulfate	0.390	0.20	0.013	ug/l	0.500		78 60-120	5	30	
Endrin	0.401	0.10	0.0082	ug/l	0.500		80 55-125	4	30	
Endrin aldehyde	0.369	0.10	0.045	ug/l	0.500		74 55-115	7	30	
Endrin ketone	0.405	0.10	0.020	ug/l	0.500		81 60-120	5	30	
Heptachlor	0.400	0.10	0.030	ug/l	0.500		80 45-115	8	30	
Heptachlor epoxide	0.393	0.10	0.012	ug/l	0.500		79 50-120	6	30	
Methoxychlor	0.390	0.10	0.034	ug/l	0.500		78 60-135	1	30	
Surrogate: Tetrachloro-m-xylene	0.316			ug/l	0.500		63 35-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B08078 Extracted: 02/08/05											
LCS Dup Analyzed: 02/08/2005 (5B08078-BSD1)											
Surrogate: Decachlorobiphenyl	0.364			ug/l	0.500		73	45-120			
Surrogate: Tetrachloro-m-xylene	0.316			ug/l	0.500		63	35-120			
Surrogate: Decachlorobiphenyl	0.364			ug/l	0.500		73	45-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B08078 Extracted: 02/08/05										
Blank Analyzed: 02/08/2005 (5B08078-BLK1)										
Aroclor 1016	ND	1.0	0.067	ug/l						
Aroclor 1221	ND	1.0	0.057	ug/l						
Aroclor 1232	ND	1.0	0.13	ug/l						
Aroclor 1242	ND	1.0	0.12	ug/l						
Aroclor 1248	ND	1.0	0.21	ug/l						
Aroclor 1254	ND	1.0	0.16	ug/l						
Aroclor 1260	ND	1.0	0.17	ug/l						
Surrogate: Decachlorobiphenyl	0.453			ug/l	0.500		91	45-120		
LCS Analyzed: 02/08/2005 (5B08078-BS2)										
Aroclor 1016	2.36	1.0	0.067	ug/l	4.00		59	50-115		M-NR1
Aroclor 1260	2.90	1.0	0.17	ug/l	4.00		72	60-115		
Surrogate: Decachlorobiphenyl	0.413			ug/l	0.500		83	45-120		
LCS Dup Analyzed: 02/08/2005 (5B08078-BSD2)										
Aroclor 1016	2.55	1.0	0.067	ug/l	4.00		64	50-115	8	30
Aroclor 1260	3.06	1.0	0.17	ug/l	4.00		76	60-115	5	25
Surrogate: Decachlorobiphenyl	0.446			ug/l	0.500		89	45-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B07054 Extracted: 02/07/05										
Blank Analyzed: 02/07/2005 (5B07054-BLK1)										
Mercury	ND	0.20	0.063	ug/l						
LCS Analyzed: 02/07/2005 (5B07054-BS1)										
Mercury	7.87	0.20	0.063	ug/l	8.00		98	85-115		
Matrix Spike Analyzed: 02/07/2005 (5B07054-MS1)										
						Source: IOB0293-01				
Mercury	7.62	0.20	0.063	ug/l	8.00	ND	95	70-130		
Matrix Spike Dup Analyzed: 02/07/2005 (5B07054-MSD1)										
						Source: IOB0293-01				
Mercury	7.72	0.20	0.063	ug/l	8.00	ND	96	70-130	1	20
Batch: 5B07068 Extracted: 02/07/05										
Blank Analyzed: 02/07/2005 (5B07068-BLK1)										
Arsenic	ND	0.0050	0.0038	mg/l						
Barium	ND	0.010	0.0028	mg/l						
Beryllium	ND	2.0	0.62	ug/l						
Boron	ND	0.050	0.0074	mg/l						
Chromium	ND	5.0	0.68	ug/l						
Cobalt	ND	10	0.89	ug/l						
Iron	ND	0.040	0.0088	mg/l						
Manganese	ND	20	3.2	ug/l						
Nickel	ND	10	2.0	ug/l						
Vanadium	ND	10	1.4	ug/l						
Zinc	ND	20	3.7	ug/l						
LCS Analyzed: 02/07/2005 (5B07068-BS1)										
Arsenic	1.02	0.0050	0.0038	mg/l	1.00		102	85-115		
Barium	1.00	0.010	0.0028	mg/l	1.00		100	85-115		
Beryllium	999	2.0	0.62	ug/l	1000		100	85-115		
Boron	0.993	0.050	0.0074	mg/l	1.00		99	85-115		
Chromium	998	5.0	0.68	ug/l	1000		100	85-115		
Cobalt	1000	10	0.89	ug/l	1000		100	85-115		
Iron	1.01	0.040	0.0088	mg/l	1.00		101	85-115		
Manganese	1000	20	3.2	ug/l	1000		100	85-115		
Nickel	994	10	2.0	ug/l	1000		99	85-115		
Vanadium	1010	10	1.4	ug/l	1000		101	85-115		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B07068 Extracted: 02/07/05										
LCS Analyzed: 02/07/2005 (5B07068-BS1)										
Zinc	1000	20	3.7	ug/l	1000		100	85-115		
Matrix Spike Analyzed: 02/07/2005 (5B07068-MS1) Source: IOB0418-01										
Arsenic	1.04	0.0050	0.0038	mg/l	1.00	ND	104	70-130		
Barium	1.04	0.010	0.0028	mg/l	1.00	0.063	98	70-130		
Beryllium	1000	2.0	0.62	ug/l	1000	ND	100	70-130		
Boron	1.12	0.050	0.0074	mg/l	1.00	0.11	101	70-130		
Chromium	993	5.0	0.68	ug/l	1000	1.4	99	70-130		
Cobalt	962	10	0.89	ug/l	1000	ND	96	70-130		
Iron	1.00	0.040	0.0088	mg/l	1.00	0.016	98	70-130		
Manganese	1020	20	3.2	ug/l	1000	41	98	70-130		
Nickel	960	10	2.0	ug/l	1000	ND	96	70-130		
Vanadium	1020	10	1.4	ug/l	1000	ND	102	70-130		
Zinc	1000	20	3.7	ug/l	1000	ND	100	70-130		
Matrix Spike Dup Analyzed: 02/07/2005 (5B07068-MSD1) Source: IOB0418-01										
Arsenic	1.05	0.0050	0.0038	mg/l	1.00	ND	105	70-130	1	20
Barium	1.05	0.010	0.0028	mg/l	1.00	0.063	99	70-130	1	20
Beryllium	996	2.0	0.62	ug/l	1000	ND	100	70-130	0	20
Boron	1.13	0.050	0.0074	mg/l	1.00	0.11	102	70-130	1	20
Chromium	989	5.0	0.68	ug/l	1000	1.4	99	70-130	0	20
Cobalt	974	10	0.89	ug/l	1000	ND	97	70-130	1	20
Iron	1.01	0.040	0.0088	mg/l	1.00	0.016	99	70-130	1	20
Manganese	1020	20	3.2	ug/l	1000	41	98	70-130	0	20
Nickel	966	10	2.0	ug/l	1000	ND	97	70-130	1	20
Vanadium	1030	10	1.4	ug/l	1000	ND	103	70-130	1	20
Zinc	1020	20	3.7	ug/l	1000	ND	102	70-130	2	20

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B07075 Extracted: 02/07/05										
Blank Analyzed: 02/07/2005 (5B07075-BLK1)										
Antimony	ND	2.0	0.18	ug/l						
Cadmium	ND	1.0	0.015	ug/l						
Copper	ND	2.0	0.49	ug/l						
Lead	ND	1.0	0.13	ug/l						
Selenium	ND	2.0	0.36	ug/l						
Silver	ND	1.0	0.089	ug/l						
Thallium	ND	1.0	0.075	ug/l						
LCS Analyzed: 02/07/2005 (5B07075-BS1)										
Antimony	87.5	2.0	0.18	ug/l	80.0		109	85-115		
Cadmium	80.2	1.0	0.015	ug/l	80.0		100	85-115		
Copper	81.3	2.0	0.49	ug/l	80.0		102	85-115		
Lead	82.3	1.0	0.13	ug/l	80.0		103	85-115		
Selenium	83.4	2.0	0.36	ug/l	80.0		104	85-115		
Silver	82.3	1.0	0.089	ug/l	80.0		103	85-115		
Thallium	80.4	1.0	0.075	ug/l	80.0		100	85-115		
Matrix Spike Analyzed: 02/07/2005 (5B07075-MS1) Source: IOB0303-02										
Antimony	85.3	2.0	0.18	ug/l	80.0	0.42	106	70-130		
Cadmium	76.6	1.0	0.015	ug/l	80.0	0.037	96	70-130		
Copper	80.7	2.0	0.49	ug/l	80.0	4.1	96	70-130		
Lead	81.8	1.0	0.13	ug/l	80.0	0.45	102	70-130		
Selenium	79.1	2.0	0.36	ug/l	80.0	0.37	98	70-130		
Silver	76.9	1.0	0.089	ug/l	80.0	ND	96	70-130		
Thallium	83.2	1.0	0.075	ug/l	80.0	ND	104	70-130		
Matrix Spike Analyzed: 02/07/2005 (5B07075-MS2) Source: IOB0299-03										
Antimony	84.0	2.0	0.18	ug/l	80.0	ND	105	70-130		
Cadmium	71.6	1.0	0.015	ug/l	80.0	0.019	89	70-130		
Copper	76.9	2.0	0.49	ug/l	80.0	3.5	92	70-130		
Lead	72.7	1.0	0.13	ug/l	80.0	0.59	90	70-130		
Selenium	74.1	2.0	0.36	ug/l	80.0	ND	93	70-130		
Silver	72.1	1.0	0.089	ug/l	80.0	ND	90	70-130		
Thallium	76.0	1.0	0.075	ug/l	80.0	ND	95	70-130		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B07075 Extracted: 02/07/05											
Matrix Spike Dup Analyzed: 02/07/2005 (5B07075-MSD1)						Source: IOB0303-02					
Antimony	86.9	2.0	0.18	ug/l	80.0	0.42	108	70-130	2	20	
Cadmium	78.1	1.0	0.015	ug/l	80.0	0.037	98	70-130	2	20	
Copper	81.2	2.0	0.49	ug/l	80.0	4.1	96	70-130	1	20	
Lead	82.7	1.0	0.13	ug/l	80.0	0.45	103	70-130	1	20	
Selenium	80.8	2.0	0.36	ug/l	80.0	0.37	101	70-130	2	20	
Silver	78.6	1.0	0.089	ug/l	80.0	ND	98	70-130	2	20	
Thallium	84.5	1.0	0.075	ug/l	80.0	ND	106	70-130	2	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B04059 Extracted: 02/04/05											
Blank Analyzed: 02/04/2005 (5B04059-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Fluoride	0.144	0.50	0.10	mg/l							J
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 02/04/2005 (5B04059-BS1)											
Chloride	5.02	0.50	0.26	mg/l	5.00		100	90-110			M-3
Fluoride	4.91	0.50	0.10	mg/l	5.00		98	90-110			
Sulfate	9.91	0.50	0.18	mg/l	10.0		99	90-110			
Matrix Spike Analyzed: 02/04/2005 (5B04059-MS1)											
						Source: IOB0367-01					
Fluoride	5.24	0.50	0.10	mg/l	5.00	0.46	96	80-120			
Sulfate	34.9	0.50	0.18	mg/l	10.0	24	109	80-120			
Matrix Spike Dup Analyzed: 02/04/2005 (5B04059-MSD1)											
						Source: IOB0367-01					
Fluoride	5.24	0.50	0.10	mg/l	5.00	0.46	96	80-120	0	20	
Sulfate	34.9	0.50	0.18	mg/l	10.0	24	109	80-120	0	20	
Batch: 5B04086 Extracted: 02/04/05											
Blank Analyzed: 02/04/2005 (5B04086-BLK1)											
Residual Chlorine	ND	0.10	0.10	mg/l							
Duplicate Analyzed: 02/04/2005 (5B04086-DUP1)											
						Source: IOB0256-01					
Residual Chlorine	0.800	0.10	0.10	mg/l		0.80			0	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B04121 Extracted: 02/04/05											
Blank Analyzed: 02/09/2005 (5B04121-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 02/09/2005 (5B04121-BS1)											
Biochemical Oxygen Demand	202	100	30	mg/l	198		102	85-115			
LCS Dup Analyzed: 02/09/2005 (5B04121-BSD1)											
Biochemical Oxygen Demand	201	100	30	mg/l	198		102	85-115	1	20	
Batch: 5B04126 Extracted: 02/04/05											
Blank Analyzed: 02/04/2005 (5B04126-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 02/04/2005 (5B04126-BS1)											
Surfactants (MBAS)	0.253	0.10	0.044	mg/l	0.250		101	90-110			
Matrix Spike Analyzed: 02/04/2005 (5B04126-MS1)											
Surfactants (MBAS)	0.283	0.10	0.044	mg/l	0.250	0.050	93	50-125			
Matrix Spike Dup Analyzed: 02/04/2005 (5B04126-MSD1)											
Surfactants (MBAS)	0.275	0.10	0.044	mg/l	0.250	0.050	90	50-125	3	20	
Batch: 5B05048 Extracted: 02/05/05											
Blank Analyzed: 02/05/2005 (5B05048-BLK1)											
Turbidity	ND	1.0	0.040	NTU							

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B05048 Extracted: 02/05/05											
Duplicate Analyzed: 02/05/2005 (5B05048-DUP1)						Source: IOB0408-01					
Turbidity	5.39	1.0	0.040	NTU		5.2			4	20	
Batch: 5B06001 Extracted: 02/06/05											
Blank Analyzed: 02/07/2005 (5B06001-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 02/07/2005 (5B06001-BS1)											
Total Cyanide	194	5.0	2.2	ug/l	200		97	90-110			
Matrix Spike Analyzed: 02/07/2005 (5B06001-MS1)						Source: IOB0177-02					
Total Cyanide	171	5.0	2.2	ug/l	200	ND	86	70-115			
Matrix Spike Dup Analyzed: 02/07/2005 (5B06001-MSD1)						Source: IOB0177-02					
Total Cyanide	176	5.0	2.2	ug/l	200	ND	88	70-115	3	15	
Batch: 5B07056 Extracted: 02/07/05											
Blank Analyzed: 02/07/2005 (5B07056-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/07/2005 (5B07056-BS1)											
Perchlorate	57.5	4.0	0.80	ug/l	50.0		115	85-115			
Matrix Spike Analyzed: 02/07/2005 (5B07056-MS1)						Source: IOB0417-03					
Perchlorate	61.2	4.0	0.80	ug/l	50.0	5.8	111	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B07056 Extracted: 02/07/05											
Matrix Spike Dup Analyzed: 02/07/2005 (5B07056-MSD1)						Source: IOB0417-03					
Perchlorate	59.5	4.0	0.80	ug/l	50.0	5.8	107	80-120	3	20	
Batch: 5B07057 Extracted: 02/07/05											
Blank Analyzed: 02/07/2005 (5B07057-BLK1)											
Sulfate	ND	0.50	0.25	mg/l							
LCS Analyzed: 02/07/2005 (5B07057-BS1)											
Sulfate	9.91	0.50	0.25	mg/l	10.0		99	90-110			
Matrix Spike Analyzed: 02/07/2005 (5B07057-MS1)						Source: IOB0254-01					
Sulfate	17.1	0.50	0.25	mg/l	10.0	7.2	99	80-120			
Matrix Spike Dup Analyzed: 02/07/2005 (5B07057-MSD1)						Source: IOB0254-01					
Sulfate	17.1	0.50	0.25	mg/l	10.0	7.2	99	80-120	0	20	
Batch: 5B07083 Extracted: 02/07/05											
Blank Analyzed: 02/07/2005 (5B07083-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 02/07/2005 (5B07083-BS1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0		95	80-115			
Matrix Spike Analyzed: 02/07/2005 (5B07083-MS1)						Source: IOB0048-11					
Ammonia-N (Distilled)	24.9	0.50	0.30	mg/l	10.0	15	99	70-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B07083 Extracted: 02/07/05											
Matrix Spike Dup Analyzed: 02/07/2005 (5B07083-MSD1)						Source: IOB0048-11					
Ammonia-N (Distilled)	25.2	0.50	0.30	mg/l	10.0	15	102	70-120	1	15	
Batch: 5B07085 Extracted: 02/07/05											
Blank Analyzed: 02/07/2005 (5B07085-BLK1)											
Oil & Grease	1.20	5.0	0.94	mg/l							J
LCS Analyzed: 02/07/2005 (5B07085-BS1)											
Oil & Grease	18.0	5.0	0.94	mg/l	20.0		90	65-120			M-NR1
LCS Dup Analyzed: 02/07/2005 (5B07085-BSD1)											
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120	2	20	
Batch: 5B07090 Extracted: 02/07/05											
Blank Analyzed: 02/07/2005 (5B07090-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/07/2005 (5B07090-BS1)											
Total Dissolved Solids	1100	10	10	mg/l	1000		110	90-110			
Duplicate Analyzed: 02/07/2005 (5B07090-DUP1)						Source: IOB0426-01					
Total Dissolved Solids	902	10	10	mg/l		920			2	10	
Batch: 5B07109 Extracted: 02/07/05											
Blank Analyzed: 02/07/2005 (5B07109-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B07109 Extracted: 02/07/05											
LCS Analyzed: 02/07/2005 (5B07109-BS1)											
Total Suspended Solids	962	10	10	mg/l	1000		96	85-115			
Duplicate Analyzed: 02/07/2005 (5B07109-DUP1)											
Total Suspended Solids	ND	10	10	mg/l		Source: IOB0408-01 ND				10	
Batch: 5B08083 Extracted: 02/08/05											
Duplicate Analyzed: 02/08/2005 (5B08083-DUP1)											
Specific Conductance	184	1.0	1.0	umhos/cm		Source: IOB0398-01 180			2	5	
Batch: 5B14062 Extracted: 02/14/05											
Blank Analyzed: 02/14/2005 (5B14062-BLK1)											
Total Organic Carbon	ND	1.0	0.25	mg/l							
LCS Analyzed: 02/14/2005 (5B14062-BS1)											
Total Organic Carbon	9.75	1.0	0.25	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 02/14/2005 (5B14062-MS1)											
Total Organic Carbon	10.3	1.0	0.25	mg/l	5.00	Source: IOB0362-02 5.0	106	80-120			
Matrix Spike Dup Analyzed: 02/14/2005 (5B14062-MSD1)											
Total Organic Carbon	10.3	1.0	0.25	mg/l	5.00	Source: IOB0362-02 5.0	106	80-120	0	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 002 Report Number: IOB0418	Sampled: 02/04/05 Received: 02/04/05
--	--	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5B1408 Extracted: 02/14/05											
Blank Analyzed: 02/14/2005 (P5B1408-BLK1)											
1,4-Dioxane	ND	1.0	0.49	ug/l							
Surrogate: Dibromofluoromethane	0.950			ug/l	1.00		95	80-125			
LCS Analyzed: 02/14/2005 (P5B1408-BS1)											
1,4-Dioxane	11.5	1.0	0.49	ug/l	10.0		115	70-130			
Surrogate: Dibromofluoromethane	0.980			ug/l	1.00		98	80-125			
LCS Dup Analyzed: 02/14/2005 (P5B1408-BSD1)											
1,4-Dioxane	11.0	1.0	0.49	ug/l	10.0		110	70-130	4	20	
Surrogate: Dibromofluoromethane	0.920			ug/l	1.00		92	80-125			
Matrix Spike Analyzed: 02/14/2005 (P5B1408-MS1) Source: POB0279-01											
1,4-Dioxane	9.94	1.0	0.49	ug/l	10.0	ND	99	70-150			
Surrogate: Dibromofluoromethane	0.930			ug/l	1.00		93	80-125			
Matrix Spike Dup Analyzed: 02/14/2005 (P5B1408-MSD1) Source: POB0279-01											
1,4-Dioxane	9.88	1.0	0.49	ug/l	10.0	ND	99	70-150	1	25	
Surrogate: Dibromofluoromethane	1.00			ug/l	1.00		100	80-125			



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

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
IOB0418-01	413.1 Oil and Grease	Oil & Grease	mg/l	0	5.0	10.00
IOB0418-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.010	0.0100
IOB0418-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB0418-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IOB0418-01	625+NDMA, LL	2,4,6-Trichlorophenol	ug/l	0	1.0	6.50
IOB0418-01	625+NDMA, LL	2,4-Dinitrotoluene	ug/l	0	5.0	9.10
IOB0418-01	625+NDMA, LL	Bis(2-ethylhexyl)phthalate	ug/l	0.23	5.0	4.00
IOB0418-01	625+NDMA, LL	N-Nitrosodimethylamine	ug/l	0	2.0	8.10
IOB0418-01	625+NDMA, LL	Pentachlorophenol	ug/l	0	2.0	8.20
IOB0418-01	Antimony-200.8	Antimony	ug/l	0.13	2.0	6.00
IOB0418-01	Arsenic-200.7	Arsenic	mg/l	0	0.0050	0.050
IOB0418-01	Barium-200.7	Barium	mg/l	0.063	0.010	1.00
IOB0418-01	Beryllium-200.7	Beryllium	ug/l	0.100	2.0	4.00
IOB0418-01	BOD	Biochemical Oxygen Demand	mg/l	0.69	2.0	20
IOB0418-01	Cadmium-200.8	Cadmium	ug/l	0.025	1.0	2.00
IOB0418-01	Chloride - 300.0	Chloride	mg/l	44	5.0	150
IOB0418-01	Chlorine, Residual	Residual Chlorine	mg/l	0	0.10	0.100
IOB0418-01	Chromium-200.7	Chromium	ug/l	1.40	5.0	8.10
IOB0418-01	Copper-200.8	Copper	ug/l	1.80	2.0	7.10
IOB0418-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	0.76	5.0	4.30
IOB0418-01	Fluoride-300.0	Fluoride	mg/l	0.45	0.50	1.60
IOB0418-01	Iron-200.7	Iron	mg/l	0.016	0.040	0.30
IOB0418-01	Lead-200.8	Lead	ug/l	0.033	1.0	2.60
IOB0418-01	Manganese-200.7	Manganese	ug/l	41	20	50
IOB0418-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.042	0.10	0.50
IOB0418-01	Mercury - 245.1	Mercury	ug/l	0.11	0.20	0.20
IOB0418-01	Nickel-200.7	Nickel	ug/l	0.70	10	35
IOB0418-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.090	0.26	8.00
IOB0418-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB0418-01	Selenium-200.8	Selenium	ug/l	0.90	2.0	4.10
IOB0418-01	Settleable Solids	Total Settleable Solids	ml/l/hr	0	0.10	0.100
IOB0418-01	Silver-200.8	Silver	ug/l	0.025	1.0	2.00
IOB0418-01	Sulfate-300.0	Sulfate	mg/l	310	5.0	300
IOB0418-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	760	10	950
IOB0418-01	Thallium-200.8	Thallium	ug/l	0.050	1.0	2.00
IOB0418-01	TSS - EPA 160.2	Total Suspended Solids	mg/l	0	10	15
IOB0418-01	Zinc-200.7	Zinc	ug/l	1.80	20	54
IOB0418-01RE1	Sulfate-300.0	Sulfate	mg/l	310	5.0	300
IOB0418-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB0418-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

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

Project ID: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
Received: 02/04/05

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- L2** Laboratory Control Sample recovery was below method control limits.
- 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

ADDITIONAL COMMENTS

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA/NIH library.

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

For GRO (C4-C12):

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

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

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



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
 Received: 02/04/05

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 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 330.5	Water	X	X
EPA 335.2	Water	X	X
EPA 350.2	Water	X	X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 415.1	Water	X	X
EPA 418.1	Water	X	X
EPA 608	Water	X	X
EPA 624 (MOD.)	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
EPA 8015 Mod.	Water	X	X
EPA 8015B	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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR

Samples: IOB0418-01

Analysis Performed: EDD + Level 4

Samples: IOB0418-01

Aquatic Testing Laboratories-SUB California Cert #1775

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-7 dy Chrnrc

Samples: IOB0418-01

Analysis Performed: Bioassay-Acute 96hr

Del Mar Analytical, Irvine

Michele Harper

Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 002

Report Number: IOB0418

Sampled: 02/04/05
Received: 02/04/05

Aquatic Testing Laboratories-SUB *California Cert #1775*

4350 Transport Street, Unit 107 - Ventura, CA 93003

Samples: IOB0418-01

Del Mar Analytical - Phoenix *NELAC Cert #01109CA, California Cert #2446*

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

Method Performed: EPA 8260B

Samples: IOB0418-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4

Samples: IOB0418-01

Analysis Performed: Gross Alpha

Samples: IOB0418-01

Analysis Performed: Gross Beta

Samples: IOB0418-01

Analysis Performed: Strontium 90

Samples: IOB0418-01

Analysis Performed: Tritium

Samples: IOB0418-01

Truesdail Laboratories-SUB *California Cert #1237*

14201 Franklin Avenue - Tustin, CA 92680

Analysis Performed: Hydrazine

Samples: IOB0418-01

Analysis Performed: Level 4 Data Package

Samples: IOB0418-01

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB0418 <Page 62 of 62>

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5/8/12/04

Client Name/Address:		Project:		Project Manager:		Sampler:		Phone Number:		Fax Number:												
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Annual Outfall 002		Bronwyn Kelly		FWS		(626) 568-6691		(626) 568-6515												
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Botlle #	Total Recoverable Metals: Cu, Pb, Hg, B, Ba, Fe, Mn, Sb, As, Be, Cd, Cr, Ni, Se, Ag, Tl, Zn, Co, V	Settleable Solids	VOCs 624 + xylenes + Freon 113, Freon 123A, Cyclohexane	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cl-, SO4, NO3+NO2-N, F, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	Alpha BHC (606) + PP	2,4,6 Trichlorophenol, 2,4 Dinitrofluorene, Bis(2- ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625) + PP	Field readings: Temp = 58 pH = 7.8	Comments	
Outfall 002	W	Poly-1L	1	2-4-05 11:25	HNO3	1A	X														24 TAT	
Outfall 002-Dup	W	Poly-1L	1		HNO3	1B	X	X													24 TAT	
Outfall 002	W	Poly-1L	1		None	2																
Outfall 002	W	VOAS	5		HCl	3A,3B,3C, 3D,3E		X														
Outfall 002	W	1L Amber	2		None	4A,4B			X													
Outfall 002	W	1L Amber	2		HCL	5A, 5B			X													24 TAT
Outfall 002	W	Poly-500 ml	1		NaOH	6						X										24 TAT
Outfall 002	W	Poly-1L	1		None	7							X									
Outfall 002	W	Poly-500 ml	2		None	8A,8B								X								
Outfall 002	W	Poly-500 ml	2		None	9A,9B									X							
Outfall 002	W	Poly-500 ml	2		None	10A, 10B																
Outfall 002	W	Poly-500 ml	2		None	10A, 10B																
Outfall 002	W	Poly-500 ml	1		H2SO4	11																
Outfall 002	W	1L Amber	2		None	12A, 12B																
Outfall 002	W	1L Amber	2		None	13A, 13B																
Trip Blank	W	VOAS	3		HCL	14A, 14B, 14C			X													
Relinquished By	FWS		Date/Time: 2-4-05 1435	Received By	R De Long		Date/Time: 2/4/05 1450															
Relinquished By	R De Long		Date/Time: 2/4/05 1800	Received By	R De Long		Date/Time: 2/4/05 1800															
Relinquished By	R De Long		Date/Time: 2/4/05 1800	Received By	R De Long		Date/Time: 2/4/05 1800															

Turn around Time: (check)
24 Hours _____ 5 Days _____
48 Hours _____ 10 Days _____
72 Hours _____ Normal _____
Perchlorate Only 72 Hours _____
Metals Only 72 Hours _____
Sample Integrity: (Check) On Ice: **902**

CHAIN OF CUSTODY FORM

Version 5/8/12/04

Client Name/Address:		Project:		ANALYSIS REQUIRED										Turn around Time: (check)									
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Annual Outfall 002		Sample Description		Container Type	# of Cont.	Sample Matrix	Sampling Date/Time	Preservative	Bottle #	1,4-Dioxane	Total Organic Carbon	Total Residual Chlorine	Gross Alpha, Gross Beta, Tritium (906.0), Sr-90 (905.0), Total Combined Radium 226 & Radium 228	PCBs	TPH = all fuels, gas, diesel, and jet fuel; modified 8015 and 418.1	Monomethylhydrazine	Acute and Chronic toxicity	VOCs 624 +A+A+2CVF	Comments		
Project Manager: Bronwyn Kelly		Phone Number: (626) 568-6691		Outfall 002	VOAs	3	3	W	2-4-05 11:26	HCl	15A, 15B, 15C	X											
Sampler: Rick Sabin		Outfall 002	VOAs	2	2	W			HCl	16A, 16B		X		X									
		Outfall 002	Poly-150 ml	1	1	W			None	17				X								Analyze for Total Combined RA-226&228 only if Gross Alpha > 15pCi/L	
		Outfall 002	Poly-1Gal	1	1	W			None	18					X								
		Outfall 002	1L Amber	2	2	W			None	19A, 19B					X								
		Outfall 002	VOAs	3	3	W			HCl	20A, 20B, 20C, 20D, 20E, 20F, 20G							X						
		Outfall 002	1L Amber	2	2	W			HCl														
		Outfall 002	1L Amber	2	2	W			None	21A, 21B								X					
		Outfall 002	1 Gal	2	2	W			None	22A, 22B									X				
		Outfall 002	VOAs	3	3	W			None	23A, 23B, 23C										X			
		Trip Blank	VOAs	3	3	W			None	24A, 24B, 24C										X			
Relinquished By		Date/Time:		Relinquished By		Date/Time:		Received By		Date/Time:		Relinquished By		Date/Time:		Received By		Date/Time:		Relinquished By		Date/Time:	
[Signature]		2-4-05		[Signature]		14:50		[Signature]		2/4/05 14:00		[Signature]		2/4/05 18:00		[Signature]		2/4/05 18:00		[Signature]		2/4/05 18:00	
[Signature]		2/4/05 18:00		[Signature]		2/4/05 18:00		[Signature]		2/4/05 18:00		[Signature]		2/4/05 18:00		[Signature]		2/4/05 18:00		[Signature]		2/4/05 18:00	

40



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 31, 2005

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

Attention: Bronwyn Kelly
 Project: Annual Outfall 002
 Sampled: 02/04/05
 Del Mar Analytical Number: IOB0418

Dear Ms. Kelly:

Aquatic Testing Laboratories performed the Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0), *Ceriodaphnia dubia* Survival and Reproduction Test (EPA Method 1002), Eberline Services tested gross alpha/ gross beta (EPA 900.0), tritium (H-3, EPA 906.0), and strontium-90 (Sr-90 EPA 905.0), Alta Analytical Laboratory performed EPA Method 1613 for Dioxin and Truesdail Laboratories tested Hydrazines by EPA 8315 M for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	ATL ID	EBERLINE ID	ALTA ID	TRUESDAIL ID
Outfall 002	IOB0418-01	A-05020501-001/002	R-502073-8237	25765-001	939456-1

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

Sincerely yours,
 DEL MAR ANALYTICAL


 Michele Harper
 Project Manager

LABORATORY REPORT

**Aquatic
Testing
Laboratories**



"dedicated to providing quality aquatic toxicity testing"

Date: February 12, 2005
Client: Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attn: Michele Harper

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

Laboratory No.: A-05020501-001/002
Sample I.D.: IOB0418-01

Sample Control: The sample was received by ATL chilled, with the chain of custody record attached.

Date Sampled: 02/04/05
Date Received: 02/05/05
Date Tested: 02/05/05 to 02/11/05

Sample Analysis: The following analyses were performed on your sample:

Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0),
Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

Attached are the test data generated from the analysis of your sample.

Result Summary:

Acute:	Survival	TU_a
Fathead Minnow:	100%	0.0
Chronic:	NOEC	TU_c
<i>Ceriodaphnia</i> Survival:	100%	1.0
<i>Ceriodaphnia</i> Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST



Lab No.: A-05020501-001
 Client/ID: Del Mar IOB0418-01

Start Date: 02/05/2005

TEST SUMMARY

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

Source: In-laboratory Culture.
 Test type: Static-Renewal.
 Test Protocol: EPA-821-R-02-012.
 Endpoints: Percent Survival at 96 hrs.
 Test chamber: 600 ml beakers.
 Temperature: 20 +/- 1°C.
 Number of fish per chamber: 10.
 QA/QC Batch No.: RT-050104.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	19.2	9.3	7.8	0	0	RW 1400
	100%	19.4	10.5	7.8	0	0	
24 Hr	Control	20.4	6.6	7.6	0	0	RW 1330
	100%	20.3	7.9	8.0	0	0	
48 Hr	Control	20.1	6.8	7.4	0	0	RW 1400
	100%	20.1	6.6	7.5	0	0	
Renewal	Control	20.2	7.8	7.8	0	0	RW 1400
	100%	19.9	8.9	7.9	0	0	
72 Hr	Control	20.3	7.2	7.4	0	0	RW 1400
	100%	20.4	7.4	8.0	0	0	
96 Hr	Control	20.5	7.7	7.6	0	0	RW 1400
	100%	20.5	7.9	8.1	0	0	

Comments:

Sample as received: Chlorine: 0 mg/l; pH: 7.8; Conductivity: 955 umho; Temp: 4°C;
 DO: 11.5 mg/l; Alkalinity: 180 mg/l; Hardness: 428 mg/l; NH₃-N: 0.6 mg/l.
 Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / No.
 Control: Alkalinity: 60 mg/l; Hardness: 98 mg/l; Conductivity: 305 umho.
 Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / No.
 Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.

RESULTS

Percent Survival In:	Control: <u>100</u> %	100% Sample: <u>100</u> %
----------------------	-----------------------	---------------------------

**CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0**



Lab No.: A-05020501
Client/ID: Del Mar IOB0418

Date Tested: 02/05/05 to 02/11/05

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: < 24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
QA/QC Batch No.: RT-050204.

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 15 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	28.2
6.25%	100%	27.6
12.5%	100%	28.0
25%	100%	28.5
50%	100%	28.8
100%	100%	28.9

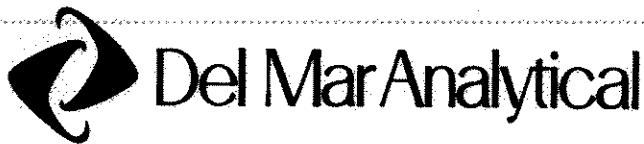
* Statistically significantly less than control at P = 0.05 level.
** Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

CHRONIC TOXICITY

Parameter	Survival	Growth
NOEC	100%	100%
TUc	1.0	1.0

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (28.2 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 10.4%)
Statistically significantly different concentrations relative difference >13%	NA - No stat. sig. diff. concentrations
Concentration response relationship acceptable	Pass (slight inverse response at conc. tested)



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
 9630 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 # IOB0418

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:
 Aquatic Testing Laboratories-SUB
 4350 Transport Street, Unit 107
 Ventura, CA 93003
 Phone : (805) 650-0546
 Fax: (805) 650-0756

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

Analysis	Expiration	Comments
Sample ID: IOB0418-01 Water	Sampled: 02/04/05 11:26	
Bioassay-7 dy Chrnrc	02/05/05 23:26	Cerio, EPA/821-R02-013, Sub to AqTox Labs
Bioassay-Acute 96hr	02/05/05 23:26	FH minnow, EPA/821-R02-012, Sub to AqTox Labs

Containers Supplied:
 1 gal Poly (IOB0418-01AR)
 1 gal Poly (IOB0418-01AS)

SAMPLE INTEGRITY:

All containers intact: Yes No
 Custody Seals Present: Yes No
 Sample labels/COC agree: Yes No
 Samples Preserved Properly: Yes No
 Samples Received On Ice: Yes No
 Samples Received at (temp): 4°C

Released By: [Signature] Date: 2/4/05 Time: _____
 Received By: [Signature] Date: 2-5-5 Time: 1000

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



EBERLINE

SERVICES

March 8, 2005

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

Reference: Del Mar Analytical Project No. IOB0418
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502073-8237

Dear Ms. Harper:

Enclosed are results from the analyses of one water sample received at Eberline Services on February 8, 2005. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analyses were gross alpha/gross beta (EPA900.0), tritium (H-3, EPA906.0), and strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require matrix spike analyses to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

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

Eberline Services

ANALYSIS RESULTS

SDG <u>8237</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502073-01</u>	Contract <u>PROJECT# 1080418</u>
Received Date <u>02/08/05</u>	Matrix <u>WATER</u>

Client	Lab						
<u>Sample ID</u>	<u>Sample ID</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
1080418-01	8237-001	02/04/05	03/02/05	GrossAlpha	0.865 ± 2.9	pCi/L	4.35
			03/02/05	Gross Beta	4.17 ± 3.4	pCi/L	5.53
			02/28/05	H3	5.86 ± 94	pCi/L	158
			02/25/05	Sr90	0.010 ± 0.22	pCi/L	0.420

Certified by <u><i>M. J. Smith</i></u>
Report Date <u>03/08/05</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8237</u> Work Order <u>R502073-01</u> Received Date <u>02/08/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# 10B0418</u> Matrix <u>WATER</u>
--	---

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8237-002	GrossAlpha	10.7 ± 1.2	pCi/Smpl	10.2	0.455	105% recovery
		Gross Beta	9.71 ± 0.74	pCi/Smpl	10.1	0.557	96% recovery
		H3	214 ± 21	pCi/Smpl	236	24.8	91% recovery
		Sr90	10.9 ± 0.59	pCi/Smpl	10.1	0.250	108% recovery
<u>BLANK</u>							
	8237-003	GrossAlpha	-0.225 ± 0.24	pCi/Smpl	NA	0.593	<MDA
		Gross Beta	-0.050 ± 0.30	pCi/Smpl	NA	0.554	<MDA
		H3	3.36 ± 12	pCi/Smpl	NA	24.6	<MDA
		Sr90	-0.061 ± 0.11	pCi/Smpl	NA	0.246	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8237-004	GrossAlpha	1.52 ± 2.5	4.26
	Gross Beta	2.71 ± 3.2	5.51
	H3	-61.2 ± 120	251
	Sr90	0.060 ± 0.23	0.436

<u>ORIGINALS</u>					
Sample ID	Results ± 2σ	MDA	3σ	RPD (Tot)	Eval
8237-001	0.865 ± 2.9	4.35	-	-	0 satis.
	4.17 ± 3.4	5.53	-	-	0 satis.
	5.86 ± 94	158	-	-	0 satis.
	0.010 ± 0.22	0.420	-	-	0 satis.

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8237-005	GrossAlpha	160 ± 16	4.85
	Gross Beta	198 ± 10	5.54

<u>ORIGINAL SAMPLE</u>					
Sample ID	Results ± 2σ	MDA	Added	%Recv	
8237-001	0.865 ± 2.9	4.35	214	74	
	4.17 ± 3.4	5.53	202	96	

Certified by <u><i>[Signature]</i></u> Report Date <u>03/08/05</u> Page 2



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Cotton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB0418

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Eberline Services 2030 Wright Avenue Richmond, CA 94804 Phone: (510) 235-2633 Fax: (510) 235-0438

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

Analysis	Expiration	Comments
Sample ID: IOB0418-01 Water Sampled: 02/04/05 11:26		
EDD + Level 4-OUT	03/04/05 11:26	**LEVEL IV QC, ACCESS 7 EDD**
Gross Alpha-O	02/04/06 11:26	900.0, IF RESULT>15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/04/06 11:26	900.0, IF RESULT>15 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/04/06 11:26	HOLD for Gross Alpha/Beta result; EPA 903.1 & 904.0
Strontium 90-O	02/04/06 11:26	905.0
Tritium-O	02/04/06 11:26	906

Containers Supplied:
 1 gal Poly (IOB0418-01AF)

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

	2-7-05	1700		2/8/05	10:00
Released By	Date	Time	Received By	Date	Time

RICHMOND, CA LABORATORY



SAMPLE RECEIPT CHECKLIST

Client: Del Mar City: Irvine State: CA

Date/Time received: 2/10/05 10:00 CoC No.: I0B0418

Sample: I0B0418-01 AF

Container I.D. No.: Box Requested TAT (Days): 14 P.O. Received Yes No

INSPECTION

1. Custody seals on shipping container intact? Yes No N/A

2. Custody seals on shipping container dated & signed? Yes No N/A

3. Custody seals on sample containers intact? Yes No N/A

4. Custody seals on sample containers dated & signed? Yes No N/A

5. Packing material is: Wet Dry

6. Number of samples in shipping container: 1 Sample Matrix: Water

7. Number of containers per sample: 1 (Or see CoC _____)

8. Samples are in correct container Yes No

9. Paperwork agrees with samples? Yes No

10. Samples have: Tape Hazard labels Rad labels Appropriate sample labels

11. Samples are: In good condition Leaking Broken Container Missing

12. Samples are: Preserved Not preserved pH: 7 Preservative _____

13. Describe any anomalies: _____

14. Was P.M. notified of any anomalies? Yes No Date: _____

15. Inspected by: JLH Date: 2/10/05 Time: 10:00

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

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. _____ Calibration date _____



February 28, 2005

Alta Project I.D.: 25765

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 February 23, 2005 under your Project Name "IOB0418". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

FAX (916) 673-0106
(916) 933-1640



Section I: Sample Inventory Report

Date Received: 2/23/2005

Alta Lab. ID

Client Sample ID

25765-001

IOB0418-01



Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	6540	Lab Sample:	0-MIB001
Sample Size:	1.000 L	Date Extracted:	23-Feb-05	Date Analyzed DB-5:	25-Feb-05
				Date Analyzed DB-225:	NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	2.38		71.1	25 - 164
1,2,3,7,8-PeCDD	ND	2.60		63.9	25 - 181
1,2,3,4,7,8-HxCDD	ND	6.83		67.2	32 - 141
1,2,3,6,7,8-HxCDD	ND	7.11		71.8	28 - 130
1,2,3,7,8,9-HxCDD	ND	6.95		66.9	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	3.87		50.9	17 - 157
OCDD	ND	9.92		74.2	24 - 169
2,3,7,8-TCDF	ND	2.92		57.7	24 - 185
1,2,3,7,8-PeCDF	ND	3.54		60.2	21 - 178
2,3,4,7,8-PeCDF	ND	3.15		57.4	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.845		63.0	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.831		64.7	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.878		64.0	29 - 147
1,2,3,7,8,9-HxCDF	ND	1.28		62.9	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	2.01		63.6	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	2.35		57.3	17 - 157
OCDF	ND	11.1		72.0	35 - 197
Totals					
Total TCDD	ND	2.38			
Total PeCDD	ND	2.60			
Total HxCDD	ND	6.97			
Total HpCDD	ND	3.87			
Total TCDF	ND	2.92			
Total PeCDF	ND	3.34			
Total HxCDF	ND	0.943			
Total HpCDF	ND	2.16			
Footnotes					
a. Sample specific estimated detection limit.					
b. Estimated maximum possible concentration.					
c. Method detection limit.					
d. Lower control limit - upper control limit.					

Analyst: DMS

Approved By: Martha M. Maier 28-Feb-2005 10:20



EPA Method 1613

OPR Results		QC Batch No.: 6540		Date Analyzed DB-5: 25-Feb-05		Date Analyzed DB-225: NA	
Matrix: Aqueous		Date Extracted: 23-Feb-05		Lab Sample: 0-OPR001			
Sample Size: 1.000 L							
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	
2,3,7,8-TCDD	10.0	8.59	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	75.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	45.0	35 - 71	13C-1,2,3,7,8-PeCDD	65.1	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	42.8	35 - 82	13C-1,2,3,4,7,8-HxCDD	72.3	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	46.7	38 - 67	13C-1,2,3,6,7,8-HxCDD	71.9	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	44.3	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	66.1	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	47.5	35 - 70	13C-OCDD	52.7	17 - 157	
OCDD	100	93.2	78 - 144	13C-2,3,7,8-TCDF	77.0	24 - 169	
2,3,7,8-TCDF	10.0	9.27	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	60.5	24 - 185	
1,2,3,7,8-PeCDF	50.0	47.1	40 - 67	13C-2,3,4,7,8-PeCDF	61.7	21 - 178	
2,3,4,7,8-PeCDF	50.0	48.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	59.7	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	48.5	36 - 67	13C-1,2,3,6,7,8-HxCDF	64.7	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	49.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	67.6	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	48.9	35 - 78	13C-1,2,3,7,8,9-HxCDF	65.4	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	49.3	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	63.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	49.2	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	67.4	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	50.9	39 - 69	13C-OCDF	59.3	17 - 157	
OCDF	100	96.0	63 - 170	CRS 37Cl-2,3,7,8-TCDD	75.8	35 - 197	

Analyst: JMH

Approved By: Martha M. Maier 28-Feb-2005 10:13



Sample ID: IOB0418-01		EPA Method 1613					
Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25765-001		
Project:	IOB0418	Sample Size:	1.005 L	QC Batch No.:	6540		
Date Collected:	4-Feb-05	DL ^a	EMPC ^b	Date Analyzed DB-5:	26-Feb-05		
Time Collected:	1126	Conc. (pg/L)	Qualifiers	Date Analyzed DB-225:	NA		
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	3.23		IS 13C-2,3,7,8-TCDD	64.6	25 - 164	
1,2,3,7,8-PeCDD	ND	2.73		13C-1,2,3,7,8-PeCDD	54.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	5.19		13C-1,2,3,4,7,8-HxCDD	61.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	5.18		13C-1,2,3,6,7,8-HxCDD	73.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	5.16		13C-1,2,3,4,6,7,8-HpCDD	65.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	7.32		13C-OCDD	58.8	17 - 157	
OCDD	17.3			13C-2,3,7,8-TCDF	67.4	24 - 169	
2,3,7,8-TCDF	ND	3.44		13C-1,2,3,7,8-PeCDF	52.9	24 - 185	
1,2,3,7,8-PeCDF	ND	4.78		13C-2,3,4,7,8-PeCDF	54.4	21 - 178	
2,3,4,7,8-PeCDF	ND	4.38		13C-1,2,3,4,7,8-HxCDF	53.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	1.93		13C-1,2,3,6,7,8-HxCDF	65.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	1.83		13C-2,3,4,6,7,8-HxCDF	62.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	2.05		13C-1,2,3,7,8,9-HxCDF	59.1	29 - 147	
1,2,3,7,8,9-HxCDF	ND	3.01		13C-1,2,3,4,6,7,8-HpCDF	65.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	4.34		13C-1,2,3,4,7,8,9-HpCDF	67.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	4.90		13C-OCDF	62.4	17 - 157	
OCDF	ND	11.7		CRS 37Cl-2,3,7,8-TCDD	69.9	35 - 197	
Totals							
Total TCDD	ND	3.23					
Total PeCDD	ND	2.73					
Total HxCDD	ND	5.17					
Total HpCDD	ND	7.32					
Total TCDF	ND	3.44					
Total PeCDF	ND	4.57					
Total HxCDF	ND	2.16					
Total HpCDF	ND	4.58					
Footnotes							
a. Sample specific estimated detection limit.							
b. Estimated maximum possible concentration.							
c. Method detection limit.							
d. Lower control limit - upper control limit.							

Analyst: JMH

Approved By: Martha M. Maier 28-Feb-2005 10:20

APPENDIX

SECTION II

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

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

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

CURRENT CERTIFICATIONS

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)



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4867 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-0598 Fax (619) 505-0689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2528 E. Sunset Rd., Suite 83, Las Vegas, NV 89129 Ph (702) 790-3820 Fax (702) 790-3821

SUBCONTRACT ORDER - PROJECT # IOB0418

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) 933-0940 <div style="text-align: right; font-size: 1.2em; margin-top: 10px;">25765 0.30</div>
---	--

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

Analysis	Expiration	Comments
Sample ID: IOB0418-01 Water Sampled: 02/04/05 11:26		
1613-Dioxin-HR	02/11/05 11:26	J flags, 17 congeners, no TEQ, sub to Pace-MN Excel EDD email to pm, Include Std logs for Lvl IV
EDD + Level 4	03/04/05 11:26	
Containers Supplied: 1 L Amber (IOB0418-01X)		

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: Va Bank Date: 2-22-05 Time: 1700
 Received By: Bettina G. Benedict Date: 2/22/05 Time: 0902

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

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 25765

1. Date Samples Arrived: <u>2/23/05 0902</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
2. Time / Date logged in: <u>1015 2/23/05</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
3. Samples Arrived By: (circle) <u>FedEx</u> UPS World Courier Other:			
4. Shipping Preservation: (circle) <u>Ice</u> <u>Blue Ice</u> Dry Ice / None Temp °C <u>0.3°C</u>			
5. Shipping Container(s) Intact? If not, describe condition in comment section.	YES ✓	NO	NA
6. Shipping Container(s) Custody Seals Present? Intact? If not intact, describe condition in comment section.	✓ ✓		
7. Shipping Documentation Present? (circle) Shipping Label <u>Airbill</u> Tracking Number <u>7915 5615 4492</u>	✓		
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 <u>Client</u> Retain or <u>Return</u> 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: samplers initials found on label

ALTA Analytical Laboratory
El Dorado Hills, CA 95762



Del Mar Analytical

17461 Dorian Ave. Suite 100, Irvine, CA **NO. 3084** Fax: (949) 261-1228
 1014 E. Conley Dr., Suite A, Colton, CA 92324 Ph: (909) 370-4267 Fax: (909) 370-1048
 9484 Champeck Drive, Suite 006, San Diego, CA 92123 Ph: (619) 505-8506 Fax: (619) 505-8888
 6030 South 91st Street, Suite B-028, Phoenix, AZ 85034 Ph: (480) 785-0045 Fax: (480) 785-0051
 3880 E. Sunset Rd., Suite 03, Las Vegas, NV 89120 Ph: (702) 788-3220 Fax: (702) 788-3221

SUBCONTRACT ORDER - PROJECT # IOB0418

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Dorian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Alta Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 933-0940 <div style="font-size: 2em; font-weight: bold; text-align: right;">25765 0.3°C</div>

Standard TAT is requested unless specific due date is requested => Due Date: ~~2 weeks~~ 1 week Initials: MH

Analysis	Expiration	Comments
Sample ID: IOB0418-01 Water 1613-Dioxin-HR EDD + Level 4	Sampled: 02/04/05 11:26 02/11/05 11:26 03/04/05 11:26	J flags, 17 congeners, no TBQ, sub to Paco-MN Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IOB0418-01X)		

Sampler = R.B.

MH 2/23/05

SAMPLE INTEGRITY:

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

Released By: V. Bank Date: 2-22-05 Time: 1700
 Received By: _____ Date: _____ Time: _____
 Released By: _____ Date: _____ Time: _____
 Received By: _____ Date: _____ Time: _____

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

February 10, 2005

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

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

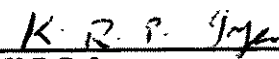
Project Name: IOB0418
Date Received: 02/07/05

Truesdail Project: 939456

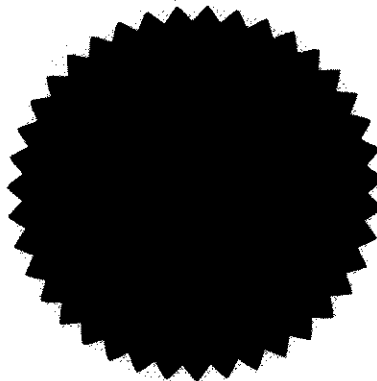
Samples Cross-reference

<u>Truesdail ID</u>	<u>Client ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Time Sampled</u>	<u>Analysis Requested</u>
939456-1	IOB0418-01	Water	02/04/05	11:26	Hydrazines by EPA 8315M

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.



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





Xuan Huong Dang
Project Manager

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

February 10, 2005

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

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

Project Name: IOB0418
Date Received: 02/07/05

Truesdail Project: 939456

Case Narrative

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

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


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

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

The analytes were quantitated down to the Method Detection Limit (J flags) per client's request.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.


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


Kuan Huong Dang
Project Manager

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

REPORT

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

Attention: Michele Harper
Liquid / 1 Sample

Project Name: IOB0418

P.O. Number: IOB0418

Method Number: 8315 (Modified)

Investigation: Hydrazines in Liquid

Laboratory No: 939456

Report Date: February 9, 2005

Sampling Date: February 4, 2005

Receiving Date: February 7, 2005

Extraction Date: February 7, 2005

Analysis Date: February 8, 2005

Units: µg/L

Dilution Factor: 1

Reported By: JS

Page 1 of 1

Analytical Results

Sample ID	Sample Description	Monomethyl		Unsymmetrical Dimethyl	
		Hydrazine	Hydrazine	Hydrazine	Hydrazine
704733-MB	Method Blank	ND	ND	ND	ND
939456	IOB0418-01	ND	ND	ND	ND
MDL		1.2	0.27	0.39	
PQL		5.0	5.0	1.0	

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

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

Xuan Dang, Project Manager
Environmental Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these laboratories.

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

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

Client Contact: Michele Harper
Sample: Liquid / 1 Sample
Sample ID: IOB0418
P.O. Number: IOB0418
Method Number: 8315 (Modified)
Run Batch No.: Extraction: 2854; Analysis: 362
Investigation: Hydrazines in Liquid

REPORT

QC Lab. No.: 704733
Project Lab. No.: 939456
Spiked Sample ID: 939456
Report Date: February 9, 2005
Sampling Date: February 4, 2005
Receiving Date: February 7, 2005
Extraction Date: February 7, 2005
Analysis Date: February 8, 2005
Units: µg/L
Reported By: JS

Quality Control/Quality Assurance Calibration Report

ICV

Parameter	Theoretical Value (ug/L)	Measured Value (ug/L)	% Rec.	Control Limits		Flag
				Value (ug/L)	% Rec.	
Monomethyl Hydrazine	25.0	25.7	103	85-115		PASS
u-Dimethyl Hydrazine	25.0	25.7	103	85-115		PASS
Hydrazine	5.0	5.35	107	85-115		PASS

QCS

Parameter	Theoretical Value (ug/L)	Measured Value (ug/L)	% Rec.	Control Limits		Flag
				Value (ug/L)	% Rec.	
Monomethyl Hydrazine	50.0	52.4	105	85-115		PASS
u-Dimethyl Hydrazine	50.0	49.7	99.4	85-115		PASS
Hydrazine	10.0	10.6	106	85-115		PASS

Quality Control/Quality Assurance Spikes Report

LCS/LCSD

Parameter	Spiked Conc. ug/L	Recovered Concentration LCS	MB	LCS	Recovery (%)	LCS/LCSD		Control Limits	Flag
						%D	% Rec.		
Monomethyl Hydrazine	50.0	53.6	51.1	0.0	107	102	4.73%	PASS	20
u-Dimethyl Hydrazine	50.0	52.9	53.3	0.0	106	107	0.69%	PASS	20
Hydrazine	10.0	10.7	10.7	0.0	107	107	0.06%	PASS	20

MS/MSD

Parameter	Spiked Conc. ug/L	Recovered Concentration MS	MSD	Recovery (%)	MS/MSD		Control Limits	Flag	Accuracy
					%D	% Rec.			
Monomethyl Hydrazine	50.0	42.5	39.8	0.0	84.9	79.6	6.56%	PASS	20
u-Dimethyl Hydrazine	50.0	46.4	46.4	0.0	92.7	92.9	0.18%	PASS	20
Hydrazine	10.0	12.3	12.5	0.0	123	125	1.63%	PASS	20

ICV: Initial Calibration Verification

QCS: Quality Control Standard

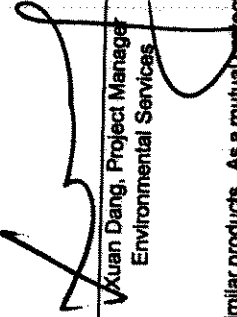
LCS: Laboratory Control Spike

MS: Matrix Spike

%D: Percent Difference

Flag: "Pass" if within Control Limits; otherwise "Fail"

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


Xuan Dang, Project Manager
Environmental Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these laboratories.



Del Mar Analytical

939456

17461 Derian Ave., Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9586 Fax (619) 505-9689
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB0418

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Truesdail Laboratories-SUB 14201 Franklin Avenue Tustin, CA 92680 Phone: (714) 730-6239 Fax: (714) 730-6462

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

Analysis	Expiration	Comments
Sample ID: IOB0418-01 Water	Sampled: 02/04/05 11:26	
Hydrazine-OUT	02/07/05 11:26	Sub Truesdail for Monomethylhydrazine, J flags
Level 4 Data Package - Out	03/04/05 11:26	
Containers Supplied:		
1 L Amber (IOB0418-01AP)		
1 L Amber (IOB0418-01AQ)		

Rec'd 02/07/05
s21b 939456

ALERT!!
Level III QC

For Sample Conditions
See Form Attached

SAMPLE INTEGRITY:

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

Released By: *[Signature]* Date: 2/7/05 Time: 0830
 Received By: *[Signature]* Date: 2/07/05 Time: 0830
 Released By: *[Signature]* Date: 2/7/05 Time: 0935
 Received By: *[Signature]* Date: 2/7/05 Time: 09:35



Sample Integrity & Analysis Discrepancy Form

Client: Del Mar Analytical

Lab # 939456

Date Delivered: 02/07/05 Time: 9:35 By: Mail Field Service Client

1. Was a Chain of Custody received and signed? Yes No N/A
2. Does Customer require an acknowledgement of the COC? Yes No N/A
3. Are there any special requirements or notes on the COC? Yes No N/A
4. If a letter was sent with the COC, does it match the COC? Yes No N/A
5. Were all requested analyses understood and acceptable? Yes No N/A
6. Were samples received in a chilled condition?
Temperature (if yes)? 4°C Yes No N/A
7. Were samples received intact
(i.e. broken bottles, leaks, air bubbles, etc.)? Yes No N/A
8. Were sample custody seals intact? Yes No N/A
9. Does the number of samples received agree with COC? Yes No N/A
10. Did sample labels correspond with the client ID's? Yes No N/A
11. Did sample labels indicate proper preservation?
Preserved by: Truesdail Client N/A
12. Were samples pH checked? pH = _____ Yes No N/A
13. Were all analyses within holding time at time of receipt?
If not, notify the Project Manager. Yes No N/A
14. Have Project due dates been checked and accepted? Yes No N/A
Turn Around Time (TAT): RUSH Std
15. **Sample Matrix:** Liquid Drinking Water Ground Water Waste Water
 Sludge Soil Wipe Paint Solid Other Water

16. Comments: _____

17. Sample Check-In completed by Truesdail Log-In/Receiving: L. Strabucius



Internal Chain of Custody Logbook

Lab Number: 939456
 Client Name: Del Mar

Storage Temperature: 4°C

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature
				2/2/08	10:00		L. Shoburka	<i>[Signature]</i>
	Hydrazine	2/1/08	10:30	2/2/08	11:30	300ml	M. Katani	<i>[Signature]</i>

Storage Date	Shelf No. For Storage	Printed Name	Initials	Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature

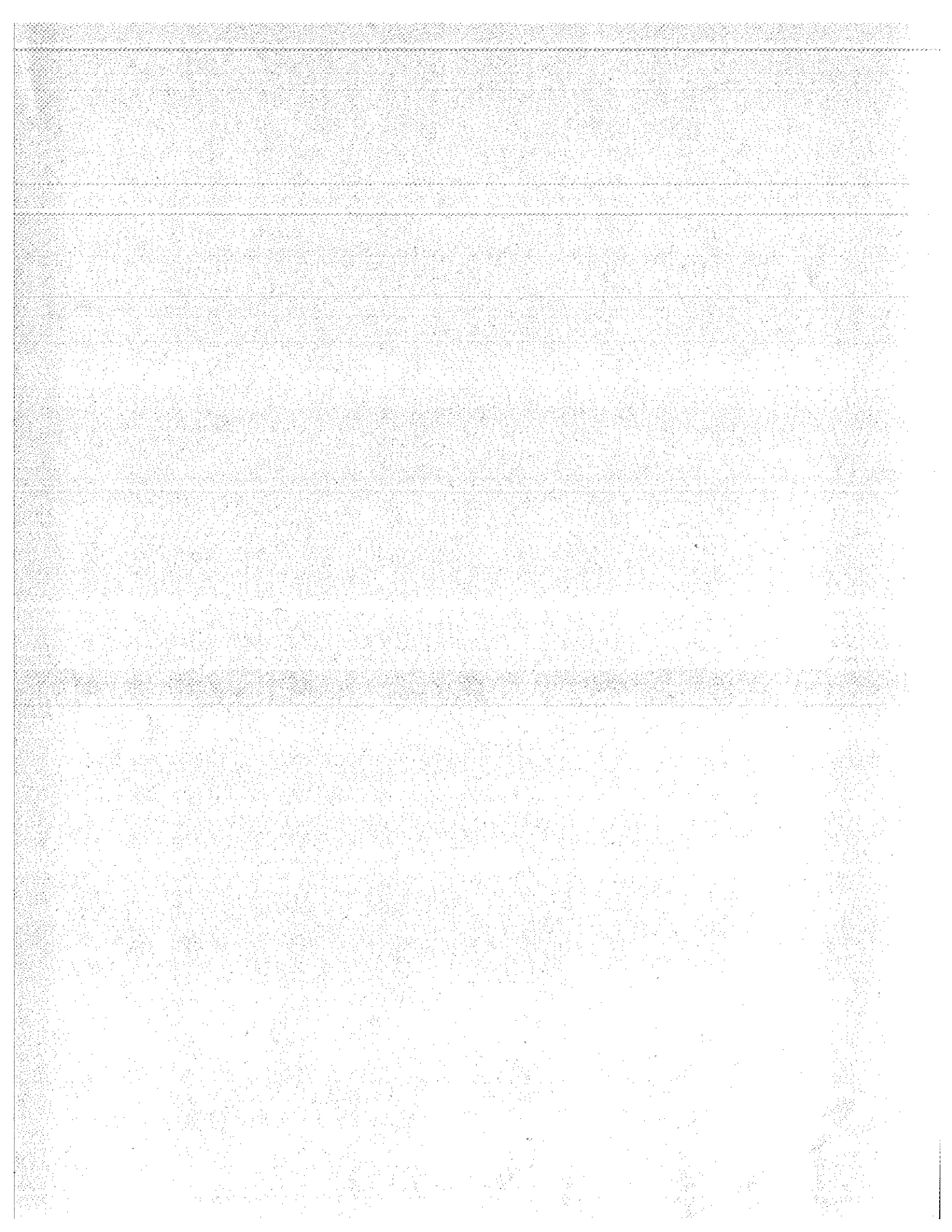
Storage Date	Shelf No. For Storage	Printed Name	Initials	Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature

Storage Date	Shelf No. For Storage	Printed Name	Initials	Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature

Storage Date	Shelf No. For Storage	Printed Name	Initials	Discharge Date	Printed Name	Initials




CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF30
 Task Order 313150010
 SDG No. Multi
 No. of Analyses 13

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

Date: March 18, 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., 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	Detects below the calibration range were qualified "J." False negative and false positives noted. Several transcription errors were noted.

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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 13
No. of Reanalyses/Dilutions: 0
Reviewer: H. Chang
Date of Review: March 18, 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 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 AP)	Matrix	COC Method
Outfall 001	IOB0980-01	P5072_2989_007	water	1613B
Outfall 002	IOB0981-01	P5072_2989_013	water	1613B
Outfall 003	IOB0988-01	P5072_2989_012	water	1613B
Outfall 004	IOB1002-01	P5072_2989_009	water	1613B
Outfall 005	IOB0990-01	P5072_2989_006	water	1613B
Outfall 006	IOB0992-01	P5072_2989_010	water	1613B
Outfall 007	IOB0993-01	P5072_2989_002	water	1613B
Outfall 008	IOB0997-01	P5072_2989_004	water	1613B
Outfall 009	IOB0996-01	P5072_2989_003	water	1613B
Outfall 010	IOB1001-01	P5072_2989_001	water	1613B
Outfall 011 Composite	IOB1004-01	P5072_2989_011	water	1613B
Outfall 011	IOB1014-01	P5072_2989_005	water	1613B
Outfall 018	IOB1008-01	P5072_2989_008	water	1613B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ except sample Outfall 009 which was at 8°C . Due to non-volatile nature of the analytes, no qualifications were necessary for the elevated cooler temperature. The samples were received at Pace Analytical with cooler temperatures of 1.6°C , 2.3°C , and 3°C . The samples were received at Alta Analytical Perspectives with cooler temperatures of 1°C and 3°C . According to the laboratory login sheets, all samples were received intact and in good condition at Del Mar and Alta AP. No sample conditions were available for review for the sample receipt at Pace. No qualifications were required.

2.1.2 Chain of Custody

It appears that the samples were initially sent from Del Mar Analytical to Pace Analytical then subsequently shipped to Alta Analytical Perspectives. The COCs from the field to Del Mar, Del Mar to Pace, and Pace to Alta were available for review. The COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. The custody seals were not present on the coolers upon receipt at either Del Mar or Alta. No custody seal information was available for Pace. 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 Column Performance Check Standard (CPSM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to initial calibration analysis. A separate CPSM was not analyzed for daily analytical sequence; instead, CPSM compounds were added to OPR analysis. 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

There was one initial calibrations, analyzed 08/12/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the native compounds and $\leq 35\%$ for the labeled compounds. The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

2.4 BLANKS

One method blank (0_2989_MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (0_2989_OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. The laboratory reported total PeCDFs detects in samples Outfall 005, Outfall 006, Outfall 007, and Outfall 011. The reviewer deemed the signals used to be below the signal-to-noise ratio of 2.5 and the results were changed to nondetects. A false negative for total HxCDD was noted in sample Outfall 001 and was changed to a detect. No further qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the lower method calibration level (MCL) were qualified as estimated, "J." The laboratory did not flag OCDD in samples Outfall 002 and Outfall 003 although the reported concentrations were below the lower MCL. OCDD in these samples was qualified as estimated, "J." The laboratory did not notate detects below the lower MCL for totals. These totals were qualified as estimated, "J." The "DNQ" qualification code was applied only if all components of the totals were below the lower MCL.

The laboratory indicated that one of the non-2,3,7,8 substituted HxCDD detect, present in majority of the samples, was due to recovery standard (13C-1,2,3,4,6,7-HxCDD) contribution. This compound was also present in the method blank. This compound was not included in the total HxCDD concentration. Several total HxCDD results could not be reproduced from the raw data by the reviewer and were hand-corrected on the Form I. No further qualifications were required.

Sample ID: IOB0981-01

Outfall 002

Method 1613

Client Data

Name: Pace Inc.
 Project ID: General Analytical HRMS
 Date Collected: 11 Feb 05

Sample Data

Matrix: Aqueous
 Weight/Volume: 1.04 L
 pH: 6

Laboratory Data

Project No.: P5072
 Sample ID: P5072_2989_013
 QC Batch No.: 2989
 Date Received: 01 Mar 05
 Date Extracted: 01 Mar 05
 Date Analyzed: 03 Mar 05

Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries	
					ES	CS
2,3,7,8-TCDD	ND	3.01			65.9	74.3
1,2,3,7,8-PeCDD	ND	5.36			70.3	78.4
1,2,3,4,7,8-HxCDD	ND	4.94			64.3	75.8
1,2,3,6,7,8-HxCDD	ND	4.7			72.6	75.8
1,2,3,7,8,9-HxCDD	ND	5.81			64	75.8
1,2,3,4,6,7,8-HpCDD	ND	9.6			59	75.8
OCDD	50	10.3			45.4	63.7
2,3,7,8-TCDF	ND	2.61			71.8	74.3
1,2,3,7,8-PeCDF	ND	2.46			76.4	78.7
2,3,4,7,8-PeCDF	ND	2.49			68.6	78.7
1,2,3,4,7,8-HxCDF	ND	1.13			66.8	75.8
1,2,3,6,7,8-HxCDF	ND	1.19			69.7	75.8
2,3,4,6,7,8-HxCDF	ND	1.46			66.3	75.8
1,2,3,7,8,9-HxCDF	ND	2.05			60.9	75.8
1,2,3,4,6,7,8-HpCDF	ND	3.28			54.8	63.7
1,2,3,4,7,8,9-HpCDF	ND	4.88			56	63.7
OCDF	ND	8.89			47.2	63.7
Totals & TEQs						
TCDDs	ND	3.01				
PeCDDs	ND	5.36				
HxCDDs	ND	5.15				
HpCDDs	ND	9.6				
TCDFs	ND	2.61				
PeCDFs	ND	2.47				
HxCDFs	ND	1.42				
HpCDFs	ND	4.02				
Total PCDD/Fs	50		50			



ALTA ANALYTICAL PERSPECTIVES
 2714 Exchange Drive
 Wilmington
 North Carolina 28405
 USA
 Tel: 910 794-1613
 Fax: 910 794-3919
 e-mail: yf@ultratrace.com
 web: www.ultratrace.com

Checkcode: 4900

AMEC VALIDATED

LEVEL IV

AAP 2005 Rev. B

Reviewer
 Date

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO57
 Task Order 313150010
 SDG No. IOB0981

No. of Analyses 2

Laboratory Del Mar Analytical

Reviewer K. Shadowlight

Analysis/Method Volatiles

Date March 21, 2005

Reviewer's Signature
K. Shadowlight

ACTION ITEMS*	
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	
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	Acceptable as reviewed.
* 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 GROUP: IOB0981

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#: IOB0981
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 18, 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*, 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 002	Outfall 002	IOB0981-01	water	624
Trip Blank	Trip Blank	IOB0981-02	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 this SDG were received at the laboratory within the temperature limits of 4°C \pm 2°C, at 3°C. The samples were properly preserved. The COC 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 COC was signed and dated by both field and laboratory personnel. The COC accounted for the analyses presented in this SDG. 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 report were consistent with those specified in the 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

One initial calibration dated 02/07/05, was associated with this SDG. The average RRFs were ≥ 0.05 and the %RSDs were $\leq 35\%$ for the target compounds listed on the sample result summaries. One continuing calibration analyzed 02/17/05, was associated with the sample analyses. The %Ds were $\leq 20\%$ and the RRFs for all target compounds were ≥ 0.05 . 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 qualifications were required.

2.4 BLANKS

One water method blank (5B17020-BLK1) was associated with this SDG. 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

One water blank spike (5B17020-BS1) was associated with this SDG. 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

MS/MSD analyses were not performed on the site sample in this SDG. Method accuracy was assessed based on the LCS results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with the site sample in this SDG. There were no target compounds detected above the MDLs in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field QC samples associated with this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples in this SDG were within the control limits established by the continuing calibration standards, of +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 standards and by the MDL study. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in mg/L (ppm). No calculation or transcription errors were noted. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

The laboratory did not provide TICs for this SDG. 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

17461 Denan Ave., Suite 100, Irvine, CA 92618 (949) 261-1022 FAX (949) 260-3287
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 305, San Diego, CA 92123 (658) 505-8596 FAX (658) 505-9089
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0651
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Routine Outfall 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Analyzed	Date Data	Qualifiers
Sample ID: IOB0981-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/18/05	ll
Carbon tetrachloride	EPA 624	5B17020	0.28	5.0	ND	1	02/17/05	02/18/05	
Chloroform	EPA 624	5B17020	0.33	2.0	ND	1	02/17/05	02/18/05	
1,1-Dichloroethane	EPA 624	5B17020	0.27	2.0	ND	1	02/17/05	02/18/05	
1,2-Dichloroethane	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/18/05	
1,1-Dichloroethene	EPA 624	5B17020	0.32	3.0	ND	1	02/17/05	02/18/05	
Ethylbenzene	EPA 624	5B17020	0.25	2.0	ND	1	02/17/05	02/18/05	
Tetrachloroethene	EPA 624	5B17020	0.32	2.0	ND	1	02/17/05	02/18/05	
Toluene	EPA 624	5B17020	0.36	2.0	ND	1	02/17/05	02/18/05	
1,1,1-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/18/05	
1,1,2-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/18/05	
Trichloroethene	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/18/05	
Trichlorofluoromethane	EPA 624	5B17020	0.54	5.0	ND	1	02/17/05	02/18/05	
Vinyl chloride	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/18/05	
Xylenes, Total	EPA 624	5B17020	0.52	4.0	ND	1	02/17/05	02/18/05	
Surrogate: Dibromofluoromethane (80-120%)					111 %				
Surrogate: Toluene-d8 (80-120%)					108 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					104 %				
Sample ID: IOB0981-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/17/05	ll
Carbon tetrachloride	EPA 624	5B17020	0.28	5.0	ND	1	02/17/05	02/17/05	
Chloroform	EPA 624	5B17020	0.33	2.0	ND	1	02/17/05	02/17/05	
1,1-Dichloroethane	EPA 624	5B17020	0.27	2.0	ND	1	02/17/05	02/17/05	
1,2-Dichloroethane	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/17/05	
1,1-Dichloroethene	EPA 624	5B17020	0.52	3.0	ND	1	02/17/05	02/17/05	
Ethylbenzene	EPA 624	5B17020	0.25	2.0	ND	1	02/17/05	02/17/05	
Tetrachloroethene	EPA 624	5B17020	0.32	2.0	ND	1	02/17/05	02/17/05	
Toluene	EPA 624	5B17020	0.36	2.0	ND	1	02/17/05	02/17/05	
1,1,1-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/17/05	
1,1,2-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/17/05	
Trichloroethene	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/17/05	
Trichlorofluoromethane	EPA 624	5B17020	0.54	5.0	ND	1	02/17/05	02/17/05	
Vinyl chloride	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/17/05	
Xylenes, Total	EPA 624	5B17020	0.52	4.0	ND	1	02/17/05	02/17/05	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					104 %				

Key
 Pass 1
 Qual
 Coll

Key
 Pass 1
 Qual
 Coll

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

AMEC VALIDATED

LEVEL IV

The results herein are to be used only in the laboratory. This report shall not be reproduced, except in full, without the written permission of Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711WC79

Task Order 313150010

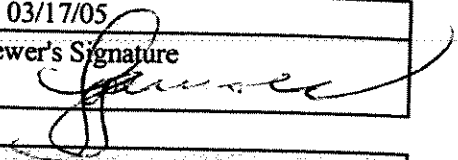
SDG No. IOB0981

No. of Analyses 1

Laboratory Del Mar Analytical

Date: 03/17/05

Reviewer L. Jarusewic

Reviewer's Signature 

Analysis/Method General Minerals

ACTION ITEMS*

- 1. Case Narrative Deficiencies
- 2. Out of Scope Analyses
- 3. Analyses Not Conducted
- 4. Missing Hardcopy Deliverables
- 5. Incorrect Hardcopy Deliverables
- 6. Deviations from Analysis Protocol, e.g.,
 - Holding Times
 - GC/MS Tune/Inst. Performance
 - Calibrations
 - Blanks
 - Surrogates
 - Matrix Spike/Dup LCS
 - Field QC
 - Internal Standard Performance
 - Compound Identification and Quantitation
 - System Performance

COMMENTS*

Acceptable as reviewed.

* 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: GENERAL MINERALS
SAMPLE DELIVERY GROUP: IOB0981

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 #: IOB0981
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
Reviewer: L. Jarusewic
Date of Review: March 17, 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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB0981
Analysis: General Minerals

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 002	Outfall 002	IOB0981-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. 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 %Rs 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. No qualifications were required.

2.3 BLANKS

Turbidity was detected in the method blank (5B12055-BLK1) for Outfall 002 at 0.040 NTU; however, the turbidity method blank result was insufficient to qualify the Outfall 002 result. 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 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.

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. No 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 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.



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 605, San Diego, CA 92123 (619) 505-8596 FAX (619) 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 002
 Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

DRAFT: INORGANICS

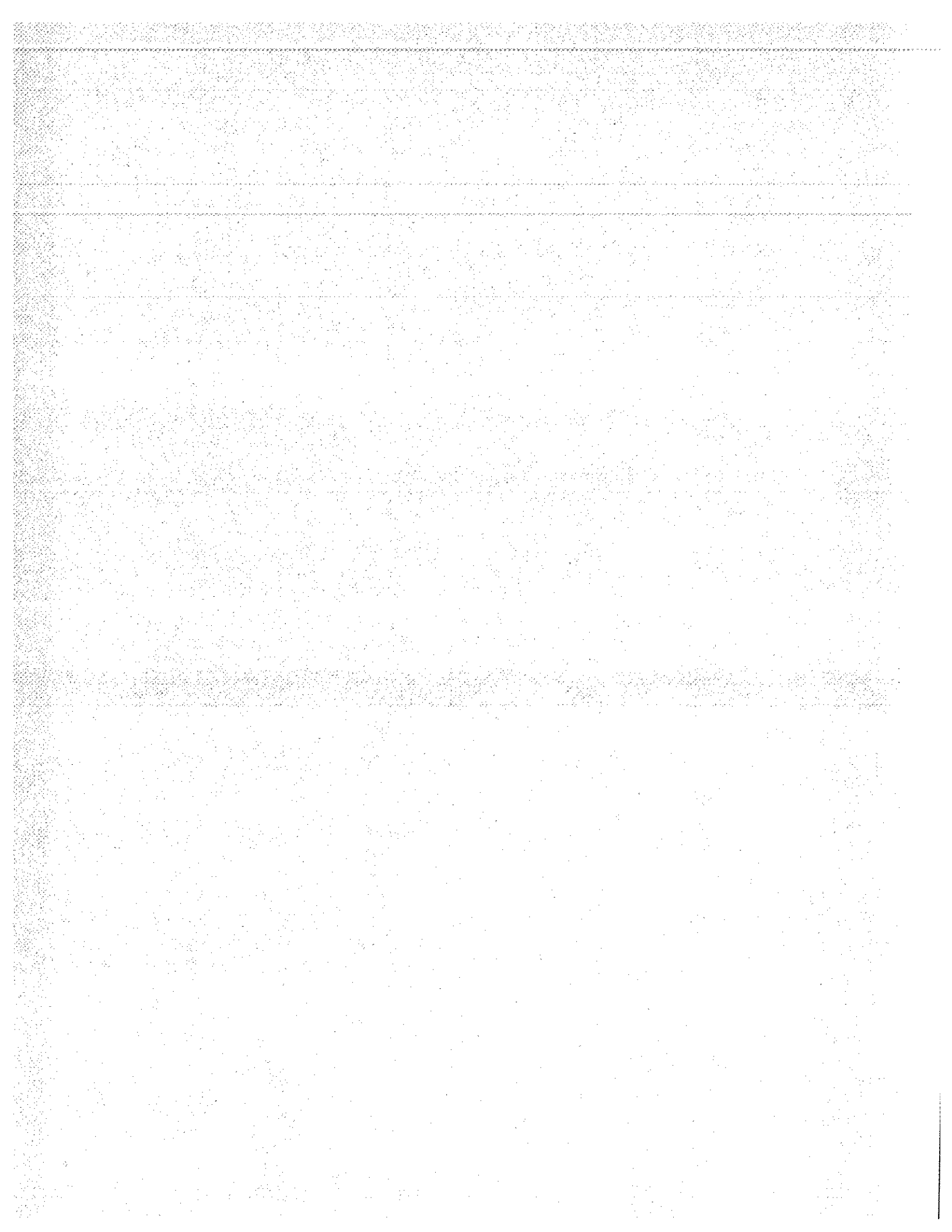
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0981-01 (DRAFT: Outfall 002 - Water) Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B11117	0.30	0.50	0.56	1	02/11/05	02/11/05	REV QUAL QUAL CODE
Sample ID: IOB0981-01 (DRAFT: Outfall 002 - Water) Reporting Units: NTU									
Turbidity	EPA 180.1	5B12055	0.20	5.0	81	5	02/12/05	02/12/05	
Sample ID: IOB0981-01 (DRAFT: Outfall 002 - Water) Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B16120	1.0	1.0	790	1	02/16/05	02/16/05	

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





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 (949) 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

LABORATORY REPORT

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

Project: Routine Outfall 002

Sampled: 02/11/05
Received: 02/11/05
Issued: 03/23/05 18:31

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID

IOB0981-01

IOB0981-02

CLIENT ID

Outfall 002

Trip Blank

MATRIX

Water

Water

Reviewed By:

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

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: IOB0981-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/18/05	
Carbon tetrachloride	EPA 624	5B17020	0.28	5.0	ND	1	02/17/05	02/18/05	
Chloroform	EPA 624	5B17020	0.33	2.0	ND	1	02/17/05	02/18/05	
1,1-Dichloroethane	EPA 624	5B17020	0.27	2.0	ND	1	02/17/05	02/18/05	
1,2-Dichloroethane	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/18/05	
1,1-Dichloroethene	EPA 624	5B17020	0.32	3.0	ND	1	02/17/05	02/18/05	
Ethylbenzene	EPA 624	5B17020	0.25	2.0	ND	1	02/17/05	02/18/05	
Tetrachloroethene	EPA 624	5B17020	0.32	2.0	ND	1	02/17/05	02/18/05	
Toluene	EPA 624	5B17020	0.36	2.0	ND	1	02/17/05	02/18/05	
1,1,1-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/18/05	
1,1,2-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/18/05	
Trichloroethene	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/18/05	
Trichlorofluoromethane	EPA 624	5B17020	0.34	5.0	ND	1	02/17/05	02/18/05	
Vinyl chloride	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/18/05	
Xylenes, Total	EPA 624	5B17020	0.52	4.0	ND	1	02/17/05	02/18/05	
Surrogate: Dibromofluoromethane (80-120%)					111 %				
Surrogate: Toluene-d8 (80-120%)					108 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					104 %				

Sample ID: IOB0981-02 (Trip Blank - Water)

Reporting Units: ug/l

Benzene	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/17/05	
Carbon tetrachloride	EPA 624	5B17020	0.28	5.0	ND	1	02/17/05	02/17/05	
Chloroform	EPA 624	5B17020	0.33	2.0	ND	1	02/17/05	02/17/05	
1,1-Dichloroethane	EPA 624	5B17020	0.27	2.0	ND	1	02/17/05	02/17/05	
1,2-Dichloroethane	EPA 624	5B17020	0.28	2.0	ND	1	02/17/05	02/17/05	
1,1-Dichloroethene	EPA 624	5B17020	0.32	3.0	ND	1	02/17/05	02/17/05	
Ethylbenzene	EPA 624	5B17020	0.25	2.0	ND	1	02/17/05	02/17/05	
Tetrachloroethene	EPA 624	5B17020	0.32	2.0	ND	1	02/17/05	02/17/05	
Toluene	EPA 624	5B17020	0.36	2.0	ND	1	02/17/05	02/17/05	
1,1,1-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/17/05	
1,1,2-Trichloroethane	EPA 624	5B17020	0.30	2.0	ND	1	02/17/05	02/17/05	
Trichloroethene	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/17/05	
Trichlorofluoromethane	EPA 624	5B17020	0.34	5.0	ND	1	02/17/05	02/17/05	
Vinyl chloride	EPA 624	5B17020	0.26	5.0	ND	1	02/17/05	02/17/05	
Xylenes, Total	EPA 624	5B17020	0.52	4.0	ND	1	02/17/05	02/17/05	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					109 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					104 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

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: IOB0981-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5B14010	1.1	5.0	ND	0.957	02/14/05	02/18/05	
2,4-Dinitrotoluene	EPA 625	5B14010	0.23	9.0	ND	0.957	02/14/05	02/18/05	
N-Nitrosodimethylamine	EPA 625	5B14010	0.22	8.0	ND	0.957	02/14/05	02/18/05	C
Pentachlorophenol	EPA 625	5B14010	0.78	8.0	ND	0.957	02/14/05	02/18/05	
2,4,6-Trichlorophenol	EPA 625	5B14010	0.10	6.0	ND	0.957	02/14/05	02/18/05	
Surrogate: 2-Fluorophenol (35-120%)					72 %				
Surrogate: Phenol-d6 (45-120%)					73 %				
Surrogate: 2,4,6-Tribromophenol (50-125%)					80 %				
Surrogate: Nitrobenzene-d5 (45-120%)					68 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					70 %				
Surrogate: Terphenyl-d14 (45-135%)					76 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05

Received: 02/11/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0981-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	5B13028	0.0010	0.010	ND	0.952	02/13/05	02/14/05	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					71 %				
<i>Surrogate: Tetrachloro-m-xylene (35-120%)</i>					63 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0981-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Copper	EPA 200.8	5B12041	0.49	2.0	2.7	1	02/12/05	02/14/05	
Lead	EPA 200.8	5B12041	0.13	1.0	1.2	1	02/12/05	02/14/05	
Mercury	EPA 245.1	5B12033	0.063	0.20	0.13	1	02/12/05	02/12/05	J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0981-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B11117	0.30	0.50	0.56	1	02/11/05	02/11/05	
Biochemical Oxygen Demand	EPA 405.1	5B11108	0.59	2.0	2.2	1	02/11/05	02/16/05	
Chloride	EPA 300.0	5B12028	2.6	5.0	31	10	02/12/05	02/12/05	
Nitrate/Nitrite-N	EPA 300.0	5B11120	0.072	0.26	0.62	1	02/11/05	02/12/05	
Oil & Grease	EPA 413.1	5B14044	0.94	5.0	ND	1	02/14/05	02/14/05	
Sulfate	EPA 300.0	5B12028	1.8	5.0	250	10	02/12/05	02/12/05	
Surfactants (MBAS)	SM5540-C	5B12050	0.088	0.20	0.093	2	02/12/05	02/12/05	RL-1, J
Total Dissolved Solids	SM2540C	5B16118	10	10	740	1	02/16/05	02/16/05	
Total Suspended Solids	EPA 160.2	5B17069	10	10	58	1	02/17/05	02/17/05	
Sample ID: IOB0981-01 (Outfall 002 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	5B11071	0.10	0.10	ND	1	02/11/05	02/11/05	
Sample ID: IOB0981-01 (Outfall 002 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5B12055	0.20	5.0	81	5	02/12/05	02/12/05	
Sample ID: IOB0981-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	5B12048	2.2	5.0	ND	1	02/12/05	02/12/05	
Perchlorate	EPA 314.0	5B16069	0.80	4.0	ND	1	02/16/05	02/16/05	
Sample ID: IOB0981-01 (Outfall 002 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B16120	1.0	1.0	790	1	02/16/05	02/16/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 002 (IOB0981-01) - Water	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 160.5	2	02/11/2005 09:21	02/11/2005 18:15	02/11/2005 22:00	02/11/2005 22:00
EPA 180.1	2	02/11/2005 09:21	02/11/2005 18:15	02/12/2005 12:00	02/12/2005 13:00
EPA 300.0	2	02/11/2005 09:21	02/11/2005 18:15	02/11/2005 23:00	02/12/2005 03:55
EPA 405.1	2	02/11/2005 09:21	02/11/2005 18:15	02/11/2005 23:50	02/16/2005 13:30
SM5540-C	2	02/11/2005 09:21	02/11/2005 18:15	02/12/2005 13:09	02/12/2005 17:41

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

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	Data Qualifiers
Batch: 5B17020 Extracted: 02/17/05									
Blank Analyzed: 02/17/2005 (5B17020-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	27.0			ug/l	25.0		108 80-120		
Surrogate: Toluene-d8	26.8			ug/l	25.0		107 80-120		
Surrogate: 4-Bromofluorobenzene	26.0			ug/l	25.0		104 80-120		
LCS Analyzed: 02/17/2005 (5B17020-BS1)									
Benzene	24.5	2.0	0.28	ug/l	25.0		98 70-120		
Carbon tetrachloride	24.4	5.0	0.28	ug/l	25.0		98 70-140		
Chloroform	25.0	2.0	0.33	ug/l	25.0		100 75-130		
1,1-Dichloroethane	24.1	2.0	0.27	ug/l	25.0		96 70-135		
1,2-Dichloroethane	26.6	2.0	0.28	ug/l	25.0		106 60-150		
1,1-Dichloroethene	24.8	3.0	0.32	ug/l	25.0		99 75-135		
Ethylbenzene	25.7	2.0	0.25	ug/l	25.0		103 80-120		
Tetrachloroethene	23.0	2.0	0.32	ug/l	25.0		92 75-125		
Toluene	25.0	2.0	0.36	ug/l	25.0		100 75-120		
1,1,1-Trichloroethane	23.8	2.0	0.30	ug/l	25.0		95 75-140		
1,1,2-Trichloroethane	25.6	2.0	0.30	ug/l	25.0		102 70-125		
Trichloroethene	24.0	5.0	0.26	ug/l	25.0		96 80-120		
Trichlorofluoromethane	24.1	5.0	0.34	ug/l	25.0		96 65-145		
Vinyl chloride	25.3	5.0	0.26	ug/l	25.0		101 50-130		
Surrogate: Dibromofluoromethane	27.1			ug/l	25.0		108 80-120		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B17020 Extracted: 02/17/05											
LCS Analyzed: 02/17/2005 (5B17020-BS1)											
Surrogate: Toluene-d8	27.1			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	27.3			ug/l	25.0		109	80-120			
Matrix Spike Analyzed: 02/17/2005 (5B17020-MS1)											
						Source: IOB0980-01					
Benzene	26.8	2.0	0.28	ug/l	25.0	ND	107	70-120			
Carbon tetrachloride	27.2	5.0	0.28	ug/l	25.0	ND	109	70-145			
Chloroform	27.9	2.0	0.33	ug/l	25.0	ND	112	70-135			
1,1-Dichloroethane	27.0	2.0	0.27	ug/l	25.0	ND	108	65-135			
1,2-Dichloroethane	27.5	2.0	0.28	ug/l	25.0	ND	110	60-150			
1,1-Dichloroethene	27.7	3.0	0.32	ug/l	25.0	ND	111	65-140			
Ethylbenzene	28.4	2.0	0.25	ug/l	25.0	ND	114	70-130			
Tetrachloroethene	25.2	2.0	0.32	ug/l	25.0	ND	101	70-130			
Toluene	27.1	2.0	0.36	ug/l	25.0	ND	108	70-120			
1,1,1-Trichloroethane	26.7	2.0	0.30	ug/l	25.0	ND	107	75-140			
1,1,2-Trichloroethane	27.8	2.0	0.30	ug/l	25.0	ND	111	60-135			
Trichloroethene	26.1	5.0	0.26	ug/l	25.0	ND	104	70-125			
Trichlorofluoromethane	27.8	5.0	0.34	ug/l	25.0	ND	111	55-145			
Vinyl chloride	28.6	5.0	0.26	ug/l	25.0	ND	114	40-135			
Surrogate: Dibromofluoromethane	28.2			ug/l	25.0		113	80-120			
Surrogate: Toluene-d8	27.3			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	28.2			ug/l	25.0		113	80-120			
Matrix Spike Dup Analyzed: 02/17/2005 (5B17020-MSD1)											
						Source: IOB0980-01					
Benzene	26.0	2.0	0.28	ug/l	25.0	ND	104	70-120	3	20	
Carbon tetrachloride	25.6	5.0	0.28	ug/l	25.0	ND	102	70-145	6	25	
Chloroform	26.0	2.0	0.33	ug/l	25.0	ND	104	70-135	7	20	
1,1-Dichloroethane	25.4	2.0	0.27	ug/l	25.0	ND	102	65-135	6	20	
1,2-Dichloroethane	25.0	2.0	0.28	ug/l	25.0	ND	100	60-150	10	20	
1,1-Dichloroethene	26.9	3.0	0.32	ug/l	25.0	ND	108	65-140	3	20	
Ethylbenzene	26.3	2.0	0.25	ug/l	25.0	ND	105	70-130	8	20	
Tetrachloroethene	23.9	2.0	0.32	ug/l	25.0	ND	96	70-130	5	20	
Toluene	26.3	2.0	0.36	ug/l	25.0	ND	105	70-120	3	20	
1,1,1-Trichloroethane	24.6	2.0	0.30	ug/l	25.0	ND	98	75-140	8	20	
1,1,2-Trichloroethane	25.8	2.0	0.30	ug/l	25.0	ND	103	60-135	7	25	
Trichloroethene	25.0	5.0	0.26	ug/l	25.0	ND	100	70-125	4	20	
Trichlorofluoromethane	25.7	5.0	0.34	ug/l	25.0	ND	103	55-145	8	25	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

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: 5B17020 Extracted: 02/17/05											
Matrix Spike Dup Analyzed: 02/17/2005 (5B17020-MSD1)						Source: IOB0980-01					
Vinyl chloride	27.6	5.0	0.26	ug/l	25.0	ND	110	40-135	4	30	
Surrogate: Dibromofluoromethane	27.1			ug/l	25.0		108	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	26.9			ug/l	25.0		108	80-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



Del Mar Analytical

17461Derian 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 (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B14010 Extracted: 02/14/05										
Blank Analyzed: 02/18/2005 (5B14010-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	15.9			ug/l	20.0		80	35-120		
Surrogate: Phenol-d6	15.5			ug/l	20.0		78	45-120		
Surrogate: 2,4,6-Tribromophenol	14.0			ug/l	20.0		70	50-125		
Surrogate: Nitrobenzene-d5	7.44			ug/l	10.0		74	45-120		
Surrogate: 2-Fluorobiphenyl	7.50			ug/l	10.0		75	45-120		
Surrogate: Terphenyl-d14	8.10			ug/l	10.0		81	45-135		
LCS Analyzed: 02/18/2005 (5B14010-BS1)										
Bis(2-ethylhexyl)phthalate	7.70	5.0	1.1	ug/l	10.0		77	65-125		M-NRI
2,4-Dinitrotoluene	6.68	9.0	0.23	ug/l	10.0		67	60-140		J
N-Nitrosodimethylamine	5.44	8.0	0.22	ug/l	10.0		54	40-120		J
Pentachlorophenol	7.14	8.0	0.78	ug/l	10.0		71	50-125		J
2,4,6-Trichlorophenol	7.90	6.0	0.10	ug/l	10.0		79	60-120		
Surrogate: 2-Fluorophenol	13.9			ug/l	20.0		70	35-120		
Surrogate: Phenol-d6	14.3			ug/l	20.0		72	45-120		
Surrogate: 2,4,6-Tribromophenol	14.7			ug/l	20.0		74	50-125		
Surrogate: Nitrobenzene-d5	7.24			ug/l	10.0		72	45-120		
Surrogate: 2-Fluorobiphenyl	7.38			ug/l	10.0		74	45-120		
Surrogate: Terphenyl-d14	6.90			ug/l	10.0		69	45-135		
LCS Dup Analyzed: 02/18/2005 (5B14010-BSD1)										
Bis(2-ethylhexyl)phthalate	7.78	5.0	1.1	ug/l	10.0		78	65-125	1	20
2,4-Dinitrotoluene	7.20	9.0	0.23	ug/l	10.0		72	60-140	7	20
N-Nitrosodimethylamine	8.36	8.0	0.22	ug/l	10.0		84	40-120	42	20
Pentachlorophenol	7.76	8.0	0.78	ug/l	10.0		78	50-125	8	25
2,4,6-Trichlorophenol	8.22	6.0	0.10	ug/l	10.0		82	60-120	4	20
Surrogate: 2-Fluorophenol	14.0			ug/l	20.0		70	35-120		
Surrogate: Phenol-d6	15.1			ug/l	20.0		76	45-120		
Surrogate: 2,4,6-Tribromophenol	15.1			ug/l	20.0		76	50-125		
Surrogate: Nitrobenzene-d5	7.54			ug/l	10.0		75	45-120		
Surrogate: 2-Fluorobiphenyl	7.30			ug/l	10.0		73	45-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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) 785-0943 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

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: 5B14010 Extracted: 02/14/05											
LCS Dup Analyzed: 02/18/2005 (5B14010-BSD1)											
Surrogate: Terphenyl-d14	7.24			ug/l	10.0		72	45-135			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B13028 Extracted: 02/13/05											
Blank Analyzed: 02/14/2005 (5B13028-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.423			ug/l	0.500		85	45-120			
Surrogate: Tetrachloro-m-xylene	0.341			ug/l	0.500		68	35-120			
LCS Analyzed: 02/14/2005 (5B13028-BS1)											
alpha-BHC	0.378	0.010	0.0010	ug/l	0.500		76	45-115			M-NR1
Surrogate: Decachlorobiphenyl	0.377			ug/l	0.500		75	45-120			
Surrogate: Tetrachloro-m-xylene	0.314			ug/l	0.500		63	35-120			
LCS Dup Analyzed: 02/14/2005 (5B13028-BSD1)											
alpha-BHC	0.427	0.010	0.0010	ug/l	0.500		85	45-115	12	30	
Surrogate: Decachlorobiphenyl	0.428			ug/l	0.500		86	45-120			
Surrogate: Tetrachloro-m-xylene	0.315			ug/l	0.500		63	35-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05

Received: 02/11/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B12033 Extracted: 02/12/05										
Blank Analyzed: 02/12/2005 (5B12033-BLK1)										
Mercury	ND	0.20	0.063	ug/l						
LCS Analyzed: 02/12/2005 (5B12033-BS1)										
Mercury	7.92	0.20	0.063	ug/l	8.00		99	85-115		
Matrix Spike Analyzed: 02/12/2005 (5B12033-MS1)										
Mercury	8.00	0.20	0.063	ug/l	8.00	ND	100	70-130		
Matrix Spike Dup Analyzed: 02/12/2005 (5B12033-MSD1)										
Mercury	7.77	0.20	0.063	ug/l	8.00	ND	97	70-130	3	20
Batch: 5B12041 Extracted: 02/12/05										
Blank Analyzed: 02/14/2005 (5B12041-BLK1)										
Copper	ND	2.0	0.49	ug/l						
Lead	ND	1.0	0.13	ug/l						
LCS Analyzed: 02/14/2005 (5B12041-BS1)										
Copper	81.5	2.0	0.49	ug/l	80.0		102	85-115		
Lead	83.2	1.0	0.13	ug/l	80.0		104	85-115		
Matrix Spike Analyzed: 02/14/2005 (5B12041-MS1)										
Copper	81.6	2.0	0.49	ug/l	80.0	ND	102	70-130		
Lead	85.4	1.0	0.13	ug/l	80.0	ND	107	70-130		
Matrix Spike Analyzed: 02/14/2005 (5B12041-MS2)										
Copper	90.6	2.0	0.49	ug/l	80.0	14	96	70-130		
Lead	81.3	1.0	0.13	ug/l	80.0	0.28	101	70-130		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B12041 Extracted: 02/12/05											
Matrix Spike Dup Analyzed: 02/14/2005 (5B12041-MSD1)						Source: IOB0878-01					
Copper	79.9	2.0	0.49	ug/l	80.0	ND	100	70-130	2	20	
Lead	83.8	1.0	0.13	ug/l	80.0	ND	105	70-130	2	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05

Received: 02/11/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B11108 Extracted: 02/11/05											
Blank Analyzed: 02/16/2005 (5B11108-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 02/16/2005 (5B11108-BS1)											
Biochemical Oxygen Demand	206	100	30	mg/l	198		104	85-115			
LCS Dup Analyzed: 02/16/2005 (5B11108-BSD1)											
Biochemical Oxygen Demand	204	100	30	mg/l	198		103	85-115	1	20	
Batch: 5B11117 Extracted: 02/11/05											
Blank Analyzed: 02/11/2005 (5B11117-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 02/11/2005 (5B11117-BS1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0		95	80-115			
Matrix Spike Analyzed: 02/11/2005 (5B11117-MS1)											
Ammonia-N (Distilled)	9.24	0.50	0.30	mg/l	10.0	ND	92	70-120			
Matrix Spike Dup Analyzed: 02/11/2005 (5B11117-MSD1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0	ND	95	70-120	3	15	
Batch: 5B11120 Extracted: 02/11/05											
Blank Analyzed: 02/11/2005 (5B11120-BLK1)											
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l							

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B12028 Extracted: 02/12/05											
Blank Analyzed: 02/12/2005 (5B12028-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 02/12/2005 (5B12028-BS1)											
Chloride	5.04	0.50	0.26	mg/l	5.00		101	90-110			
Sulfate	10.3	0.50	0.18	mg/l	10.0		103	90-110			
Matrix Spike Analyzed: 02/12/2005 (5B12028-MS1) Source: IOB0731-09											
Chloride	144	5.0	2.6	mg/l	50.0	93	102	80-120			
Sulfate	312	5.0	1.8	mg/l	100	220	92	80-120			
Matrix Spike Dup Analyzed: 02/12/2005 (5B12028-MSD1) Source: IOB0731-09											
Chloride	144	5.0	2.6	mg/l	50.0	93	102	80-120	0	20	
Sulfate	310	5.0	1.8	mg/l	100	220	90	80-120	1	20	
Batch: 5B12048 Extracted: 02/12/05											
Blank Analyzed: 02/12/2005 (5B12048-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 02/12/2005 (5B12048-BS1)											
Total Cyanide	192	5.0	2.2	ug/l	200		96	90-110			
Matrix Spike Analyzed: 02/12/2005 (5B12048-MS1) Source: IOB0928-01											
Total Cyanide	162	5.0	2.2	ug/l	200	ND	81	70-115			
Matrix Spike Dup Analyzed: 02/12/2005 (5B12048-MSD1) Source: IOB0928-01											
Total Cyanide	147	5.0	2.2	ug/l	200	ND	74	70-115	10	15	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05

Received: 02/11/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B12050 Extracted: 02/12/05											
Blank Analyzed: 02/12/2005 (5B12050-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 02/12/2005 (5B12050-BS1)											
Surfactants (MBAS)	0.247	0.10	0.044	mg/l	0.250		99	90-110			
Matrix Spike Analyzed: 02/12/2005 (5B12050-MS1)											
						Source: IOB1021-01					
Surfactants (MBAS)	0.315	0.10	0.044	mg/l	0.250	0.084	92	50-125			
Matrix Spike Dup Analyzed: 02/12/2005 (5B12050-MSD1)											
						Source: IOB1021-01					
Surfactants (MBAS)	0.284	0.10	0.044	mg/l	0.250	0.084	80	50-125	10	20	
Batch: 5B12055 Extracted: 02/12/05											
Blank Analyzed: 02/12/2005 (5B12055-BLK1)											
Turbidity	0.0400	1.0	0.040	NTU							J
Duplicate Analyzed: 02/12/2005 (5B12055-DUP1)											
						Source: IOB0952-01					
Turbidity	48.8	2.0	0.080	NTU		48			2	20	
Batch: 5B14044 Extracted: 02/14/05											
Blank Analyzed: 02/14/2005 (5B14044-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 02/14/2005 (5B14044-BS1)											
Oil & Grease	19.8	5.0	0.94	mg/l	20.0		99	65-120			M-NR1

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B14044 Extracted: 02/14/05											
LCS Dup Analyzed: 02/14/2005 (5B14044-BSD1)											
Oil & Grease	19.3	5.0	0.94	mg/l	20.0		96	65-120	3	20	
Batch: 5B16069 Extracted: 02/16/05											
Blank Analyzed: 02/16/2005 (5B16069-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/16/2005 (5B16069-BS1)											
Perchlorate	52.0	4.0	0.80	ug/l	50.0		104	85-115			
Matrix Spike Analyzed: 02/16/2005 (5B16069-MS1) Source: IOB1060-02											
Perchlorate	51.9	4.0	0.80	ug/l	50.0	ND	104	80-120			
Matrix Spike Dup Analyzed: 02/16/2005 (5B16069-MSD1) Source: IOB1060-02											
Perchlorate	51.6	4.0	0.80	ug/l	50.0	ND	103	80-120	1	20	
Batch: 5B16118 Extracted: 02/16/05											
Blank Analyzed: 02/16/2005 (5B16118-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/16/2005 (5B16118-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/16/2005 (5B16118-DUP1) Source: IOB1205-06											
Total Dissolved Solids	756	10	10	mg/l		750			1	10	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05

Received: 02/11/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B16120 Extracted: 02/16/05											
Duplicate Analyzed: 02/16/2005 (5B16120-DUP1)						Source: IOB0937-02					
Specific Conductance	95.3	1.0	1.0	umhos/cm		95			0	5	
Batch: 5B17069 Extracted: 02/17/05											
Blank Analyzed: 02/17/2005 (5B17069-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 02/17/2005 (5B17069-BS1)											
Total Suspended Solids	977	10	10	mg/l	1000		98	85-115			
Duplicate Analyzed: 02/17/2005 (5B17069-DUP1)						Source: IOB0990-01					
Total Suspended Solids	ND	10	10	mg/l		ND				10	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

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
IOB0981-01	413.1 Oil and Grease	Oil & Grease	mg/l	0	5.0	10.00
IOB0981-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.010	0.0100
IOB0981-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB0981-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IOB0981-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOB0981-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	9.0	9.10
IOB0981-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.59	5.0	4.00
IOB0981-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOB0981-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOB0981-01	BOD	Biochemical Oxygen Demand	mg/l	2.20	2.0	20
IOB0981-01	Chloride - 300.0	Chloride	mg/l	31	5.0	150
IOB0981-01	Copper-200.8	Copper	ug/l	2.70	2.0	7.10
IOB0981-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	-2	5.0	4.30
IOB0981-01	Lead-200.8	Lead	ug/l	1.20	1.0	2.60
IOB0981-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.093	0.20	0.50
IOB0981-01	Mercury - 245.1	Mercury	ug/l	0.13	0.20	0.20
IOB0981-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.62	0.26	8.00
IOB0981-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB0981-01	Sulfate-300.0	Sulfate	mg/l	250	5.0	300
IOB0981-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	740	10	950
IOB0981-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB0981-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IOB0981	Sampled: 02/11/05 Received: 02/11/05
--	---	---

DATA QUALIFIERS AND DEFINITIONS

- C** Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R-7** LFB/LFBD RPD exceeded the method control limit. Recovery met acceptance criteria.
- RL-1** Reporting limit raised due to sample matrix effects.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference



Del Mar Analytical

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 (949) 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 002

Report Number: IOB0981

Sampled: 02/11/05
 Received: 02/11/05

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 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 335.2	Water	X	X
EPA 350.2	Water	X	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 Perspectives

Analysis Performed: 1613-Dioxin-HR
 Samples: IOB0981-01

Analysis Performed: EDD + Level 4
 Samples: IOB0981-01

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB0981 218 PG Page 1 of 1

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5.8/12/04

Client Name/Address:		Project:		ANALYSIS REQUIRED												Field readings:		
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Routine Outfall 002		Total Recoverable Metals: Cu, Pb, Hg	Settleable Solids	VOCs 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cl-, SO4, NO3+NO2-N, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	Alpha BHC (608)	2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Temp = 54.3 pH = 7.61	Comments
Sample Description	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	Sampling Date/Time	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515											
Outfall 002	W	Poly-1 liter	1	HNO3	1A	2-11-05 09:21		X										24 TAT
Outfall 002-Dup	W	Poly-1 liter	1	HNO3	1B			X										24 TAT
Outfall 002	W	Poly-1 liter	1	None	2				X									
Outfall 002	W	VOAS	3	HCl	3A, 3B, 3C					X								
Outfall 002	W	Glass-Amber	2	None	4A, 4B					X								
Outfall 002	W	1L Amber	2	HCl	5A, 5B				X									24 TAT
Outfall 002	W	Poly-500 ml	1	NaOH	6				X									24 TAT
Outfall 002	W	Poly-1 liter	1	None	7					X								
Outfall 002	W	Poly-500 ml	2	None	8A, 8B						X							
Outfall 002	W	Poly-500 ml	2	None	9A, 9B							X						
Outfall 002	W	Poly-500 ml	2	None	10A, 10B								X					
Outfall 002	W	Poly-500 ml	1	H2SO4	11									X				
Outfall 002	W	1L Amber	2	None	12A, 12B										X			
Outfall 002	W	1L Amber	2	None	13A, 13B											X		
Trip Blank	W	VOAS	3	HCl	14A, 14B, 14C													

Relinquished By <i>Riv Bury</i>	Date/Time: 2-11-05	Received By <i>Riv Bury</i>	Date/Time: 2/10/05
Relinquished By <i>Riv Bury</i>	Date/Time: 2/14/05	Received By <i>Riv Bury</i>	Date/Time: 2/10/05
Relinquished By <i>Riv Bury</i>	Date/Time: 2/10/05	Received By <i>Riv Bury</i>	Date/Time: 2/10/05

Turn around Time: (check)	24 Hours	5 Days	
	48 Hours	10 Days	
	72 Hours	Normal	<input checked="" type="checkbox"/>
Perchlorate Only 72 Hours			
Metals Only 72 Hours			
Sample Integrity (Check)	Intact	On Ice	<input checked="" type="checkbox"/>

Received By: *Paul Guds* Date/Time: 2-11-05 18:15



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 22, 2005

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

Attention: Bronwyn Kelly
Project: Routine Outfall 002
Sampled: 02/11/05
Del Mar Analytical Number: IOB0981

Dear Ms.Kelly:

Alta Analytical Perspectives performed EPA Method 1613 Dioxin analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	Del Mar ID	Alta ID
Outfall 002	IOB0981-01	P5072 2989 013

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


ALTA ANALYTICAL PERSPECTIVES

3 March 2005

Scott Unze
 Pace Analytical Services
 1700 Elm Street
 Minneapolis, MN 55414

Ph.: 612-607-1700
 Fax: 612-607-6444

Subject: Certificate of Results

Dear Scott;

Attached to this narrative are the analytical results you requested on the samples submitted for the determination of polychlorinated dibenzo-*p*-dioxins and dibenzofurans. The insert below summarizes the relevant information pertaining to your project. In particular, the QC annotations bring to your attention specific analytical observations and assessments made during the sample handling and data interpretation phases. A brief description of the report's components is provided on the next page.

Project Information Summary	When applicable, see QC Annotations for details
Client Project No.	
AAP Project No.	P5072
Analytical Protocol	Method 1613B
No. Samples Submitted	13
No. Samples Analyzed	13
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
No. Outstanding Samples	0
Date Received	1-Mar-2005
Condition Received	good
Temperature upon Receipt (C)	1-3
Extraction within Holding Time	yes
Analysis within Holding Time	yes
Data meet QA/QC Requirements	yes
Exceptions	none
Analytical Difficulties	none

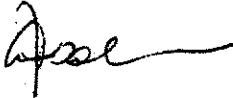
2714 EXCHANGE DRIVE
 WILMINGTON
 NORTH CAROLINA 28405
 TEL: 910-794-1613 FAX 910-794-3919

QC Annotations:

1. A "J" data qualifier is used for analytes with a concentration below the reporting limit.

Alta Analytical Perspectives remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please, do not hesitate to contact us. We wanted to thank you for choosing Alta Analytical Perspectives as part of your analytical support team.


Sincerely,



Amy J. Boehm
Project Manager

Sample ID: IOB0981-01

Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	01 Mar 05
Project ID:	General Analytical HRMS	Weight/Volume:	1.04 L	Sample ID:	P5072_2989_013	Date Extracted:	01 Mar 05
Data Collected:	11 Feb 05	pH	6	QC Batch No.:	2989	Date Analyzed:	03 Mar 05
Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries		
					ES	CS	
2,3,7,8-TCDD	ND	3.01			65.9	74.3	
1,2,3,7,8-PeCDD	ND	5.36			70.3	78.4	
1,2,3,4,7,8-HxCDD	ND	4.94			64.3	75.8	
1,2,3,6,7,8-HxCDD	ND	4.7			72.6	75.8	
1,2,3,7,8,9-HxCDD	ND	5.81			64	75.8	
1,2,3,4,6,7,8-HpCDD	ND	9.6			59	63.7	
OCDD	50	10.3			45.4	63.7	
2,3,7,8-TCDF	ND	2.61			71.8	74.3	
1,2,3,7,8-PeCDF	ND	2.46			76.4	78.7	
2,3,4,7,8-PeCDF	ND	2.49			68.6	78.7	
1,2,3,4,7,8-HxCDF	ND	1.13			66.8	75.8	
1,2,3,6,7,8-HxCDF	ND	1.19			69.7	75.8	
2,3,4,6,7,8-HxCDF	ND	1.46			66.3	75.8	
1,2,3,7,8,9-HxCDF	ND	2.05			60.9	75.8	
1,2,3,4,6,7,8-HpCDF	ND	3.28			54.8	63.7	
1,2,3,4,7,8,9-HpCDF	ND	4.88			56	63.7	
OCDF	ND	8.89			47.2	63.7	
Totals & TEQs							
TCDDs	ND	3.01			2714 Exchange Drive		
PeCDDs	ND	5.36			Wilmington		
HxCDDs	ND	5.15			North Carolina 28405		
HpCDDs	ND	9.6			USA		
TCDFs	ND	2.61			Tel: 910 794-1613		
PeCDFs	ND	2.47			Fax: 910 794-3918		
HxCDFs	ND	1.42			e-mail: yt@ultratrace.com		
HpCDFs	ND	4.02			web: www.ultratrace.com		
Total PCDD/Fs	50		50				


AAP 2005 Rev. B

Checkcode: 4800

Reviewer: *[Signature]*
Date: 03 Mar 05

Sample ID: 0_2989_MB001 **Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	n/a
Project ID:	General Analytical HRMS	Weight/Volume:	1.00 L	Sample ID:	0_2989_MB001	Date Extracted:	01 Mar 05
Date Collected:	n/a	pH	6	QC Batch No.:	2989	Date Analyzed:	02 Mar 05

Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries		
					ES	CS	
2,3,7,8-TCDD	ND	1.65			75.2	80.6	
1,2,3,7,8-PeCDD	ND	1.55			70.5	83.7	
1,2,3,4,7,8-HxCDD	ND	2.57			80	86.4	
1,2,3,6,7,8-HxCDD	ND	2.4			91.5	86.4	
1,2,3,7,8,9-HxCDD	ND	2.8			85	86.4	
1,2,3,4,6,7,8-HpCDD	ND	1.98			74.9	69.8	
OCDD	ND	4.78			67.4	69.8	
2,3,7,8-TCDF	ND	1.04			81.1	80.8	
1,2,3,7,8-PeCDF	ND	1.91			85.1	82.9	
2,3,4,7,8-PeCDF	ND	1.98			76.6	82.9	
1,2,3,4,7,8-HxCDF	ND	0.812			79.4	86.4	
1,2,3,6,7,8-HxCDF	ND	0.764			86.7	86.4	
2,3,4,6,7,8-HxCDF	ND	1.01			77.8	86.4	
1,2,3,7,8,9-HxCDF	ND	1.42			75.6	86.4	
1,2,3,4,6,7,8-HpCDF	ND	1.78			64.7	69.8	
1,2,3,4,7,8,9-HpCDF	ND	2.67			65.1	69.8	
OCDF	ND	11.1			67.2	69.8	
Totals & TEQs					 ALTA ANALYTICAL PERSPECTIVES 2714 Exchange Drive Wilmington North Carolina 28405 USA Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com		
TCDDs	ND	1.65					
PeCDDs	ND	1.55					
HxCDDs	ND	2.59					
HpCDDs	ND	1.98					
TCDFs	ND	1.04					
PeCDFs	ND	1.94					
HxCDFs	ND	0.974					
HpCDFs	ND	2.19					
Total PCDD/Fs	0		0				

Checkcode: 3385

AAP 2005 Rev. B

Reviewer: *[Signature]*
 Date: 22 Mar 05

P5072 - TEQ
Project ID: General Analytical HRMS

Sample Summary Part 1		Method 1613												
Analyte	0_2988_MH 001	IOB1001-01	IOB0993-01	IOB0996-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0990-01	IOB1009-01	IOB1002-01	IOB0992-01	IOB1004-01	IOB0998-01	IOB0991-01
	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L
2,3,7,8-TCDD	(1.85)	(2.28)	(2.08)	(2.02)	(1.34)	(1.71)	(2.28)	(2.55)	(1.91)	(1.44)	(2.87)	(1.79)	(3.24)	(3.01)
1,2,3,7,8-PeCDD	(1.58)	(1.85)	(1.79)	(2.09)	(2.11)	(1.73)	(3.2)	(1.89)	(1.82)	(2.04)	(3.14)	(2.82)	(2.18)	(3.38)
1,2,3,4,7,8-HxCDD	(2.57)	(3.45)	(2.55)	(2.71)	(2.48)	(3.85)	(4.18)	(2.42)	3.57	(2.74)	(5.91)	(12.2)	(4.91)	(4.94)
1,2,3,7,8-HxCDD	(2.4)	(3.21)	(2.37)	(2.7)	(2.34)	(3.8)	(4.11)	(2.41)	8.47	(2.55)	(5.58)	(12)	(4.84)	(4.7)
1,2,3,4,6,7,8-HpCDD	(1.95)	(3.83)	(3.13)	(3.33)	(2.82)	(4.89)	(4.85)	(2.88)	5.27	(3.13)	(7.12)	(13.5)	(5.54)	(5.91)
OCDD	(4.78)	75.4	31.5	10	(8.38)	12.2	(5.34)	48.8	287	12.1	(19.8)	20.8	(3.19)	(9.8)
2,3,7,8-TCDF	(1.04)	(1.24)	(1.54)	(1.85)	(0.985)	(2.05)	(1.37)	(1.54)	(1.49)	(1.03)	(2.58)	(2.71)	(2.39)	(2.81)
1,2,3,7,8-PeCDF	(1.91)	(1.79)	(2.78)	(1.44)	(2.33)	(1.84)	(3.71)	(1.98)	(2.35)	(2.11)	(4.02)	(2.82)	(2.98)	(2.48)
2,3,4,7,8-PeCDF	(1.98)	(1.88)	(2.8)	(1.48)	(2.42)	(1.89)	(3.88)	(2.03)	(2.31)	(1.95)	(3.97)	(2.53)	(3)	(2.49)
1,2,3,4,7,8-HxCDF	(0.812)	(0.857)	(0.9)	(0.786)	(0.943)	(1.36)	(1.36)	(1.47)	(0.97)	(0.815)	(1.55)	(0.66)	(1.82)	(1.13)
1,2,3,6,7,8-HxCDF	(0.764)	(0.843)	(0.827)	(0.708)	(0.871)	(1.21)	(1.3)	(1.31)	0.899	(0.79)	(1.42)	(0.24)	(1.53)	(1.19)
2,3,4,6,7,8-HxCDF	(1.01)	(1.12)	(1.04)	(0.933)	(1.12)	(1.89)	(1.73)	(1.9)	(1.1)	(0.99)	(1.91)	(0.23)	(2.03)	(1.45)
1,2,3,7,8,9-HxCDF	(1.42)	(1.67)	(1.58)	(1.47)	(1.75)	(2.41)	(2.69)	(2.89)	(1.7)	(1.51)	(2.81)	(12.4)	(2.74)	(2.05)
1,2,3,4,6,7,8-HpCDF	(1.78)	18.8	(1.59)	(4.57)	(1.9)	4.04	(3.25)	19.8	27.2	(1.89)	(4.35)	(3.42)	(2.05)	(3.28)
1,2,3,4,7,8,9-HxCDF	(2.87)	(3.48)	(2.95)	(7.47)	(3.25)	(2.83)	(4.59)	(2.55)	(4.43)	(2.59)	(7.3)	(5.48)	(3.04)	(4.88)
OCDF	(11.1)	155	(11)	(22.4)	(12.4)	(8.53)	(14.9)	34.8	87.1	(10.1)	(7.89)	(20.8)	(13.1)	(8.89)
Checkcode	3385	4361	4581	4985	5239	5527	5797	0067	0335	0612	3629	4355	4622	4900

() = DL
 [] = EMPC

Reviewer: *[Signature]*
 Date: 1-22-06

P5072 - Totals
Project ID: General Analytical HRMS

Analyte	ALTA ANALYTICAL PERSPECTIVES													
	0_2889_MD001	IOB1001-01	IOB0983-01	IOB0998-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0980-01	IOB1008-01	IOB1002-01	IOB0982-01	IOB1004-01	IOB0988-01	IOB0981-01
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
Totals														
TCDDs	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
PeCDDs	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
HxCDDs	0	7.36	4.44	0	0	0	0	0	39.8	0	0	0	0	0
HpCDDs	0	153	65.1	25.2	9.46	29.6	0	101	415	12.1	0	43.1	12.2	0
OCDD	0	883	267	134	70.4	157	56.1	471	2120	163	70.2	213	50.3	50
TCDFs	0	0	0	0	0	0	0	0	6.53	0	0	0	0	0
PeCDFs	0	0	0.858	0	0	0.76	0.258	0	2.57	0	0.458	0	0	0
HxCDFs	0	2.66	0	0	0	0	0	4.13	32.8	0	0	0	0	0
HpCDFs	0	92.9	0	0	0	10.2	0	36.5	96.7	5.96	0	0	0	0
OCDF	0	165	0	0	0	0	0	34.9	67.1	0	0	0	0	0
Total PCDD/Fs (ND=0; EMPC=0)	0.00	1,290	338	158	79.9	197	56.4	648	2,800	182	78.7	258	62.6	50
Total PCDD/Fs (ND=0; EMPC=EMPC)	0.00	1,300	342	160	79.9	197	56.4	663	2,830	193	79.7	258	62.6	50
Total PCDD/Fs (2378-X; ND=DL; EMPC=EMPC)	42.2	1,330	381	215	128	236	119	691	2,840	229	144	379	121	114
Total 2378s (ND=0; EMPC=0)	0.00	1,130	299	144	70.4	173	56.1	587	2,440	176	70.2	234	50.3	50
Total 2378s (ND=0.5; EMPC=0)	21.1	1,140	319	172	94.6	193	67.5	581	2,450	193	107	291	79.5	82
Total 2378s (ND=1; EMPC=0)	42.2	1,160	338	200	119	214	119	595	2,480	211	144	348	109	114
Total 2378s (ND=0; EMPC=1)	0.00	1,130	299	144	70.4	173	56.1	587	2,440	176	70.2	234	50.3	50
Total 2378s (ND=0.5; EMPC=1)	21.1	1,140	319	172	94.6	193	67.5	581	2,450	193	107	291	79.5	82
Total 2378s (ND=1; EMPC=1)	42.2	1,160	338	200	119	214	119	595	2,480	211	144	348	109	114
Checkcode	3385	4361	4681	4965	5239	5527	5797	6067	6335	6612	6929	7355	7622	7900

Total 2378s = Sum of 17 2378-substituted PCDD/PCDF congeners (SARA 315)

() = DL
 [] = EMPC

Reviewer: OSMAROS
 Date: _____

P5072 - Others
Project ID: General Analytical HRMS

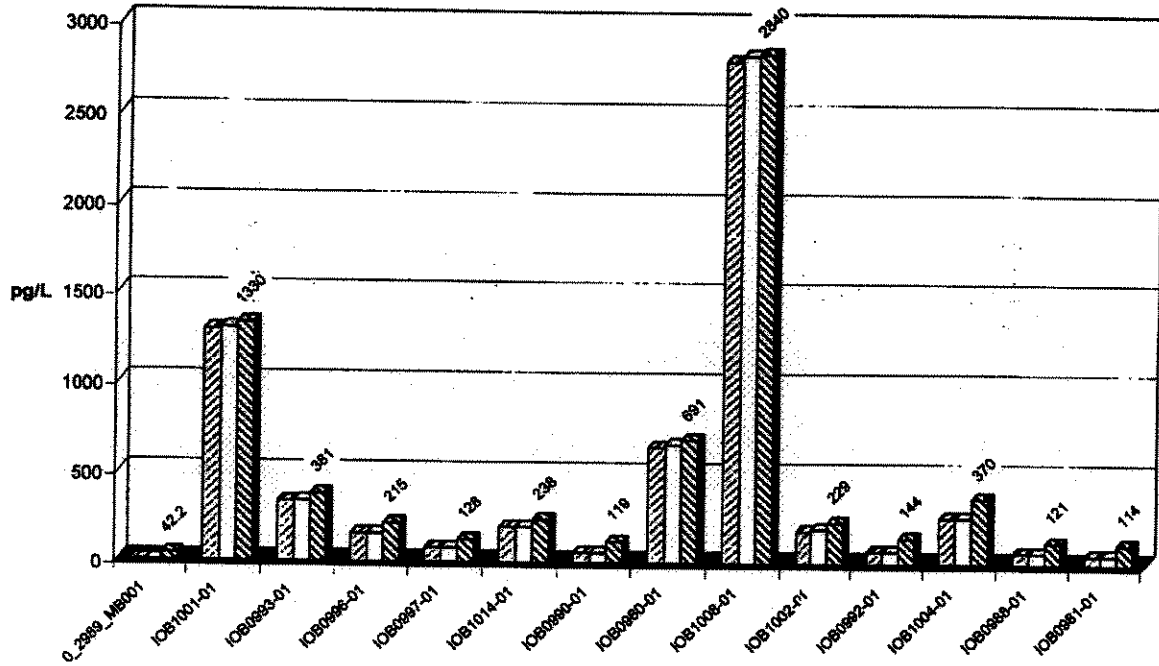
Sample Summary		<small>ALTA ANALYTICAL PERSPECTIVES</small>											Method 1613		
Part 3		9_288_H9001	IOB1001-01	IOB0983-01	IOB0986-01	IOB0987-01	IOB1014-01	IOB0980-01	IOB0989-01	IOB1008-01	IOB1002-01	IOB0982-01	IOB1004-01	IOB0988-01	IOB0981-01
Analyte		pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L
Other PCDD/Fs (ND=0, EMPC=0)															
Other TCDD		0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
Other PeCDD		0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
Other HxCDD		0	7.38	4.44	0	0	0	0	0	22.5	0	0	0	0	0
Other HpCDD		0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	0	0	22.3	12.2	0
Other TCDF		0	0	0	0	0	0	0	0	6.53	0	0	0	0	0
Other PeCDF		0	0	0.858	0	0	0.76	0.266	0	2.57	0	0.456	0	0	0
Other HxCDF		0	2.68	0	0	0	0	0	4.13	32.8	0	0	0	0	0
Other HpCDF		0	76.1	0	0	0	6.16	0	25.7	71.8	5.96	0	0	0	0
Other PCDD/Fs (ND=0, EMPC=EMPC)															
Other TCDD		0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
Other PeCDD		0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
Other HxCDD		0	7.38	8.57	0	0	0	0	8.88	47.7	0	0	0	0	0
Other HpCDD		0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	11.3	0	22.3	12.2	0
Other TCDF		0	0	0	0	0	0	0	2.21	6.53	0	0	0	0	0
Other PeCDF		0	0	0.858	0.213	0	0.76	0.266	0.368	2.57	0	0.456	0	0	0
Other HxCDF		0	9.88	0	0	0	0	0	7.22	32.8	0	0	0	0	0
Other HpCDF		0	76.1	0	0	0	6.16	0	25.7	71.8	5.96	0	0	0	0
Checkcode		3385	4361	4681	4965	5239	5527	5797	0067	0335	0612	3929	4355	4622	4900

() = DL
 [] = EMPC

Reviewer: *OSM/ED 3*
 Date: *OSM/ED 3*

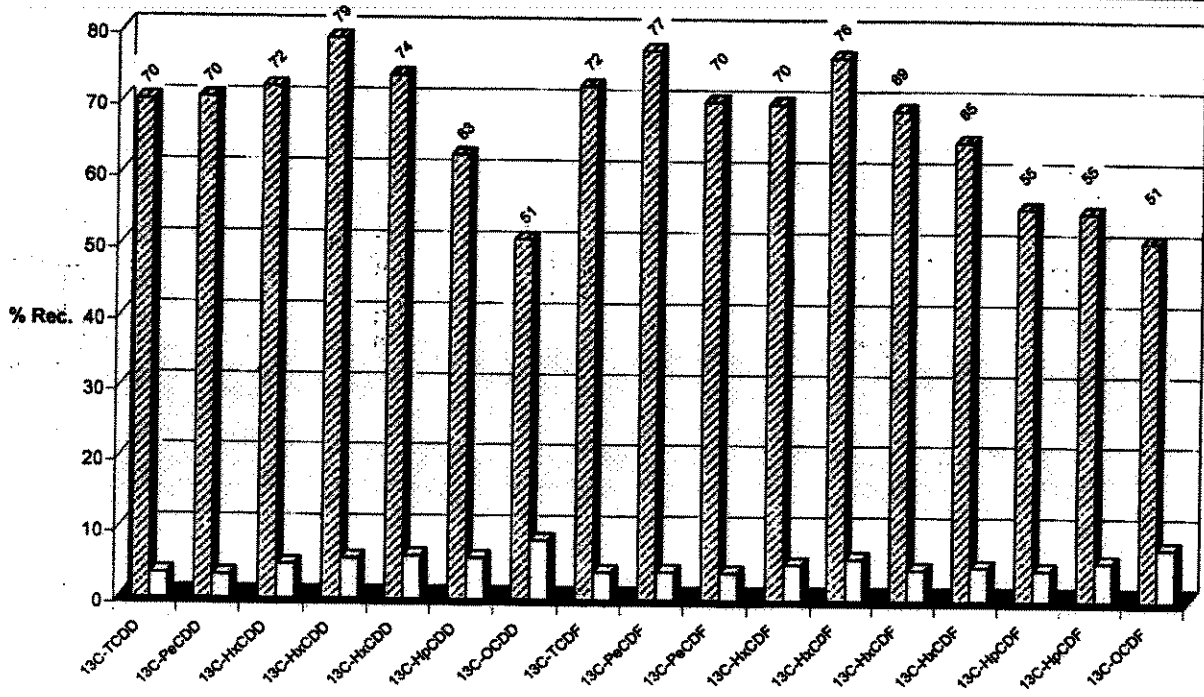
Totals
Project ID: General Analytical HRMS
P5072

- ▨ Total PCDD/Fs (ND=0; EMPC=0)
- ▩ Total PCDD/Fs (ND=0; EMPC=EMPC)
- ▧ Total PCDD/Fs (2376-X ND=DL; EMPC=EMPC)



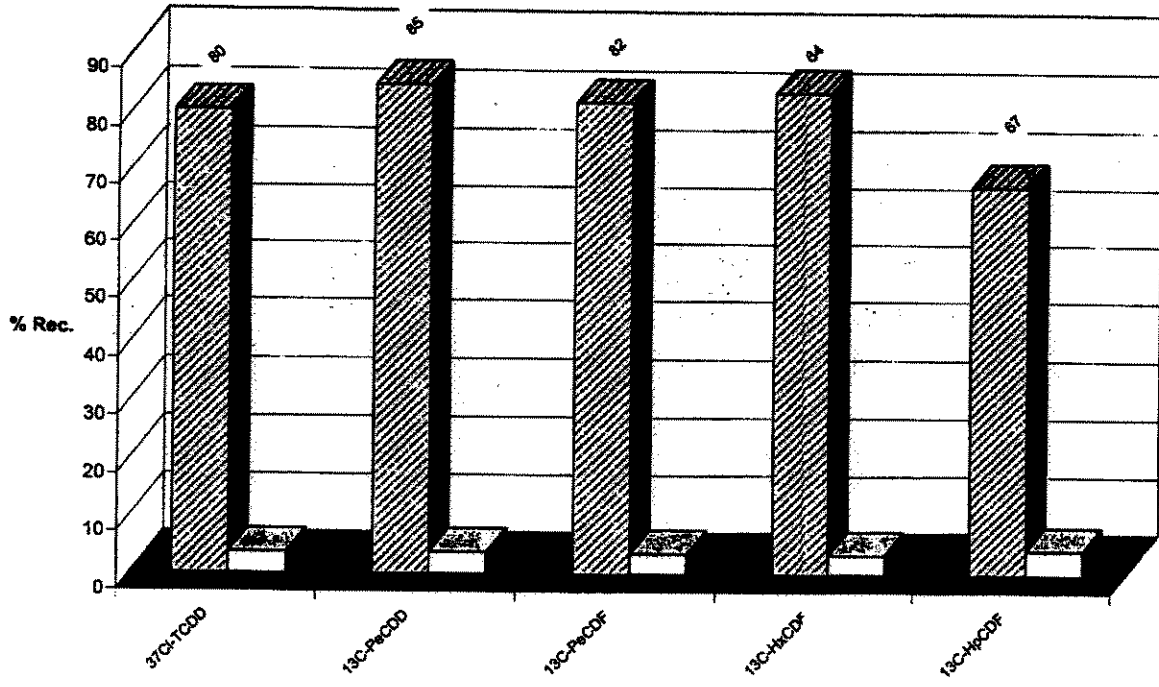
Mean Recoveries of Extraction Standards (N=14)
Project ID: General Analytical HRMS
P5072

Mean Std. Dev.



Mean Recoveries of Clean-Up Standards (N=14)
Project ID: General Analytical HRMS
P5072

Mean Std. Dev.





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
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 796-3620 Fax (702) 796-3621

SUBCONTRACT ORDER - PROJECT # IOB0981 107848

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Pace Analytical, MN- SUB 1700 Elm Street, Ste 200 Minneapolis, MN 55414 Phone : (612) 607-1700 Fax: (612) 607-6444

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

Analysis	Expiration	Comments
Sample ID: IOB0981-01 Water	Sampled: 02/11/05 09:21	
1613-Dioxin-HR	02/18/05 09:21	J flags, 17 congeners, no TEQ, sub to Pace-MN Excel EDD email to pm, Include Std logs for Lvl IV
EDD + Level 4	03/11/05 09:21	

107846001

Containers Supplied:
 1 L Amber (IOB0981-01G)
 1 L Amber (IOB0981-01T)

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): 1.6°C

Released By Date 2-16-05 Time 1700 Received By Date 2-17-05 Time 09:20

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



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

www.paceanalytical.com

Required Client Information: Section A

Company: pace

Address: 1700 Elm Street

City/State: Super. 200

Phone: apls, an 554147

Required Client Information: Section B

Report To: Scott Unze

Copy To:

Invoice To:

P.O.:

Project Name:

Project Number:

Page: 2 of 2

814592

Section C

To Be Completed by Pace Analytical and Client

Quote Reference:

Project Manager: SCOTT UNZE

Project #:

Profile #:

Requested Analytic:

Client Information (Check guide/contract):

Requested Due Date: 3 Day

* Turn around time less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.

Turn Around Time (TAT) in calendar days.

Section D Required Client Information:

SAMPLE ID

One character per box. (A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

ITEM # 1 10B0981-01

2

3

4

5

6

7

8

9

10

11

12

Valid Matrix Codes 4
MATRIX CODE
WATER WT
SOIL SL
OIL OL
WIPE WP
AIR AR
TISSUE TS
OTHER OT

MATRIX CODE

WT

DATE COLLECTED

mm/dd/yy

09/21/05

TIME COLLECTED

hr:mn:sp

09:21:11

Preservatives

Containers

Unpreserved

H₂SO₄

HNO₃

NaOH

Na₂S₂O₈

Other

Remarks / Lab ID

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

113: P-00/05

SITE LOCATION

REGULATORY AGENCY

NC SC GA NPDES GROUND WATER DRINKING WATER

Other UST RCRA Other

SAMPLE NOTES

Temp in °C 32

Received on Ice Y/N

Sealed Cooler Y/N

Samples Intact Y/N

Additional Comments:

Email to: Scott. Unze @ pace labs . com

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

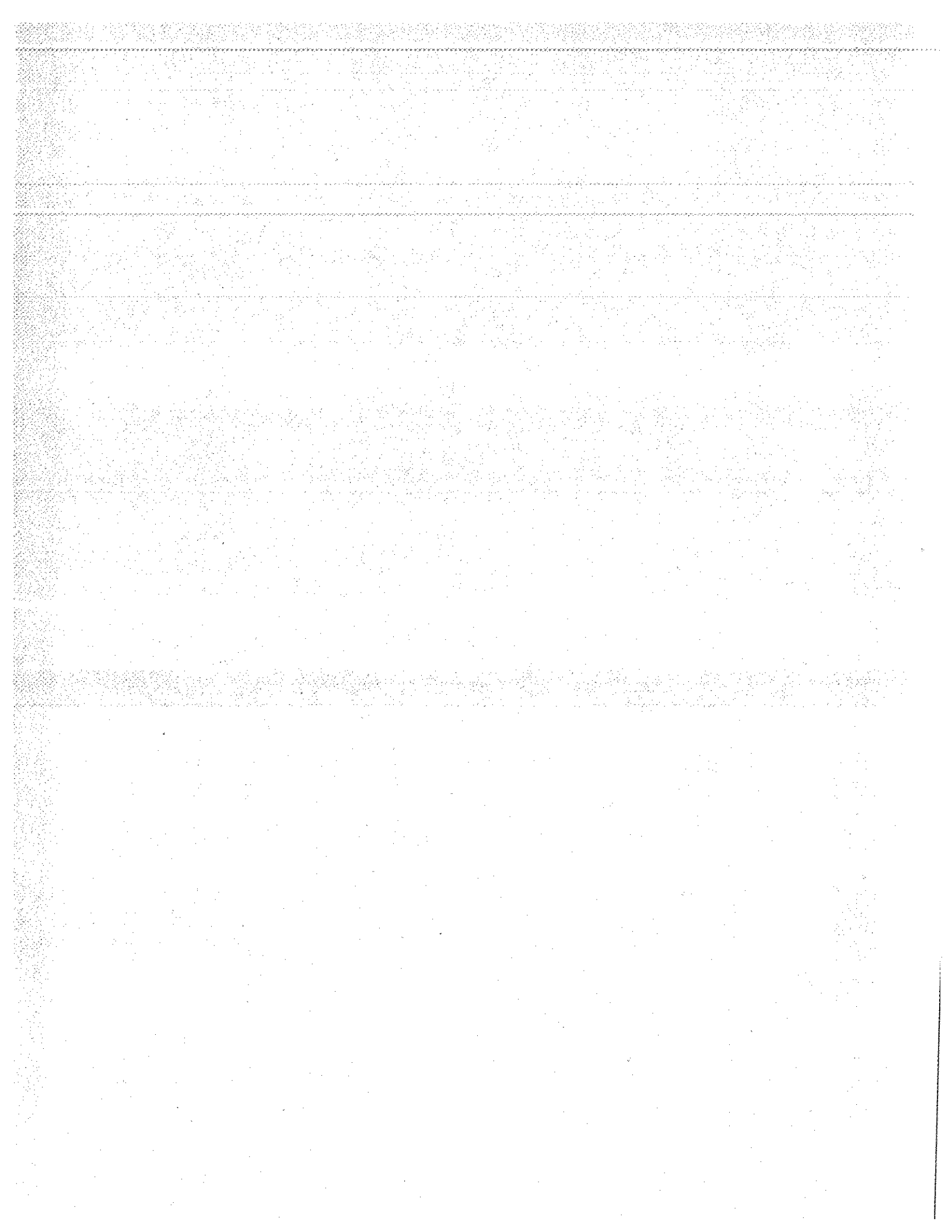
SIGNATURE of SAMPLER:

DATE Signed: (MM/DD/YY)

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev. 0603



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF28
 Task Order 313150010
 SDG No. Multiple

No. of Analyses 6

Laboratory Alta

Reviewer K. Shadowlight

Analysis/Method Dioxins

Date: March 7, 2005

Reviewer's Signature

K. Shadowlight

ACTION ITEMS^a

1. **Case Narrative**
Deficiencies

2. **Out of Scope**
Analyses

3. **Analyses Not Conducted**

4. **Missing Hardcopy**
Deliverables

5. **Incorrect Hardcopy**
Deliverables

6. **Deviations from Analysis**
Protocol, e.g.,

Holding Times

GC/MS Tune/Inst. Performance

Calibration

Method blanks

Surrogates

Matrix Spike/Dup LCS

Field QC

Internal Standard Performance

Compound Identification and

Quantitation

System Performance

Qualifications were assigned for the following:

* EMPCs

* Detects below the lower method calibration level

* Diphenyl ether interference

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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 4, 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 Functional Guidelines For Chlorinated Dioxin/Furan Data Review (8/02)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 002	IOB1562-01	25779-001	water	1613
Outfall 003	IOB1571-01	25780-001	water	1613
Outfall 007	IOB1572-01	25782-001	water	1613
Outfall 008	IOB1573-01	25783-001	water	1613
Outfall 011	IOB1565-01	25781-001	water	1613
Outfall 018	IOB1570-01	25778-001	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

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The samples were shipped to Alta for dioxin/furan analyses and were received below the temperature limits at 0.8°C ; however, as none of the samples were noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheets, all samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs and transfer COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The coolers 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 summary report 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

There were two initial calibrations, analyzed 08/30/04 and 10/04/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6543-MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (6543-OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. Compounds flagged by the laboratory with a "D" qualifier indicated possible diphenylether interference and were qualified as estimated, "J." Any reported EMPC was qualified as an estimated nondetect, "UJ." Any detects below the lower method calibration level (MCL) were qualified as estimated, "J;" however, as Alta analyzed an additional calibration standard, not all results below the method calibration level were appropriately qualified by the laboratory. These results were qualified as estimated, "J," by the reviewer. No further qualifications were required.



Sample ID: IOB1562-01		Del Mar Analytical, Irvine		EPA Method 1613			
Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25779-001		
Project:	IOB1562	Sample Size:	1.041 L	QC Batch No.:	6543		
Date Collected:	18-Feb-05			Date Analyzed DB-5:	28-Feb-05		
Time Collected:	0806			Date Analyzed DB-225:	NA		
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.807		13C-2,3,7,8-TCDD	81.8	25 - 164	
1,2,3,7,8-PeCDD	ND	1.13		13C-1,2,3,7,8-PeCDD	81.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.53		13C-1,2,3,4,7,8-HxCDD	78.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.57		13C-1,2,3,6,7,8-HxCDD	78.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.52		13C-1,2,3,4,6,7,8-HpCDD	88.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	16.7			13C-OCDD	70.6	17 - 157	
OCDD	178			13C-2,3,7,8-TCDF	85.6	24 - 169	
2,3,7,8-TCDF	ND	0.750		13C-1,2,3,7,8-PeCDF	76.9	24 - 185	
1,2,3,7,8-PeCDF	ND	1.17		13C-2,3,4,7,8-PeCDF	79.3	21 - 178	
2,3,4,7,8-PeCDF	ND	1.08		13C-1,2,3,4,7,8-HxCDF	68.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.910		13C-1,2,3,6,7,8-HxCDF	69.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.839		13C-2,3,4,6,7,8-HxCDF	69.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	1.00		13C-1,2,3,7,8,9-HxCDF	72.7	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.547		13C-1,2,3,4,6,7,8-HpCDF	65.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	2.73			13C-1,2,3,4,7,8,9-HpCDF	73.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	1.30		13C-OCDF	75.1	17 - 157	
OCDF	7.80			CRS 37Cl-2,3,7,8-TCDD	84.7	35 - 197	
Totals							
Total TCDD	ND	0.807					
Total PeCDD	ND	1.13					
Total HxCDD	1.64						
Total HpCDD	29.3						
Total TCDF	1.57						
Total PeCDF	ND		0.678				
Total HxCDF	3.39						
Total HpCDF	8.31						

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

Approved By: William J. Luksemburg 01-Mar-2005 16:25

LEVEL IV

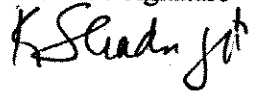
PROJECT 25779
 4/14/05
 ANALYZED

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO59
 Task Order 313150010
 SDG No. IOB, IOB1562
 No. of Analyses 4

Laboratory Del Mar Analytical
 Reviewer K. Shadowlight

Date March 30, 2005
 Reviewer's Signature


Analysis/Method Volatiles

ACTION ITEMS ^a	
1. Case Narrative	
Deficiencies	
2. Out of Scope	
Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis	
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	Acceptable as reviewed.
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IOB1560, IOB1562

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#: IOB1560, IOB1561
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 4
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 30, 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*, 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	IOB1560-01	water	624
Trip Blank	Trip Blank	IOB1560-02	water	624
Outfall 002	Outfall 002	IOB1562-01	water	624
Trip Blank	Trip Blank	IOB1562-02	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$, at 4°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 report were consistent with those specified in the 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

One initial calibration dated 11/16/04, was associated with these SDGs. The average RRFs were ≥ 0.05 and the %RSDs were $\leq 35\%$ for the target compounds listed on the sample result summaries. One continuing calibration analyzed 02/22/05, was associated with the sample analyses. The %Ds were $\leq 20\%$ and the RRFs for all target compounds were ≥ 0.05 . 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 qualifications were required.

2.4 BLANKS

One water method blank (5B22018-BLK1) was associated with these SDGs. 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

One water blank spike (5B22018-BS1) was associated with these SDGs. 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

MS/MSD analyses were performed for sample Outfall 002 associated with these SDGs. The recoveries and RPDs were within the respective 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.

2.8 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

Sample Trip blank (IOB1560) and Trip blank (IOB1562) were the trip blanks associated with the site samples in these SDGs. There were no target compounds detected above the MDLs in the either of the trip blanks. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no other 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 this SDG were within the control limits established by the continuing calibration standards, of +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 standards and by the MDL study. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in ug/L (ppm). No calculation or transcription errors were noted. Any detect between the MDL and the reporting limit was qualified as estimated, "J," by the laboratory. No further 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

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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8396 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1562-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	u
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.23	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	1.4	1	02/22/05	02/22/05	J J DMS
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	u
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	
Surrogate: Dibromofluoromethane (80-120%)					98 %				
Surrogate: Toluene-d8 (80-120%)					96 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				
Sample ID: IOB1562-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	u
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	
Surrogate: Dibromofluoromethane (80-120%)					95 %				
Surrogate: Toluene-d8 (80-120%)					94 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

QC VALIDATED

LEVEL IV

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711WC81
 Task Order 313150010
 SDG No. IOB1560/IOB1562

No. of Analyses 2

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

Date: 03/24/05

Reviewer's Signature



ACTION ITEMS*

1. Case Narrative Deficiencies
2. Out of Scope Analyses
3. Analyses Not Conducted
4. Missing Hardcopy Deliverables
5. Incorrect Hardcopy Deliverables
6. Deviations from Analysis Protocol, e.g.,
 - Holding Times
 - GC/MS Tune/Inst. Performance
 - Calibrations
 - Blanks
 - Surrogates
 - Matrix Spike/Dup LCS
 - Field QC
 - Internal Standard Performance
 - Compound Identification and Quantitation
 - System Performance

COMMENTS^b Acceptable as reviewed.

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IOB1560 & IOB1562

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 #: IOB1560, IOB1562
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 2
Reviewer: L. Jarusewic
Date of Review: March 24, 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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB1560/1562
Analysis: General Minerals

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 001	Outfall 001	IOB1560-01	Water	General Minerals
Outfall 002	Outfall 002	IOB1562-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

The holding times were assessed by comparing the dates 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 %Rs 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. No qualifications were required.

2.3 BLANKS

Turbidity was detected in the method blanks, 5B19041-BLK1 and 5B19043-BLK1, at 0.040 and 0.050 NTU, respectively; however, the turbidity method blank results were insufficient to qualify the Outfall 001 and Outfall 002 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 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 these SDGs.

2.6 LABORATORY DUPLICATES

Turbidity duplicate analyses were performed on samples Outfall 001 and Outfall 002 with RPDs within the control limits of $\leq 20\%$. No qualifications were required.

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.

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 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. No 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.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 251-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9599
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Routine Outfall 002

Report Number: IOB1562

Sampled: 02/18/05

Received: 02/18/05

DRAFT: INORGANICS

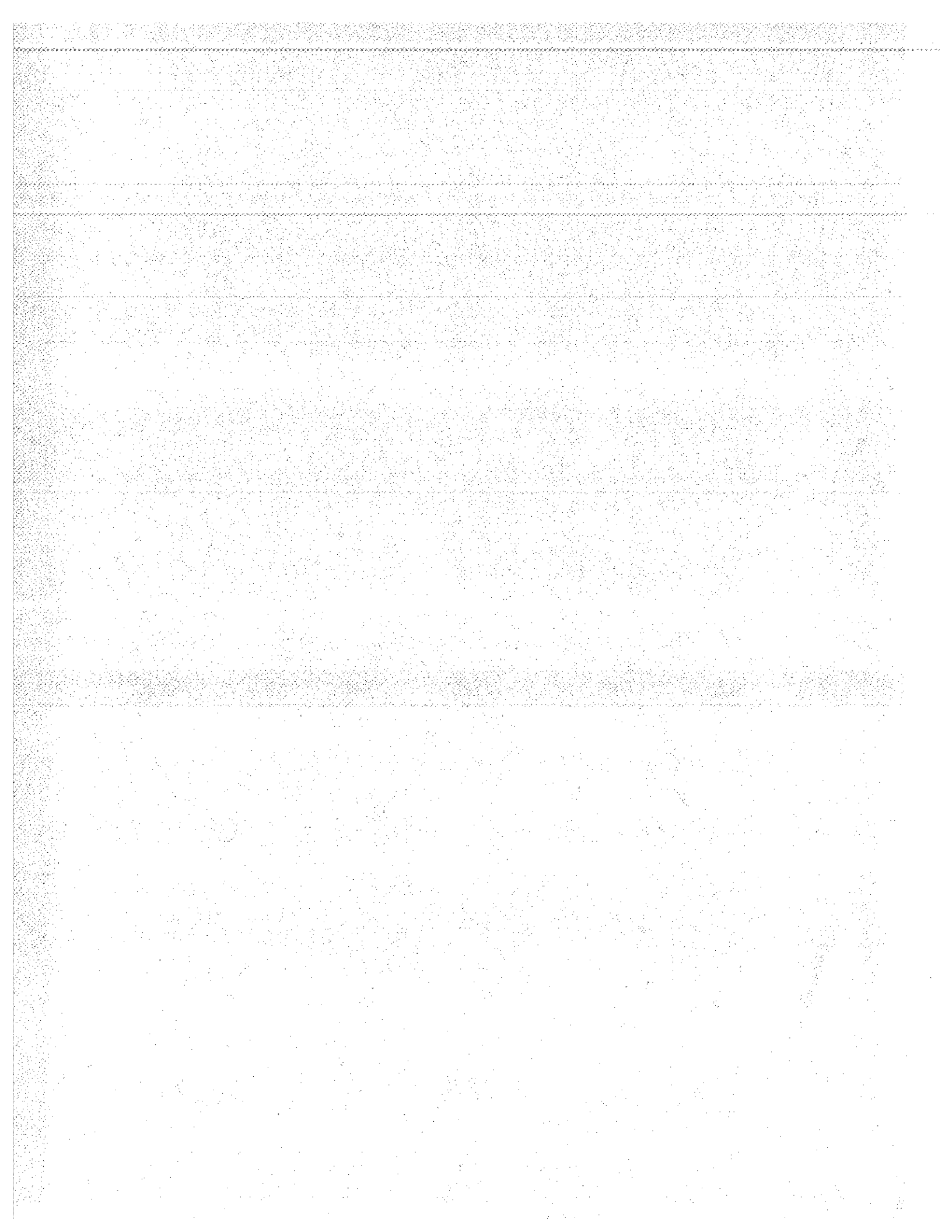
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1562-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B23079	0.30	0.50	0.84	1	02/23/05	02/23/05	REV DATE CODE
Sample ID: IOB1562-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5B19043	0.20	5.0	120	5	02/19/05	02/19/05	
Sample ID: IOB1562-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B24133	1.0	1.0	440	1	02/24/05	02/24/05	

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





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 (949) 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

LABORATORY REPORT

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

Project: Routine Outfall 002

Sampled: 02/18/05
Received: 02/18/05
Issued: 03/28/05 10:34

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IOB1562-01	Outfall 002	Water
IOB1562-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical, Irvine
Wendy Kirkeeng For Michele Harper
Project Manager



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1562-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	1.4	1	02/22/05	02/22/05	J
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					98 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					96 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					95 %				
Sample ID: IOB1562-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
Carbon tetrachloride	EPA 624	5B22018	0.28	5.0	ND	1	02/22/05	02/22/05	
Chloroform	EPA 624	5B22018	0.33	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethane	EPA 624	5B22018	0.27	2.0	ND	1	02/22/05	02/22/05	
1,2-Dichloroethane	EPA 624	5B22018	0.28	2.0	ND	1	02/22/05	02/22/05	
1,1-Dichloroethene	EPA 624	5B22018	0.32	3.0	ND	1	02/22/05	02/22/05	
Ethylbenzene	EPA 624	5B22018	0.25	2.0	ND	1	02/22/05	02/22/05	
Tetrachloroethene	EPA 624	5B22018	0.32	2.0	ND	1	02/22/05	02/22/05	
Toluene	EPA 624	5B22018	0.36	2.0	ND	1	02/22/05	02/22/05	
1,1,1-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
1,1,2-Trichloroethane	EPA 624	5B22018	0.30	2.0	ND	1	02/22/05	02/22/05	
Trichloroethene	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Trichlorofluoromethane	EPA 624	5B22018	0.34	5.0	ND	1	02/22/05	02/22/05	
Vinyl chloride	EPA 624	5B22018	0.26	5.0	ND	1	02/22/05	02/22/05	
Xylenes, Total	EPA 624	5B22018	0.52	4.0	ND	1	02/22/05	02/22/05	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					95 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					94 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					96 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05

Received: 02/18/05

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: IOB1562-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5B22042	1.1	5.0	ND	0.957	02/22/05	02/24/05	
2,4-Dinitrotoluene	EPA 625	5B22042	0.23	9.0	ND	0.957	02/22/05	02/24/05	
N-Nitrosodimethylamine	EPA 625	5B22042	0.22	8.0	ND	0.957	02/22/05	02/24/05	
Pentachlorophenol	EPA 625	5B22042	0.78	8.0	ND	0.957	02/22/05	02/24/05	
2,4,6-Trichlorophenol	EPA 625	5B22042	0.10	6.0	ND	0.957	02/22/05	02/24/05	
Surrogate: 2-Fluorophenol (35-120%)									70 %
Surrogate: Phenol-d6 (45-120%)									70 %
Surrogate: 2,4,6-Tribromophenol (50-125%)									88 %
Surrogate: Nitrobenzene-d5 (45-120%)									74 %
Surrogate: 2-Fluorobiphenyl (45-120%)									74 %
Surrogate: Terphenyl-d14 (45-135%)									76 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05

Received: 02/18/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1562-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	5B22041	0.0010	0.010	ND	0.962	02/22/05	02/23/05	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					74 %				
<i>Surrogate: Tetrachloro-m-xylene (35-120%)</i>					51 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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) 370-4867 FAX (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05

Received: 02/18/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1562-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Copper	EPA 200.8	5B18140	0.49	2.0	4.4	1	02/18/05	02/20/05	
Lead	EPA 200.8	5B18140	0.13	1.0	2.2	1	02/18/05	02/22/05	
Mercury	EPA 245.1	5B22045	0.063	0.20	ND	1	02/22/05	02/22/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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) 370-4867 FAX (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1562-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5B23079	0.30	0.50	0.84	1	02/23/05	02/23/05	
Biochemical Oxygen Demand	EPA 405.1	5B18080	0.59	2.0	2.9	1	02/18/05	02/23/05	
Chloride	EPA 300.0	5B18129	0.26	0.50	18	1	02/18/05	02/19/05	
Total Cyanide	EPA 335.2	5B22061	0.0022	0.0050	ND	1	02/22/05	02/22/05	
Nitrate/Nitrite-N	EPA 300.0	5B18129	0.072	0.11	0.52	1	02/18/05	02/19/05	
Oil & Grease	EPA 413.1	5B22082	0.94	5.0	ND	1	02/22/05	02/22/05	
Sulfate	EPA 300.0	5B19026	0.36	1.0	82	2	02/19/05	02/19/05	
Surfactants (MBAS)	SM5540-C	5B18136	0.088	0.20	0.14	2	02/18/05	02/19/05	RL-1, J
Total Dissolved Solids	SM2540C	5B24110	10	10	300	1	02/24/05	02/24/05	
Total Suspended Solids	EPA 160.2	5B25089	10	10	110	1	02/25/05	02/25/05	
Sample ID: IOB1562-01 (Outfall 002 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	5B18131	0.10	0.10	1.0	1	02/18/05	02/18/05	
Sample ID: IOB1562-01 (Outfall 002 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5B19043	0.20	5.0	120	5	02/19/05	02/19/05	
Sample ID: IOB1562-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	5B25064	0.80	4.0	ND	1	02/25/05	02/26/05	
Sample ID: IOB1562-01 (Outfall 002 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B24133	1.0	1.0	440	1	02/24/05	02/24/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05

Received: 02/18/05

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 002 (IOB1562-01) - Water	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 160.5	2	02/18/2005 08:06	02/18/2005 18:30	02/18/2005 20:15	02/18/2005 23:30
EPA 180.1	2	02/18/2005 08:06	02/18/2005 18:30	02/19/2005 08:00	02/19/2005 12:30
EPA 300.0	2	02/18/2005 08:06	02/18/2005 18:30	02/18/2005 22:00	02/19/2005 00:27
EPA 405.1	2	02/18/2005 08:06	02/18/2005 18:30	02/18/2005 21:15	02/23/2005 10:30
SM5540-C	2	02/18/2005 08:06	02/18/2005 18:30	02/18/2005 21:06	02/19/2005 12:04

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B22018 Extracted: 02/22/05										
Blank Analyzed: 02/22/2005 (5B22018-BLK1)										
Benzene	ND	2.0	0.28	ug/l						
Carbon tetrachloride	ND	5.0	0.28	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	2.0	0.28	ug/l						
1,1-Dichloroethene	ND	3.0	0.32	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	22.6			ug/l	25.0		90	80-120		
Surrogate: Toluene-d8	22.7			ug/l	25.0		91	80-120		
Surrogate: 4-Bromofluorobenzene	22.5			ug/l	25.0		90	80-120		
LCS Analyzed: 02/22/2005 (5B22018-BS1)										
Benzene	22.7	2.0	0.28	ug/l	25.0		91	70-120		
Carbon tetrachloride	26.8	5.0	0.28	ug/l	25.0		107	70-140		
Chloroform	24.4	2.0	0.33	ug/l	25.0		98	75-130		
1,1-Dichloroethane	23.1	2.0	0.27	ug/l	25.0		92	70-135		
1,2-Dichloroethane	26.0	2.0	0.28	ug/l	25.0		104	60-150		
1,1-Dichloroethene	23.5	3.0	0.32	ug/l	25.0		94	75-135		
Ethylbenzene	24.4	2.0	0.25	ug/l	25.0		98	80-120		
Tetrachloroethene	21.0	2.0	0.32	ug/l	25.0		84	75-125		
Toluene	23.4	2.0	0.36	ug/l	25.0		94	75-120		
1,1,1-Trichloroethane	26.1	2.0	0.30	ug/l	25.0		104	75-140		
1,1,2-Trichloroethane	24.4	2.0	0.30	ug/l	25.0		98	70-125		
Trichloroethene	25.0	5.0	0.26	ug/l	25.0		100	80-120		
Trichlorofluoromethane	23.5	5.0	0.34	ug/l	25.0		94	65-145		
Vinyl chloride	18.1	5.0	0.26	ug/l	25.0		72	50-130		
Surrogate: Dibromofluoromethane	22.1			ug/l	25.0		88	80-120		
Surrogate: Toluene-d8	23.1			ug/l	25.0		92	80-120		

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

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

Project ID: Routine Outfall 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

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: 5B22018 Extracted: 02/22/05											
LCS Analyzed: 02/22/2005 (5B22018-BS1)											
Surrogate: 4-Bromofluorobenzene	24.0			ug/l	25.0		96	80-120			
Matrix Spike Analyzed: 02/22/2005 (5B22018-MS1)											
Source: IOB1562-01											
Benzene	23.6	2.0	0.28	ug/l	25.0	ND	94	70-120			
Carbon tetrachloride	27.6	5.0	0.28	ug/l	25.0	ND	110	70-145			
Chloroform	25.0	2.0	0.33	ug/l	25.0	ND	100	70-135			
1,1-Dichloroethane	24.0	2.0	0.27	ug/l	25.0	ND	96	65-135			
1,2-Dichloroethane	26.3	2.0	0.28	ug/l	25.0	ND	105	60-150			
1,1-Dichloroethene	24.8	3.0	0.32	ug/l	25.0	ND	99	65-140			
Ethylbenzene	25.2	2.0	0.25	ug/l	25.0	ND	101	70-130			
Tetrachloroethene	21.3	2.0	0.32	ug/l	25.0	ND	85	70-130			
Toluene	24.7	2.0	0.36	ug/l	25.0	ND	99	70-120			
1,1,1-Trichloroethane	27.1	2.0	0.30	ug/l	25.0	ND	108	75-140			
1,1,2-Trichloroethane	24.5	2.0	0.30	ug/l	25.0	ND	98	60-135			
Trichloroethene	24.4	5.0	0.26	ug/l	25.0	1.4	92	70-125			
Trichlorofluoromethane	25.3	5.0	0.34	ug/l	25.0	ND	101	55-145			
Vinyl chloride	18.7	5.0	0.26	ug/l	25.0	ND	75	40-135			
Surrogate: Dibromofluoromethane	24.0			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	24.3			ug/l	25.0		97	80-120			
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0		99	80-120			
Matrix Spike Dup Analyzed: 02/22/2005 (5B22018-MSD1)											
Source: IOB1562-01											
Benzene	23.4	2.0	0.28	ug/l	25.0	ND	94	70-120	1	20	
Carbon tetrachloride	27.1	5.0	0.28	ug/l	25.0	ND	108	70-145	2	25	
Chloroform	25.2	2.0	0.33	ug/l	25.0	ND	101	70-135	1	20	
1,1-Dichloroethane	23.9	2.0	0.27	ug/l	25.0	ND	96	65-135	0	20	
1,2-Dichloroethane	26.9	2.0	0.28	ug/l	25.0	ND	108	60-150	2	20	
1,1-Dichloroethene	25.2	3.0	0.32	ug/l	25.0	ND	101	65-140	2	20	
Ethylbenzene	24.7	2.0	0.25	ug/l	25.0	ND	99	70-130	2	20	
Tetrachloroethene	21.1	2.0	0.32	ug/l	25.0	ND	84	70-130	1	20	
Toluene	24.2	2.0	0.36	ug/l	25.0	ND	97	70-120	2	20	
1,1,1-Trichloroethane	26.4	2.0	0.30	ug/l	25.0	ND	106	75-140	3	20	
1,1,2-Trichloroethane	26.2	2.0	0.30	ug/l	25.0	ND	105	60-135	7	25	
Trichloroethene	23.9	5.0	0.26	ug/l	25.0	1.4	90	70-125	2	20	
Trichlorofluoromethane	23.8	5.0	0.34	ug/l	25.0	ND	95	55-145	6	25	
Vinyl chloride	18.2	5.0	0.26	ug/l	25.0	ND	73	40-135	3	30	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05

Received: 02/18/05

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: 5B22018 Extracted: 02/22/05											
Matrix Spike Dup Analyzed: 02/22/2005 (5B22018-MSD1)						Source: IOB1562-01					
Surrogate: Dibromofluoromethane	24.3			ug/l	25.0		97	80-120			
Surrogate: Toluene-d8	24.1			ug/l	25.0		96	80-120			
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 280-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4867 FAX (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B22042 Extracted: 02/22/05										
Blank Analyzed: 02/24/2005 (5B22042-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	13.0			ug/l	20.0		65		35-120	
Surrogate: Phenol-d6	13.6			ug/l	20.0		68		45-120	
Surrogate: 2,4,6-Tribromophenol	15.2			ug/l	20.0		76		50-125	
Surrogate: Nitrobenzene-d5	7.02			ug/l	10.0		70		45-120	
Surrogate: 2-Fluorobiphenyl	7.04			ug/l	10.0		70		45-120	
Surrogate: Terphenyl-d14	7.78			ug/l	10.0		78		45-135	
LCS Analyzed: 02/24/2005 (5B22042-BS1)										
Bis(2-ethylhexyl)phthalate	8.16	5.0	1.1	ug/l	10.0		82		65-125	M-NRI
2,4-Dinitrotoluene	7.46	9.0	0.23	ug/l	10.0		75		60-140	J
N-Nitrosodimethylamine	6.54	8.0	0.22	ug/l	10.0		65		40-120	J
Pentachlorophenol	7.80	8.0	0.78	ug/l	10.0		78		50-125	J
2,4,6-Trichlorophenol	7.92	6.0	0.10	ug/l	10.0		79		60-120	
Surrogate: 2-Fluorophenol	12.9			ug/l	20.0		64		35-120	
Surrogate: Phenol-d6	13.5			ug/l	20.0		68		45-120	
Surrogate: 2,4,6-Tribromophenol	16.1			ug/l	20.0		80		50-125	
Surrogate: Nitrobenzene-d5	6.86			ug/l	10.0		69		45-120	
Surrogate: 2-Fluorobiphenyl	7.12			ug/l	10.0		71		45-120	
Surrogate: Terphenyl-d14	7.40			ug/l	10.0		74		45-135	
LCS Dup Analyzed: 02/24/2005 (5B22042-BSD1)										
Bis(2-ethylhexyl)phthalate	8.52	5.0	1.1	ug/l	10.0		85	4	20	
2,4-Dinitrotoluene	6.96	9.0	0.23	ug/l	10.0		70	7	20	J
N-Nitrosodimethylamine	8.44	8.0	0.22	ug/l	10.0		84	25	20	R-7
Pentachlorophenol	8.40	8.0	0.78	ug/l	10.0		84	7	25	
2,4,6-Trichlorophenol	7.92	6.0	0.10	ug/l	10.0		79	0	20	
Surrogate: 2-Fluorophenol	13.3			ug/l	20.0		66		35-120	
Surrogate: Phenol-d6	14.4			ug/l	20.0		72		45-120	
Surrogate: 2,4,6-Tribromophenol	16.5			ug/l	20.0		82		50-125	
Surrogate: Nitrobenzene-d5	7.52			ug/l	10.0		75		45-120	
Surrogate: 2-Fluorobiphenyl	7.36			ug/l	10.0		74		45-120	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB1562	Sampled: 02/18/05 Received: 02/18/05
--	---	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	RPD	Data Qualifiers
Batch: 5B22042 Extracted: 02/22/05									
LCS Dup Analyzed: 02/24/2005 (5B22042-BSD1)									
Surrogate: Terphenyl-d14	7.84			ug/l	10.0		78	45-135	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B22041 Extracted: 02/22/05											
Blank Analyzed: 02/23/2005 (5B22041-BLK1)											
alpha-BHC	ND	0.010	0.00049	ug/l							
Surrogate: Decachlorobiphenyl	0.441			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.389			ug/l	0.500		78	35-120			
LCS Analyzed: 02/23/2005 (5B22041-BS1)											
alpha-BHC	0.450	0.010	0.00049	ug/l	0.500		90	45-115			M-NR1
Surrogate: Decachlorobiphenyl	0.440			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.381			ug/l	0.500		76	35-120			
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD1)											
alpha-BHC	0.449	0.010	0.00049	ug/l	0.500		90	45-115	0	30	
Surrogate: Decachlorobiphenyl	0.442			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.384			ug/l	0.500		77	35-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B18140 Extracted: 02/18/05										
Blank Analyzed: 02/20/2005 (5B18140-BLK1)										
Copper	ND	2.0	0.49	ug/l						
Lead	ND	1.0	0.13	ug/l						
LCS Analyzed: 02/20/2005-02/22/2005 (5B18140-BS1)										
Copper	74.7	2.0	0.49	ug/l	80.0		93		85-115	
Lead	86.9	1.0	0.13	ug/l	80.0		109		85-115	
Matrix Spike Analyzed: 02/20/2005-02/22/2005 (5B18140-MS1) Source: IOB1560-01										
Copper	78.6	2.0	0.49	ug/l	80.0	4.6	92		70-130	
Lead	90.5	1.0	0.13	ug/l	80.0	2.7	110		70-130	
Matrix Spike Dup Analyzed: 02/20/2005-02/22/2005 (5B18140-MSD1) Source: IOB1560-01										
Copper	79.7	2.0	0.49	ug/l	80.0	4.6	94		70-130	1 20
Lead	90.6	1.0	0.13	ug/l	80.0	2.7	110		70-130	0 20
Batch: 5B22045 Extracted: 02/22/05										
Blank Analyzed: 02/22/2005 (5B22045-BLK1)										
Mercury	ND	0.20	0.063	ug/l						
LCS Analyzed: 02/22/2005 (5B22045-BS1)										
Mercury	8.00	0.20	0.063	ug/l	8.00		100		85-115	
Matrix Spike Analyzed: 02/22/2005 (5B22045-MS1) Source: IOB1580-01										
Mercury	2.98	0.20	0.063	ug/l	8.00	0.067	36		70-130	M2
Matrix Spike Dup Analyzed: 02/22/2005 (5B22045-MSD1) Source: IOB1580-01										
Mercury	2.89	0.20	0.063	ug/l	8.00	0.067	35		70-130	3 20 M2

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB1562	Sampled: 02/18/05 Received: 02/18/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B18080 Extracted: 02/18/05											
Blank Analyzed: 02/23/2005 (5B18080-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 02/23/2005 (5B18080-BS1)											
Biochemical Oxygen Demand	200	100	30	mg/l	198		101	85-115			
LCS Dup Analyzed: 02/23/2005 (5B18080-BSD1)											
Biochemical Oxygen Demand	196	100	30	mg/l	198		99	85-115	2	20	
Batch: 5B18129 Extracted: 02/18/05											
Blank Analyzed: 02/18/2005 (5B18129-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Nitrate/Nitrite-N	ND	0.11	0.072	mg/l							
LCS Analyzed: 02/18/2005 (5B18129-BS1)											
Chloride	5.11	0.50	0.26	mg/l	5.00		102	90-110			
Matrix Spike Analyzed: 02/18/2005 (5B18129-MS1)											
Chloride	7.47	0.50	0.26	mg/l	5.00	2.1	107	80-120			
Matrix Spike Dup Analyzed: 02/18/2005 (5B18129-MSD1)											
Chloride	7.43	0.50	0.26	mg/l	5.00	2.1	107	80-120	1	20	
Batch: 5B18136 Extracted: 02/18/05											
Blank Analyzed: 02/19/2005 (5B18136-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B18136 Extracted: 02/18/05											
LCS Analyzed: 02/19/2005 (5B18136-BS1)											
Surfactants (MBAS)	0.259	0.10	0.044	mg/l	0.250		104	90-110			
Matrix Spike Analyzed: 02/19/2005 (5B18136-MS1)											
						Source: IOB1570-01					
Surfactants (MBAS)	0.411	0.20	0.088	mg/l	0.500	ND	82	50-125			
Matrix Spike Dup Analyzed: 02/19/2005 (5B18136-MSD1)											
						Source: IOB1570-01					
Surfactants (MBAS)	0.404	0.20	0.088	mg/l	0.500	ND	81	50-125	2	20	
Batch: 5B19026 Extracted: 02/19/05											
Blank Analyzed: 02/19/2005 (5B19026-BLK1)											
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 02/19/2005 (5B19026-BS1)											
Sulfate	9.94	0.50	0.18	mg/l	10.0		99	90-110			
Matrix Spike Analyzed: 02/19/2005 (5B19026-MS1)											
						Source: IOB1273-01					
Sulfate	73.5	2.5	0.90	mg/l	10.0	62	115	80-120			
Matrix Spike Dup Analyzed: 02/19/2005 (5B19026-MSD1)											
						Source: IOB1273-01					
Sulfate	74.2	2.5	0.90	mg/l	10.0	62	122	80-120	1	20	M-HA
Batch: 5B19043 Extracted: 02/19/05											
Blank Analyzed: 02/19/2005 (5B19043-BLK1)											
Turbidity	0.0500	1.0	0.040	NTU							J

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB1562	Sampled: 02/18/05 Received: 02/18/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Limit	Qualifiers
Batch: 5B19043 Extracted: 02/19/05											
Duplicate Analyzed: 02/19/2005 (5B19043-DUP1)						Source: IOB1562-01					
Turbidity	118	5.0	0.20	NTU		120			2	20	
Batch: 5B22061 Extracted: 02/22/05											
Blank Analyzed: 02/22/2005 (5B22061-BLK1)											
Total Cyanide	ND	0.0050	0.0022	mg/l							
LCS Analyzed: 02/22/2005 (5B22061-BS1)											
Total Cyanide	0.194	0.0050	0.0022	mg/l	0.200		97	90-110			
Matrix Spike Analyzed: 02/22/2005 (5B22061-MS1)											
Total Cyanide	0.190	0.0050	0.0022	mg/l	0.200	ND	95	70-115			
Matrix Spike Dup Analyzed: 02/22/2005 (5B22061-MSD1)											
Total Cyanide	0.187	0.0050	0.0022	mg/l	0.200	ND	94	70-115	2	15	
Batch: 5B22082 Extracted: 02/22/05											
Blank Analyzed: 02/22/2005 (5B22082-BLK1)											
Oil & Grease	1.00	5.0	0.94	mg/l							M-NRI J
LCS Analyzed: 02/22/2005 (5B22082-BS1)											
Oil & Grease	18.6	5.0	0.94	mg/l	20.0		93	65-120			
LCS Dup Analyzed: 02/22/2005 (5B22082-BSD1)											
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120	4	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B23079 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23079-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 02/23/2005 (5B23079-BS1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0		95	80-115			
Matrix Spike Analyzed: 02/23/2005 (5B23079-MS1)											
Ammonia-N (Distilled)	12.9	0.50	0.30	mg/l	10.0	1.7	112	70-120			
Matrix Spike Dup Analyzed: 02/23/2005 (5B23079-MSD1)											
Ammonia-N (Distilled)	12.3	0.50	0.30	mg/l	10.0	1.7	106	70-120	5	15	
Batch: 5B24110 Extracted: 02/24/05											
Blank Analyzed: 02/24/2005 (5B24110-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/24/2005 (5B24110-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/24/2005 (5B24110-DUP1)											
Total Dissolved Solids	98.0	10	10	mg/l		99			1	10	
Batch: 5B24133 Extracted: 02/24/05											
Duplicate Analyzed: 02/24/2005 (5B24133-DUP1)											
Specific Conductance	105	1.0	1.0	umhos/cm		100			5	5	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	Limit Limits	RPD	Data Qualifiers
Batch: 5B25064 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25064-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/25/2005 (5B25064-BS1)											
Perchlorate	48.4	4.0	0.80	ug/l	50.0		97		85-115		
Matrix Spike Analyzed: 02/25/2005 (5B25064-MS1)											
						Source: IOB1976-13					
Perchlorate	51.3	4.0	0.80	ug/l	50.0	1.5	100		80-120		
Matrix Spike Dup Analyzed: 02/26/2005 (5B25064-MSD1)											
						Source: IOB1976-13					
Perchlorate	51.4	4.0	0.80	ug/l	50.0	1.5	100	0	80-120	20	
Batch: 5B25089 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25089-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 02/25/2005 (5B25089-BS1)											
Total Suspended Solids	956	10	10	mg/l	1000		96		85-115		
Duplicate Analyzed: 02/25/2005 (5B25089-DUP1)											
						Source: IOB1979-01					
Total Suspended Solids	ND	10	10	mg/l		ND				10	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

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
IOB1562-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.38	5.0	10.00
IOB1562-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.010	0.0100
IOB1562-01	624-Boeing 001/002 Q (Fr1 13+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB1562-01	624-Boeing 001/002 Q (Fr1 13+X)	Trichloroethene	ug/l	1.40	5.0	5.00
IOB1562-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOB1562-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	9.0	9.10
IOB1562-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.46	5.0	4.00
IOB1562-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOB1562-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOB1562-01	BOD	Biochemical Oxygen Demand	mg/l	2.90	2.0	20
IOB1562-01	Chloride - 300.0	Chloride	mg/l	18	0.50	150
IOB1562-01	Copper-200.8	Copper	ug/l	4.40	2.0	7.10
IOB1562-01	Cyanide-335.2 5ppb	Total Cyanide	mg/l	0	0.0050	0.0043
IOB1562-01	Lead-200.8	Lead	ug/l	2.20	1.0	2.60
IOB1562-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.14	0.20	0.50
IOB1562-01	Mercury - 245.1	Mercury	ug/l	0.025	0.20	0.20
IOB1562-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.52	0.11	8.00
IOB1562-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB1562-01	Sulfate-300.0	Sulfate	mg/l	82	1.0	300
IOB1562-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	300	10	950
IOB1562-02	624-Boeing 001/002 Q (Fr1 13+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB1562-02	624-Boeing 001/002 Q (Fr1 13+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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) 370-4687 FAX (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
Received: 02/18/05

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 unknown quality.
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M-HA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R-7** LFB/LFBD RPD exceeded the method control limit. Recovery met acceptance criteria.
- RL-1** Reporting limit raised due to sample matrix effects.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical, Irvine
Wendy Kirkeeng For Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1562 <Page 21 of 22>



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 (949) 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 002

Report Number: IOB1562

Sampled: 02/18/05
 Received: 02/18/05

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 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 335.2	Water	X	X
EPA 350.2	Water	X	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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR

Samples: IOB1562-01

Analysis Performed: EDD + Level 4

Samples: IOB1562-01

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1562

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5 8/12/04

Client Name/Address:
MWH-Pasadena
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101
Project Manager: Bronwyn Kelly
Sampler: Ric Baringu

Project:
 Boeing-SSFL NPDES
 Routine Outfall 002

Phone Number:
 (626) 568-6691
Fax Number:
 (626) 568-6515

ANALYSIS REQUIRED

Field readings:	Temp = 57.7 °	Comments
	pH = 8.15	
2,4,6 Trichloropheno, 2,4		24 TAT
Dinitrotoluene, Bis(2-		24 TAT
ethoxy)phthalate, NDMA,		
pentachlorophenol (EPA 625)		
Ammonia-N		
Conductivity		
Turbidity, TDS, TSS,		
Perchlorate		
Cl ⁻ , SO ₄ , NO ₃ +NO ₂ -N,		
Surfactants (MBAS)		
BOD ₅ (20 degrees C)		
Cyanide (total recoverable)		
Oil & Grease (EPA 413.1)		
TCDD (and all congeners)		
VOCs 624 + xylenes		
Settleable Solids		
Total Recoverable Metals: Cu, Pb, Hg	X	

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #
Outfall 002	W	Poly-1 liter	1	2-18-05 08:06	HNO3	1A
Outfall 002-Dup	W	Poly-1 liter	1		HNO3	1B
Outfall 002	W	Poly-1 liter	1		None	2
Outfall 002	W	VOAs	3		HCl	3A, 3B, 3C
Outfall 002	W	Glass-Amber	2		None	4A, 4B
Outfall 002	W	1L Amber	2		HCl	5A, 5B
Outfall 002	W	Poly-500 ml	1		NaOH	6
Outfall 002	W	Poly-1 liter	1		None	7
Outfall 002	W	Poly-500 ml	2		None	8A, 8B
Outfall 002	W	Poly-500 ml	2		None	9A, 9B
Outfall 002	W	Poly-500 ml	2		None	10A, 10B
Outfall 002	W	Poly-500 ml	1		H2SO4	11
Outfall 002	W	1L Amber	2		None	12A, 12B
Outfall 002	W	1L Amber	2		None	13A, 13B
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C

Relinquished By: Ric Baringu Date/Time: 2-18-05 1515
Relinquished By: Bronwyn Kelly Date/Time: 2-18-05 1515
Relinquished By: Ric Baringu Date/Time: 2-18-05 1830

Received By: [Signature] Date/Time: 2-18-05 1830
Received By: [Signature] Date/Time: 2-18-05 1830

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



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8596 FAX (658) 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

March 23, 2005

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

Attention: Bronwyn Kelly
Project: Routine Outfall 002
Sampled: 02/18/05
Del Mar Analytical Number: IOB1562

Dear Ms. Kelly:

Alta Analytical Laboratory performed the EPA Method 1613 Dioxin analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	Alta ID
Outfall 002	IOB1562-01	25779-001

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 at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL


Michele Harper
Project Manager



March 01, 2005

Alta Project I.D.: 25779

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 February 24, 2005 under your Project Name "IOB1562". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
HRMS Services Director



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: 2/24/2005

Alta Lab. ID

Client Sample ID

25779-001

IOB1562-01

SECTION II



Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	6543	Lab Sample:	0-MB001
Sample Size:	1.000 L	Date Extracted:	25-Feb-05	Date Analyzed DB-5:	28-Feb-05
				Date Analyzed DB-225:	NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.866		75.9	25 - 164
1,2,3,7,8-PeCDD	ND	1.15		73.9	25 - 181
1,2,3,4,7,8-HxCDD	ND	1.88		70.6	32 - 141
1,2,3,6,7,8-HxCDD	ND	1.86		73.4	28 - 130
1,2,3,7,8,9-HxCDD	ND	1.84		67.4	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	3.38		56.3	17 - 157
OCDD	ND	8.88		78.7	24 - 169
2,3,7,8-TCDF	ND	0.545		68.1	24 - 185
1,2,3,7,8-PeCDF	ND	1.62		73.3	21 - 178
2,3,4,7,8-PeCDF	ND	1.45		60.2	26 - 152
1,2,3,4,7,8-HxCDF	ND	1.24		64.3	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.869		63.5	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.958		65.2	29 - 147
1,2,3,7,8,9-HxCDF	ND	1.55		54.3	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	2.22		59.8	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	1.68		54.9	17 - 157
OCDF	ND	4.49		77.4	35 - 197
Totals				e	
Total TCDD	ND	0.866			
Total PeCDD	ND	1.15			
Total HxCDD	ND	1.86			
Total HpCDD	ND	3.38			
Total TCDF	ND	0.545			
Total PeCDF	ND	1.54			
Total HxCDF	ND	1.37			
Total HpCDF	ND	2.38			
Toxic Equivalent Quotient (TEQ) Data					
TEQ (Min-Max): 0 - 3.41					
a. Sample specific estimated detection limit.					
b. Estimated maximum possible concentration.					
c. Method detection limit.					
d. Lower control limit - upper control limit.					
e. Toxic Equivalent Quotient (TEQ) based on International Toxic Equivalent Factors (ITEF).					

Analyst: MS

Approved By: William J. Luksemburg 01-Mar-2005 16:25



OPR Results

EPA Method 1613

Matrix: Aqueous	QC Batch No.: 6543	Lab Sample: 0-OPR001			
Sample Size: 1.000 L	Date Extracted: 25-Feb-05	Date Analyzed DB-5: 28-Feb-05			
		Date Analyzed DB-225: NA			
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	67.4	25 - 164
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	64.0	25 - 181
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	58.2	32 - 141
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	62.5	28 - 130
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.2	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	51.4	17 - 157
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	72.5	24 - 169
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	59.4	24 - 185
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	64.8	21 - 178
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	49.4	26 - 152
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	52.7	26 - 123
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	55.2	28 - 136
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	53.4	29 - 147
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	45.6	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	49.6	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	49.0	17 - 157
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	76.2	35 - 197

Analyst: MS

Approved By: William J. Luksemburg 01-Mar-2005 16:25



Sample ID: IOB1562-01

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25779-001		
Project:	IOB1562	Sample Size:	1.041 L	QC Batch No.:	6543		
Date Collected:	18-Feb-05			Date Analyzed DB-5:	28-Feb-05		
Time Collected:	0806			Date Analyzed DB-225:	NA		
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.807		IS 13C-2,3,7,8-TCDD	81.8	25 - 164	
1,2,3,7,8-PeCDD	ND	1.13		13C-1,2,3,7,8-PeCDD	81.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.53		13C-1,2,3,4,7,8-HxCDD	78.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.57		13C-1,2,3,6,7,8-HxCDD	78.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.52		13C-1,2,3,4,6,7,8-HpCDD	88.0	23 - 140	
1,2,3,4,6,7,8-HpCDD	16.7			13C-OCDD	70.6	17 - 157	
OCDD	178			13C-2,3,7,8-TCDF	85.6	24 - 169	
2,3,7,8-TCDF	ND	0.750		13C-1,2,3,7,8-PeCDF	76.9	24 - 185	
1,2,3,7,8-PeCDF	ND	1.17		13C-2,3,4,7,8-PeCDF	79.3	21 - 178	
2,3,4,7,8-PeCDF	ND	1.08		13C-1,2,3,4,7,8-HxCDF	68.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.910		13C-1,2,3,6,7,8-HxCDF	69.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.839		13C-2,3,4,6,7,8-HxCDF	69.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	1.00		13C-1,2,3,7,8,9-HxCDF	72.7	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.547		13C-1,2,3,4,6,7,8-HpCDF	65.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	2.73			13C-1,2,3,4,7,8,9-HpCDF	73.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	1.30		13C-OCDF	75.1	17 - 157	
OCDF	7.80			CRS 37Cl-2,3,7,8-TCDD	84.7	35 - 197	
Totals							
Total TCDD	ND	0.807					
Total PeCDD	ND	1.13					
Total HxCDD	1.64						
Total HpCDD	29.3						
Total TCDF	1.57						
Total PeCDF	ND		-0.678				
Total HxCDF	3.39						
Total HpCDF	8.31						
Footnotes							
a. Sample specific estimated detection limit.							
b. Estimated maximum possible concentration.							
c. Method detection limit.							
d. Lower control limit - upper control limit.							

Analyst: MS

Approved By:

William J. Luksemburg 01-Mar-2005 16:25

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

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

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



CURRENT CERTIFICATIONS

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)

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 25779

1. Date Samples Arrived: <u>2/24/05</u> <u>0905</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
2. Time / Date logged in: <u>1140</u> <u>2/24/05</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
3. Samples Arrived By: (circle) <u>FedEx</u> UPS World Courier Other:			
4. Shipping Preservation: (circle) <u>Ice</u> <u>Blue Ice</u> Dry Ice / None Temp °C <u>0.8</u>			
5. Shipping Container(s) intact? If not, describe condition in comment section.	YES	NO	NA
6. Shipping Container(s) Custody Seals Present? Intact? If not intact, describe condition in comment section.	✓		
7. Shipping Documentation Present? (circle) Shipping Label <u>Airbill</u> Tracking Number <u>7904 3642 7338</u>	✓		
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 <u>Client</u> Retain or <u>Return</u> 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 label

ALTA Analytical Laboratory
El Dorado Hills, CA 95762



17481 Darlen 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) 370-4657 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9599
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2820 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IOB1562

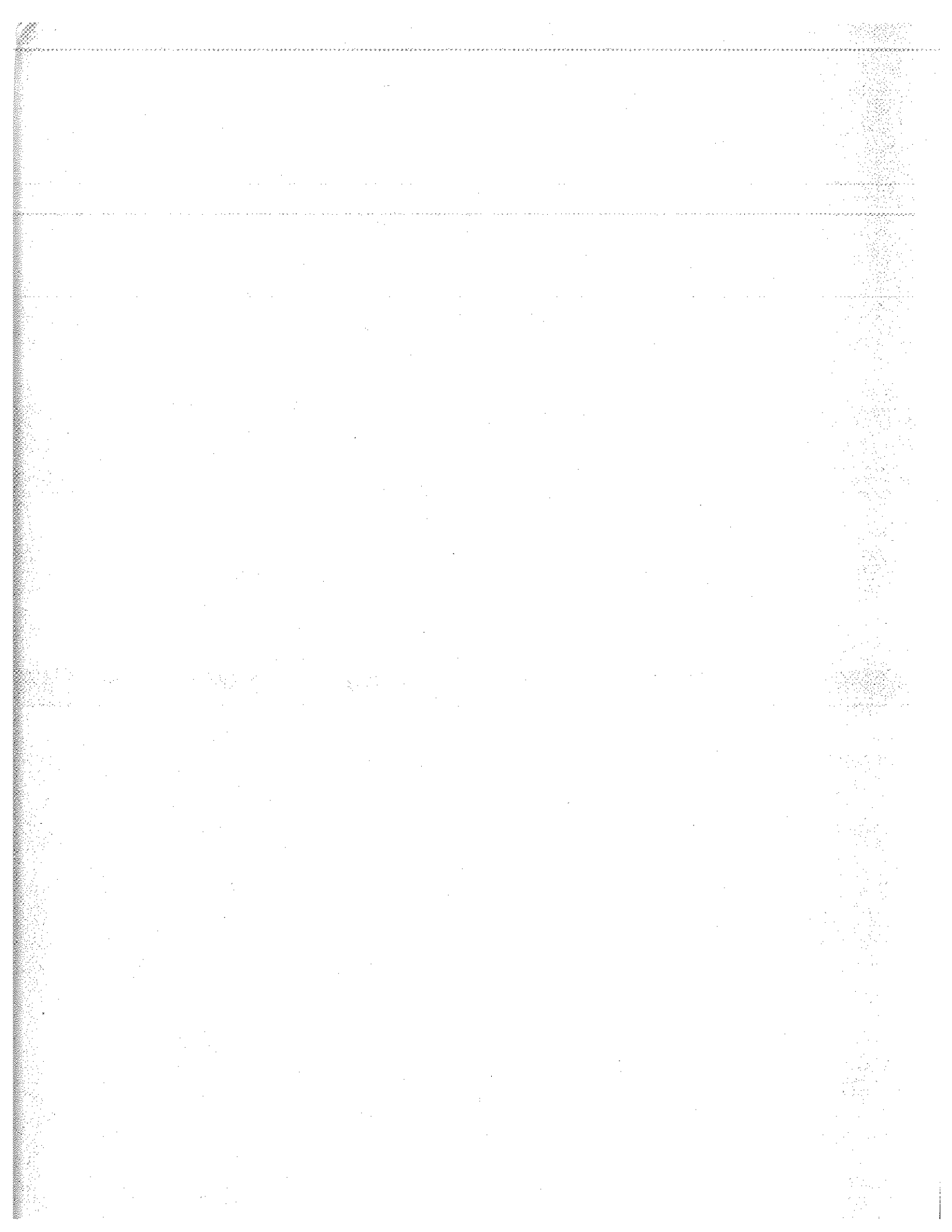
SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Alta Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 933-0940 <div style="font-size: 2em; margin-left: 20px;">25779 0.8°C</div>

Standard TAT is requested unless specific due date is requested => Due Date: 2 weeks Initials: VR

Analysis	Expiration	Comments
Sample ID: IOB1562-01 Water	Sampled: 02/18/05 08:06	Instant Notification
1613-Dioxin-HR	02/25/05 08:06	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4	03/18/05 08:06	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IOB1562-01F)		
1 L Amber (IOB1562-01H)		

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

<u>Vu Barkly</u>	<u>2-23-05</u>	<u>1700</u>	<u>Bethmar J. Benedict</u>	<u>2/24/05</u>	<u>0905</u>
Released By	Date	Time	Received By	Date	Time
Released By	Date	Time	Received By	Date	Time
Project 25779					

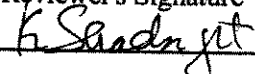


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF32
 Task Order 313150010
 SDG No. Multiple
 No. of Analyses 6

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxins

Date: March 16, 2005
 Reviewer's Signature


ACTION ITEMS*	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications were assigned for the following: * Detects below the lower method calibration level
COMMENTS ^b	
* 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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 16, 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 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	IOB2098-01	25812-001	water	1613
Outfall 002	IOB2063-01	25811-001	water	1613
Outfall 011	IOB2066-01	25815-001	water	1613
Outfall 011 Composite	IOB2064-01	25816-001	water	1613
Outfall 011 Grab	IOB2065-01	25814-001	water	1613
Outfall 018	IOB2099-01	25813-001	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

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The samples were shipped to Alta for dioxin/furan analyses and the samples were received below the temperature limits at 0.8°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, all samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs and transfer COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. The sample collector's name is not routinely provided on the transfer COC; however, the name of the sample collector was provided in the Sample Acceptance Form dated 03/01/05 for sample Outfall 011 Composite. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The coolers 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

There was one initial calibration, analyzed 08/30/04. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6571-MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (6571-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. Any detects below the lower method calibration level (MCL) were qualified as estimated, "J," however, as Alta analyzed an additional calibration standard, not all results below the method calibration level were appropriately qualified by the laboratory. These results were qualified as estimated, "J," by the reviewer. No further qualifications were required.



Sample ID: **IOB2063-01** *Outfall 002*

EPA Method 1613

Client Data		Sample Data		Laboratory Data		
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25811-001	
Project:	IOB2063	Sample Size:	1.008 L	QC Batch No.:	6571	
Date Collected:	25-Feb-05			Date Analyzed DB-5:	8-Mar-05	
Time Collected:	1016			Date Analyzed DB-225:	NA	
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.953		IS 13C-2,3,7,8-TCDD	65.8	25 - 164
1,2,3,7,8-PeCDD	ND	1.05		13C-1,2,3,7,8-PeCDD	61.7	25 - 181
1,2,3,4,7,8-HxCDD	ND	2.33		13C-1,2,3,4,7,8-HxCDD	64.3	32 - 141
1,2,3,6,7,8-HxCDD	ND	2.28		13C-1,2,3,6,7,8-HxCDD	64.4	28 - 130
1,2,3,7,8,9-HxCDD	ND	2.30		13C-1,2,3,4,6,7,8-HpCDD	65.7	23 - 140
1,2,3,4,6,7,8-HpCDD	2.99			13C-OCDD	62.8	17 - 157
OCDD	8.97		J	13C-2,3,7,8-TCDF	69.1	24 - 169
2,3,7,8-TCDF	ND	1.32		13C-1,2,3,7,8-PeCDF	58.2	24 - 185
1,2,3,7,8-PeCDF	ND	1.45		13C-2,3,4,7,8-PeCDF	60.2	21 - 178
2,3,4,7,8-PeCDF	ND	1.24		13C-1,2,3,4,7,8-HxCDF	46.3	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.597		13C-1,2,3,6,7,8-HxCDF	52.5	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.535		13C-2,3,4,6,7,8-HxCDF	51.5	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.637		13C-1,2,3,7,8,9-HxCDF	52.8	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.891		13C-1,2,3,4,6,7,8-HpCDF	54.5	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	1.22		13C-1,2,3,4,7,8,9-HpCDF	58.4	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	1.34		13C-OCDF	64.6	17 - 157
OCDF	ND	2.80		CRS 37Cl-2,3,7,8-TCDD	78.2	35 - 197
Totals						
Total TCDD	5.07					
Total PeCDD	6.12					
Total HxCDD	3.64					
Total HpCDD	2.99		4.54			
Total TCDF	ND	1.32				
Total PeCDF	ND	1.34				
Total HxCDF	ND	0.653				
Total HpCDF	ND	1.27				

Footnotes

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

Analyst: JMH Pm 4/12/05

Approved By: Martha M. Maier 10-Mar-2005 08:05

Project 25811 **AMEC VALIDATED**

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO58
 Task Order 313150010
 SDG No. IOB2063, IOB2098

No. of Analyses 4

Laboratory Del Mar Analytical

Reviewer K. Shadowlight

Analysis/Method Volatiles

Date <u>March 30, 2005</u>
Reviewer's Signature <i>K. Shadowlight</i>

ACTION ITEMS ^a	
1. Case Narrative	
Deficiencies	
2. Out of Scope	
Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis	
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	Acceptable as reviewed
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IOB2063, IOB2098

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#: IOB2063, IOB2098
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 4
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 30, 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*, 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	IOB2098-01	water	624
Trip Blank	Trip Blank	IOB2098-02	water	624
Outfall 002	Outfall 002	IOB2063-01	water	624
Trip Blank	Trip Blank	IOB2063-02	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. 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 report were consistent with those specified in the 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

One initial calibration dated 01/05/05, was associated with these SDGs. The average RRFs were ≥ 0.05 and the %RSDs were $\leq 35\%$ for the target compounds listed on the sample result summaries. One continuing calibration analyzed 02/28/05, was associated with the sample analyses. The %Ds were $\leq 20\%$ and the RRFs for all target compounds were ≥ 0.05 . 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 qualifications were required.

2.4 BLANKS

One water method blank (5B28023-BLK1) was associated with these SDGs. 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

One water blank spike (5B28023-BS1) was associated with these SDGs. 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

MS/MSD analyses were performed for sample Outfall 002 associated with these SDGs. The recoveries and RPDs were within the respective 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.

2.8 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

Sample Trip blank (IOB2063) and Trip blank (IOB2098) were the trip blanks associated with the site samples in these SDGs. There were no target compounds detected above the MDLs in the either of the trip blanks. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no other 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 this SDG were within the control limits established by the continuing calibration standards, of +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 standards and by the MDL study. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in ug/L (ppb). No calculation or transcription errors were noted. Any detect between the MDL and the reporting limit was qualified as estimated, "J," by the laboratory. No further 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

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 250-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9639
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Routine Outfall 002

Report Number: IOB2063

Sampled: 02/25/05
 Received: 02/25/05

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: IOB2063-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	u
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	0.51	1	02/28/05	02/28/05	J J DNR
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	u
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	
Surrogate: Dibromofluoromethane (80-120%)					104 %				
Surrogate: Toluene-d8 (80-120%)					96 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

Sample ID: IOB2063-02 (DRAFT: Trip Blank - Water)
 Reporting Units: ug/l

Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	u
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	
Surrogate: Dibromofluoromethane (80-120%)					100 %				
Surrogate: Toluene-d8 (80-120%)					93 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					94 %				

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

ANALYSIS VALIDATED

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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


Package ID T711WC80
 Task Order 313150010
 SDG No. IOB2063/2098

No. of Analyses 2

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

Date: 03/25/05
 Reviewer's Signature


ACTION ITEMS*

1. Case Narrative Deficiencies
2. Out of Scope Analyses
3. Analyses Not Conducted
4. Missing Hardcopy Deliverables
5. Incorrect Hardcopy Deliverables
6. Deviations from Analysis Protocol, e.g.,
 - Holding Times
 - GC/MS Tune/Inst. Performance
 - Calibrations
 - Blanks
 - Surrogates
 - Matrix Spike/Dup LCS
 - Field QC
 - Internal Standard Performance
 - Compound Identification and Quantitation
 - System Performance

COMMENTS^b Acceptable as reviewed.

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUPS: IOB2063 & IOB2098

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 #: IOB2063, IOB2098
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 2
Reviewer: L. Jarusewic
Date of Review: March 25, 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	IOB2098-01	Water	General Minerals
Outfall 002	Outfall 002	IOB2063-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

The holding times were assessed by comparing the dates 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 %Rs 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 the method blank (5B26046-BLK1) for Outfall 001 and Outfall 002 at 0.050 NTU; however, the turbidity method blank result was insufficient to qualify the Outfall 001 and Outfall 002 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 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 these SDGs.

2.6 LABORATORY DUPLICATES

MS/MSD analyses were performed on sample Outfall 002 for ammonia in association with the samples in these SDGs. The RPD was within the control limits of $\leq 15\%$. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on sample Outfall 002 for ammonia in association with the samples in these SDGs. The recoveries were within the laboratory-established control limits and 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 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. No 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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB2063/2098
Analysis: General Minerals

2.11.2 Field Duplicates

There were no field duplicate pairs associated with these SDGs.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 250-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9688
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0657
 2520 E. Sunset Rd., #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Routine Outfall 002
 Report Number: IOB2063

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: INORGANICS

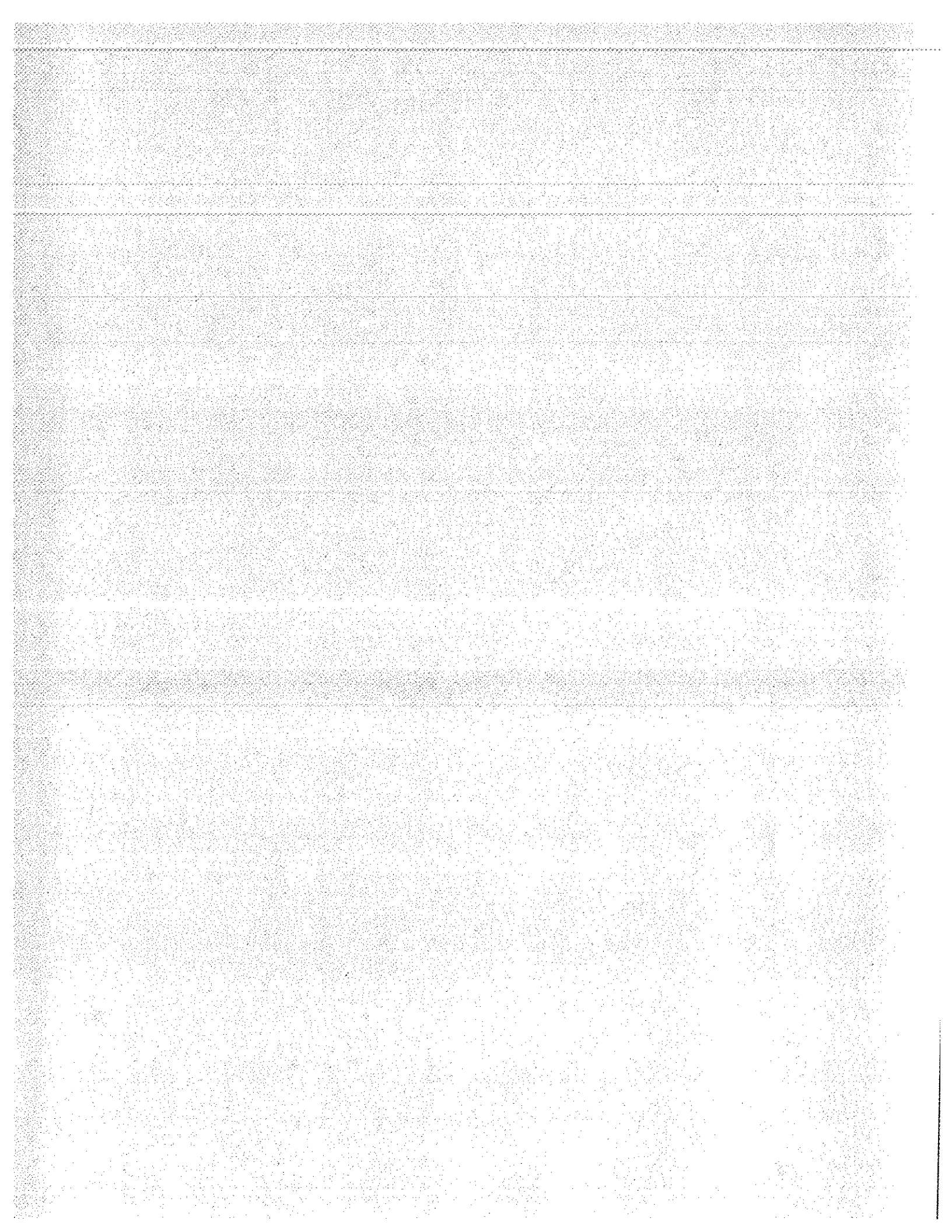
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2063-01 (DRAFT: Outfall 002 - Water) Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5C07070	0.30	0.50	ND	1	03/07/05	03/07/05	U
Sample ID: IOB2063-01 (DRAFT: Outfall 002 - Water) Reporting Units: NTU									
Turbidity	EPA 180.1	5B26046	0.040	1.0	3.9	1	02/26/05	02/26/05	
Sample ID: IOB2063-01 (DRAFT: Outfall 002 - Water) Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B28080	1.0	1.0	680	1	02/28/05	02/28/05	

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





Del Mar Analytical

17461 Dorian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

LABORATORY REPORT

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

Project: Routine Outfall 002

Sampled: 02/25/05
 Received: 02/25/05
 Issued: 03/28/05 10:31

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IOB2063-01	Outfall 002	Water
IOB2063-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

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: IOB2063-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	0.51	1	02/28/05	02/28/05	J
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	

Surrogate: Dibromofluoromethane (80-120%) 104 %
 Surrogate: Toluene-d8 (80-120%) 96 %
 Surrogate: 4-Bromofluorobenzene (80-120%) 97 %

Sample ID: IOB2063-02 (Trip Blank - Water)
 Reporting Units: ug/l

Benzene	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
Carbon tetrachloride	EPA 624	5B28023	0.28	5.0	ND	1	02/28/05	02/28/05	
Chloroform	EPA 624	5B28023	0.33	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethane	EPA 624	5B28023	0.27	2.0	ND	1	02/28/05	02/28/05	
1,2-Dichloroethane	EPA 624	5B28023	0.28	2.0	ND	1	02/28/05	02/28/05	
1,1-Dichloroethene	EPA 624	5B28023	0.32	3.0	ND	1	02/28/05	02/28/05	
Ethylbenzene	EPA 624	5B28023	0.25	2.0	ND	1	02/28/05	02/28/05	
Tetrachloroethene	EPA 624	5B28023	0.32	2.0	ND	1	02/28/05	02/28/05	
Toluene	EPA 624	5B28023	0.36	2.0	ND	1	02/28/05	02/28/05	
1,1,1-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
1,1,2-Trichloroethane	EPA 624	5B28023	0.30	2.0	ND	1	02/28/05	02/28/05	
Trichloroethene	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Trichlorofluoromethane	EPA 624	5B28023	0.34	5.0	ND	1	02/28/05	02/28/05	
Vinyl chloride	EPA 624	5B28023	0.26	5.0	ND	1	02/28/05	02/28/05	
Xylenes, Total	EPA 624	5B28023	0.52	4.0	ND	1	02/28/05	02/28/05	

Surrogate: Dibromofluoromethane (80-120%) 100 %
 Surrogate: Toluene-d8 (80-120%) 93 %
 Surrogate: 4-Bromofluorobenzene (80-120%) 94 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



17461Derian 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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

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: IOB2063-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5B28001	1.1	5.0	ND	0.971	02/28/05	03/02/05	
2,4-Dinitrotoluene	EPA 625	5B28001	0.23	9.0	ND	0.971	02/28/05	03/02/05	
N-Nitrosodimethylamine	EPA 625	5B28001	0.22	8.0	ND	0.971	02/28/05	03/02/05	
Pentachlorophenol	EPA 625	5B28001	0.78	8.0	ND	0.971	02/28/05	03/02/05	
2,4,6-Trichlorophenol	EPA 625	5B28001	0.10	6.0	ND	0.971	02/28/05	03/02/05	
Surrogate: 2-Fluorophenol (30-120%)					69 %				
Surrogate: Phenol-d6 (35-120%)					70 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					91 %				
Surrogate: Nitrobenzene-d5 (45-120%)					72 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					74 %				
Surrogate: Terphenyl-d14 (45-120%)					84 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05
 Received: 02/25/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2063-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	5C01050	0.0010	0.010	ND	0.952	03/01/05	03/03/05	
Surrogate: Decachlorobiphenyl (45-120%)					72 %				
Surrogate: Tetrachloro-m-xylene (35-120%)					63 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2063-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Copper	EPA 200.8	5B25123	0.49	2.0	1.8	1	02/25/05	02/27/05	B, J
Lead	EPA 200.8	5B25123	0.13	1.0	ND	1	02/25/05	02/27/05	
Mercury	EPA 245.1	5B26037	0.063	0.20	ND	1	02/26/05	02/27/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2063-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5C07070	0.30	0.50	ND	1	03/07/05	03/07/05	
Biochemical Oxygen Demand	EPA 405.1	5B25101	0.59	2.0	ND	1	02/25/05	03/02/05	
Chloride	EPA 300.0	5B25042	0.26	0.50	20	1	02/25/05	02/25/05	
Total Cyanide	EPA 335.2	5B25127	0.0022	0.0050	ND	1	02/25/05	02/26/05	
Nitrate/Nitrite-N	EPA 300.0	5B25042	0.072	0.26	0.92	1	02/25/05	02/25/05	
Oil & Grease	EPA 413.1	5B28071	0.94	5.0	ND	1	02/28/05	02/28/05	
Sulfate	EPA 300.0	5B25042	0.90	2.5	160	5	02/25/05	02/25/05	
Surfactants (MBAS)	SM5540-C	5B25118	0.044	0.10	0.056	1	02/25/05	02/25/05	J
Total Dissolved Solids	SM2540C	5B28078	10	10	450	1	02/28/05	02/28/05	
Total Suspended Solids	EPA 160.2	5C02097	10	10	ND	1	03/02/05	03/02/05	
Sample ID: IOB2063-01 (Outfall 002 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	5B25097	0.10	0.10	ND	1	02/25/05	02/25/05	
Sample ID: IOB2063-01 (Outfall 002 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5B26046	0.040	1.0	3.9	1	02/26/05	02/26/05	
Sample ID: IOB2063-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	5B28103	0.80	4.0	ND	1	02/28/05	03/01/05	
Sample ID: IOB2063-01 (Outfall 002 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5B28080	1.0	1.0	680	1	02/28/05	02/28/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 002 (IOB2063-01) - Water	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 160.5	2	02/25/2005 10:16	02/25/2005 19:15	02/25/2005 21:15	02/25/2005 22:15
EPA 180.1	2	02/25/2005 10:16	02/25/2005 19:15	02/26/2005 12:00	02/26/2005 13:00
EPA 300.0	2	02/25/2005 10:16	02/25/2005 19:15	02/25/2005 20:15	02/25/2005 20:22
EPA 405.1	2	02/25/2005 10:16	02/25/2005 19:15	02/25/2005 21:00	03/02/2005 14:00
SM5540-C	2	02/25/2005 10:16	02/25/2005 19:15	02/25/2005 19:49	02/25/2005 23:14

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (908) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8596 FAX (658) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B28023 Extracted: 02/28/05										
Blank Analyzed: 02/28/2005 (5B28023-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	23.9			ug/l	25.0		96		80-120	
Surrogate: Toluene-d8	22.6			ug/l	25.0		90		80-120	
Surrogate: 4-Bromofluorobenzene	23.5			ug/l	25.0		94		80-120	
LCS Analyzed: 02/28/2005 (5B28023-BS1)										
Benzene	25.6	2.0	0.28	ug/l	25.0		102		70-120	
Carbon tetrachloride	26.7	5.0	0.28	ug/l	25.0		107		70-140	
Chloroform	25.5	2.0	0.33	ug/l	25.0		102		75-130	
1,1-Dichloroethane	25.9	2.0	0.27	ug/l	25.0		104		70-135	
1,2-Dichloroethane	23.8	2.0	0.28	ug/l	25.0		95		60-150	
1,1-Dichloroethene	25.8	3.0	0.32	ug/l	25.0		103		75-135	
Ethylbenzene	27.2	2.0	0.25	ug/l	25.0		109		80-120	
Tetrachloroethene	27.1	2.0	0.32	ug/l	25.0		108		75-125	
Toluene	24.8	2.0	0.36	ug/l	25.0		99		75-120	
1,1,1-Trichloroethane	25.9	2.0	0.30	ug/l	25.0		104		75-140	
1,1,2-Trichloroethane	22.8	2.0	0.30	ug/l	25.0		91		70-125	
Trichloroethene	24.3	5.0	0.26	ug/l	25.0		97		80-120	
Trichlorofluoromethane	27.0	5.0	0.34	ug/l	25.0		108		65-145	
Vinyl chloride	27.5	5.0	0.26	ug/l	25.0		110		50-130	
Surrogate: Dibromofluoromethane	23.8			ug/l	25.0		95		80-120	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05

Received: 02/25/05

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: 5B28023 Extracted: 02/28/05											
LCS Analyzed: 02/28/2005 (5B28023-BS1)											
Surrogate: Toluene-d8	22.5			ug/l	25.0		90	80-120			
Surrogate: 4-Bromofluorobenzene	22.9			ug/l	25.0		92	80-120			
Matrix Spike Analyzed: 02/28/2005 (5B28023-MS1)											
						Source: IOB2063-01					
Benzene	25.9	2.0	0.28	ug/l	25.0	ND	104	70-120			
Carbon tetrachloride	25.7	5.0	0.28	ug/l	25.0	ND	103	70-145			
Chloroform	28.0	2.0	0.33	ug/l	25.0	ND	112	70-135			
1,1-Dichloroethane	26.2	2.0	0.27	ug/l	25.0	ND	105	65-135			
1,2-Dichloroethane	25.7	2.0	0.28	ug/l	25.0	ND	103	60-150			
1,1-Dichloroethene	27.3	3.0	0.32	ug/l	25.0	ND	109	65-140			
Ethylbenzene	25.6	2.0	0.25	ug/l	25.0	ND	102	70-130			
Tetrachloroethene	24.6	2.0	0.32	ug/l	25.0	ND	98	70-130			
Toluene	24.9	2.0	0.36	ug/l	25.0	ND	100	70-120			
1,1,1-Trichloroethane	25.9	2.0	0.30	ug/l	25.0	ND	104	75-140			
1,1,2-Trichloroethane	27.4	2.0	0.30	ug/l	25.0	ND	110	60-135			
Trichloroethene	24.3	5.0	0.26	ug/l	25.0	0.51	95	70-125			
Trichlorofluoromethane	27.4	5.0	0.34	ug/l	25.0	ND	110	55-145			
Vinyl chloride	23.1	5.0	0.26	ug/l	25.0	ND	92	40-135			
Surrogate: Dibromofluoromethane	27.5			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	22.8			ug/l	25.0		91	80-120			
Surrogate: 4-Bromofluorobenzene	23.8			ug/l	25.0		95	80-120			
Matrix Spike Dup Analyzed: 02/28/2005 (5B28023-MSD1)											
						Source: IOB2063-01					
Benzene	26.0	2.0	0.28	ug/l	25.0	ND	104	70-120	0	20	
Carbon tetrachloride	26.2	5.0	0.28	ug/l	25.0	ND	105	70-145	2	25	
Chloroform	27.8	2.0	0.33	ug/l	25.0	ND	111	70-135	1	20	
1,1-Dichloroethane	26.6	2.0	0.27	ug/l	25.0	ND	106	65-135	2	20	
1,2-Dichloroethane	29.4	2.0	0.28	ug/l	25.0	ND	118	60-150	13	20	
1,1-Dichloroethene	28.1	3.0	0.32	ug/l	25.0	ND	112	65-140	3	20	
Ethylbenzene	27.0	2.0	0.25	ug/l	25.0	ND	108	70-130	5	20	
Tetrachloroethene	25.6	2.0	0.32	ug/l	25.0	ND	102	70-130	4	20	
Toluene	24.7	2.0	0.36	ug/l	25.0	ND	99	70-120	1	20	
1,1,1-Trichloroethane	26.6	2.0	0.30	ug/l	25.0	ND	106	75-140	3	20	
1,1,2-Trichloroethane	31.5	2.0	0.30	ug/l	25.0	ND	126	60-135	14	25	
Trichloroethene	24.2	5.0	0.26	ug/l	25.0	0.51	95	70-125	0	20	
Trichlorofluoromethane	27.7	5.0	0.34	ug/l	25.0	ND	111	55-145	1	25	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

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: 5B28023 Extracted: 02/28/05											
Matrix Spike Dup Analyzed: 02/28/2005 (5B28023-MSD1)						Source: IOB2063-01					
Vinyl chloride	22.0	5.0	0.26	ug/l	25.0	ND	88	40-135	5	30	
Surrogate: Dibromofluoromethane	26.6			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	22.2			ug/l	25.0		89	80-120			
Surrogate: 4-Bromofluorobenzene	24.2			ug/l	25.0		97	80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B28001 Extracted: 02/28/05										
Blank Analyzed: 03/02/2005 (5B28001-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	14.4			ug/l	20.0		72		30-120	
Surrogate: Phenol-d6	14.6			ug/l	20.0		73		35-120	
Surrogate: 2,4,6-Tribromophenol	19.1			ug/l	20.0		96		45-120	
Surrogate: Nitrobenzene-d5	7.80			ug/l	10.0		78		45-120	
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79		45-120	
Surrogate: Terphenyl-d14	8.86			ug/l	10.0		89		45-120	
LCS Analyzed: 03/02/2005 (5B28001-BS1)										
Bis(2-ethylhexyl)phthalate	8.90	5.0	1.1	ug/l	10.0		89		60-130	
2,4-Dinitrotoluene	7.92	9.0	0.23	ug/l	10.0		79		60-120	J
N-Nitrosodimethylamine	6.94	8.0	0.22	ug/l	10.0		69		40-120	J
Pentachlorophenol	8.46	8.0	0.78	ug/l	10.0		85		50-120	
2,4,6-Trichlorophenol	8.80	6.0	0.10	ug/l	10.0		88		60-120	
Surrogate: 2-Fluorophenol	15.0			ug/l	20.0		75		30-120	
Surrogate: Phenol-d6	14.6			ug/l	20.0		73		35-120	
Surrogate: 2,4,6-Tribromophenol	19.3			ug/l	20.0		96		45-120	
Surrogate: Nitrobenzene-d5	7.94			ug/l	10.0		79		45-120	
Surrogate: 2-Fluorobiphenyl	8.42			ug/l	10.0		84		45-120	
Surrogate: Terphenyl-d14	8.96			ug/l	10.0		90		45-120	
LCS Dup Analyzed: 03/02/2005 (5B28001-BSD1)										
Bis(2-ethylhexyl)phthalate	9.44	5.0	1.1	ug/l	10.0		94	6	20	
2,4-Dinitrotoluene	7.70	9.0	0.23	ug/l	10.0		77	3	20	J
N-Nitrosodimethylamine	7.90	8.0	0.22	ug/l	10.0		79	13	20	J
Pentachlorophenol	8.76	8.0	0.78	ug/l	10.0		88	3	25	
2,4,6-Trichlorophenol	8.64	6.0	0.10	ug/l	10.0		86	2	20	
Surrogate: 2-Fluorophenol	14.4			ug/l	20.0		72		30-120	
Surrogate: Phenol-d6	15.0			ug/l	20.0		75		35-120	
Surrogate: 2,4,6-Tribromophenol	19.8			ug/l	20.0		99		45-120	
Surrogate: Nitrobenzene-d5	7.80			ug/l	10.0		78		45-120	
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79		45-120	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Dertan 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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

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: 5B28001 Extracted: 02/28/05											
LCS Dup Analyzed: 03/02/2005 (5B28001-BSD1)											
Surrogate: Terphenyl-d14	8.80			ug/l	10.0		88	45-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

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

Project ID: Routine Outfall 002

Report Number: IOB2063

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5C01050 Extracted: 03/01/05											
Blank Analyzed: 03/03/2005 (5C01050-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.449			ug/l	0.500		90	45-120			
Surrogate: Tetrachloro-m-xylene	0.349			ug/l	0.500		70	35-120			
LCS Analyzed: 03/03/2005 (5C01050-BS1)											
alpha-BHC	0.393	0.010	0.0010	ug/l	0.500		79	45-115			M-NR1
Surrogate: Decachlorobiphenyl	0.438			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.336			ug/l	0.500		67	35-120			
LCS Dup Analyzed: 03/03/2005 (5C01050-BSD1)											
alpha-BHC	0.391	0.010	0.0010	ug/l	0.500		78	45-115	1	30	
Surrogate: Decachlorobiphenyl	0.440			ug/l	0.500		88	45-120			
Surrogate: Tetrachloro-m-xylene	0.353			ug/l	0.500		71	35-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B25123 Extracted: 02/25/05											
Blank Analyzed: 02/27/2005 (5B25123-BLK1)											
Copper	0.931	2.0	0.49	ug/l							J
Lead	ND	1.0	0.13	ug/l							
LCS Analyzed: 02/27/2005 (5B25123-BS1)											
Copper	87.5	2.0	0.49	ug/l	80.0	109	85-115				
Lead	83.4	1.0	0.13	ug/l	80.0	104	85-115				
Matrix Spike Analyzed: 02/27/2005 (5B25123-MS1) Source: IOB2063-01											
Copper	85.3	2.0	0.49	ug/l	80.0	1.8	104	70-130			
Lead	85.9	1.0	0.13	ug/l	80.0	ND	107	70-130			
Matrix Spike Dup Analyzed: 02/27/2005 (5B25123-MSD1) Source: IOB2063-01											
Copper	82.2	2.0	0.49	ug/l	80.0	1.8	100	70-130	4	20	
Lead	83.5	1.0	0.13	ug/l	80.0	ND	104	70-130	3	20	
Batch: 5B26037 Extracted: 02/26/05											
Blank Analyzed: 02/27/2005 (5B26037-BLK1)											
Mercury	ND	0.20	0.063	ug/l							
LCS Analyzed: 02/27/2005 (5B26037-BS1)											
Mercury	8.07	0.20	0.063	ug/l	8.00	101	85-115				
Matrix Spike Analyzed: 02/27/2005 (5B26037-MS1) Source: IOB2015-01											
Mercury	7.67	0.20	0.063	ug/l	8.00	ND	96	70-130			
Matrix Spike Dup Analyzed: 02/27/2005 (5B26037-MSD1) Source: IOB2015-01											
Mercury	7.50	0.20	0.063	ug/l	8.00	ND	94	70-130	2	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B25042 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25042-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: 02/25/2005 (5B25042-BS1)											
Chloride	5.13	0.50	0.26	mg/l	5.00		103	90-110			
Sulfate	10.5	0.50	0.18	mg/l	10.0		105	90-110			
Matrix Spike Analyzed: 02/25/2005 (5B25042-MS1) Source: IOB1979-01											
Chloride	13.9	0.50	0.26	mg/l	5.00	9.6	86	80-120			
Sulfate	57.0	0.50	0.18	mg/l	10.0	49	80	80-120			
Matrix Spike Dup Analyzed: 02/25/2005 (5B25042-MSD1) Source: IOB1979-01											
Chloride	14.3	0.50	0.26	mg/l	5.00	9.6	94	80-120	3	20	
Sulfate	58.2	0.50	0.18	mg/l	10.0	49	92	80-120	2	20	
Batch: 5B25101 Extracted: 02/25/05											
Blank Analyzed: 03/02/2005 (5B25101-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/02/2005 (5B25101-BS1)											
Biochemical Oxygen Demand	205	100	30	mg/l	198		104	85-115			
LCS Dup Analyzed: 03/02/2005 (5B25101-BSD1)											
Biochemical Oxygen Demand	202	100	30	mg/l	198		102	85-115	1	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B25118 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25118-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 02/25/2005 (5B25118-BS1)											
Surfactants (MBAS)	0.247	0.10	0.044	mg/l	0.250		99	90-110			
Matrix Spike Analyzed: 02/25/2005 (5B25118-MS1)											
Surfactants (MBAS)	0.278	0.10	0.044	mg/l	0.250	ND	111	50-125			
Matrix Spike Dup Analyzed: 02/25/2005 (5B25118-MSD1)											
Surfactants (MBAS)	0.267	0.10	0.044	mg/l	0.250	ND	107	50-125	4	20	
Batch: 5B25127 Extracted: 02/25/05											
Blank Analyzed: 02/26/2005 (5B25127-BLK1)											
Total Cyanide	ND	0.0050	0.0022	mg/l							
LCS Analyzed: 02/26/2005 (5B25127-BS1)											
Total Cyanide	0.188	0.0050	0.0022	mg/l	0.200		94	90-110			
Matrix Spike Analyzed: 02/26/2005 (5B25127-MS1)											
Total Cyanide	0.183	0.0050	0.0022	mg/l	0.200	ND	92	70-115			
Matrix Spike Dup Analyzed: 02/26/2005 (5B25127-MSD1)											
Total Cyanide	0.180	0.0050	0.0022	mg/l	0.200	ND	90	70-115	2	15	
Batch: 5B26046 Extracted: 02/26/05											
Blank Analyzed: 02/26/2005 (5B26046-BLK1)											
Turbidity	0.0500	1.0	0.040	NTU							J

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17481Derian 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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B26046 Extracted: 02/26/05										
Duplicate Analyzed: 02/26/2005 (5B26046-DUP1)					Source: IOB2071-01					
Turbidity	1.80	1.0	0.040	NTU		1.8			0 20	
Batch: 5B28071 Extracted: 02/28/05										
Blank Analyzed: 02/28/2005 (5B28071-BLK1)										
Oil & Grease	ND	5.0	0.94	mg/l						
LCS Analyzed: 02/28/2005 (5B28071-BS1)										
Oil & Grease	16.7	5.0	0.94	mg/l	20.0		84	65-120		M-NR1
LCS Dup Analyzed: 02/28/2005 (5B28071-BSD1)										
Oil & Grease	17.7	5.0	0.94	mg/l	20.0		88	65-120	6 20	
Batch: 5B28078 Extracted: 02/28/05										
Blank Analyzed: 02/28/2005 (5B28078-BLK1)										
Total Dissolved Solids	ND	10	10	mg/l						
LCS Analyzed: 02/28/2005 (5B28078-BS1)										
Total Dissolved Solids	1010	10	10	mg/l	1000		101	90-110		
Duplicate Analyzed: 02/28/2005 (5B28078-DUP1)										
Total Dissolved Solids	124	10	10	mg/l		120			3 10	
Batch: 5B28080 Extracted: 02/28/05										
Duplicate Analyzed: 02/28/2005 (5B28080-DUP1)										
Specific Conductance	950	1.0	1.0	umhos/cm		950			0 5	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3287
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05

Received: 02/25/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B28103 Extracted: 02/28/05											
Blank Analyzed: 02/28/2005 (5B28103-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/28/2005 (5B28103-BS1)											
Perchlorate	51.9	4.0	0.80	ug/l	50.0		104	85-115			
Matrix Spike Analyzed: 03/01/2005 (5B28103-MS1)											
						Source: IOB1879-01RE1					
Perchlorate	53.1	4.0	0.80	ug/l	50.0	5.7	95	80-120			
Matrix Spike Dup Analyzed: 03/01/2005 (5B28103-MSD1)											
						Source: IOB1879-01RE1					
Perchlorate	53.7	4.0	0.80	ug/l	50.0	5.7	96	80-120	1	20	
Batch: 5C02097 Extracted: 03/02/05											
Blank Analyzed: 03/02/2005 (5C02097-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/02/2005 (5C02097-BS1)											
Total Suspended Solids	964	10	10	mg/l	1000		96	85-115			
Duplicate Analyzed: 03/02/2005 (5C02097-DUP1)											
						Source: IOB1895-01					
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 5C07070 Extracted: 03/07/05											
Blank Analyzed: 03/07/2005 (5C07070-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002 Report Number: IOB2063	Sampled: 02/25/05 Received: 02/25/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5C07070 Extracted: 03/07/05											
LCS Analyzed: 03/07/2005 (5C07070-BS1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0		95	80-115			
Matrix Spike Analyzed: 03/07/2005 (5C07070-MS1)											
Ammonia-N (Distilled)	9.80	0.50	0.30	mg/l	10.0	ND	98	70-120			
Matrix Spike Dup Analyzed: 03/07/2005 (5C07070-MSD1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0	ND	95	70-120	3	15	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05

Received: 02/25/05

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
IOB2063-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	5.0	10.00
IOB2063-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0.00026	0.010	0.0100
IOB2063-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB2063-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0.51	5.0	5.00
IOB2063-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOB2063-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	9.0	9.10
IOB2063-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.72	5.0	4.00
IOB2063-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOB2063-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOB2063-01	BOD	Biochemical Oxygen Demand	mg/l	0.15	2.0	20
IOB2063-01	Chloride - 300.0	Chloride	mg/l	20	0.50	150
IOB2063-01	Copper-200.8	Copper	ug/l	1.80	2.0	7.10
IOB2063-01	Cyanide-335.2 5ppb	Total Cyanide	mg/l	0	0.0050	0.0043
IOB2063-01	Lead-200.8	Lead	ug/l	0.100	1.0	2.60
IOB2063-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.056	0.10	0.50
IOB2063-01	Mercury - 245.1	Mercury	ug/l	0.038	0.20	0.20
IOB2063-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.92	0.26	8.00
IOB2063-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB2063-01	Sulfate-300.0	Sulfate	mg/l	160	2.5	300
IOB2063-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	450	10	950
IOB2063-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOB2063-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05

Received: 02/25/05

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- 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
Wendy Kirkeeng For Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB2063 <Page 21 of 22>



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 (949) 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 002

Report Number: IOB2063

Sampled: 02/25/05

Received: 02/25/05

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 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 335.2	Water	X	X
EPA 350.2	Water	X	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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR
 Samples: IOB2063-01

Analysis Performed: EDD + Level 4
 Samples: IOB2063-01

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

DOB 2003

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 02/17/05

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

Project:
 Boeing-SSFL NPDES
 Routine Outfall 002

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

Sampler: Rick Santiago

ANALYSIS REQUIRED																				
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Cu, Pb, Hg	Settleable Solids	VOCs 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cl, SO4, NO3+NO2-N, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	2,4,6 Trichloropheno, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Field readings: Temp = 57.6 pH = 7.70	Comments
Outfall 002	W	Poly-1 liter	1	2-25-05 10:16	HNO3	1A	X													
Outfall 002-Dup	W	Poly-1 liter	1		HNO3	1B	X													24 TAT
Outfall 002	W	Poly-1 liter	1		None	2		X												24 TAT
Outfall 002	W	VOAs	3		HCl	3A, 3B, 3C			X											
Outfall 002	W	Glass-Amber	2		None	4A, 4B				X										
Outfall 002	W	1L Amber	2		HCl	5A, 5B				X										24 TAT
Outfall 002	W	Poly-500 ml	1		NaOH	6					X									24 TAT
Outfall 002	W	Poly-1 liter	1		None	7						X								
Outfall 002	W	Poly-500 ml	2		None	8A, 8B							X							
Outfall 002	W	Poly-500 ml	2		None	9A, 9B								X						
Outfall 002	W	Poly-500 ml	2		None	10A, 10B										X				
Outfall 002	W	Poly-500 ml	1		H2SO4	11											X			
Outfall 002	W	1L Amber	2		None	12A, 12B														
Outfall 002	W	1L Amber	2	2-25-05 10:16	None	13A, 13B													X	
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C														

Relinquished By: Rick Santiago Date/Time: 2-25-05 15:30
Received By: [Signature] Date/Time: 2/25/05 19:15

Relinquished By: [Signature] Date/Time: 2/25/05 15:30
Received By: [Signature] Date/Time: 2/25/05 19:15

Relinquished By: [Signature] Date/Time: 2/25/05 19:15
Received By: [Signature] Date/Time: 2/25/05 19:15

Turn around Time: (check)
 24 Hours 5 Days _____
 48 Hours _____ 10 Days _____
 72 Hours _____ Normal _____
 Perchlorate Only 72 Hours _____
 Metals Only 72 Hours _____
 Sample Integrity: (Check) On Ice: 60



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 23, 2005

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

Attention: Bronwyn Kelly
Project: Routine Outfall 002
Sampled: 02/25/05
Del Mar Analytical Number: IOB2063

Dear Ms. Kelly:

Alta Analytical Laboratory performed the EPA Method 1613 Dioxin analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	Alta ID
Outfall 002	IOB2063-01	25811-001

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 at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL


Michele Harper
Project Manager



March 10, 2005

Alta Project I.D.: 25811

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 March 01, 2005 under your Project Name "IOB2063". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: 3/1/2005

Alta Lab. ID

Client Sample ID

25811-001

IOB2063-01

SECTION II



Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	6571	Lab Sample:	0-MB001
Sample Size:	1.000 L	Date Extracted:	4-Mar-05	Date Analyzed DB-5:	9-Mar-05
				Date Analyzed DB-225:	NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	3.17		79.8	25 - 164
1,2,3,7,8-PeCDD	ND	2.85		67.3	25 - 181
1,2,3,4,7,8-HxCDD	ND	7.88		77.9	32 - 141
1,2,3,6,7,8-HxCDD	ND	7.76		88.2	28 - 130
1,2,3,7,8,9-HxCDD	ND	7.78		63.7	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	6.25		44.4	17 - 157
OCDD	ND	15.4		79.2	24 - 169
2,3,7,8-TCDF	ND	4.50		66.2	24 - 185
1,2,3,7,8-PeCDF	ND	5.76		67.5	21 - 178
2,3,4,7,8-PeCDF	ND	4.98		72.8	26 - 152
1,2,3,4,7,8-HxCDF	ND	3.01		81.0	26 - 123
1,2,3,6,7,8-HxCDF	ND	2.73		80.3	28 - 136
2,3,4,6,7,8-HxCDF	ND	3.11		74.3	29 - 147
1,2,3,7,8,9-HxCDF	ND	5.02		65.7	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	4.70		64.1	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	5.90		51.8	17 - 157
OCDF	ND	15.0		84.6	35 - 197
Totals					
Total TCDD	ND	3.17			
Total PeCDD	ND	2.85			
Total HxCDD	ND	7.80			
Total HpCDD	ND	6.25			
Total TCDF	ND	4.50			
Total PeCDF	ND	5.36			
Total HxCDF	ND	3.36			
Total HpCDF	ND	5.21			
Footnotes					
a. Sample specific estimated detection limit.					
b. Estimated maximum possible concentration.					
c. Method detection limit.					
d. Lower control limit - upper control limit.					

Analyst: JMH

Approved By: Martha M. Maier 10-Mar-2005 08:05



EPA Method 1613

OPR Results

Matrix: Aqueous		QC Batch No.: 6571	Lab Sample: 0-OPR001
Sample Size: 1.000 L		Date Extracted: 4-Mar-05	Date Analyzed DB-5: 8-Mar-05
			Date Analyzed DB-225: NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD
OCDD	100	78 - 144	13C-2,3,7,8-TCDF
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD
			%R
			LCL-UCL
			67.1
			25 - 164
			61.4
			25 - 181
			60.9
			32 - 141
			67.6
			28 - 130
			66.0
			23 - 140
			64.3
			17 - 157
			72.7
			24 - 169
			58.0
			24 - 185
			60.4
			21 - 178
			46.8
			26 - 152
			52.4
			26 - 123
			53.1
			28 - 136
			55.3
			29 - 147
			57.2
			28 - 143
			60.2
			26 - 138
			66.3
			17 - 157
			80.8
			35 - 197

Analyst: JMH

Approved By: Martha M. Maier 10-Mar-2005 08:05



Sample ID: IOB2063-01		EPA Method 1613			
Client Data		Sample Data		Laboratory Data	
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 25811-001	Date Received: 1-Mar-05	QC Batch No.: 6571	Date Extracted: 4-Mar-05
Project: IOB2063	Sample Size: 1.008 L	Date Analyzed DB-5: 8-Mar-05	Date Analyzed DB-225: NA		
Date Collected: 25-Feb-05					
Time Collected: 1016					
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.953		IS 13C-2,3,7,8-TCDD	65.8 25 - 164
1,2,3,7,8-PeCDD	ND	1.05		13C-1,2,3,7,8-PeCDD	61.7 25 - 181
1,2,3,4,7,8-HxCDD	ND	2.33		13C-1,2,3,4,7,8-HxCDD	64.3 32 - 141
1,2,3,6,7,8-HxCDD	ND	2.28		13C-1,2,3,6,7,8-HxCDD	64.4 28 - 130
1,2,3,7,8,9-HxCDD	ND	2.30		13C-1,2,3,4,6,7,8-HpCDD	65.7 23 - 140
1,2,3,4,6,7,8-HpCDD	2.99			13C-OCDD	62.8 17 - 157
OCDD	8.97		J		
2,3,7,8-TCDF	ND	1.32		13C-2,3,7,8-TCDF	69.1 24 - 169
1,2,3,7,8-PeCDF	ND	1.45		13C-1,2,3,7,8-PeCDF	58.2 24 - 185
2,3,4,7,8-PeCDF	ND	1.24		13C-2,3,4,7,8-PeCDF	60.2 21 - 178
1,2,3,4,7,8-HxCDF	ND	0.597		13C-1,2,3,4,7,8-HxCDF	46.3 26 - 152
1,2,3,6,7,8-HxCDF	ND	0.535		13C-1,2,3,6,7,8-HxCDF	52.5 26 - 123
2,3,4,6,7,8-HxCDF	ND	0.637		13C-2,3,4,6,7,8-HxCDF	51.5 28 - 136
1,2,3,7,8,9-HxCDF	ND	0.891		13C-1,2,3,7,8,9-HxCDF	52.8 29 - 147
1,2,3,4,6,7,8-HpCDF	ND	1.22		13C-1,2,3,4,6,7,8-HpCDF	54.5 28 - 143
1,2,3,4,7,8,9-HpCDF	ND	1.34		13C-1,2,3,4,7,8,9-HpCDF	58.4 26 - 138
OCDF	ND	2.80		13C-OCDF	64.6 17 - 157
				CRS 37Cl-2,3,7,8-TCDD	78.2 35 - 197
Totals					
Total TCDD	5.07				
Total PeCDD	6.12				
Total HxCDD	3.64				
Total HpCDD	2.99		4.54		
Total TCDF	ND	1.32			
Total PeCDF	ND	1.34			
Total HxCDF	ND	0.653			
Total HpCDF	ND	1.27			

Footnotes

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

Analyst: JMH
 Approved By: Martha M. Maier 10-Mar-2005 08:05

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

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

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

CURRENT CERTIFICATIONS

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)



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 Chasapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9398 Fax (619) 505-9689
 9830 South Stet Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite 40, Las Vegas, NV 89129 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IOB2063

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Alta Analytical 1104 Windfield Way 25811 1.1°C El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 933-0940

Standard TAT is requested unless specific due date is requested => Due Date: 2 WEEKS Initials: _____

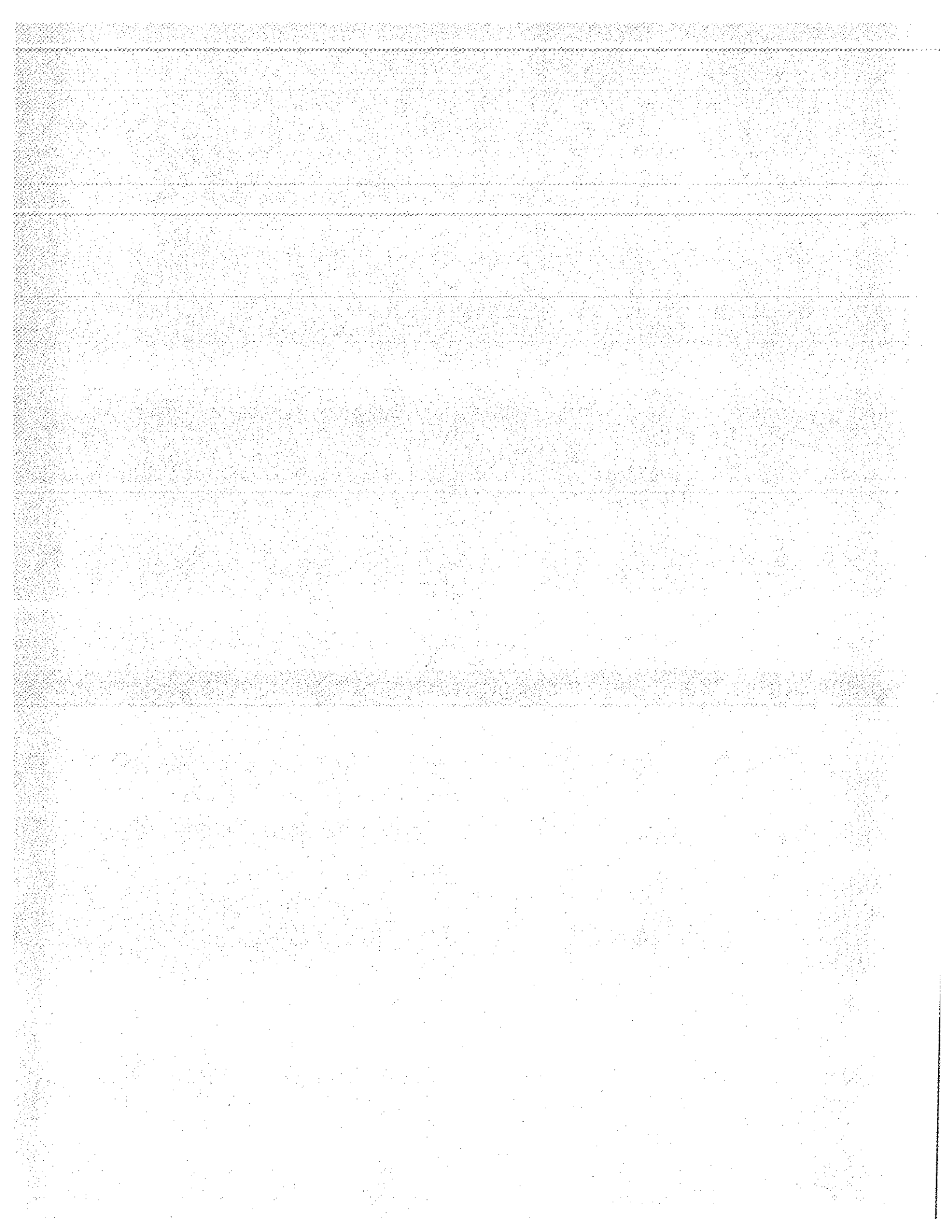
Analysis	Expiration	Comments
Sample ID: IOB2063-01 Water	Sampled: 02/25/05 10:16	Instant Notification
1613-Dioxin-HR	03/04/05 10:16	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4	03/25/05 10:16	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IOB2063-01G)		
1 L Amber (IOB2063-01H)		

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: M. Haly Date: 2/28/05 Time: _____
 Received By: Letitia P. Lueders Date: 3/1/05 Time: 0853

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



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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


Package ID T711WC84
 Task Order 313150010
 SDG No. IOB2072

No. of Analyses 1

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

Date: 03/28/05
 Reviewer's Signature


ACTION ITEMS*

1. Case Narrative Deficiencies
2. Out of Scope Analyses
3. Analyses Not Conducted
4. Missing Hardcopy Deliverables
5. Incorrect Hardcopy Deliverables
6. Deviations from Analysis Protocol, e.g.,
 - Holding Times
 - GC/MS Tune/Inst. Performance
 - Calibrations
 - Blanks
 - Surrogates
 - Matrix Spike/Dup LCS
 - Field QC
 - Internal Standard Performance
 - Compound Identification and Quantitation
 - System Performance

COMMENTS^b Acceptable as reviewed.

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IOB2072

Prepared by

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

I. INTRODUCTION

Task Order Title: NPDES Monitoring
Contract Task Order #: 313150010
Sample Delivery Group #: IOB2072
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
Reviewer: L. Jarusewic
Date of Review: March 28, 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 415.1*, 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 002	Outfall 002	IOB2072-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analysis 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 date of analysis. The 28-day analytical holding time for total organic carbon was met. No qualifications were required.

2.2 CALIBRATION

For the total organic carbon analysis, the initial calibration correlation coefficient was ≥ 0.995 . Initial and continuing calibration information was acceptable with %Rs within the control limits of 90-110%. No qualifications were required.

2.3 BLANKS

The total organic carbon method blank and CCB results reported on the summary form 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 total organic carbon laboratory control sample was within the laboratory-established control limits. No qualifications were required.

2.5 SURROGATES RECOVERY

Surrogate recovery is not applicable to the analysis 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.

2.8 FURNACE ATOMIC ABSORPTION QC

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

2.9 ICP SERIAL DILUTION

ICP serial dilution is not applicable to the analysis 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 result reported on the Form I was verified against the raw data. No calculation errors were noted. No 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 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.



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 (949) 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: LARWQCB Sample Splits
 Outfall 002
 Report Number: IOB2072

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: INORGANICS

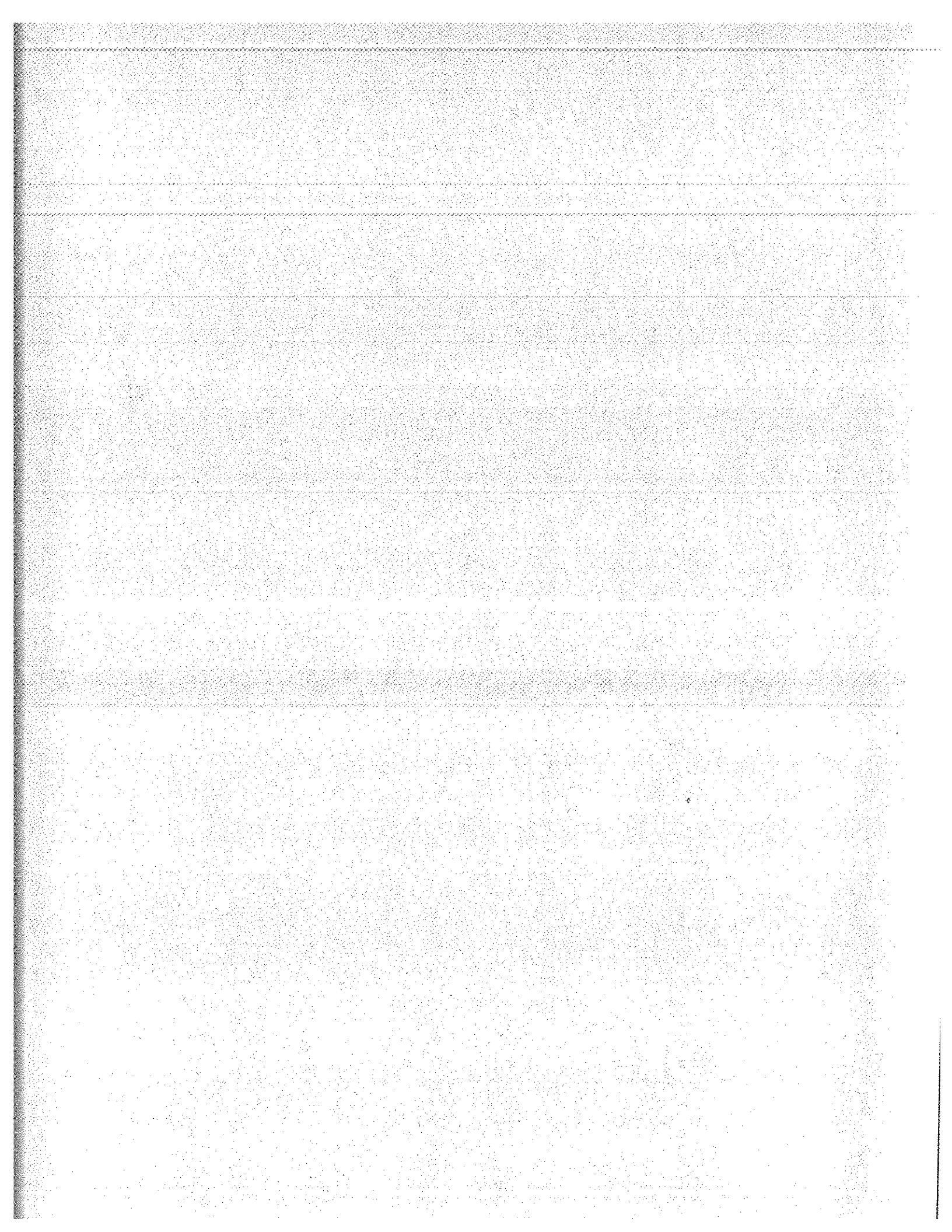
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2072-01 (DRAFT: Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Total Organic Carbon	EPA 415.1	5C03103	0.50	2.0	7.9	2	03/03/05	03/03/05	REV QUAL CODE

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical





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 (949) 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

LABORATORY REPORT

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

Project: LARWQCB Sample Splits
Outfall 002

Sampled: 02/25/05
Received: 02/25/05
Issued: 04/02/05 14:36

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

SAMPLE CROSS REFERENCE

LABORATORY ID
IOB2072-01

CLIENT ID
Outfall 002

MATRIX
Water

Reviewed By:

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 002
 Report Number: IOB2072

Sampled: 02/25/05
 Received: 02/25/05

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/1625C MOD)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2072-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
N-Nitrosodimethylamine	EPA 1625C Mod	5C02001	0.00020	0.0020	ND	0.962	03/02/05	03/03/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 002
 Report Number: IOB2072

Sampled: 02/25/05
 Received: 02/25/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2072-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Total Organic Carbon	EPA 415.1	5C03103	0.50	2.0	7.9	2	03/03/05	03/03/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 002 Report Number: IOB2072	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/1625C MOD)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5C02001 Extracted: 03/02/05											
Blank Analyzed: 03/03/2005 (5C02001-BLK1)											
N-Nitrosodimethylamine	0.000390	0.0020	0.00020	ug/l							J
LCS Analyzed: 03/03/2005 (5C02001-BS1)											
N-Nitrosodimethylamine	0.00964	0.0020	0.00020	ug/l	0.0100		96	70-130			M-NR1
LCS Analyzed: 03/03/2005 (5C02001-BS2)											
N-Nitrosodimethylamine	0.00240	0.0020	0.00020	ug/l	0.00200		120	70-130			
LCS Dup Analyzed: 03/03/2005 (5C02001-BSD1)											
N-Nitrosodimethylamine	0.00964	0.0020	0.00020	ug/l	0.0100		96	70-130	0	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing Project ID: LARWQCB Sample Splits
300 North Lake Avenue, Suite 1200 Outfall 002
Pasadena, CA 91101 Report Number: IOB2072
Attention: Bronwyn Kelly Sampled: 02/25/05
Received: 02/25/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5C03103 Extracted: 03/03/05											
Blank Analyzed: 03/03/2005 (5C03103-BLK1)											
Total Organic Carbon	ND	1.0	0.25	mg/l							
LCS Analyzed: 03/03/2005 (5C03103-BS1)											
Total Organic Carbon	10.3	1.0	0.25	mg/l	10.0		103	90-110			
Matrix Spike Analyzed: 03/03/2005 (5C03103-MS1)											
						Source: IOB2137-02					
Total Organic Carbon	9.84	1.0	0.25	mg/l	5.00	5.1	95	80-120			
Matrix Spike Dup Analyzed: 03/03/2005 (5C03103-MSD1)											
						Source: IOB2137-02					
Total Organic Carbon	10.1	1.0	0.25	mg/l	5.00	5.1	100	80-120	3	20	

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 002 Report Number: IOB2072	Sampled: 02/25/05 Received: 02/25/05
--	--	---

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
IOB2072-01	NDMA-1625C Mod	N-Nitrosodimethylamine	ug/l	0.00012	0.0020	8.10

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
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
Outfall 002
Report Number: IOB2072

Sampled: 02/25/05
Received: 02/25/05

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 unknown quality.
- 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

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB2072 <Page 7 of 8>



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 (949) 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: LARWQCB Sample Splits
 Outfall 002
 Report Number: IOB2072

Sampled: 02/25/05
 Received: 02/25/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 1625C Mod	Water	N/A	N/A
EPA 415.1	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.

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

APPENDIX G

Section 17

February Outfall 003

AMEC Data Validation Reports

Del Mar Analytical Laboratory Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF30
 Task Order 313150010
 SDG No. Multi

No. of Analyses 13

Laboratory Alta Analytical Perspective

Reviewer H. Chang

Analysis/Method Dioxin&Furans/1613

Date: March 18, 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.,	<p>Detects below the calibration range were qualified "J."</p> <p>False negative and false positives noted.</p> <p>Several transcription errors were noted.</p>
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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 13
No. of Reanalyses/Dilutions: 0
Reviewer: H. Chang
Date of Review: March 18, 2005

The samples listed in Table I 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 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 AP)	Matrix	COC Method
Outfall 001	IOB0980-01	P5072_2989_007	water	1613B
Outfall 002	IOB0981-01	P5072_2989_013	water	1613B
Outfall 003	IOB0988-01	P5072_2989_012	water	1613B
Outfall 004	IOB1002-01	P5072_2989_009	water	1613B
Outfall 005	IOB0990-01	P5072_2989_006	water	1613B
Outfall 006	IOB0992-01	P5072_2989_010	water	1613B
Outfall 007	IOB0993-01	P5072_2989_002	water	1613B
Outfall 008	IOB0997-01	P5072_2989_004	water	1613B
Outfall 009	IOB0996-01	P5072_2989_003	water	1613B
Outfall 010	IOB1001-01	P5072_2989_001	water	1613B
Outfall 011 Composite	IOB1004-01	P5072_2989_011	water	1613B
Outfall 011	IOB1014-01	P5072_2989_005	water	1613B
Outfall 018	IOB1008-01	P5072_2989_008	water	1613B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ except sample Outfall 009 which was at 8°C . Due to non-volatile nature of the analytes, no qualifications were necessary for the elevated cooler temperature. The samples were received at Pace Analytical with cooler temperatures of 1.6°C , 2.3°C , and 3°C . The samples were received at Alta Analytical Perspectives with cooler temperatures of 1°C and 3°C . According to the laboratory login sheets, all samples were received intact and in good condition at Del Mar and Alta AP. No sample conditions were available for review for the sample receipt at Pace. No qualifications were required.

2.1.2 Chain of Custody

It appears that the samples were initially sent from Del Mar Analytical to Pace Analytical then subsequently shipped to Alta Analytical Perspectives. The COCs from the field to Del Mar, Del Mar to Pace, and Pace to Alta were available for review. The COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. The custody seals were not present on the coolers upon receipt at either Del Mar or Alta. No custody seal information was available for Pace. 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 Column Performance Check Standard (CPSM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to initial calibration analysis. A separate CPSM was not analyzed for daily analytical sequence; instead, CPSM compounds were added to OPR analysis. 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

There was one initial calibrations, analyzed 08/12/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the native compounds and $\leq 35\%$ for the labeled compounds. The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

2.4 BLANKS

One method blank (0_2989_MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (0_2989_OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. The laboratory reported total PeCDFs detects in samples Outfall 005, Outfall 006, Outfall 007, and Outfall 011. The reviewer deemed the signals used to be below the signal-to-noise ratio of 2.5 and the results were changed to nondetects. A false negative for total HxCDD was noted in sample Outfall 001 and was changed to a detect. No further qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the lower method calibration level (MCL) were qualified as estimated, "J." The laboratory did not flag OCDD in samples Outfall 002 and Outfall 003 although the reported concentrations were below the lower MCL. OCDD in these samples was qualified as estimated, "J." The laboratory did not notate detects below the lower MCL for totals. These totals were qualified as estimated, "J." The "DNQ" qualification code was applied only if all components of the totals were below the lower MCL.

The laboratory indicated that one of the non-2,3,7,8 substituted HxCDD detect, present in majority of the samples, was due to recovery standard (13C-1,2,3,4,6,7-HxCDD) contribution. This compound was also present in the method blank. This compound was not included in the total HxCDD concentration. Several total HxCDD results could not be reproduced from the raw data by the reviewer and were hand-corrected on the Form I. No further qualifications were required.

Sample ID: IOB0988-01 *Outfall 003* **Method 1613**

Client Data		Sample Data		Laboratory Data	
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072
Project ID:	General Analytical HRMS	Weight/Volume:	1.04 L	Sample ID:	P5072_2989_012
Date Collected:	10 Feb 05	pH	6	QC Batch No.:	2989
Analyte	Conc.	DL	EMPC	Qualifier	Recoveries
	pg/L	pg/L	pg/L		ES CS
2,3,7,8-TCDD	ND	3.24			68 84.7
1,2,3,7,8-PeCDD	ND	2.18			72.8 85.5
1,2,3,4,7,8-HxCDD	ND	4.91			68.3 88.4
1,2,3,6,7,8-HxCDD	ND	4.84			73 88.4
1,2,3,7,8,9-HxCDD	ND	5.54			67.5 88.4
1,2,3,4,6,7,8-HpCDD	ND	3.19			55.7 76
OCDD	50.3	10.1			37.9 76
2,3,7,8-TCDF	ND	2.39			70.5 84.7
1,2,3,7,8-PeCDF	ND	2.98			77.2 84.1
2,3,4,7,8-PeCDF	ND	3			68.6 84.1
1,2,3,4,7,8-HxCDF	ND	1.62			66.5 88.4
1,2,3,6,7,8-HxCDF	ND	1.53			68.5 88.4
2,3,4,6,7,8-HxCDF	ND	2.03			64 88.4
1,2,3,7,8,9-HxCDF	ND	2.74			61.4 88.4
1,2,3,4,6,7,8-HpCDF	ND	2.05			50.8 76
1,2,3,4,7,8,9-HpCDF	ND	3.04			50.2 76
OCDF	ND	13.1			40.7 76
Totals & TEQs					
TCDDs	ND	3.24			
PeCDDs	ND	2.18			
HxCDDs	ND	5.11			
HpCDDs	12.2	3.19			
TCDFs	ND	2.39			
PeCDFs	ND	2.99			
HxCDFs	ND	1.93			
HpCDFs	ND	2.5			
Total PCDD/Fs	62.6		62.6		

ALTA ANALYTICAL PERSPECTIVES
 2714 Exchange Drive
 Wilmington
 North Carolina 28405
 USA
 Tel: 910 794-1613
 Fax: 910 794-3919
 e-mail: yt@ultratrace.com
 web: www.ultratrace.com



DATA VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: METALS

SAMPLE DELIVERY GROUPS: IOB0988, IOB0990, & IOB0992

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#: IOB0988, IOB0990, IOB0992
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 3
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 21, 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 6010B for Inductively Coupled Plasma*, *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 003	Outfall 003	IOB0988-01	water	ILM04
Outfall 005	Outfall 005	IOB0990-01	water	ILM04
Outfall 006	Outfall 006	IOB0992-01	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 metals analyte list was changed per a memo from MWH personnel dated 02/17/05. Duplicate samples were submitted for all samples in these SDGs; however, duplicate analyses were not required. 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/MS metals. 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/MS metals. The reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

2.4 BLANKS

Lead was not detected in the method blank or associated CCBs. No 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 interferences sulfur, phosphorus, carbon, and chloride, and antimony, selenium, thallium, and lead were not spiked into the ICSAB solution. The results for sodium and potassium were above the calibration range of the instrument in the ICSA and ICSAB analyses; however, as these analytes were not reported in the site sample, no qualifications were required. The result for aluminum was above the calibration range in the ICSA and was recovered below the control limit in the ICSAB analysis associated with Outfall 003 and Outfall 005; however, as aluminum was not reported for these samples, no qualifications were required. No assessment could be made with respect to possible interference from sulfur, phosphorus, carbon, and chloride. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS sample was identified as 5B17099-BS1. The LCS result on the summary forms and in the raw data were within the laboratory-established ICP/MS control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

MS/MSD analyses were performed on Outfall 005 in association with the samples in these SDGs. The RPD was less than the control limit of 20%. No qualifications were required.

2.8 MATRIX SPIKE

MS/MSD analyses were performed on Outfall 005 in association with the samples in these SDGs. The recoveries were within the AMEC control limits of 75-125%. No qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis 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. Lead detected below the reporting limit in Outfall 003 and Outfall 005 was 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.

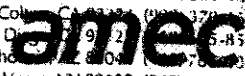
2.13.2 Field Duplicates

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. Conley Dr., Suite A, Colton, CA 92310 (951) 370-0567 FAX (949) 370-1046
9484 Ciesapeake Dr., Suite 803, San Diego, CA 92123 (619) 585-5966 FAX (858) 505-9089
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0631 FAX (480) 785-0631
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3520 FAX (702) 798-3621



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

Project ID: Routine Outfall 003

Report Number: IOB0988

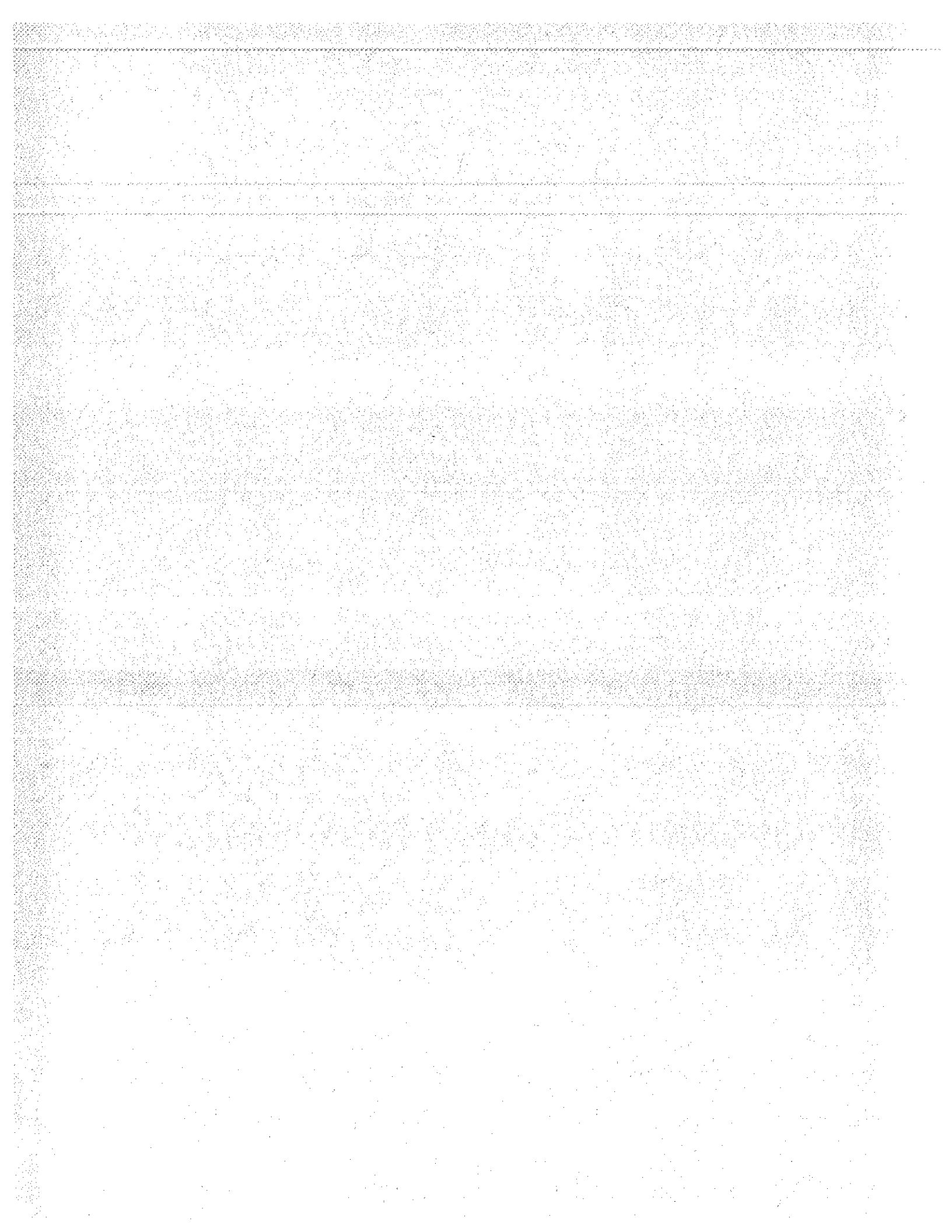
Sampled: 02/11/05
Received: 02/11/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers						
Sample ID: IOB0988-01 (DRAFT: Outfall 003 - Water)															
Reporting Units: ug/l															
Lead	EPA 200.8	5B17099	0.13	1.0	0.30	1	02/17/05	02/17/05	<table border="1"> <tr> <td>Rev</td> <td>Qual</td> <td>Qual Code</td> </tr> <tr> <td>J</td> <td>J</td> <td>DNQ</td> </tr> </table>	Rev	Qual	Qual Code	J	J	DNQ
Rev	Qual	Qual Code													
J	J	DNQ													

AMEC VALIDATED
LEVEL IV

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE





LABORATORY REPORT

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

Project: Routine Outfall 003

Sampled: 02/11/05
Received: 02/11/05
Issued: 03/23/05 18:26

NELAP #01108CA California ELAP#1197 CSDLAC #10117

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 5 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.*

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IOB0988-01

CLIENT ID
Outfall 003

MATRIX
Water

Reviewed By:

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 003 Report Number: IOB0988	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0988-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	5B17099	0.18	2.0	0.30	1	02/17/05	02/17/05	B, J
Cadmium	EPA 200.8	5B17099	0.015	1.0	0.077	1	02/17/05	02/17/05	J
Copper	EPA 200.8	5B17099	0.49	2.0	2.6	1	02/17/05	02/17/05	
Lead	EPA 200.8	5B17099	0.13	1.0	0.30	1	02/17/05	02/17/05	J
Mercury	EPA 245.1	5B15070	0.063	0.20	0.16	1	02/15/05	02/15/05	J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 003

Report Number: IOB0988

Sampled: 02/11/05
 Received: 02/11/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0988-01 (Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	5B11120	0.26	0.50	14	1	02/11/05	02/12/05	
Nitrate/Nitrite-N	EPA 300.0	5B11120	0.072	0.26	0.53	1	02/11/05	02/12/05	
Oil & Grease	EPA 413.1	5B16097	0.94	5.0	ND	1	02/16/05	02/16/05	
Sulfate	EPA 300.0	5B11120	0.18	0.50	35	1	02/11/05	02/12/05	
Total Dissolved Solids	SM2540C	5B16118	10	10	210	1	02/16/05	02/16/05	
Total Suspended Solids	EPA 160.2	5B17069	10	10	ND	1	02/17/05	02/17/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 003

Report Number: IOB0988

Sampled: 02/11/05

Received: 02/11/05

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 003 (IOB0988-01) - Water EPA 300.0	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
	2	02/11/2005 11:44	02/11/2005 18:15	02/11/2005 23:00	02/12/2005 04:22

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 003

Report Number: IOB0988

Sampled: 02/11/05
 Received: 02/11/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B15070 Extracted: 02/15/05										
Blank Analyzed: 02/15/2005 (5B15070-BLK1)										
Mercury	ND	0.20	0.063	ug/l						
LCS Analyzed: 02/15/2005 (5B15070-BS1)										
Mercury	8.18	0.20	0.063	ug/l	8.00		102		85-115	
Matrix Spike Analyzed: 02/15/2005 (5B15070-MS1)										
						Source: IOB1088-01				
Mercury	8.26	0.20	0.063	ug/l	8.00	ND	103		70-130	
Matrix Spike Dup Analyzed: 02/15/2005 (5B15070-MSD1)										
						Source: IOB1088-01				
Mercury	8.26	0.20	0.063	ug/l	8.00	ND	103	0	20	
Batch: 5B17099 Extracted: 02/17/05										
Blank Analyzed: 02/17/2005 (5B17099-BLK1)										
Antimony	0.511	2.0	0.18	ug/l						
Cadmium	ND	1.0	0.015	ug/l						
Copper	ND	2.0	0.49	ug/l						
Lead	ND	1.0	0.13	ug/l						
LCS Analyzed: 02/17/2005 (5B17099-BS1)										
Antimony	87.8	2.0	0.18	ug/l	80.0		110		85-115	
Cadmium	75.9	1.0	0.015	ug/l	80.0		95		85-115	
Copper	78.0	2.0	0.49	ug/l	80.0		98		85-115	
Lead	79.9	1.0	0.13	ug/l	80.0		100		85-115	
Matrix Spike Analyzed: 02/17/2005 (5B17099-MS1)										
						Source: IOB0990-01				
Antimony	85.8	2.0	0.18	ug/l	80.0	0.44	107		70-130	
Cadmium	75.3	1.0	0.015	ug/l	80.0	0.020	94		70-130	
Copper	79.3	2.0	0.49	ug/l	80.0	0.66	98		70-130	
Lead	81.6	1.0	0.13	ug/l	80.0	0.33	102		70-130	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 003

Report Number: IOB0988

Sampled: 02/11/05

Received: 02/11/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B17099 Extracted: 02/17/05											
Matrix Spike Dup Analyzed: 02/17/2005 (5B17099-MSD1)						Source: IOB0990-01					
Antimony	84.3	2.0	0.18	ug/l	80.0	0.44	105	70-130	2	20	
Cadmium	75.1	1.0	0.015	ug/l	80.0	0.020	94	70-130	0	20	
Copper	79.1	2.0	0.49	ug/l	80.0	0.66	98	70-130	0	20	
Lead	81.1	1.0	0.13	ug/l	80.0	0.33	101	70-130	1	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 003 Report Number: IOB0988	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B11120 Extracted: 02/11/05										
Blank Analyzed: 02/11/2005 (5B11120-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: 02/11/2005 (5B11120-BS1)										
Chloride	4.84	0.50	0.26	mg/l	5.00		97		90-110	
Sulfate	10.0	0.50	0.18	mg/l	10.0		100		90-110	
Matrix Spike Analyzed: 02/12/2005 (5B11120-MS1) Source: IOB0980-01										
Chloride	15.6	0.50	0.26	mg/l	5.00	11	92		80-120	
Sulfate	38.7	0.50	0.18	mg/l	10.0	29	97		80-120	
Matrix Spike Dup Analyzed: 02/12/2005 (5B11120-MSD1) Source: IOB0980-01										
Chloride	15.8	0.50	0.26	mg/l	5.00	11	96	1	80-120	20
Sulfate	39.3	0.50	0.18	mg/l	10.0	29	103	2	80-120	20
Batch: 5B16097 Extracted: 02/16/05										
Blank Analyzed: 02/16/2005 (5B16097-BLK1)										
Oil & Grease	ND	5.0	0.94	mg/l						
LCS Analyzed: 02/16/2005 (5B16097-BS1) M-NR1										
Oil & Grease	16.2	5.0	0.94	mg/l	20.0		81		65-120	
LCS Dup Analyzed: 02/16/2005 (5B16097-BSD1)										
Oil & Grease	18.3	5.0	0.94	mg/l	20.0		92	12	65-120	20

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 003 Report Number: IOB0988	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B16118 Extracted: 02/16/05											
Blank Analyzed: 02/16/2005 (5B16118-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/16/2005 (5B16118-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/16/2005 (5B16118-DUP1)											
Total Dissolved Solids	756	10	10	mg/l		Source: IOB1205-06 750			1	10	
Batch: 5B17069 Extracted: 02/17/05											
Blank Analyzed: 02/17/2005 (5B17069-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 02/17/2005 (5B17069-BS1)											
Total Suspended Solids	977	10	10	mg/l	1000		98	85-115			
Duplicate Analyzed: 02/17/2005 (5B17069-DUP1)											
Total Suspended Solids	ND	10	10	mg/l		Source: IOB0990-01 ND				10	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Routine Outfall 003

Report Number: IOB0988

Sampled: 02/11/05

Received: 02/11/05

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
IOB0988-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.20	5.0	15
IOB0988-01	Antimony-200.8	Antimony	ug/l	0.30	2.0	6.00
IOB0988-01	Cadmium-200.8	Cadmium	ug/l	0.077	1.0	4.00
IOB0988-01	Chloride - 300.0	Chloride	mg/l	14	0.50	150
IOB0988-01	Copper-200.8	Copper	ug/l	2.60	2.0	14
IOB0988-01	Mercury - 245.1	Mercury	ug/l	0.16	0.20	0.20
IOB0988-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.53	0.26	10.00
IOB0988-01	Sulfate-300.0	Sulfate	mg/l	35	0.50	250
IOB0988-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	210	10	850

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Routine Outfall 003

Report Number: IOB0988

Sampled: 02/11/05
Received: 02/11/05

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- 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



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 (949) 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 003

Report Number: IOB0988

Sampled: 02/11/05
 Received: 02/11/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

Subcontracted Laboratories

Alta Analytical Perspectives

Analysis Performed: 1613-Dioxin-HR
 Samples: IOB0988-01
 Analysis Performed: EDD + Level 4
 Samples: IOB0988-01

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

2009088 220 24

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5/8/2004

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101			Project: Boeing-SSFL NPDES Annual Outfall 003 Stormwater at RMHF			ANALYSIS REQUIRED Total Recoverable Metals: <input type="checkbox"/> Pb, <input type="checkbox"/> Cd, <input type="checkbox"/> Cu, <input type="checkbox"/> Fe, <input type="checkbox"/> Hg, <input type="checkbox"/> B, <input type="checkbox"/> V, <input type="checkbox"/> Al, <input type="checkbox"/> P TCDD (and all congeners) <input type="checkbox"/> Oil & Grease (EPA 413.1) <input type="checkbox"/> Cr ₆ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate <input type="checkbox"/> TDS, TSS <input type="checkbox"/> VOCs (624), NPDES + PP <input type="checkbox"/> VOCs A+A+2CVE <input type="checkbox"/> Pesticides/CBS - PP <input type="checkbox"/> Gross Alpha, Gross Beta, Tritium (906.0*, Sr-90 (905), Total Combined Radium 226 & 228 <input type="checkbox"/> SVOCs - PP <input type="checkbox"/> Acute Toxicity <input type="checkbox"/> Cyanide <input type="checkbox"/>												
Project Manager: Bronwyn Kelly Sampler: <i>Peloch</i>			Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			Field readings: Temp = 54.5 °F pH = 6.8 Comments												
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Botle #	Total Recoverable Metals	Oil & Grease (EPA 413.1)	Cr ₆ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate	TDS, TSS	VOCs (624), NPDES + PP	VOCs A+A+2CVE	Pesticides/CBS - PP	Gross Alpha, Gross Beta, Tritium (906.0*, Sr-90 (905), Total Combined Radium 226 & 228	SVOCs - PP	Acute Toxicity	Cyanide	
Outfall 003	W	1L Poly	1	2/11/05 11:45	HNO3	1A	X											
Outfall 003-Dup	W	1L Poly	1		HNO3	1B	X											
Outfall 003	W	1L Amber	2		None	2A, 2B												
Outfall 003	W	1L Amber	2		HCl	3A, 3B		X										
Outfall 003	W	Poly-500 ml	2		None	4A, 4B		X										
Outfall 003	W	Poly-500 ml	2		None	5A, 5B			X									
Outfall 003	W	VOAs	3		HCl	6A, 6B, 6C				X								
Outfall 003	W	VOA	3		None	7A, 7B, 7C					X							
Outfall 003	W	1L Amber	2		None	8A, 8B							X					
Outfall 003	W	1 Gal Poly VOAs	2		None	9A, 9B, 9C								X				
Outfall 003	W	1L Amber	2		None	10A, 10B									X			
Outfall 003	W	1 Gal Poly VOAs	1		None	11A										X		
Outfall 003	W	500ml Poly	1		NaOH	12												
Trip Blanks	W	VOA	3		None	13A, 13B, 13C												
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C					X							
Relinquished By				Date/Time	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 _____
Relinquished By	<i>Peloch</i>			2/11/05 1420	<i>Z. Peloch</i>				2/11/05 1420									Analyze for Total Combined RA-226 & RA-228 only if Gross Alpha/Beta > 15pCi/L
Relinquished By	<i>Z. Peloch</i>			2/11/05 1815	<i>Z. Peloch</i>													
Relinquished By	<i>Z. Peloch</i>			2/11/05 1815	<i>Z. Peloch</i>													
Relinquished By	<i>Z. Peloch</i>			2/11/05 1815	<i>Z. Peloch</i>													
Relinquished By	<i>Z. Peloch</i>			2/11/05 1815	<i>Z. Peloch</i>													

(Signature)

(Signature)

(Signature)

(Signature)

F A X

300 N. Lake Ave., Suite 1200
Pasadena, California 91101
Tel: 626-568-6691
Fax: 626-568-6515

Date: 02/17/05

To: Michele Harper / Del Mar Analytical Fax No: 949-260-3297
Patti Meeks / AMEC 303-935-6575
Krissi McIlvanna / MWH 925-975-3412

From: Bronwyn K. Kelly

sign:

Subject: Chain-of-Custody Form Analytical Request Change No. of Pages: 2
(including cover)

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

Del Mar Work Order #	Sample ID	Date Collected	Change(s) Requested, Not Completed	Change(s) and Method (s) Now Requested
IOB0988	Outfall 003	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP, TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N)3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs: A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1002	Outfall 004	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP, TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N)3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB0990	Outfall 005	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP, TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N)3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.

IOB0992	Outfall 006	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1008	Outfall 018	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1014	Outfall 011	02/11/04	Chromium IV	
IOA0131	Outfall 011 -- Composite	01/04/05		Ammonia, BOD, Chloride, Nitrate/Nitrite as N, Oil and Grease, Sulfate, MBAS, TDS, TSS, TOC, Settleable Solids, Turbidity, Cr, Cyanide, perchlorate, Conductivity, Cu, Hg, TCDD
IOA0121	Outfall 011 - Grab	01/04/05		Total Recoverable Hydrocarbons, Extractable Fuel Hydrocarbons, GRO, Fluoride, Residual Chlorine, TOC, Cr VI, 1,4-Dioxane, Monomethyl Hydrazine, Bioassays, SVOC (625)-PP list, Pcs/PCB-PP list (608), Total Recoverable Metals, Cyclohexane & Freon 123a & A+A+2CVE (624), Radchem

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

X

X

This Change Order supersedes all previous change orders submitted.

Thank you





2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 23, 2005

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

Attention: Bronwyn Kelly
Project: Routine Outfall 003
Sampled: 02/11/05
Del Mar Analytical Number: IOB0988

Dear Ms.Kelly:

Alta Analytical Perspectives performed the EPA Method 1613 Dioxin analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	Del Mar ID	Alta ID
Outfall 003	IOB0988-01	P5072 2989 012

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


ALTA ANALYTICAL PERSPECTIVES

3 March 2005

Scott Unze
 Pace Analytical Services
 1700 Elm Street
 Minneapolis, MN 55414

Ph.: 612-607-1700
 Fax: 612-607-6444

Subject: Certificate of Results

Dear Scott;

Attached to this narrative are the analytical results you requested on the samples submitted for the determination of polychlorinated dibenzo-*p*-dioxins and dibenzofurans. The insert below summarizes the relevant information pertaining to your project. In particular, the QC annotations bring to your attention specific analytical observations and assessments made during the sample handling and data interpretation phases. A brief description of the report's components is provided on the next page.

Project Information Summary	When applicable, see QC Annotations for details
Client Project No.	
AAP Project No.	P5072
Analytical Protocol	Method 1613B
No. Samples Submitted	13
No. Samples Analyzed	13
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
No. Outstanding Samples	0
Date Received	1-Mar-2005
Condition Received	good
Temperature upon Receipt (C)	1-3
Extraction within Holding Time	yes
Analysis within Holding Time	yes
Data meet QA/QC Requirements	yes
Exceptions	none
Analytical Difficulties	none

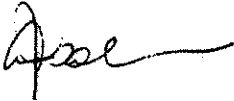
2714 EXCHANGE DRIVE
 WILMINGTON
 NORTH CAROLINA 28405
 TEL: 910-794-1613 FAX 910-794-3919

QC Annotations:

1. A "J" data qualifier is used for analytes with a concentration below the reporting limit.

Alta Analytical Perspectives remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please, do not hesitate to contact us. We wanted to thank you for choosing Alta Analytical Perspectives as part of your analytical support team.


Sincerely,



Amy J. Boehm
Project Manager

Sample ID: IOB0988-01

Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	01 Mar 05
Project ID:	General Analytical HRMS	Weight/Volume:	1.04 L	Sample ID:	P5072_2989_012	Date Extracted:	01 Mar 05
Date Collected:	10 Feb 05	pH	6	QC Batch No.:	2989	Date Analyzed:	03 Mar 05
Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries		
					ES	CS	
2,3,7,8-TCDD	ND	3.24			68	84.7	
1,2,3,7,8-PeCDD	ND	2.18			72.8	85.5	
1,2,3,4,7,8-HxCDD	ND	4.91			68.3	88.4	
1,2,3,6,7,8-HxCDD	ND	4.84			73	88.4	
1,2,3,7,8,9-HxCDD	ND	5.54			67.5	88.4	
1,2,3,4,6,7,8-HpCDD	ND	3.19			55.7	76	
OCDD	50.3	10.1			37.9	76	
2,3,7,8-TCDF	ND	2.39			70.5	84.7	
1,2,3,7,8-PeCDF	ND	2.98			77.2	84.1	
2,3,4,7,8-PeCDF	ND	3			68.6	84.1	
1,2,3,4,7,8-HxCDF	ND	1.62			66.5	88.4	
1,2,3,6,7,8-HxCDF	ND	1.53			68.5	88.4	
2,3,4,6,7,8-HxCDF	ND	2.03			64	88.4	
1,2,3,7,8,9-HxCDF	ND	2.74			61.4	88.4	
1,2,3,4,6,7,8-HpCDF	ND	2.05			50.8	76	
1,2,3,4,7,8,9-HpCDF	ND	3.04			50.2	76	
OCDF	ND	13.1			40.7	76	
Totals & TEQs							
TCDDs	ND	3.24			 ALTA ANALYTICAL PERSPECTIVES 2714 Exchange Drive Wilmington North Carolina 28405 USA Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com		
PeCDDs	ND	2.18					
HxCDDs	ND	5.11					
HpCDDs	12.2	3.19					
TCDFs	ND	2.39					
PeCDFs	ND	2.99					
HxCDFs	ND	1.93					
HpCDFs	ND	2.5					
Total PCDD/Fs	62.8		62.6				

AAP 2005 Rev. B


Checkcode: 4622

Reviewer
Date

[Signature]
02 Mar 05

Sample ID: 0_2989_MB001

Method 1613

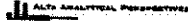
Client Data		Sample Data		Laboratory Data			
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	n/a
Project ID:	General Analytical HRMS	Weight/Volume:	1.00 L	Sample ID:	0_2989_MB001	Date Extracted:	01 Mar 05
Date Collected:	n/a	pH	6	QC Batch No.:	2989	Date Analyzed:	02 Mar 05
Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries		
					ES	CS	
2,3,7,8-TCDD	ND	1.65			75.2	80.6	
1,2,3,7,8-PeCDD	ND	1.55			70.5	83.7	
1,2,3,4,7,8-HxCDD	ND	2.57			80	86.4	
1,2,3,6,7,8-HxCDD	ND	2.4			91.5	86.4	
1,2,3,7,8,9-HxCDD	ND	2.8			86	86.4	
1,2,3,4,6,7,8-HpCDD	ND	1.98			74.9	69.8	
OCDD	ND	4.78			67.4	69.8	
2,3,7,8-TCDF	ND	1.04			81.1	80.6	
1,2,3,7,8-PeCDF	ND	1.91			85.1	82.9	
2,3,4,7,8-PeCDF	ND	1.98			76.8	82.9	
1,2,3,4,7,8-HxCDF	ND	0.812			79.4	86.4	
1,2,3,6,7,8-HxCDF	ND	0.764			86.7	86.4	
2,3,4,6,7,8-HxCDF	ND	1.01			77.8	86.4	
1,2,3,7,8,9-HxCDF	ND	1.42			75.6	86.4	
1,2,3,4,6,7,8-HpCDF	ND	1.78			64.7	69.8	
1,2,3,4,7,8,9-HpCDF	ND	2.67			65.1	69.8	
OCDF	ND	11.1			67.2	69.8	
Totals & TEQs					 <p>ALTA ANALYTICAL PERSPECTIVES</p> <p>2714 Exchange Drive Wilmington North Carolina 28405 USA</p> <p>Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com</p>		
TCDDs	ND	1.65					
PeCDDs	ND	1.55					
HxCDDs	ND	2.59					
HpCDDs	ND	1.98					
TCDFs	ND	1.04					
PeCDFs	ND	1.94					
HxCDFs	ND	0.974					
HpCDFs	ND	2.19					
Total PCDD/Fs	0		0				

Checkcode: 3385

AAP 2005 Rev. B

Reviewer: *[Signature]*
Date: 02 Mar 05

Sample Summary
 Part 1



Method 1613

Analyte	Q_2888_MB 001	IOB1001-01	IOB0993-01	IOB0998-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0980-01	IOB1006-01	IOB1002-01	IOB0992-01	IOB1004-01	IOB0988-01	IOB0981-01
	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L
2,3,7,8-TCDF	(1.85)	(2.29)	(2.08)	(2.02)	(1.34)	(1.71)	(2.29)	(2.55)	(1.81)	(1.44)	(2.87)	(1.79)	(3.24)	(3.01)
1,2,3,7,8-PeCDD	(1.55)	(1.88)	(1.78)	(2.08)	(2.11)	(1.73)	(3.2)	(1.89)	(1.82)	(2.04)	(3.14)	(2.92)	(2.18)	(5.38)
1,2,3,4,7,8-HxCDD	(2.57)	(3.45)	(2.55)	(2.71)	(2.48)	(3.88)	(4.18)	(2.42)	3.37	(2.74)	(5.91)	(12.2)	(4.91)	(4.94)
1,2,3,6,7,8-HxCDD	(2.4)	(3.21)	(2.37)	(2.7)	(2.34)	(3.8)	(4.11)	(2.41)	8.47	(2.88)	(5.98)	(12)	(4.84)	(4.7)
1,2,3,7,8,9-HxCDD	(2.8)	(3.83)	(3.13)	(3.33)	(2.62)	(4.88)	(4.85)	(2.88)	5.27	(3.13)	(7.12)	(13.8)	(5.54)	(5.81)
1,2,3,4,6,7,8-HxCDD	(1.98)	73.4	31.5	10	(9.38)	12.2	(5.34)	49.8	207	12.1	(10.8)	20.8	(3.18)	(5.6)
OCDD	(4.78)	883	287	134	70.4	157	55.1	471	2120	163	70.2	213	50.3	50
2,3,7,8-TCDF	(1.04)	(1.24)	(1.64)	(1.85)	(0.998)	(2.08)	(1.37)	(1.64)	(1.48)	(1.03)	(2.58)	(2.71)	(2.38)	(2.81)
1,2,3,7,8-PeCDF	(1.91)	(1.79)	(2.75)	(1.44)	(2.33)	(1.84)	(3.71)	(1.98)	(2.36)	(2.11)	(4.02)	(2.52)	(2.96)	(2.48)
1,2,3,4,7,8-HxCDF	(1.98)	(1.88)	(2.8)	(1.48)	(2.42)	(1.89)	(3.88)	(2.03)	(2.31)	(1.95)	(3.97)	(2.53)	(3)	(2.48)
1,2,3,6,7,8-HxCDF	(0.812)	(0.867)	(0.9)	(0.785)	(0.943)	(1.36)	(1.39)	(1.47)	(0.97)	(0.815)	(1.55)	(8.68)	(1.82)	(1.13)
1,2,3,4,6,7,8-HxCDF	(0.784)	(0.843)	(0.827)	(0.706)	(0.871)	(1.31)	(1.3)	(1.51)	(0.898)	(0.78)	(1.42)	(5.24)	(1.53)	(1.18)
2,3,4,6,7,8-HxCDF	(1.01)	(1.12)	(1.04)	(0.933)	(1.12)	(1.85)	(1.73)	(1.9)	(1.1)	(0.98)	(1.91)	(8.23)	(2.03)	(1.48)
1,2,3,7,8,9-HxCDF	(1.42)	(1.67)	(1.58)	(1.47)	(1.73)	(2.41)	(2.58)	(2.85)	(1.7)	(1.51)	(2.81)	(12.4)	(2.74)	(2.05)
1,2,3,4,6,7,8-HxCDF	(1.78)	10.8	(1.88)	(4.57)	(1.9)	4.04	(3.26)	10.8	27.2	(1.68)	(4.33)	(3.42)	(2.05)	(3.28)
1,2,3,4,7,8,9-HxCDF	(2.87)	(3.45)	(2.95)	(7.47)	(3.25)	(2.53)	(4.58)	(2.58)	(4.43)	(2.58)	(7.3)	(5.48)	(3.04)	(4.88)
OCDF	(11.1)	155	(11)	(22.4)	(12.4)	(9.53)	(14.9)	34.8	87.1	(10.1)	(7.88)	(20.8)	(13.1)	(8.89)
Checkcode	3385	4361	4681	4965	5239	5527	5797	0067	0335	0812	3828	4355	4822	4900

() = DL
 [] = EMPC

Reviewer: *[Signature]*
 Date: *[Date]*

P5072 - Totals
Project ID: General Analytical HRMS

Sample Summary Part 2		ALTA ANALYTICAL PERSPECTIVES												Method 1613	
Analyte	0_2669_MB001	IOB1001-01	IOB0993-01	IOB0996-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0989-01	IOB1008-01	IOB1002-01	IOB0992-01	IOB1004-01	IOB0988-01	IOB0991-01	
	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	
Totals															
TCDDs	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0	
PeCDDs	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0	
HxCDDs	0	7.38	4.44	0	0	0	0	0	39.8	0	0	0	0	0	
HpCDDs	0	153	65.1	25.2	9.46	29.6	0	101	415	12.1	0	43.1	12.2	0	
OCDD	0	883	267	134	70.4	157	56.1	471	2120	163	70.2	213	50.3	50	
TCDFs	0	0	0	0	0	0	0	0	6.53	0	0	0	0	0	
PeCDFs	0	0	0.858	0	0	0.76	0.256	0	2.57	0	0.456	0	0	0	
HxCDFs	0	2.68	0	0	0	0	0	4.13	32.6	0	0	0	0	0	
HpCDFs	0	92.9	0	0	0	10.2	0	36.5	98.7	5.96	0	0	0	0	
OCDF	0	155	0	0	0	0	0	34.9	67.1	0	0	0	0	0	
Total PCDD/Fs (ND=0; EMPC=0)	0.00	1,290	336	159	79.9	197	56.4	648	2,900	182	70.7	256	62.6	50	
Total PCDD/Fs (ND=0; EMPC=EMPC)	0.00	1,300	342	160	79.9	197	56.4	663	2,830	193	70.7	256	62.6	50	
Total PCDD/Fs (2376-X ND=DL; EMPC=EMPC)	42.2	1,330	381	215	128	238	119	691	2,840	229	144	370	121	114	
Total 2376s (ND=0; EMPC=0)	0.00	1,130	299	144	70.4	173	56.1	567	2,440	176	70.2	234	50.3	50	
Total 2376s (ND=0.5; EMPC=0)	21.1	1,140	319	172	94.6	193	87.5	581	2,450	193	107	291	79.5	82	
Total 2376s (ND=1; EMPC=0)	42.2	1,160	338	200	119	214	119	595	2,450	211	144	348	109	114	
Total 2376s (ND=0; EMPC=1)	0.00	1,130	299	144	70.4	173	56.1	567	2,440	176	70.2	234	50.3	50	
Total 2376s (ND=0.5; EMPC=1)	21.1	1,140	319	172	94.6	193	87.5	581	2,450	193	107	291	79.5	82	
Total 2376s (ND=1; EMPC=1)	42.2	1,160	338	200	119	214	119	595	2,450	211	144	348	109	114	
Checkcode	3385	4361	4681	4965	5239	5527	5797	0067	0335	0612	3829	4355	4622	4900	

Total 2376s = Sum of 17 2376-substituted PCDD/PCDF congeners (SARA 313)

() = DL
 [] = EMPC

Reviewer: *to*
 Date: *ASMAKOS*

P5072 - Others
Project ID: General Analytical HRMS

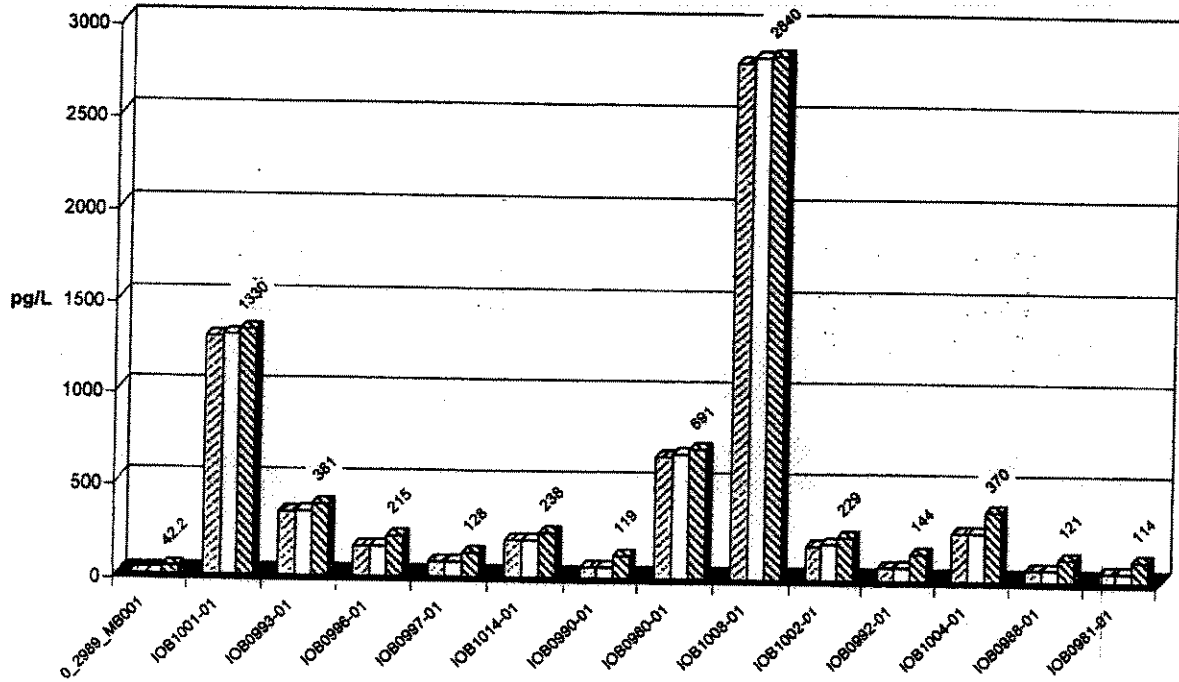
Sample Summary Part 3		ATA ANALYTICAL PERSPECTIVES												Method 1613	
Analyte	0_2985_MB001	IOB1001-01	IOB0993-01	IOB0996-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0980-01	IOB1008-01	IOB1002-01	IOB0992-01	IOB1004-01	IOB0988-01	IOB0981-01	
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	
Other PCDD/Fs (ND=0, EMPC=0)															
Other TCDD	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0	
Other PeCDD	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0	
Other HxCDD	0	7.38	4.44	0	0	0	0	0	22.5	0	0	0	0	0	
Other HpCDD	0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	0	0	22.3	12.2	0	
Other TCDF	0	0	0	0	0	0	0	0	6.53	0	0	0	0	0	
Other PeCDF	0	0	0.858	0	0	0.76	0.258	0	2.57	0	0.456	0	0	0	
Other HxCDF	0	2.68	0	0	0	0	0	4.13	32.8	0	0	0	0	0	
Other HpCDF	0	76.1	0	0	0	6.16	0	25.7	71.8	5.96	0	0	0	0	
Other PCDD/Fs (ND=0, EMPC=EMPC)															
Other TCDD	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0	
Other PeCDD	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0	
Other HxCDD	0	7.38	8.57	0	0	0	0	8.86	47.7	0	0	0	0	0	
Other HpCDD	0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	11.3	0	22.3	12.2	0	
Other TCDF	0	0	0	0	0	0	0	2.21	6.53	0	0	0	0	0	
Other PeCDF	0	0	0.858	0.213	0	0.76	0.258	0.368	2.57	0	0.456	0	0	0	
Other HxCDF	0	9.88	0	0	0	0	0	7.22	32.8	0	0	0	0	0	
Other HpCDF	0	76.1	0	0	0	6.16	0	25.7	71.8	5.96	0	0	0	0	
Checksum	3385	4361	4681	4985	5239	5527	5797	0067	0335	0612	3929	4355	4622	4900	

() = DL
 [] = EMPC

Reviewer:
 Date: 03/02/03

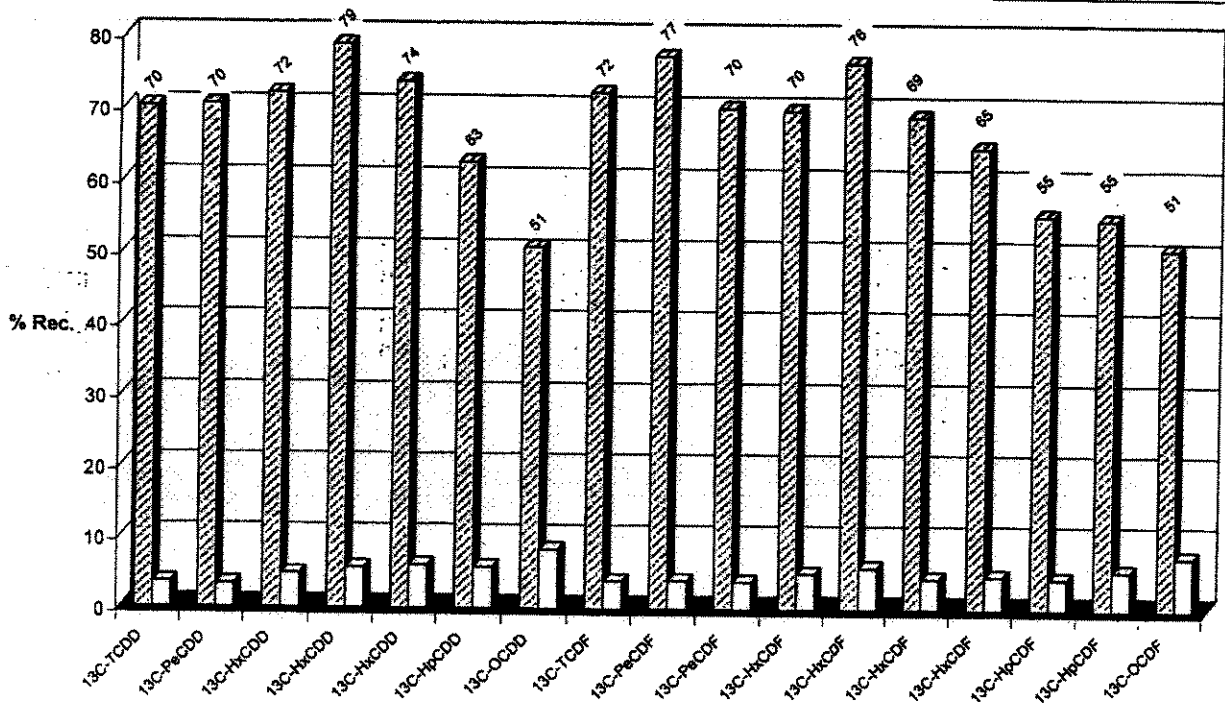
Totals
Project ID: General Analytical HRMS
P5072

▨ Total PCDD/Fs (ND=0; EMPC=0)
 □ Total PCDD/Fs (ND=0; EMPC=EMPC)
 ▩ Total PCDD/Fs (2378-X ND=DL; EMPC=EMPC)



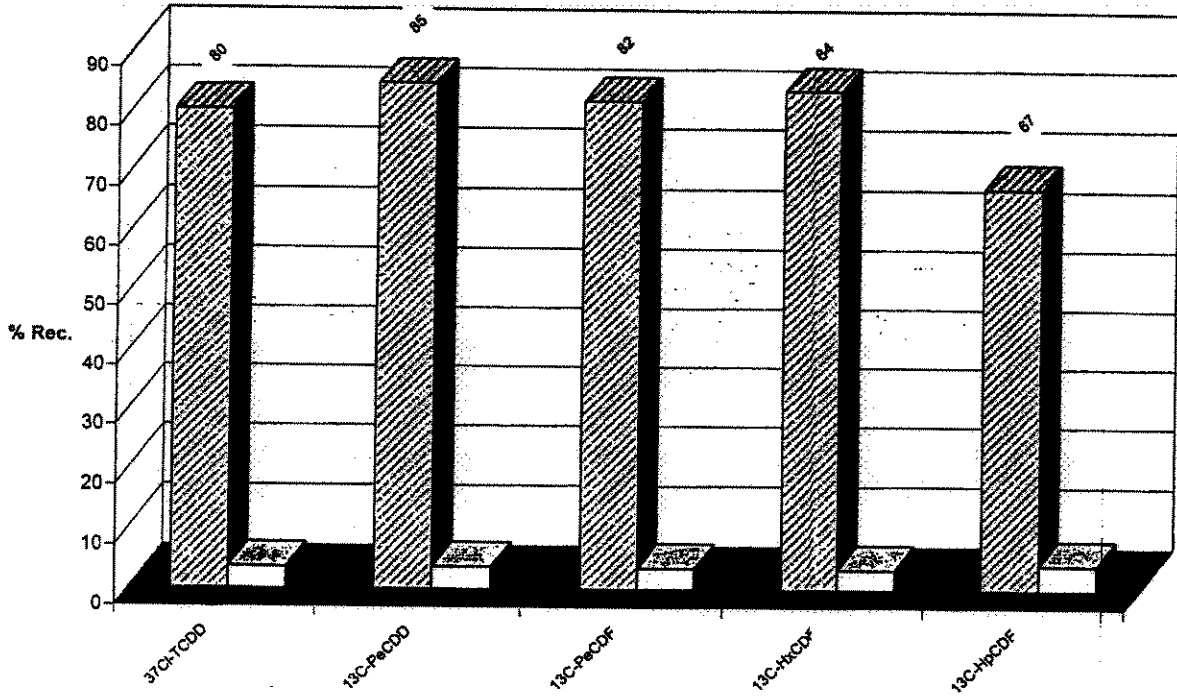
Mean Recoveries of Extraction Standards (N=14)
Project ID: General Analytical HRMS
P5072

▨ Mean □ Std. Dev.



Mean Recoveries of Clean-Up Standards (N=14)
Project ID: General Analytical HRMS
P5072

Mean Std. Dev.





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 # IOB0988 107705

<p align="center">SENDING LABORATORY:</p> <p>Del Mar Analytical, Irvine 17461 Derian Avenue. Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper</p>	<p align="center">RECEIVING LABORATORY:</p> <p>Pace Analytical, MN- SUB 1700 Elm Street, Ste 200 Minneapolis, MN 55414 Phone :(612) 607-1700 Fax: (612) 607-6444</p>
---	---

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

Analysis	Expiration	Comments
----------	------------	----------

Sample ID: IOB0988-01	Water	Sampled: 02/11/05 11:44	
1613-Dioxin-HR	02/18/05 11:44	J flags, 17 congeners, no TEQ, sub to Pace-MN	107705001
EDD + Level 4	03/11/05 11:44	Excel EDD email to pm, Include Std logs for Lvl IV	

Containers Supplied:
 1 L Amber (IOB0988-01C)
 1 L Amber (IOB0988-01D)

SAMPLE INTEGRITY:

All containers intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Sample labels/COC agree: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Custody Seals Present: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Preserved Properly: <input type="checkbox"/> Yes <input type="checkbox"/> No	Samples Received at (temp): <u>3</u>

Released By	Date	Time	Received By	Date	Time
_____	2-14-05	1700	Bright Flaco	2-15-05	9:00
Released By	Date	Time	Received By	Date	Time



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

www.pacelabs.com

Required Client Information: Section B

Report To: SCOTT UNZE

Copy To: SCOTT UNZE

Invoice To: ↓

P.O. Suite 200

Project Name: Mpls., MN 55414

Project Number: 55414

Page: 1 of 2

814593

To Be Completed by Pace Analytical and Client Section C

Client Reference: 814593

Project Manager: SCOTT UNZE

Project #:

Profile #:

Requested Analytical:

Client Information (Check quota/contract):

Requested Due Date:

TAT 3 Day

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.

Turn Around Time (TAT) in calendar days.

Section D Required Client Information:

SAMPLE ID

One character per box. (A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

Valid Matrix Codes 4-

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Preservatives

Unpreserved	
H ₂ O ₂	
HNO ₃	
HCl	
NaOH	
Na ₂ S ₂ O ₈	
Methanol	
Other	

DATE COLLECTED

mm / dd / yy

TIME COLLECTED

hr:mm:sp

Containers

MATRIX CODE

Remarks / Lab ID

ITEM #	1	2	3	4	5	6	7	8	9	10	11	12
SAMPLE ID	I0B1001-01	I0B0993-01	I0B0996-01	I0B0997-01	I0B1614-01	I0B0990-01	I0B0980-01	I0B1008-01	I0B1002-01	I0B0992-01	I0B1004-01	I0B0988-01
DATE COLLECTED	02/10/05											
TIME COLLECTED	15:30	10:50	12:15	15:16	12:20	08:55	10:56	13:32	14:25	10:15	16:00	11:44
# Containers	1X											
MATRIX CODE	WT											
Remarks / Lab ID	X											

SITE LOCATION: NC SC GA Other

REGULATORY AGENCY: NPDES GROUND WATER DRINKING WATER

RCRA Other

SAMPLE NOTES: Email to: Scott.Unze@pacelabs.com

Temp in °C: 3.1

Received on Ice: Y/N

Sealed Cooler: Y/N

Samples Intact: Y/N

Additional Comments: Sample I0B1002-01 & I0B0988-01 are both dated 02/10/05

REINQUIRY BY / AFFILIATION: Scott. Unze / Pace

DATE: 2/10/05

TIME: 15:20

ACCEPTED BY / AFFILIATION: Barbara

DATE: 2-1-05

TIME: 10:35

SAMPLER NAME AND SIGNATURE: SCOTT UNZE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed: (MM/DD/YY)



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Required Client Information:

Section A

Company: Pace

Address: 1700 Elm Street
Suite 200
Mpls., MN 55414

Phone: _____ Fax: _____

Report To: SCOTT UNZE

Copy To: _____

Invoice To: _____

P.O. _____

Project Name: _____

Project Number: _____

Section B

Client Information (Check quote/contract):

Requested Due Date: 3 Day (TAT)

* Turn around times less than 14 days subject to laboratory and contacted colleagues and may result in a Rush Turnaround Surcharge.

Turn Around Time (TAT) in calendar days.

Section C

To Be Completed by Pace Analytical and Client

Quote Reference: 814592

Project Manager: SCOTT UNZE

Project #: _____

Profile #: _____

Section D

Required Client Information:

SAMPLE ID

One character per box.
(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

ITEM #	MATRIX CODE	DATE COLLECTED	TIME COLLECTED	# Containers	Preservatives						Remarks / Lab ID		
					H2SO4	HNO3	H2O2	NaOH	NaNO2	Methanol		Other	
1	WT	2/11/05	09:21	1	X								
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

REGULATORY AGENCY

NC SC GA MPDES GROUND WATER DRINKING WATER

Other UST RCRA Other

RELINQUISHED BY / AFFILIATION: Scott Unze / Pace DATE: 2/11/05 TIME: 11:25 AM

ACCEPTED BY / AFFILIATION: Barbara Parker DATE: 3-1-05 TIME: 10:55 AM

SAMPLE NOTES

Temp in °C: 31

Received on ice: Y/N

Sealed Cooler: Y/N

Samples Intact: Y/N

Additional Comments: Email to: Scott. Unze @ pace labs . com

SAMPLER NAME AND SIGNATURE: _____

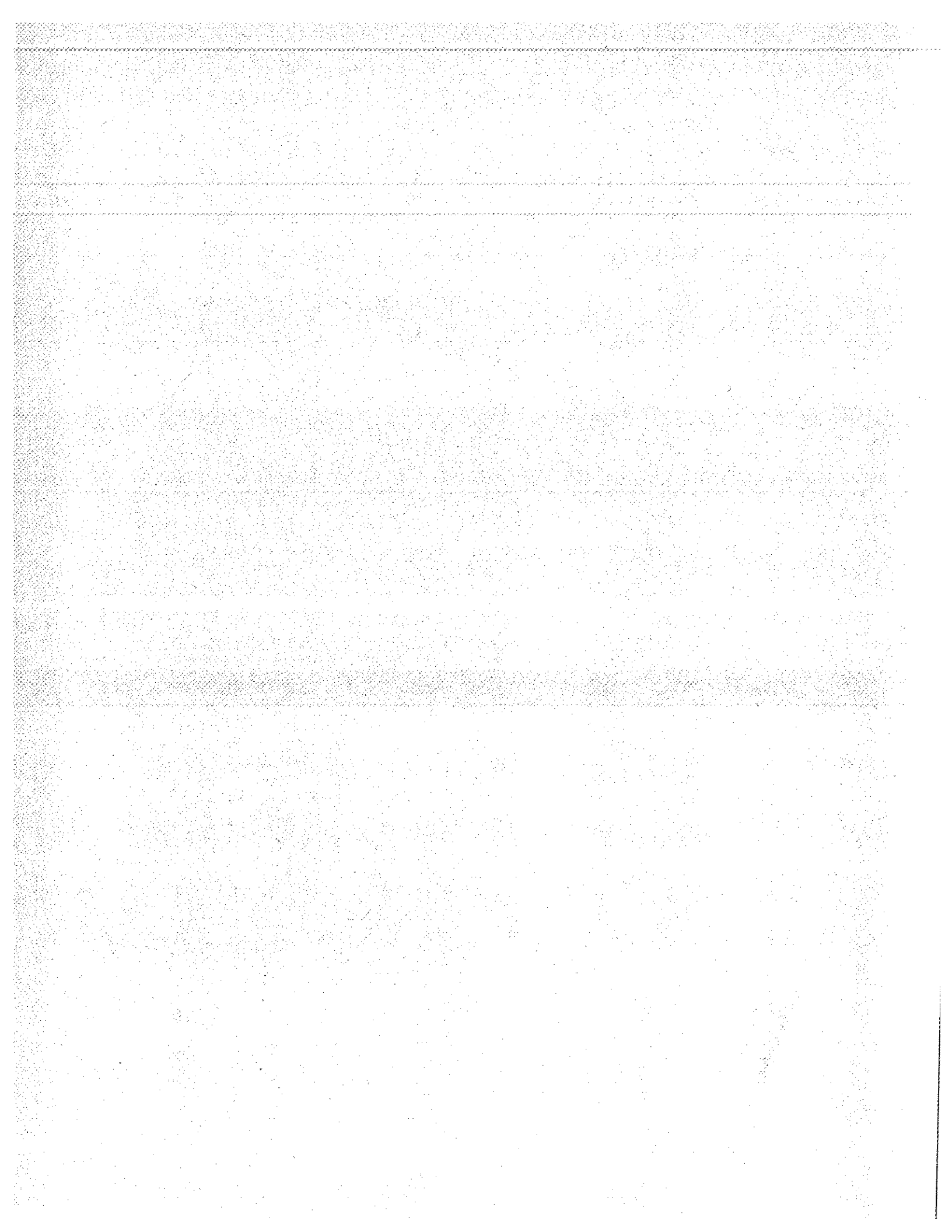
PRINT Name of SAMPLER: _____

SIGNATURE of SAMPLER: _____

DATE Signed: (MM / DD / YY) _____

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711RA4
 Task Order 313150010
 SDG No. Multiple

No. of Analyses 11
 Date: 03/24/05
 Reviewer's Signature
P. Meeks

Laboratory Del Mar

Reviewer P. Meeks

Analysis/Method Radionuclides

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications applied for:
Holding Times	1. Exceeded holding times.
GC/MS Tune/Inst. Performance	2. Matrix spike recovery outlier.
Calibrations	3. Laboratory duplicate RPD outlier.
Blanks	4. Incorrect sample container.
Surrogates	5. Detector efficiency outliers.
Matrix Spike/Dup LCS	6. Incorrect sample preservation.
Field QC	7. Reanalysis rejected in favor of original result
Internal Standard Performance	Three tritium results rejected due to incorrect sample preservation.
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: RADIONUCLIDES

SAMPLE DELIVERY GROUPS:
IOB0418, IOB0980, IOB0993, IOB0996, IOB0997,
IOB1001, IOB1004, IOB1014, & IOB1069

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#: IOB0418, IOB0980, IOB0993, IOB0996, IOB0997,
IOB1001, IOB1004, IOB1014, & IOB1069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 11
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 23, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0*, and validation procedures outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 002	IOB0418-01	8237-001	water	900.0, 905.0, 906.0
Outfall 001	IOB0980-01	8265-001	water	900.0, 905.0, 906.0
Outfall 001RE1	IOB0980-01RE1	8265-001	water	900.0
Outfall 007	IOB0993-01	8261-001	water	900.0, 905.0, 906.0
Outfall 009	IOB0996-01	8262-001	water	900.0, 905.0, 906.0
Outfall 008	IOB0997-01	8266-001	water	900.0, 905.0, 906.0
Outfall 010	IOB1001-01	8267-001	water	900.0, 905.0, 906.0
Outfall 011	IOB1004-01	8263-001	water	900.0, 905.0, 906.0
Outfall 011	IOB1014-01	8264-001	water	900.0, 905.0, 906.0
Outfall 003 Filtered	IOB1069-01	8268-001	water	900.0, 905.0, 906.0
Outfall 003 Unfiltered	IOB1069-02	8268-002	water	900.0, 905.0, 906.0
Outfall 003 Substrate	IOB1069-03	8269-001	water	901.1

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

Most samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4\pm 2^{\circ}\text{C}$. After the analyses were complete, Del Mar Analytical sent extra volume of Outfall 001 to Eberline for gross alpha reanalysis. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. All samples were received intact and in good condition.

According to the Eberline login sheet, Outfall 002 was received unpreserved. It was confirmed in correspondence with Eberline dated 01/31/05, that the gross alpha, gross beta, and strontium samples were not preserved upon receipt; therefore, the nondetected strontium result for Outfall 002 was qualified as estimated, "UJ." According to the Los Angeles Water Quality Control Board (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved and filtered aliquots should be preserved after filtration.

Eberline noted on their login sheets that Outfall 007, Outfall 008, Outfall 009 and Outfall 010 were received preserved, in plastic containers. Per the method, tritium samples should not be preserved. Per a telephone conversation with M. Mannion of Eberline, the pH of these samples was adjusted back to about 7 upon receipt at Eberline. Due to the improper pH adjustments, the tritium results for Outfall 007, Outfall 008, Outfall 009, and Outfall 010 were rejected, "R." Additional, unpreserved aliquots of Outfall 007, Outfall 008, Outfall 009, and Outfall 010 were sent from Del Mar to Eberline for tritium reanalysis. These results were not available at the time of this report.

Additionally, according to the 01/12/05 LARWQCB guidance letter, samples collected for tritium analysis should be submitted in glass containers to avoid potential loss of tritium by sorption onto the plastic container. As the Outfall 007, Outfall 008, Outfall 009 and Outfall 010 tritium samples were previously rejected, no further qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel and the transfer COCs were signed by personnel from both laboratories. Filtered, unfiltered, and substrate analyses were requested for Outfall 011 (IOB1014) on the original COC from the field to Del Mar. These instructions did not appear on the transfer COC to Eberline and subsequently only filtered unanalyses were performed. The remaining original and transfer COCs accounted for the samples and analyses presented in this data package. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. A reanalysis for gross alpha was requested for Outfall 001. To distinguish between the two results, the reviewer added an "RE1," suffix to the Outfall 001 and Del Mar Analytical IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and strontium samples were analyzed within 180 days of collection. The Outfall 002 and Outfall 003 Unfiltered gross alpha and gross beta samples were analyzed beyond the five day holding time for unpreserved samples; therefore, these gross alpha and gross beta results were qualified as estimated, "J," for detects and, "UJ," for nondetects. No further qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha

The initial calibration included with the data was performed in February 2003. All detector efficiencies were below 20%; therefore, the gross alpha results were qualified as estimated, "UJ," for nondetects and, "J," for detects, unless otherwise rejected (see section 2.10).

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur.

Gross Beta and Strontium-90

The initial calibrations were performed in June 1997. All gross beta detector efficiencies were at least 20% and were considered acceptable. All strontium chemical yields were at least 65% and were considered acceptable and the strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

Cesium

The reviewer confirmed that the 662 KeV peak was used for quantitation, with an efficiency of 85%. No qualifications were necessary.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Three blank spikes (8261-002, 8237-002, 8269-002) were analyzed in association with the samples in these SDGs. The gross alpha, gross beta, and strontium recoveries for 8261-002 were outside of the 3-sigma limits, but all had acceptable recoveries of 80%, 88%, and 108%, respectively. The remaining blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analysis on Outfall 002, Outfall 007, and Outfall 003 Substrate. The gross alpha and tritium RPDs were greater than 20% for Outfall 007. The gross alpha results were within 3-sigma and were considered acceptable, but the tritium result was just above 3-sigma; however, as no tritium detects were retained (see section 2.1.1), no qualifications were required. The remaining RPD were $\leq 20\%$. No further qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed matrix spike analyses on Outfall 002 and Outfall 007 for gross alpha, gross beta, and tritium. The Outfall 002 recovery for gross alpha was below 3-sigma; therefore, the gross alpha results in all samples except Outfall 007 were qualified as estimated, "J," for detects and, "UJ," for nondetects. As Outfall 007 had an acceptable recovery for gross alpha, no qualifications were applied. The remaining recoveries were within the 3-sigma limits. No further qualifications were necessary.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these data packages. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted.

The original planchet for gross alpha in Outfall 001 was recounted once per a request from MWH personnel. The recount yielded an equivalent result as the original count and was not reported. The sample was later reanalyzed from extra sample volume provided by Del Mar Analytical, and was reported as Outfall 001 RE1. As the two gross alpha results were similar, the reviewer rejected, "R," the reanalysis, Outfall 001 RE1, in favor of the original result, Outfall 001. No further qualifications were necessary.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8268</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502139-01</u>	Contract <u>PROJECT# IOB1069</u>
Received Date <u>02/15/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Outfall 003 Filtered IOB1069-01	8268-001		02/11/05	03/01/05	GrossAlpha	-0.288 ± 0.45	pCi/L	0.969	UJ	R,Q
				03/01/05	Gross Beta	4.44 ± 1.3	pCi/L	1.80		
				03/03/05	H3	138 ± 150	pCi/L	242		
				02/25/05	Sr90	1.04 ± 0.31	pCi/L	0.428		
Outfall 003 Unfiltered IOB1069-02	8268-002		02/11/05	03/01/05	GrossAlpha	0.240 ± 0.58	pCi/L	1.09	UJ	R,Q,H
				03/01/05	Gross Beta	3.53 ± 1.2	pCi/L	1.82		
				03/03/05	H3	106 ± 150	pCi/L	242		
				02/25/05	Sr90	1.10 ± 0.34	pCi/L	0.462		

PM 3/24/05

AMEC VALIDATED

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/08/05</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8269</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502140-01</u>	Contract <u>PROJECT# IOB1069</u>
Received Date <u>02/15/05</u>	Matrix <u>SOLID</u>

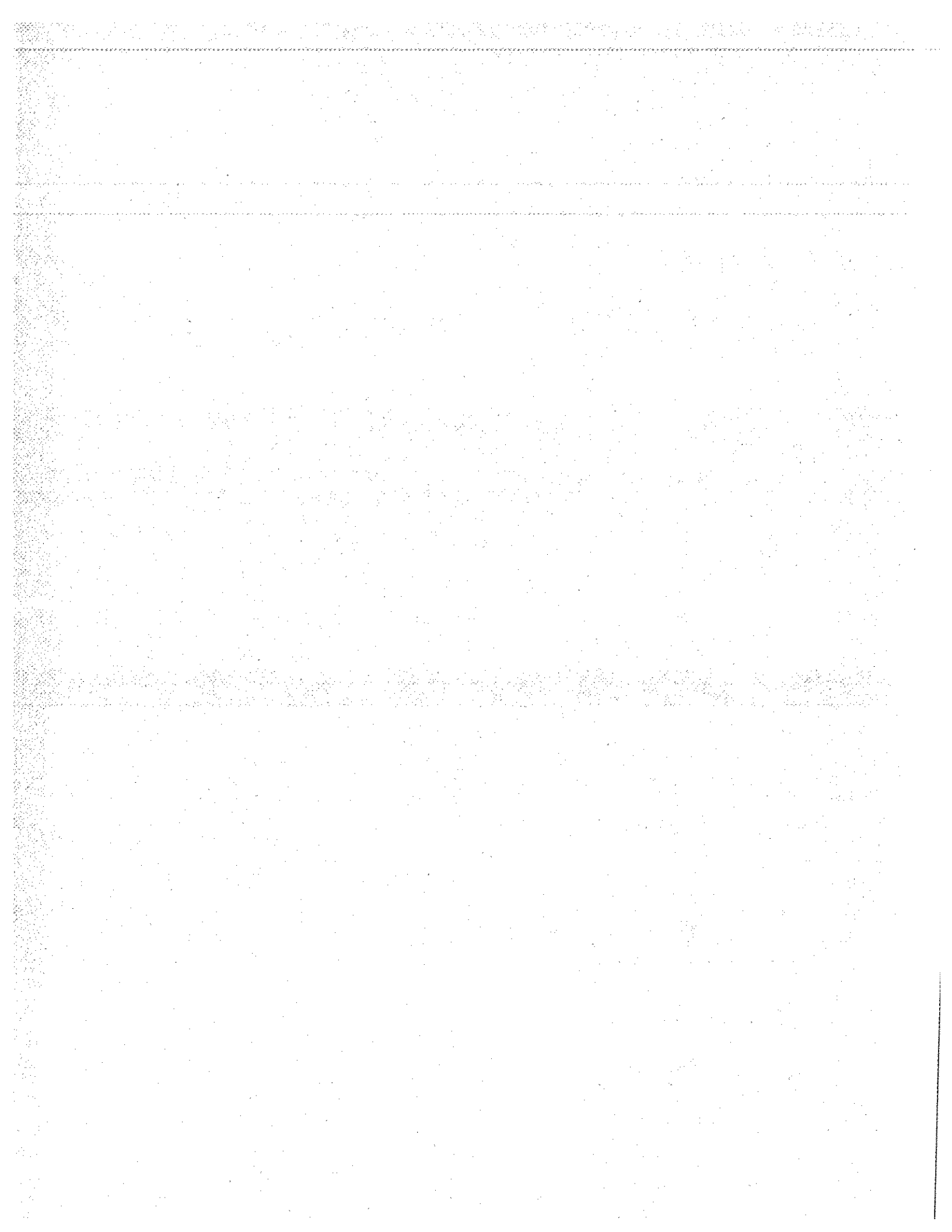
Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
IOB1069-03	8269-001	Outfall 003 Substrate	02/11/05	02/22/05	Cs137 (G)	0	pCi/Smpl	11.6	U	

pm 3/24/05

AMEC VALIDATED

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/04/05</u>
Page 1



CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5/8/12/04

Client Name/Address:					ANALYSIS REQUIRED										Field readings:						
Project: Boeing-SSFL NPDES Outfall 003 - 13267 Storm Water at RMHF Perimeter Pond Phone Number: (626) 568-6691 Fax Number: (626) 568-6515															Temp = pH=						
Project Manager: Bronwyn Kelly Sampler: <i>Polloch</i>															Comments						
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	(FILTERED) Gross Alpha, Gross Beta, Sr-90 (905.0), Radium 228	(UNFILTERED) Gross Alpha, Gross Beta, Sr-90 (905.0), Total Combined Radium 226& Radium 228	Total Combined Radium 226& Radium 228	Tritium (906.0)	Substrate (Radiospectroscopy for Cesium-137)										
Outfall 003	W	1L Amber	4	2-11-05 14:00	HNO3		X														
Outfall 003	W	1L Amber	4		HNO3		X	X		X											
Outfall 003	W	VOAS	2		None		X														
Relinquished By: <i>[Signature]</i> Date/Time: 2-11-05 17:00 Received By: <i>[Signature]</i> Date/Time: 2-11-05 12:00													Turn around Time: (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal <input checked="" type="checkbox"/>								
Relinquished By: <i>[Signature]</i> Date/Time: 2-11-05 20:30 Received By: <i>[Signature]</i> Date/Time: 2-11-05 20:30													Metals Only 72 Hours _____ Sample Intact: (Check) <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/>								



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooky Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 16, 2005

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

Attention: Bronwyn Kelly
Projects: 13267 (Study 2) / Routine Outfall 003
Sampled: 2/11/05
Del Mar Analytical Number: IOB1069

Dear Ms. Kelly:

Eberline Services performed the Gross Alpha/Beta (EPA 900.0), Tritium (EPA 906.0), Strontium-90 (EPA 905.0), and Cesium 137 by Gamma Spectroscopy (EPA 901.1) analyses for the projects referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	EBERLINE ID
Outfall 003 Filtered	IOB1069-01	R502139-01 / 8268-001
Outfall 003 Unfiltered	IOB1069-02	R502139-01 / 8268-002
Outfall 003 Substrate	IOB1069-03	R502140-01 / 8269-001

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.

Sincerely yours,
DEL MAR ANALYTICAL


Michele Harper
Project Manager



EBERLINE SERVICES

March 8, 2005

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

Reference: Del Mar Analytical Project No. IOB1069
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502139-8268

Dear Ms. Harper:

Enclosed are results from the analyses of two water samples received at Eberline Services on February 15, 2005. The samples were analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analyses were gross alpha/gross beta (EPA900.0), tritium (H-3, EPA906.0), and strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require matrix spike analyses to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MC/M/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

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

Eberline Services

ANALYSIS RESULTS

SDG <u>8268</u> Work Order <u>R502139-01</u> Received Date <u>02/15/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# IOB1069</u> Matrix <u>WATER</u>
--	---

Client	Lab						
<u>Sample ID</u>	<u>Sample ID</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
IOB1069-01	8268-001	02/11/05	03/01/05	GrossAlpha	-0.288 ± 0.45	pCi/L	0.969
			03/01/05	Gross Beta	4.44 ± 1.3	pCi/L	1.80
			03/03/05	H3	138 ± 150	pCi/L	242
			02/25/05	Sr90	1.04 ± 0.31	pCi/L	0.428
IOB1069-02	8268-002	02/11/05	03/01/05	GrossAlpha	0.240 ± 0.58	pCi/L	1.09
			03/01/05	Gross Beta	3.53 ± 1.2	pCi/L	1.82
			03/03/05	H3	106 ± 150	pCi/L	242
			02/25/05	Sr90	1.10 ± 0.34	pCi/L	0.462

Certified by <u><i>[Signature]</i></u> Report Date <u>03/08/05</u> Page 1

Eberline Services

QC RESULTS

SDG <u>8268</u> Work Order <u>R502139-01</u> Received Date <u>02/15/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# IOB1069</u> Matrix <u>WATER</u>
--	---

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8261-002	GrossAlpha	8.92 ± 1.1	pCi/Smpl	11.2	0.403	80% recovery
		Gross Beta	10.6 ± 0.77	pCi/Smpl	12.1	0.556	88% recovery
		H3	281 ± 24	pCi/Smpl	259	23.4	108% recovery
		Sr90	12.0 ± 0.59	pCi/Smpl	11.1	0.238	108% recovery

<u>BLANK</u>							
	8261-003	GrossAlpha	-0.032 ± 0.15	pCi/Smpl	NA	0.374	<MDA
		Gross Beta	-0.073 ± 0.30	pCi/Smpl	NA	0.554	<MDA
		H3	13.6 ± 15	pCi/Smpl	NA	23.9	<MDA
		Sr90	-0.091 ± 0.10	pCi/Smpl	NA	0.234	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8261-004	GrossAlpha	3.40 ± 1.4	0.926
	Gross Beta	6.02 ± 1.4	1.80
	H3	393 ± 160	242
	Sr90	-0.186 ± 0.19	0.431

<u>ORIGINALS</u>						
Sample ID	Results ± 2σ	MDA	3σ			
			RPD	(Tot)	Eval	
8261-001	1.64 ± 1.0	0.936	70	112	satis.	
	5.18 ± 1.3	1.80	15	60	satis.	
	71.9 ± 150	246	138	144	satis.	
	-0.077 ± 0.25	0.499	-	-	0 satis.	

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8261-005	GrossAlpha	81.8 ± 5.3	1.04
	Gross Beta	82.0 ± 3.7	1.81
	H3	17800 ± 520	243

<u>ORIGINAL SAMPLE</u>				
Sample ID	Results ± 2σ	MDA	Added	%Recv
8261-001	1.64 ± 1.0	0.936	76.6	105
	5.18 ± 1.3	1.80	73.9	104
	71.9 ± 150	246	18900	94

Certified by <u>26/03/05</u> Report Date <u>03/08/05</u> Page 2



EBERLINE SERVICES

March 8, 2005

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

Reference: Del Mar Analytical Project No. IOB1069
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502140-8269

Dear Ms. Harper:

Enclosed are gamma spectroscopy results for the solids filtered from Del Mar sample IOB1069-01. Sample IOB1069-01 was received at Eberline Services on February 15, 2005. The sample was filtered and the collected substrate was analyzed for gamma emitting radionuclides (EPA901.1). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. The parenthetical G after a nuclide indicates that the result was obtained by gamma spectroscopy. A "U" in the results column indicates that the nuclide was not detected greater than the indicated minimum detectable activity (MDA).

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

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

Eberline Services

ANALYSIS RESULTS

SDG <u>8269</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502140-01</u>	Contract <u>PROJECT# IOB1069</u>
Received Date <u>02/15/05</u>	Matrix <u>SOLID</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results + 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>IOB1069-03</u>	<u>8269-001</u>	<u>02/11/05</u>	<u>02/22/05</u>	<u>Cs137 (G)</u>	<u>0</u>	<u>pCi/Smpl</u>	<u>11.6</u>

Certified by *[Signature]*
Report Date 03/04/05
Page 1

Eberline Services

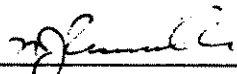
QC RESULTS

SDG <u>8269</u> Work Order <u>R502140-01</u> Received Date <u>02/15/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# IOB1069</u> Matrix <u>SOLID</u>
--	---

Lab

<u>Sample ID</u>	<u>Nuclide</u>	<u>Results</u>	<u>Units</u>	<u>Amount Added</u>	<u>MDA</u>	<u>Evaluation</u>
<u>LCS</u>						
8269-002	Cs137 (G)	203 ± 9.4	pCi/Smpl	223	8.13	91% recovery
<u>BLANK</u>						
8269-003	Cs137 (G)	U	pCi/Smpl	NA	12.8	<MDA

<u>DUPLICATES</u>				<u>ORIGINALS</u>					
<u>Sample ID</u>	<u>Nuclide</u>	<u>Results + 2σ</u>	<u>MDA</u>	<u>Sample ID</u>	<u>Results + 2σ</u>	<u>MDA</u>	<u>3σ</u>	<u>RPD (Tot)</u>	<u>Eval</u>
8269-004	Cs137 (G)	U	12.4	8269-001	U	11.6	-	0	satis.

Certified by <u></u> Report Date <u>03/04/05</u> Page 2
--



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
 9630 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 # IOB1069

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:

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

Work Order Comments: Level IV Data, include std logs

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

Analysis	Expiration	Comments
Sample ID: IOB1069-01 Water	Sampled: 02/11/05 14:00	Filter w/ preweighed .45 um & preserve (except Hr) Tritium
EDD + Level 4-OUT	03/11/05 14:00	**LEVEL IV QC, ACCESS 7 EDD**
Gross Alpha-O	02/11/06 14:00	900.0, IF RESULT > 15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/11/06 14:00	900.0, IF RESULT > 50 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/11/06 14:00	HOLD for Gross Alpha/Beta result; EPA 903.1 & 904.0
Strontium 90-O	02/11/06 14:00	905.0
Tritium-O	02/11/06 14:00	906

Containers Supplied:

- 1 L Amber (IOB1069-01A)
- 1 L Amber (IOB1069-01B)
- 1 L Amber (IOB1069-01C)
- 1 L Amber (IOB1069-01D)

Sample ID: IOB1069-02 Water	Sampled: 02/11/05 14:00	Analyze as received, do not preserve
Gross Alpha-O	02/11/06 14:00	900.0, IF RESULT > 15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/11/06 14:00	900.0, IF RESULT > 50 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/11/06 14:00	HOLD for Gross Alpha/Beta result; EPA 903.1 & 904.0
Strontium 90-O	02/11/06 14:00	905.0
Tritium-O	02/11/06 14:00	906

Containers Supplied:

- 1 L Amber (IOB1069-02A)
- 1 L Amber (IOB1069-02B)
- 1 L Amber (IOB1069-02C)
- 1 L Amber (IOB1069-02D)
- 40 ml Voa Vial (IOB1069-02E)
- 40 ml Voa Vial (IOB1069-02F)

Sample ID: IOB1069-03 sol solid	Sampled: 02/11/05 00:00	Analyze substrate on filter from IOB1069-01
Gamma Scan-O	02/11/06 00:00	Cesium 137, EPA 901.1, 20 pci/sample RL

Released By: Date: 2/14/05 Time: 2:14 Received By: Date: 2/15/05 Time: 10:00

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



17461 Darian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228

1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4867 Fax (909) 370-1046

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-8586 Fax (619) 505-9889

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) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB1069

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): _____

	2/14/05			2/15/05	10:00
Released By	Date	Time	Received By	Date	Time

Released By	Date	Time	Received By	Date	Time
-------------	------	------	-------------	------	------



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client Del Mar City Irvine State CA

Date/Time received 2/15/05 10:00 CoC No. FOR1069
sample # -01A

Container I.D. No. Red Cooler SJ #06 Requested TAT (Days) 21 P.O. Received Yes No

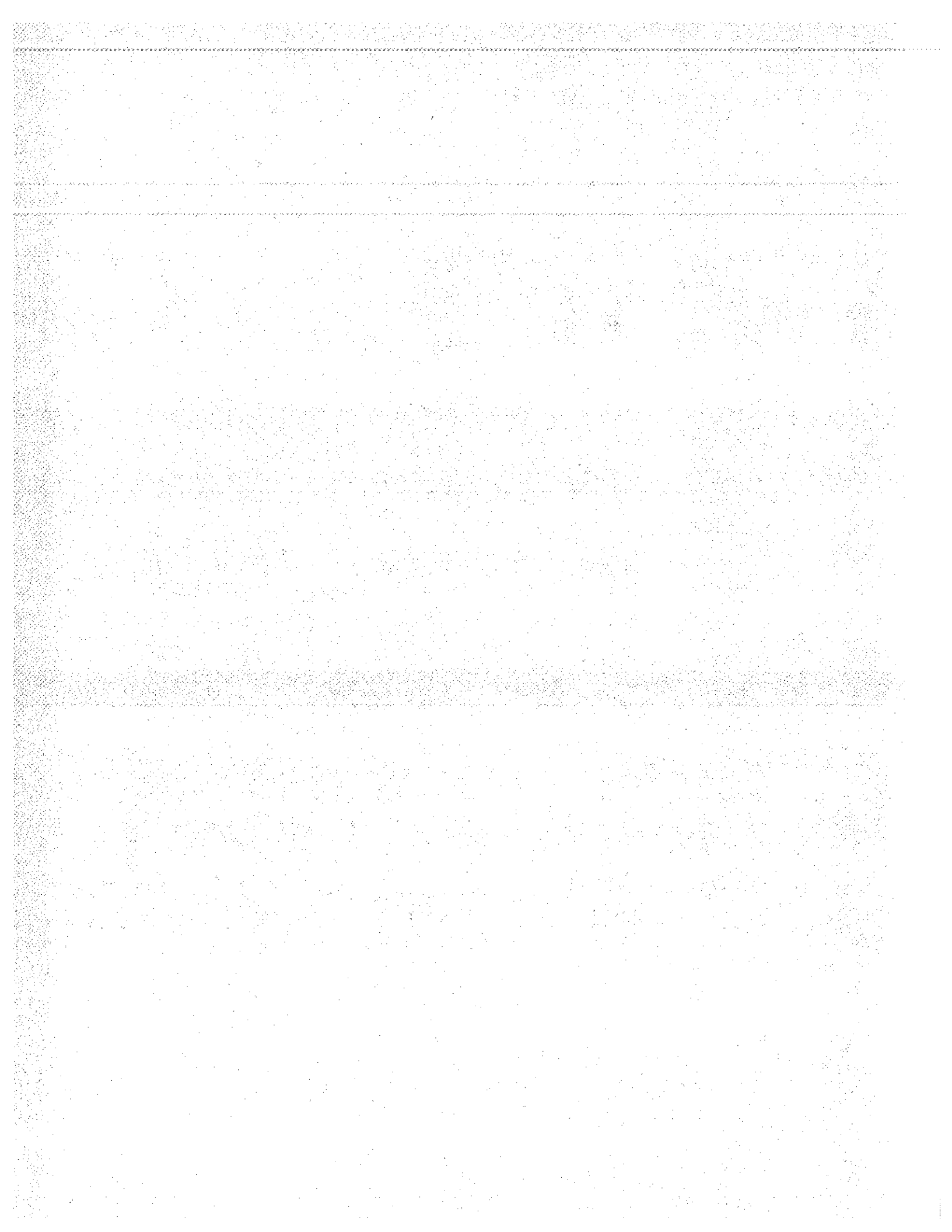
INSPECTION

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

14. Was P.M. notified of any anomalies? Yes No Date _____
15. Inspected by ZHQ Date: 2/15/05 Time: 10:00

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

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

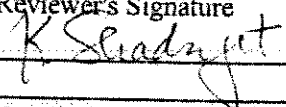


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF28
 Task Order 313150010
 SDG No. Multiple
 No. of Analyses 6

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxins

Date: March 7, 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., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications were assigned for the following: * EMPCs * Detects below the lower method calibration level * Diphenyl ether interference
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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 4, 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 Functional Guidelines For Chlorinated Dioxin/Furan Data Review (8/02)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 002	IOB1562-01	25779-001	water	1613
Outfall 003	IOB1571-01	25780-001	water	1613
Outfall 007	IOB1572-01	25782-001	water	1613
Outfall 008	IOB1573-01	25783-001	water	1613
Outfall 011	IOB1565-01	25781-001	water	1613
Outfall 018	IOB1570-01	25778-001	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

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The samples were shipped to Alta for dioxin/furan analyses and were received below the temperature limits at 0.8°C ; however, as none of the samples were noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheets, all samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs and transfer COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The coolers 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 summary report 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

There were two initial calibrations, analyzed 08/30/04 and 10/04/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6543-MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (6543-OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. Compounds flagged by the laboratory with a "D" qualifier indicated possible diphenylether interference and were qualified as estimated, "J." Any reported EMPC was qualified as an estimated nondetect, "UJ." Any detects below the lower method calibration level (MCL) were qualified as estimated, "J;" however, as Alta analyzed an additional calibration standard, not all results below the method calibration level were appropriately qualified by the laboratory. These results were qualified as estimated, "J," by the reviewer. No further qualifications were required.



Sample ID: IOB1571-01		Del Mar Analytical, Irvine		EPA Method 1613			
Client Data		Sample Data		Laboratory Data			
Name:	IOB1571	Matrix:	Aqueous	Lab Sample:	25780-001		
Project:	18-Feb-05	Sample Size:	0.929 L	QC Batch No.:	6543		
Date Collected:	1225			Date Analyzed DB-5:	28-Feb-05		
Time Collected:				Date Analyzed DB-225:	NA		
				Date Received:	24-Feb-05		
				Date Extracted:	25-Feb-05		
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.623		IS 13C-2,3,7,8-TCDD	84.6	25 - 164	
1,2,3,7,8-PeCDD	ND	1.44		13C-1,2,3,7,8-PeCDD	83.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.70		13C-1,2,3,4,7,8-HxCDD	79.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.68		13C-1,2,3,6,7,8-HxCDD	81.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.66		13C-1,2,3,4,6,7,8-HpCDD	79.7	23 - 140	
1,2,3,4,6,7,8-HpCDD	5.49			13C-OCDD	67.8	17 - 157	
OCDD	52.6			13C-2,3,7,8-TCDF	85.4	24 - 169	J
2,3,7,8-TCDF	ND	0.523		13C-1,2,3,7,8-PeCDF	77.8	24 - 185	
1,2,3,7,8-PeCDF	ND	0.788		13C-2,3,4,7,8-PeCDF	80.0	21 - 178	
2,3,4,7,8-PeCDF	ND	0.742		13C-1,2,3,4,7,8-HxCDF	70.7	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.612		13C-1,2,3,6,7,8-HxCDF	72.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.592		13C-2,3,4,6,7,8-HxCDF	69.7	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.504		13C-1,2,3,7,8,9-HxCDF	73.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.751		13C-1,2,3,4,6,7,8-HpCDF	65.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	1.79		13C-1,2,3,4,7,8,9-HpCDF	73.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.692		13C-OCDF	68.7	17 - 157	
OCDF	ND			CRS 37Cl-2,3,7,8-TCDD	88.5	35 - 197	
Totals			2.71				
Total TCDD	ND	0.623					
Total PeCDD	ND	1.71					
Total HxCDD	ND	1.68					
Total HpCDD	13.0						
Total TCDF	ND	0.523					
Total PeCDF	ND	0.765					
Total HxCDF	ND	0.719					
Total HpCDF	ND		1.53				

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

Analyst: MS
 Project 25780
 Approved By: William J. Luksemburg 01-Mar-2005 16:29

AMEC VALIDATED

Project 25780

WVET, IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711MT63
 Task Order 313150010, 313150012
 SDG No. IOB1570, IOB1571

No. of Analyses 2

Laboratory Del Mar Analytical

Reviewer V. Henry

Analysis/Method Metals

Date: 3/31/05
 Reviewer's Signature
V. Henry

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Perform Calibrations Blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications applied for: Analytes detected below the reporting limit were qualified as estimated, "J." Detects and negative results in the associated method blanks and CCBs The MDLs for antimony and thallium were raised to the level of the associated blank detects for those analytes.

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: METALS

SAMPLE DELIVERY GROUPS: IOB1570 & IOB1571

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, 313150012
SDG#: IOB1570, IOB1571
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: V. Henry
Date of Review: March 31, 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 6010B for Inductively Coupled Plasma*, *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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: Multiple
Analysis: MET

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 018	Outfall 018	IOB1570-01	water	ILM04
Outfall 003	Outfall 003	IOB1571-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. 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 requested analytes for Outfall 018 were changed in a memo from MWH personnel dated 02/17/05. The COCs accounted for the remaining samples and analyses presented in these SDGs. Duplicate samples were submitted for all samples in these SDGs; however, duplicate analyses were not required. 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. Arsenic and silver were recovered below the control limit in the ICP reporting limit check standard associated with Outfall 003; therefore, nondetected arsenic and silver in the sample was qualified as estimated, "UJ." The ICP/MS reporting limit check standards associated with Outfall 018 were recovered within the AMEC control limits of 70-130%. The ICP/MS reporting limit check standards associated with Outfall 003 were evaluated because the standards were not included in the raw data. No further sample qualifications were required.

2.4 BLANKS

Zinc was detected in method blank 5B24093-BLK1 at 0.0078 mg/L; therefore, zinc detected in Outfall 003 was qualified as estimated, "UJ." Thallium and antimony were detected in the CCBs bracketing Outfall 018 at approximately 0.159 and 0.95 µg/L, respectively, and thallium and antimony were detected in Outfall 018 at concentrations below the level reported in the CCBs. The CCB detects indicated the laboratory could not detect antimony at the reported MDL. The reviewer raised the MDLs in the site samples to the level reported in the respective CCBs and qualified the results as estimated, "UJ." 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. Cadmium was detected above the applicable reporting limit in the ICSA associated with Outfall 018. The results for aluminum, sodium and potassium were above the calibration range of the instrument in all the ICSA and ICSAB analyses associated with Outfall 003 and Outfall 018; however, as these analytes were not reported in the site samples, no qualifications were required. 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 level 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, and chloride.

ICSA and ICSAB analyses were included in the raw data for the ICP analyses, but were not run on the days the site samples were analyzed. The recoveries for the interferents and the other spiked analytes were within the control limits of 80-120%. In the ICSA analyses there were negative results for boron and chromium and positive results for zinc that were above the absolute value of the applicable reporting limits. The validator reviewed the raw data for the site sample ICP analyses for the level of reported interferents, Al, Ca, Fe, and Mg, and determined that the level of reported interferents were not high enough to cause matrix affects. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS samples were identified as 5B18140-BS1 and 5B24099-BS1 and the ICP LCS samples were identified as 5B18141-BS1 and 5B24093-BS1. The mercury LCS sample was identified as 5B22045-BS1. The LCS results on the summary forms and in the raw data were within the laboratory-established ICP, ICP/MS, and mercury control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

The matrix spike/matrix spike duplicate analyses were performed on sample Outfall 018 for ICP only. There were no laboratory duplicate samples associated with the ICP/MS or mercury analyses. All %RPDs were within the established control limit of ± 20 and no sample qualifications were required. There were no matrix QC analyses applicable to sample Outfall 003.

2.8 MATRIX SPIKE

The matrix spike/matrix spike duplicate analyses were performed on sample Outfall 018 for ICP only. There were no laboratory duplicate samples associated with the ICP/MS or mercury analyses. All percent recoveries were within the AMEC established control limits of 75-125% with the exception of iron at 132%. However, the matrix spike analysis is not applicable for iron because the sample concentration exceeds the spike amount by a factor of four or more. There were no matrix QC analyses applicable to sample Outfall 003. No sample qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis 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. Analytes 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) 260-3197
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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) 795-0043 FAX (480) 785-0351
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (DRAFT: Outfall 003 - Water) - cont.									
Reporting Units: ug/l <i>Qual</i> <i>Code</i>									
Aluminum	EPA 200.7	5B24093	47	50	360	1	02/24/05	02/26/05	
Arsenic	EPA 200.7	5B24093	3.8	5.0	ND	1	02/24/05	02/25/05	UJ K3
Lead	EPA 200.8	5B24099	0.13	1.0	0.32	1	02/24/05	02/25/05	J J DN
Vanadium	EPA 200.7	5B24093	1.4	10	1.7	1	02/24/05	02/25/05	J J DN

AMEC VALIDATED

Level IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

Amec Validated
 Loc 14



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3257
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9685
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0551
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (DRAFT: Outfall 003 - Water) - cont.									
Reporting Units: <u>mg/L</u>									
Beryllium	EPA 200.7	5B24093	0.00062	0.0020	ND	1	02/24/05	02/25/05	U
Chromium	EPA 200.7	5B24093	0.00068	0.0050	0.0020	1	02/24/05	02/25/05	J J DN
Nickel	EPA 200.7	5B24093	0.0020	0.010	0.0022	1	02/24/05	02/25/05	J J DN
Selenium	EPA 200.7	5B24093	0.0046	0.0050	ND	1	02/24/05	02/26/05	U
Silver	EPA 200.7	5B24093	0.0013	0.010	ND	1	02/24/05	02/26/05	U J J J P
Zinc	EPA 200.7	5B24093	0.0037	0.020	0.0070	1	02/24/05	02/25/05	B, J J B

AMEC VALIDATED

Level IV

KEW
4/07/05

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

Amec Validated
 Level 14

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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


Package ID T711PP25
 Task Order 313150010
 SDG No. IOB1570, IOB1571

No. of Analyses 2

Laboratory Del Mar Analytical

Reviewer L. Calvin

Analysis/Method Pesticides/PCBs by Method 608

Date: April 4, 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., | Qualifications assigned for continuing calibration %D outliers. |
| Holding Times | -- |
| GC/MS Tune/Inst. Performance | |
| Calibration | |
| Method blanks | |
| Surrogates | |
| Matrix Spike/Dup LCS | |
| Field QC | |
| Internal Standard Performance | |
| Compound Identification | |
| Quantitation | |
| System Performance | |

COMMENTS^b

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: PESTICIDES/PCBs

SAMPLE DELIVERY GROUP: IOB1570, IOB1571

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#: IOB1570, IOB1571
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Pesticides/PCBs
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: April 4, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedures (DVP-4, Rev.2)*, *EPA Method 608*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the summary form 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	Method
Outfall 018	Outfall 018	IOB1570-01	water	608
Outfall 003	Outfall 003	IOB1571-01	water	608

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 were received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The analysis did not require preservation, and no preservation was noted in the field. The COCs noted that the samples were received intact. 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 water samples were extracted within seven days of sample collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 PESTICIDES INSTRUMENT PERFORMANCE

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

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

2.3 CALIBRATION

2.3.1 Analytical Sequence

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

2.3.2 Initial Calibration

There were two initial calibrations dated 02/12/05 and 02/22/05 associated with the pesticide analyses of the samples in these SDGs, which consisted of six point calibrations for all pesticide target compounds on two analytical columns. The %RSDs were within the EPA Method 608 QC limit of $\leq 10\%$ or the r^2 values were ≥ 0.995 on both analytical columns. There was one initial calibration dated 02/11/05 associated with the PCB analyses of the samples in these SDGs which consisted of five points for Aroclor 1016 and Aroclor 1260. Single point calibrations for Aroclor 1242, Aroclor 1248, and Aroclor 1254 were also analyzed. The average %RSDs for the individual peaks of Aroclor 1016 and Aroclor 1260 were $\leq 10\%$ or the r^2 values were ≥ 0.995 on both analytical columns. An ICV was analyzed immediately following each of the initial calibrations. The %Ds for all target compounds were within the QC limits of 15% on both analytical columns. A representative number of %RSDs and ICV %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.3.3 Continuing Calibration

Of the continuing calibrations associated with the pesticide analyses for the samples in these SDGs there were several %D outliers. The %Ds for heptachlor and endrin in the continuing calibration analyzed 02/23/05 (GC43) and for heptachlor, endrin, and 4,4'-DDD in the continuing calibration analyzed 02/23/05 (GC54) exceeded 15% on the primary channel; therefore, nondetects for heptachlor and endrin in both samples and for 4,4'-DDD in sample Outfall 003 were qualified as estimated, "UJ." The remaining applicable %Ds were within the Method QC limit of $\leq 15\%$ for the remaining calibrations. The CCVs bracketing the PCB analyses of the samples had %Ds $\leq 15\%$ for Aroclor 1016 and Aroclor 1260. A representative number of %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No further qualifications were required.

2.4 BLANKS

2.4.1 Instrument Blanks

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

2.4.2 Method Blanks

One water method blank (5B22041-BLK1) was extracted and analyzed with these SDGs. There were no pesticide target compounds or Aroclors detected in the method blank. Review of the chromatograms showed no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (5B22041-BS1/BSD1) were extracted and analyzed with these SDGs. The recoveries for all spiked pesticide target compounds and Aroclors were within the laboratory-established QC limits and the RPDs were $\leq 30\%$. A representative number of recoveries were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.6 SURROGATE RECOVERY

The sample and all QC samples were fortified with the surrogate compounds decachlorobiphenyl and tetrachloro-m-xylene. Surrogate recoveries for the pesticide and PCB analyses of the samples were within the laboratory-established. The recoveries were calculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses associated with these SDGs. Method accuracy and precision were assessed based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 SAMPLE CLEANUP PERFORMANCE

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

2.9 FIELD QC SAMPLES

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

2.9.1 Field Blanks and Equipment Rinsates

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

2.9.2 Field Duplicates

There were no field duplicate samples associated with the sample in these SDGs.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for pesticide target compounds and PCBs by EPA Method 608. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for the samples in these SDGs. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified for these SDGs; however, as there were no detects reported in the samples, quantitation was verified by recalculating a representative number of blank spike and surrogate recoveries. Reporting limits were supported by the low level standard

DATA VALIDATION REPORT

Project: NPDES
SDG: IOB1570, 1571
Analysis: Pest/PCB

of the initial calibration and the laboratory MDL studies. The water reporting limits were not adjusted for sample amounts on the result summaries; however, the dilution factors listed on the summaries reflected the sample volume extracted. Results were reported in ug/L (ppb). No qualifications were required.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1822 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
 9484 Chesapeake Dr., Suite 803, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0643 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (DRAFT: Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Alcryn	EPA 608	5B22041	0.030	0.10	ND	0.99	02/22/05	02/23/05	u
alpha-BHC	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	u
beta-BHC	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	u
delta-BHC	EPA 608	5B22041	0.020	0.20	ND	0.99	02/22/05	02/23/05	u
gamma-BHC (Lindane)	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	u
Chlordane	EPA 608	5B22041	0.20	1.0	ND	0.99	02/22/05	02/23/05	u
4,4'-DDD	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	u
4,4'-DDE	EPA 608	5B22041	0.020	0.10	ND	0.99	02/22/05	02/23/05	u
4,4'-DDT	EPA 608	5B22041	0.030	0.10	ND	0.99	02/22/05	02/23/05	u
Dieldrin	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	u
Endosulfan I	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	u
Endosulfan II	EPA 608	5B22041	0.040	0.10	ND	0.99	02/22/05	02/23/05	u
Endosulfan sulfate	EPA 608	5B22041	0.015	0.20	ND	0.99	02/22/05	02/23/05	u
Endrin	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	u
Endrin aldehyde	EPA 608	5B22041	0.045	0.10	ND	0.99	02/22/05	02/23/05	u
Endrin ketone	EPA 608	5B22041	0.020	0.10	ND	0.99	02/22/05	02/23/05	u
Heptachlor	EPA 608	5B22041	0.030	0.10	ND	0.99	02/22/05	02/23/05	u
Heptachlor epoxide	EPA 608	5B22041	0.020	0.10	ND	0.99	02/22/05	02/23/05	u
Methoxychlor	EPA 608	5B22041	0.035	0.10	ND	0.99	02/22/05	02/23/05	u
Toxaphene	EPA 608	5B22041	1.5	5.0	ND	0.99	02/22/05	02/23/05	u
Surrogate: Tetrachloro-m-xylene (35-120%)						47 %			
Surrogate: Decachlorobiphenyl (45-120%)						72 %			

Res Qual Code

AMEC VALIDATED
 LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE



Del Mar Analytical

17461 Dorian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3207
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9454 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9609
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (DRAFT: Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	5B22041	0.20	1.0	ND	0.99	02/22/05	02/23/05	Qual Code ↓
Aroclor 1221	EPA 608	5B22041	0.10	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1232	EPA 608	5B22041	0.15	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1242	EPA 608	5B22041	0.15	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1248	EPA 608	5B22041	0.25	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1254	EPA 608	5B22041	0.25	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1260	EPA 608	5B22041	0.40	1.0	ND	0.99	02/22/05	02/23/05	
Surrogate: Decachlorobiphenyl (45-120%)					69 %				

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711RA5
 Task Order 313150010
 SDG No. Multiple

No. of Analyses 8

Laboratory Eberline

Date: 03/28/05

Reviewer P. Meeks

Reviewer's Signature

Analysis/Method Radionuclides

P. Meeks

ACTION ITEMS^a

1. Case Narrative
 Deficiencies

2. Out of Scope
 Analyses

3. Analyses Not
 Conducted

4. Missing Hardcopy
 Deliverables

5. Incorrect Hardcopy
 Deliverables

6. Deviations from
 Analysis Protocol, e.g.,

Qualifications applied for:

- 1. Detector efficiency outliers.
- 2. Exceeded holding times.

Holding Times
 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 VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS:
IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576

Prepared by

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

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 004	IOB1556-01	8289-001	water	900.0, 905.0, 906.0
Outfall 005	IOB1557-01	8290-001	water	900.0, 905.0, 906.0
Outfall 006	IOB1559-01	8291-001	water	900.0, 905.0, 906.0
Outfall 018	IOB1570-01	8292-001	water	900.0, 905.0, 906.0
Outfall 003	IOB1571-01	8293-001	water	900.0, 905.0, 906.0
Outfall 003 Filtered	IOB1576-01	8294-001	water	900.0, 905.0, 906.0
Outfall 003 Unfiltered	IOB1576-02	8294-002	water	900.0, 905.0, 906.0
Outfall 003 Substrate	IOB1576-03	8295-001	solid	901.1

1. INTRODUCTION

Task Order Title: NPDES Monitoring
Contract Task Order #: 313150010
SDG#: IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 8
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 24, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0*, and validation procedures 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.

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4\pm 2^{\circ}\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition. All tritium samples were received unpreserved in glass containers. All gross alpha, gross beta, and strontium samples were preserved, except for the Outfall 003 samples in SDG IOB1556. Outfall 003 Filtered, was filtered by Eberline and then preserved. Outfall 003 Unfiltered was not preserved. According to the Los Angeles Water Quality Control Board (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel. The transfer COCs were signed by personnel from both laboratories, except for the COC listing Outfall 003 in SDG IOB1571, which was not signed as received by Eberline. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and preserved gross alpha, gross beta, and strontium samples were analyzed within 180 days of collection. The Outfall 003 Unfiltered gross alpha and gross beta samples were analyzed beyond the five day holding time for unpreserved samples; therefore, these gross alpha and gross beta results were qualified as estimated, "J." No further qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha and Gross Beta

The initial calibration included with the data was performed in February 2003. The detector efficiencies for Outfall 006, Outfall 018, Outfall 003, Outfall 003 Filtered, and Outfall 003 Unfiltered were less than 20%; therefore, these results were qualified as estimated, "UJ," for nondetects and, "J," for detects. The remaining detector efficiencies were above 20%.

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: Multiple
Analysis: RAD

Strontium-90

The initial calibrations were performed in June 1995. All strontium chemical yields were at least 80% and were considered acceptable. The strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

Cesium

The reviewer confirmed that the 662 KeV peak was used for quantitation, with a branch efficiency of 85%. No qualifications were necessary.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spikes (8294-002 and 8295-002) were analyzed in association with the samples in these SDGs. All blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analysis on Outfall 003 Filtered and Outfall 003 Substrate. All results were within the 3-sigma limits and all RPDs were $\leq 20\%$. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed matrix spike analyses on Outfall 003 Unfiltered for gross alpha, gross beta, and tritium. The recovery for gross alpha was above 3-sigma; however, as the recovery of 118% was considered acceptable, no qualifications were required. The remaining recoveries were within the 3-sigma limits. No qualifications were necessary.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these data packages. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

DATA VALIDATION REPORT

Project: NPDES
SDG No.: Multiple
Analysis: RAD

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

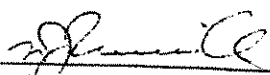
ANALYSIS RESULTS

SDG <u>8293</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502214-01</u>	Contract <u>PROJECT# 10B1571</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Outfall 003 10B1571-01 pm 3/24/05		8293-001	02/18/05	03/08/05	GrossAlpha	0.651 ± 1.1	pCi/L	1.90	UJ	R
				03/08/05	Gross Beta	4.58 ± 1.4	pCi/L	1.97		
				03/13/05	H3	10.7 ± 150	pCi/L	258	U	
				03/12/05	Sr90	1.06 ± 0.23	pCi/L	0.261		

AMEC VALIDATED

LEVEL IV

Certified by 
Report Date <u>03/15/05</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8294</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502215-01</u>	Contract <u>PROJECT# 1081576</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Outfall 003 Filtered 1081576-01	8294-001	02/18/05	03/08/05	GrossAlpha	0.904 ± 0.74	pCi/L	1.00	UJ	R	
				Gross Beta	3.32 ± 1.2	pCi/L	1.79			
				H3	-41.9 ± 150	pCi/L	254			
				Sr90	0.901 ± 0.24	pCi/L	0.280			
Outfall 003 Unfiltered 1081576-02	8294-002	02/18/05	03/08/05	GrossAlpha	1.42 ± 0.93	pCi/L	1.19	UJ	H, R	
				Gross Beta	3.75 ± 1.2	pCi/L	1.78			
				H3	-77.0 ± 140	pCi/L	255			
				Sr90	0.892 ± 0.22	pCi/L	0.253			

AMEC VALIDATED

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/15/05</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8295</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502216-01</u>	Contract <u>PROJECT# IOB1576</u>
Received Date <u>02/23/05</u>	Matrix <u>SOLID</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results $\pm 2\sigma$	Units	MDA	Rev Qual	Qual Code
		<u>Outfall 003 substrate</u>								
<u>IOB1576-03</u>	<u>8295-001</u>	<u>02/18/05</u>	<u>03/04/05</u>	<u>Cs137 (G)</u>	<u>U</u>	<u>pCi/Smpl</u>	<u>14.4</u>	<u>J</u>		

AMEC VALIDATED

LEVEL IV

Certified by <u><i>M. Sussler</i></u>
Report Date <u>03/15/05</u>
Page 1

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711SV42
 Task Order 313150010, 313150012
 SDG No. IOB1570, IOB1571

No. of Analyses 2

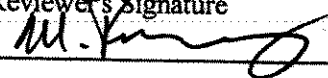
Laboratory Del Mar

Reviewer M. Pokorny

Analysis/Method Semivolatiles

Date: April 1, 2005

Reviewer's Signature



ACTION ITEMS*

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 required for calibration, LCS, and internal standard 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: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IOB1570, IOB1571

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#: IOB1570, IOB1571
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: M. Pokorny
Date of Review: April 1, 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 Semivolatile Organics (DVP-3, Rev. 2)*, *EPA Method 625*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 018	Outfall 018	IOB1570-01	water	625
Outfall 003	Outfall 003	IOB1571-01	water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in these SDGs were received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The analysis did not require preservation, and no preservation was noted in the field. The COCs noted that the samples were received intact. 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 water samples were extracted within seven days of collection and analyzed within 40 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The DFTPP tunes met the criteria specified in Method 625, and the samples were analyzed within 12 hours of the DFTPP injection time. No qualifications were required.

2.3 CALIBRATION

The initial calibrations associated with this SDG were dated 02/24/05 and 02/25/05. For the initial calibration dated 02/24/05, the average RRFs for were ≥ 0.05 and the %RSDs were $\leq 35\%$ or $r^2 \geq 0.995$ for all target compounds except for the r^2 values for benzoic acid, 4-nitroaniline, and benzidine. Benzoic acid, 4-nitroaniline, and benzidine were qualified as estimated nondetects, "UJ," in sample Outfall 018, unless otherwise rejected. For the initial calibration dated 02/25/05, the average RRFs for were ≥ 0.05 and the %RSDs were $\leq 35\%$ or $r^2 \geq 0.995$ for all target compounds except for the r^2 value for benzoic acid. Benzoic acid was qualified as an estimated nondetect, "UJ," in sample Outfall 003. A representative number of average RRFs and %RSDs were checked from the raw data, and no calculation or transcription errors were noted.

The continuing calibration associated with the sample analyses were analyzed 02/24/05 and 02/25/05. For the continuing calibration dated 02/24/05, the RRFs for all target compounds were ≥ 0.05 , and the %Ds were $\leq 20\%$, except for the %Ds for 2,4-dinitrophenol and 4-nitrophenol. 2,4-dinitrophenol and 4-nitrophenol were qualified as estimated nondetects, "UJ," in sample Outfall 018. For the continuing calibration dated 02/25/05, the RRFs for all target compounds were ≥ 0.05 , and the %Ds were $\leq 20\%$, except for the %D for benzidine. Benzidine was qualified as an estimated nondetect, "UJ," in sample Outfall 003. A representative number of RRFs and %Ds were checked from the raw data, and no calculation or transcription errors were noted. No further qualifications were required.

2.4 BLANKS

Two method blanks (5B22042-BLK1 and 5B22043-BLK1) were extracted and analyzed with these SDGs. No target compounds were detected in the method blanks. Review of the raw data indicated no reportable false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spike/ blank spike duplicate pairs (5B22042-BS1/BSD1 and 5B22043- BS1/BSD1) were extracted and analyzed with these SDGs. For blank spike/blank spike duplicate pairs, qualifications are applied, if necessary, to the associated samples based on those recoveries consistently outside of the laboratory-established QC limits in both the blank spike and blank spike duplicate. Results for those compounds with recoveries not consistent within the pair, with RPDs above the QC limit, are qualified as estimated, "UJ" for nondetects and "J" for detects, in the associated samples.

For the 5B22042-BS1/BSD1 pair, all percent recoveries and RPDs were within the laboratory QC limits except for benzidine which was not recovered in the BS or BSD and the RPDs for benzidine and aniline, benzoic acid, and NDMA. Sample Outfall 018 had benzidine rejected, "R," and aniline, benzoic acid, and NDMA qualified as estimated nondetects, "UJ."

For the 5B22043-BS1/BSD1 pair, all percent recoveries and RPDs were within the laboratory QC limits except for benzidine which was not recovered in the BSD and the RPD for benzidine. Sample Outfall 003 had benzidine qualified as an estimated nondetect, "UJ."

A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No further qualifications were required.

2.6 SURROGATE RECOVERY

The sample surrogate recoveries were within the laboratory QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were associated with these SDGs. Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

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

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ± 30 seconds for retention times except for the area count for perylene-d12 for sample Outfall 003. Sample Outfall 003 had the target compounds associated with perylene-d12 qualified as estimated nondetects, "UJ." A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No further qualifications were required.

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low level of the initial calibration and the method detection limit study. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for these SDGs. No qualifications were required.

2.13 SYSTEM PERFORMANCE

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



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-7022 FAX (949) 260-3207
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 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) 798-3627

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: 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	Qual Code
Sample ID: IOB1571-01 (DRAFT: Outfall 003 - Water) - cont.										
Reporting Units: ug/l										
Fluorene	EPA 625	5B22043	3.9	10	ND	0.971	02/22/05	02/25/05	U	
Hexachlorobenzene	EPA 625	5B22043	4.8	10	ND	0.971	02/22/05	02/25/05	U	
Hexachlorobutadiene	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	U	
Hexachlorocyclopentadiene	EPA 625	5B22043	3.4	20	ND	0.971	02/22/05	02/25/05	U	
Hexachloroethane	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	U	
Indeno(1,2,3-cd)pyrene	EPA 625	5B22043	5.4	20	ND	0.971	02/22/05	02/25/05	U	
Isophorone	EPA 625	5B22043	3.7	10	ND	0.971	02/22/05	02/25/05	U	
2-Methylnaphthalene	EPA 625	5B22043	3.0	10	ND	0.971	02/22/05	02/25/05	U	
2-Methylphenol	EPA 625	5B22043	3.7	10	ND	0.971	02/22/05	02/25/05	U	
4-Methylphenol	EPA 625	5B22043	3.8	10	ND	0.971	02/22/05	02/25/05	U	
Naphthalene	EPA 625	5B22043	4.5	10	ND	0.971	02/22/05	02/25/05	U	
2-Nitroaniline	EPA 625	5B22043	3.9	20	ND	0.971	02/22/05	02/25/05	U	
3-Nitroaniline	EPA 625	5B22043	4.5	20	ND	0.971	02/22/05	02/25/05	U	
4-Nitroaniline	EPA 625	5B22043	4.9	20	ND	0.971	02/22/05	02/25/05	U	
Nitrobenzene	EPA 625	5B22043	4.2	20	ND	0.971	02/22/05	02/25/05	U	
2-Nitrophenol	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	U	
4-Nitrophenol	EPA 625	5B22043	6.6	20	ND	0.971	02/22/05	02/25/05	U	
N-Nitrosodiphenylamine	EPA 625	5B22043	4.0	10	ND	0.971	02/22/05	02/25/05	U	
N-Nitroso-di-n-propylamine	EPA 625	5B22043	3.6	10	ND	0.971	02/22/05	02/25/05	U	
Pentachlorophenol	EPA 625	5B22043	4.0	20	ND	0.971	02/22/05	02/25/05	U	
Phenanthrene	EPA 625	5B22043	3.3	10	ND	0.971	02/22/05	02/25/05	U	
Phenol	EPA 625	5B22043	4.0	10	ND	0.971	02/22/05	02/25/05	U	
Pyrene	EPA 625	5B22043	3.9	10	ND	0.971	02/22/05	02/25/05	U	
1,2,4-Trichlorobenzene	EPA 625	5B22043	4.4	10	ND	0.971	02/22/05	02/25/05	U	
2,4,5-Trichlorophenol	EPA 625	5B22043	3.6	20	ND	0.971	02/22/05	02/25/05	U	
2,4,6-Trichlorophenol	EPA 625	5B22043	4.1	20	ND	0.971	02/22/05	02/25/05	U	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B22043	5.0	20	ND	0.971	02/22/05	02/25/05	U	
N-Nitrosodimethylamine	EPA 625	5B22043	3.7	20	ND	0.971	02/22/05	02/25/05	U	
Surrogate: 2-Fluorophenol (35-120%)										58 %
Surrogate: Phenol-d6 (45-120%)										65 %
Surrogate: 2,4,6-Tribromophenol (50-125%)										83 %
Surrogate: Nitrobenzene-d5 (45-120%)										66 %
Surrogate: 2-Fluorobiphenyl (45-120%)										70 %
Surrogate: Terphenyl-d14 (45-135%)										126 %

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

LEVEL IV

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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


Package ID T711VO73
 Task Order 313150010, 313150012
 SDG No. IOB1570, IOB1571

No. of Analyses 4

Laboratory Del Mar

Reviewer M. Pokorny

Analysis/Method Volatiles

Date: April 4, 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., 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	Qualifications required for calibration outliers and trip blank contamination.
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 GROUP: IOB1570, IOB1571

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#: IOB1570, IOB1571
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 4
No. of Reanalyses/Dilutions: 0
Reviewer: M. Pokorny
Date of Review: April 4, 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*, *EPA SW-846 Method 8260B*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the 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 018	Outfall 018	IOB1570-01	water	624
Trip Blank	Trip Blank	IOB1570-02	water	624
Outfall 003	Outfall 003	IOB1571-01	water	624
Trip Blank	Trip Blank	IOB1571-02	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. 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 the 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

Two initial calibrations dated 10/14/04 (acrolein and acrylonitrile only) and 02/07/05 were associated with this SDG. The average RRFs were ≥ 0.05 for all compounds listed on the sample result summaries except for the RRF for acrolein. Acrolein was rejected, "R," in all of the samples of this SDG. The %RSDs were $\leq 35\%$ for the target compounds analyzed by EPA Method 624. Two continuing calibrations associated with the sample analyses were analyzed 02/19/05 (09:11 and 09:42). The RRFs were ≥ 0.05 in all of the continuing calibrations, except for the RRF for acrolein. Acrolein was rejected, "R," in all of the samples of this SDG. The %Ds for acrolein and 1,1,1-trichloroethane exceeded 20% in the continuing calibration; therefore, the nondetect result for 1,1,1-trichloroethane were qualified as estimated, "UJ," in the site samples of these SDGs. As acrolein was previously rejected, it did not require further qualification. No qualifications were required for the Trip blanks. The %Ds were $\leq 20\%$ for the remaining target compounds listed on the result summaries. A representative number of %RSDs and average RRFs from the initial

calibrations, and %Ds and RRFs from the continuing calibrations were recalculated from the raw data, and no calculation or transcription errors were found. No further qualifications were required.

2.4 BLANKS

One water method blank (5B19020-BLK1) was 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

One water blank spike (5B19020-BS1) was 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

An MS/MSD analyses were not performed with the samples of these SDGs. Method accuracy was based on LCS performance. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Samples Trip Blank (IOB1570-02) and Trip Blank (IOB1571-02) were the trip blanks associated with these SDGs. Methylene chloride was reported in both of the Trip Blanks. Methylene chloride detects in the site samples of these SDGs were qualified as nondetects, "U." No further 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. No qualifications were required.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples in this SDG 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 the volatile target compounds by EPA Method 624. A TIC search was performed for requested target compounds 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane, as these compounds were not included in the calibration (see section 2.11). Neither compound was detected as a TIC. 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 standards and by the MDL study. Calibration was not performed for target compounds 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane; therefore, the laboratory performed only a TIC search for those compounds. Nondetects for both compounds were qualified as estimated, "UJ," in the site samples of these SDGs. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in $\mu\text{g/L}$ (ppb). No calculation or transcription errors were noted. No further 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

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3244
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4807 FAX (949) 370-1034
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9628
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0855
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1571-01 (DRAFT: Outfall 003 - Water)									
Reporting Units: ug/l <i>Res Qual Code</i>									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	U
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	U
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	U
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	U
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	U
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	U
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	U
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	U
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	U
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	U
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	U
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	U
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	U
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	U
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	U
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	U
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	U
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	U
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	U
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	U
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	U
Methylene chloride	EPA 624	5B19020	0.48	5.0	0.85	1	02/19/05	02/19/05	U
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	U
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	U
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	U
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	U
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	U
Trichloroethene	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05	U
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	U
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	U
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05	U
Surrogate: Dibromofluoromethane (80-120%)									105 %
Surrogate: Toluene-d8 (80-120%)									104 %
Surrogate: 4-Bromofluorobenzene (80-120%)									96 %

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

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



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-329
 1014 E. Cooley Dr., Suite A, Colton, CA 92124 (909) 370-4667 FAX (949) 373-1024
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (619) 505-9019
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0855
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1571-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l <i>Low Level</i>									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	U ↓ J U ↓ DNC
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	
Methylene chloride	EPA 624	5B19020	0.48	5.0	1.5	1	02/19/05	02/19/05	
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichloroethene	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05	
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)					100 %				
Surrogate: Toluene-d8 (80-120%)					102 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

LEVEL IV



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3229
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4807 FAX (949) 370-1024
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9600
 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0043
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3622

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Raw Qual	Final Code
Sample ID: IOB1571-01 (DRAFT: Outfall 003 - Water)										
Reporting Units: ug/l										
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	R	R
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	U	
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	U	
Surrogate: Dibromofluoromethane (80-120%)					105 %					
Surrogate: Toluene-d8 (80-120%)					104 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %					
Sample ID: IOB1571-02 (DRAFT: Trip Blank - Water)										
Reporting Units: ug/l										
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	R	R
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	U	
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	U	
Surrogate: Dibromofluoromethane (80-120%)					100 %					
Surrogate: Toluene-d8 (80-120%)					102 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %					

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

LEVEL IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711WC102
Task Order 313150010
SDG No. IOB1570, IOB1571

No. of Analyses 2

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

Date: 03/31/05

Reviewer's Signature 

ACTION ITEMS^a

1. Case Narrative
Deficiencies

2. Out of Scope
Analyses

3. Analyses Not
Conducted

4. Missing Hardcopy
Deliverables

5. Incorrect Hardcopy
Deliverables

6. Deviations from
Analysis Protocol, e.g.,

Qualifications were applied for:

1) Detects below the reporting limit

2) Reviewer raised cyanide MDL to level of interference

Holding Times

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 VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUPS: IOB1570 & IOB1571

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 #: IOB1570, IOB1571
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 2
Reviewer: L. Jarusewic
Date of Review: March 31, 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 300.0, 330.5, 405.1, 335.2, 418.1, 350.2, 413.1, 415.1, 160.5, 120.1, 160.2, and 180.1. Standard Methods for the Examination of Water and Wastewater Method SM5540-C and 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 003	Outfall 003	IOB1571-01	Water	General Minerals
Outfall 018	Outfall 018	IOB1570-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

The COCs were signed and dated by field and laboratory personnel. The COCs accounted for the analyses and samples presented in these SDGs. No 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 oil and grease, chloride, sulfate, fluoride, total organic carbon, conductivity, ammonia, and total recoverable hydrocarbons, the 14-day holding time for cyanide, the seven-day holding time for total suspended solids and total dissolved solids, the 48-hour holding time for turbidity, nitrate/nitrite, total settleable solids, surfactants, and biological oxygen demand, and the 24-hour residual chlorine holding times were met. No qualifications were required.

2.2 CALIBRATION

For the applicable analyses, the initial calibration correlation coefficients were ≥ 0.995 . The initial and continuing calibration verification information was acceptable with recoveries within the control limits of 90-110%. For BOD, no information regarding the calibration of the oxygen meter was provided; however, as the LCS recovery was within the CCV control limits, no qualifications were required. 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. The reporting limit check standards for cyanide were within the control limits of 70-130%. Calibration is not applicable to residual chlorine, oil and grease, total dissolved solids, total settleable solids, or total suspended solids. No qualifications were required.

2.3 BLANKS

Turbidity was detected in method blank 5B19043-BLK1 at 0.0500 NTU; however, the method blank result was insufficient to qualify the Outfall 018 result. Oil and grease was detected in method blank 5B22082-BLK1 at 1.00 mg/L; however, as oil and grease was not detected in sample Outfall 018, no qualifications were required. Sulfate was detected in a bracketing CCB at 0.33 mg/L; however, the CCB result was insufficient to qualify the Outfall 018 result. Cyanide was reported in method blank 5B25064-BLK1 -3.9 $\mu\text{g/L}$; therefore, nondetected cyanide in sample Outfall 018 was qualified as estimated, "UJ."

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. Blank analyses are not applicable to residual chlorine, conductivity, and total settleable solids. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory control sample and laboratory control sample duplicate (BOD, total recoverable hydrocarbons, and oil and grease only) recoveries were within the laboratory-established control limits. The LCS is not applicable to turbidity, total settleable solids, or residual chlorine. 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 performed on sample Outfall 018 for surfactants. The RPD was within the control limit of $\leq 20\%$. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on sample Outfall 018 for surfactants. The recoveries were within the laboratory-established control limits and 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 these data packages. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. Cyanide in Outfall 018 was reported in the raw data at $-3.7 \mu\text{g/L}$ and the method blank associated with Outfall 018 was reported at $-3.9 \mu\text{g/L}$. Due to these negative results, the reviewer raised the MDL on the Form I to the level of

interference. No transcription errors or calculation errors were noted. Flouride detected below the reporting limit in sample Outfall 018 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 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.



Del Mar Analytical

17461 Dorian Ave., Suite 100, Irvine, CA 92614 (949) 261-1032 FAX (949) 261-3214
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4867 FAX (949) 370-1024
 6484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 595-8596 FAX (619) 595-9000
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 795-0043 FAX (480) 795-0865
 2500 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3820 FAX (702) 798-3112

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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (DRAFT: Outfall 003 - Water) - cont. Reporting Units: mg/l									
Total Cyanide	EPA 335.2	5B23086	0.0022	0.0050	ND	1	02/23/05	02/25/05	U
Total Suspended Solids	EPA 160.2	5B25089	10	10	ND	1	02/25/05	02/25/05	U

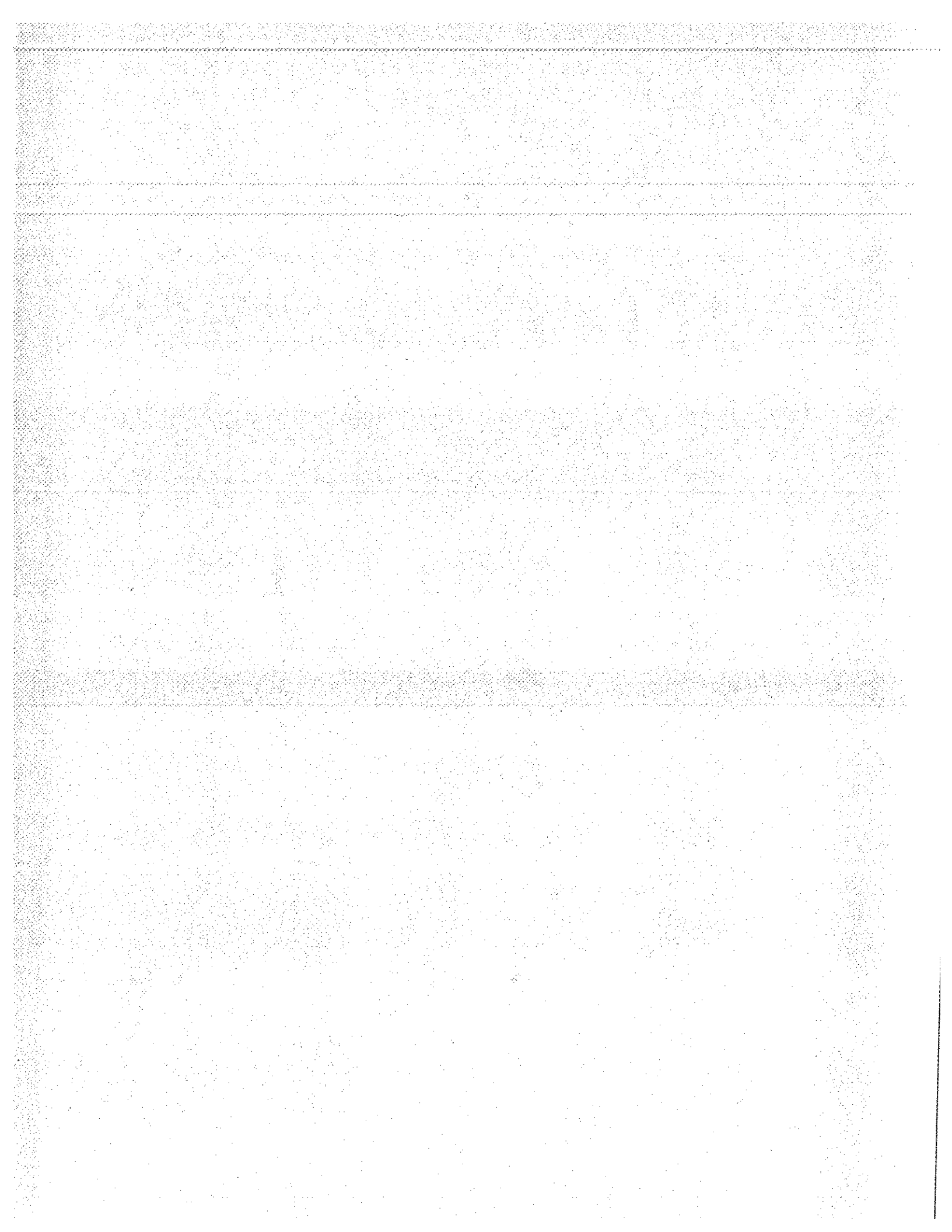
REV. QUAL. CODE

AMEC VALIDATED

LEVEL 1

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples listed in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





LABORATORY REPORT

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

Project: Annual Outfall 003

Sampled: 02/18/05
Received: 02/18/05
Issued: 04/06/05 09:42

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IOB1571-01	Outfall 003	Water
IOB1571-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
Received: 02/18/05

CORRECTIVE ACTION REPORT

Department: Extractions

Date: 02/28/2005

Method: EPA 625

Matrix: Water

QC Batch: 5B22043

Identification and Definition of Problem:

The percent recovery for benzidine in the BSD was below method acceptance limits.

Determination of the Cause of the Problem:

Benzidine is known to be a problematic compound. According to the EPA, it can be subject to oxidative losses during solvent extraction and its chromatographic behavior is poor.

Corrective Action Taken:

The percent recovery in the BS was within the acceptance limits. All results reported for benzidine are potentially biased low and can be considered estimates only.

Quality Assurance Approval:

Rima Angkasa

Date: 03/02/2005 08:43 AM

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1571-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	
Methylene chloride	EPA 624	5B19020	0.48	5.0	0.85	1	02/19/05	02/19/05	J
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichloroethene	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05	
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)									105 %
Surrogate: Toluene-d8 (80-120%)									104 %
Surrogate: 4-Bromofluorobenzene (80-120%)									96 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05

Received: 02/18/05

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: IOB1571-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	
Methylene chloride	EPA 624	5B19020	0.48	5.0	1.5	1	02/19/05	02/19/05	J
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichloroethene	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05	
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)									100 %
Surrogate: Toluene-d8 (80-120%)									102 %
Surrogate: 4-Bromofluorobenzene (80-120%)									95 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

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: IOB1571-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)					105 %				
Surrogate: Toluene-d8 (80-120%)					104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				
Sample ID: IOB1571-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)					100 %				
Surrogate: Toluene-d8 (80-120%)					102 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					95 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1571-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	5B22043	4.3	10	ND	0.971	02/22/05	02/25/05	
Acenaphthylene	EPA 625	5B22043	3.2	10	ND	0.971	02/22/05	02/25/05	
Aniline	EPA 625	5B22043	2.9	10	ND	0.971	02/22/05	02/25/05	
Anthracene	EPA 625	5B22043	3.2	10	ND	0.971	02/22/05	02/25/05	
Benzidine	EPA 625	5B22043	5.2	20	ND	0.971	02/22/05	02/25/05	L2
Benzoic acid	EPA 625	5B22043	2.6	20	ND	0.971	02/22/05	02/25/05	
Benzo(a)anthracene	EPA 625	5B22043	3.7	10	ND	0.971	02/22/05	02/25/05	
Benzo(b)fluoranthene	EPA 625	5B22043	2.7	10	ND	0.971	02/22/05	02/25/05	
Benzo(k)fluoranthene	EPA 625	5B22043	3.4	10	ND	0.971	02/22/05	02/25/05	
Benzo(g,h,i)perylene	EPA 625	5B22043	5.3	10	ND	0.971	02/22/05	02/25/05	
Benzo(a)pyrene	EPA 625	5B22043	3.5	10	ND	0.971	02/22/05	02/25/05	
Benzyl alcohol	EPA 625	5B22043	2.5	20	ND	0.971	02/22/05	02/25/05	
Bis(2-chloroethoxy)methane	EPA 625	5B22043	3.9	10	ND	0.971	02/22/05	02/25/05	
Bis(2-chloroethyl)ether	EPA 625	5B22043	4.4	10	ND	0.971	02/22/05	02/25/05	
Bis(2-chloroisopropyl)ether	EPA 625	5B22043	4.6	10	ND	0.971	02/22/05	02/25/05	
Bis(2-ethylhexyl)phthalate	EPA 625	5B22043	5.2	50	ND	0.971	02/22/05	02/25/05	
4-Bromophenyl phenyl ether	EPA 625	5B22043	4.6	10	ND	0.971	02/22/05	02/25/05	
Butyl benzyl phthalate	EPA 625	5B22043	3.5	20	ND	0.971	02/22/05	02/25/05	
4-Chloroaniline	EPA 625	5B22043	6.0	10	ND	0.971	02/22/05	02/25/05	
2-Chloronaphthalene	EPA 625	5B22043	4.0	10	ND	0.971	02/22/05	02/25/05	
4-Chloro-3-methylphenol	EPA 625	5B22043	3.5	20	ND	0.971	02/22/05	02/25/05	
2-Chlorophenol	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	
4-Chlorophenyl phenyl ether	EPA 625	5B22043	3.0	10	ND	0.971	02/22/05	02/25/05	
Chrysene	EPA 625	5B22043	2.8	10	ND	0.971	02/22/05	02/25/05	
Dibenz(a,h)anthracene	EPA 625	5B22043	4.7	20	ND	0.971	02/22/05	02/25/05	
Dibenzofuran	EPA 625	5B22043	2.6	10	ND	0.971	02/22/05	02/25/05	
Di-n-butyl phthalate	EPA 625	5B22043	2.8	20	ND	0.971	02/22/05	02/25/05	
1,3-Dichlorobenzene	EPA 625	5B22043	4.1	10	ND	0.971	02/22/05	02/25/05	
1,4-Dichlorobenzene	EPA 625	5B22043	3.9	10	ND	0.971	02/22/05	02/25/05	
1,2-Dichlorobenzene	EPA 625	5B22043	4.5	10	ND	0.971	02/22/05	02/25/05	
3,3-Dichlorobenzidine	EPA 625	5B22043	11	20	ND	0.971	02/22/05	02/25/05	
2,4-Dichlorophenol	EPA 625	5B22043	4.1	10	ND	0.971	02/22/05	02/25/05	
Diethyl phthalate	EPA 625	5B22043	3.1	10	ND	0.971	02/22/05	02/25/05	
2,4-Dimethylphenol	EPA 625	5B22043	4.4	20	ND	0.971	02/22/05	02/25/05	
Dimethyl phthalate	EPA 625	5B22043	3.6	10	ND	0.971	02/22/05	02/25/05	
4,6-Dinitro-2-methylphenol	EPA 625	5B22043	5.1	20	ND	0.971	02/22/05	02/25/05	
2,4-Dinitrophenol	EPA 625	5B22043	5.3	20	ND	0.971	02/22/05	02/25/05	
2,4-Dinitrotoluene	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	
2,6-Dinitrotoluene	EPA 625	5B22043	3.2	10	ND	0.971	02/22/05	02/25/05	
Di-n-octyl phthalate	EPA 625	5B22043	4.7	20	ND	0.971	02/22/05	02/25/05	
Fluoranthene	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1571-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Fluorene	EPA 625	5B22043	3.9	10	ND	0.971	02/22/05	02/25/05	
Hexachlorobenzene	EPA 625	5B22043	4.8	10	ND	0.971	02/22/05	02/25/05	
Hexachlorobutadiene	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	
Hexachlorocyclopentadiene	EPA 625	5B22043	3.4	20	ND	0.971	02/22/05	02/25/05	
Hexachloroethane	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	
Indeno(1,2,3-cd)pyrene	EPA 625	5B22043	5.4	20	ND	0.971	02/22/05	02/25/05	
Isophorone	EPA 625	5B22043	3.7	10	ND	0.971	02/22/05	02/25/05	
2-Methylnaphthalene	EPA 625	5B22043	3.0	10	ND	0.971	02/22/05	02/25/05	
2-Methylphenol	EPA 625	5B22043	3.7	10	ND	0.971	02/22/05	02/25/05	
4-Methylphenol	EPA 625	5B22043	3.8	10	ND	0.971	02/22/05	02/25/05	
Naphthalene	EPA 625	5B22043	4.5	10	ND	0.971	02/22/05	02/25/05	
2-Nitroaniline	EPA 625	5B22043	3.9	20	ND	0.971	02/22/05	02/25/05	
3-Nitroaniline	EPA 625	5B22043	4.5	20	ND	0.971	02/22/05	02/25/05	
4-Nitroaniline	EPA 625	5B22043	4.9	20	ND	0.971	02/22/05	02/25/05	
Nitrobenzene	EPA 625	5B22043	4.2	20	ND	0.971	02/22/05	02/25/05	
2-Nitrophenol	EPA 625	5B22043	4.2	10	ND	0.971	02/22/05	02/25/05	
4-Nitrophenol	EPA 625	5B22043	6.6	20	ND	0.971	02/22/05	02/25/05	
N-Nitrosodiphenylamine	EPA 625	5B22043	4.0	10	ND	0.971	02/22/05	02/25/05	
N-Nitroso-di-n-propylamine	EPA 625	5B22043	3.6	10	ND	0.971	02/22/05	02/25/05	
Pentachlorophenol	EPA 625	5B22043	4.0	20	ND	0.971	02/22/05	02/25/05	
Phenanthrene	EPA 625	5B22043	3.3	10	ND	0.971	02/22/05	02/25/05	
Phenol	EPA 625	5B22043	4.0	10	ND	0.971	02/22/05	02/25/05	
Pyrene	EPA 625	5B22043	3.9	10	ND	0.971	02/22/05	02/25/05	
1,2,4-Trichlorobenzene	EPA 625	5B22043	4.4	10	ND	0.971	02/22/05	02/25/05	
2,4,5-Trichlorophenol	EPA 625	5B22043	3.6	20	ND	0.971	02/22/05	02/25/05	
2,4,6-Trichlorophenol	EPA 625	5B22043	4.1	20	ND	0.971	02/22/05	02/25/05	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B22043	5.0	20	ND	0.971	02/22/05	02/25/05	
N-Nitrosodimethylamine	EPA 625	5B22043	3.7	20	ND	0.971	02/22/05	02/25/05	
Surrogate: 2-Fluorophenol (35-120%)									58 %
Surrogate: Phenol-d6 (45-120%)									65 %
Surrogate: 2,4,6-Tribromophenol (50-125%)									83 %
Surrogate: Nitrobenzene-d5 (45-120%)									66 %
Surrogate: 2-Fluorobiphenyl (45-120%)									70 %
Surrogate: Terphenyl-d14 (45-135%)									126 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Aldrin	EPA 608	5B22041	0.030	0.10	ND	0.99	02/22/05	02/23/05	
alpha-BHC	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	
beta-BHC	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	
delta-BHC	EPA 608	5B22041	0.020	0.20	ND	0.99	02/22/05	02/23/05	
gamma-BHC (Lindane)	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	
Chlordane	EPA 608	5B22041	0.20	1.0	ND	0.99	02/22/05	02/23/05	
4,4'-DDD	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	
4,4'-DDE	EPA 608	5B22041	0.020	0.10	ND	0.99	02/22/05	02/23/05	
4,4'-DDT	EPA 608	5B22041	0.030	0.10	ND	0.99	02/22/05	02/23/05	
Dieldrin	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	
Endosulfan I	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	
Endosulfan II	EPA 608	5B22041	0.040	0.10	ND	0.99	02/22/05	02/23/05	
Endosulfan sulfate	EPA 608	5B22041	0.015	0.20	ND	0.99	02/22/05	02/23/05	
Endrin	EPA 608	5B22041	0.015	0.10	ND	0.99	02/22/05	02/23/05	
Endrin aldehyde	EPA 608	5B22041	0.045	0.10	ND	0.99	02/22/05	02/23/05	
Endrin ketone	EPA 608	5B22041	0.020	0.10	ND	0.99	02/22/05	02/23/05	
Heptachlor	EPA 608	5B22041	0.030	0.10	ND	0.99	02/22/05	02/23/05	
Heptachlor epoxide	EPA 608	5B22041	0.020	0.10	ND	0.99	02/22/05	02/23/05	
Methoxychlor	EPA 608	5B22041	0.035	0.10	ND	0.99	02/22/05	02/23/05	
Toxaphene	EPA 608	5B22041	1.5	5.0	ND	0.99	02/22/05	02/23/05	
Surrogate: Tetrachloro-m-xylene (35-120%)									47 %
Surrogate: Decachlorobiphenyl (45-120%)									72 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	5B22041	0.20	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1221	EPA 608	5B22041	0.10	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1232	EPA 608	5B22041	0.15	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1242	EPA 608	5B22041	0.15	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1248	EPA 608	5B22041	0.25	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1254	EPA 608	5B22041	0.25	1.0	ND	0.99	02/22/05	02/23/05	
Aroclor 1260	EPA 608	5B22041	0.40	1.0	ND	0.99	02/22/05	02/23/05	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					69 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (Outfall 003 - Water) - cont. Reporting Units: mg/l									
Boron	EPA 200.7	5B24093	0.0074	0.050	0.045	1	02/24/05	02/25/05	J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05

Received: 02/18/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Aluminum	EPA 200.7	5B24093	47	50	360	1	02/24/05	02/26/05	
Antimony	EPA 200.8	5B24099	0.18	2.0	0.20	1	02/24/05	02/25/05	J
Arsenic	EPA 200.7	5B24093	3.8	5.0	ND	1	02/24/05	02/25/05	
Beryllium	EPA 200.7	5B24093	0.62	2.0	ND	1	02/24/05	02/25/05	
Cadmium	EPA 200.8	5B24099	0.015	1.0	0.019	1	02/24/05	02/25/05	J
Chromium	EPA 200.7	5B24093	0.68	5.0	2.0	1	02/24/05	02/25/05	J
Copper	EPA 200.8	5B24099	0.49	2.0	3.3	1	02/24/05	02/25/05	
Lead	EPA 200.8	5B24099	0.13	1.0	0.32	1	02/24/05	02/25/05	J
Mercury	EPA 245.1	5B22063	0.063	0.20	ND	1	02/22/05	02/22/05	
Nickel	EPA 200.7	5B24093	2.0	10	2.2	1	02/24/05	02/25/05	J
Selenium	EPA 200.7	5B24093	4.6	5.0	ND	1	02/24/05	02/26/05	
Silver	EPA 200.7	5B24093	1.3	10	ND	1	02/24/05	02/26/05	
Thallium	EPA 200.8	5B24099	0.075	1.0	ND	1	02/24/05	02/25/05	
Vanadium	EPA 200.7	5B24093	1.4	10	1.7	1	02/24/05	02/25/05	J
Zinc	EPA 200.7	5B24093	3.7	20	7.0	1	02/24/05	02/25/05	B, J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	5B18129	0.26	0.50	4.9	1	02/18/05	02/19/05	
Total Cyanide	EPA 335.2	5B23086	0.0022	0.0050	ND	1	02/23/05	02/25/05	
Nitrate/Nitrite-N	EPA 300.0	5B18129	0.072	0.11	0.22	1	02/18/05	02/19/05	
Oil & Grease	EPA 413.1	5B23082	0.94	5.0	1.2	1	02/23/05	02/23/05	J
Sulfate	EPA 300.0	5B18129	0.18	0.50	9.7	1	02/18/05	02/19/05	
Total Dissolved Solids	SM2540C	5B24111	10	10	130	1	02/24/05	02/24/05	
Total Suspended Solids	EPA 160.2	5B25089	10	10	ND	1	02/25/05	02/25/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05

Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1571-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	5B25064	0.80	4.0	ND	1	02/25/05	02/26/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 003 (IOB1571-01) - Water					
EPA 300.0	2	02/18/2005 12:25	02/18/2005 18:30	02/18/2005 22:00	02/19/2005 01:07
EPA 624	3	02/18/2005 12:25	02/18/2005 18:30	02/19/2005 00:00	02/19/2005 19:00
Sample ID: Trip Blank (IOB1571-02) - Water					
EPA 624	3	02/18/2005 14:50	02/18/2005 18:30	02/19/2005 00:00	02/19/2005 16:57

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05

Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B19020 Extracted: 02/19/05										
Blank Analyzed: 02/19/2005 (5B19020-BLK1)										
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.34	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.24	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	ND	5.0	0.48	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	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	2.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	0.50	0.26	ug/l						
Xylenes, Total	ND	4.0	0.52	ug/l						
Surrogate: Dibromofluoromethane	24.9			ug/l	25.0	100	80-120			
Surrogate: Toluene-d8	26.8			ug/l	25.0	107	80-120			
Surrogate: 4-Bromofluorobenzene	25.2			ug/l	25.0	101	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
LCS Analyzed: 02/19/2005 (5B19020-BS1)											
Benzene	25.3	1.0	0.28	ug/l	25.0		101	70-120			
Bromodichloromethane	22.8	2.0	0.30	ug/l	25.0		91	70-140			
Bromoform	24.9	5.0	0.32	ug/l	25.0		100	55-135			
Bromomethane	26.0	5.0	0.34	ug/l	25.0		104	60-140			
Carbon tetrachloride	22.7	0.50	0.28	ug/l	25.0		91	70-140			
Chlorobenzene	24.2	2.0	0.36	ug/l	25.0		97	80-125			
Chloroethane	25.4	5.0	0.33	ug/l	25.0		102	60-145			
Chloroform	23.2	2.0	0.33	ug/l	25.0		93	75-130			
Chloromethane	25.1	5.0	0.30	ug/l	25.0		100	40-145			
Dibromochloromethane	24.2	2.0	0.28	ug/l	25.0		97	65-145			
1,2-Dichlorobenzene	24.5	2.0	0.32	ug/l	25.0		98	80-120			
1,3-Dichlorobenzene	23.7	2.0	0.35	ug/l	25.0		95	80-120			
1,4-Dichlorobenzene	23.9	2.0	0.37	ug/l	25.0		96	80-120			
1,1-Dichloroethane	23.4	2.0	0.27	ug/l	25.0		94	70-135			
1,2-Dichloroethane	22.7	0.50	0.28	ug/l	25.0		91	60-150			
1,1-Dichloroethene	25.6	5.0	0.32	ug/l	25.0		102	75-135			
trans-1,2-Dichloroethene	24.9	2.0	0.27	ug/l	25.0		100	70-130			
1,2-Dichloropropane	25.2	2.0	0.35	ug/l	25.0		101	70-120			
cis-1,3-Dichloropropene	25.2	2.0	0.22	ug/l	25.0		101	75-130			
trans-1,3-Dichloropropene	25.6	2.0	0.24	ug/l	25.0		102	75-135			
Ethylbenzene	25.2	2.0	0.25	ug/l	25.0		101	80-120			
Methylene chloride	24.7	5.0	0.48	ug/l	25.0		99	60-135			
1,1,2,2-Tetrachloroethane	27.6	2.0	0.24	ug/l	25.0		110	60-135			
Tetrachloroethene	23.8	2.0	0.32	ug/l	25.0		95	75-125			
Toluene	25.0	2.0	0.36	ug/l	25.0		100	75-120			
1,1,1-Trichloroethane	21.8	2.0	0.30	ug/l	25.0		87	75-140			
1,1,2-Trichloroethane	25.2	2.0	0.30	ug/l	25.0		101	70-125			
Trichloroethene	24.4	2.0	0.26	ug/l	25.0		98	80-120			
Trichlorofluoromethane	21.9	5.0	0.34	ug/l	25.0		88	65-145			
Vinyl chloride	24.1	0.50	0.26	ug/l	25.0		96	50-130			
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	27.1			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104	80-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
Matrix Spike Analyzed: 02/19/2005 (5B19020-MS1)						Source: IOB1556-01					
Benzene	22.7	1.0	0.28	ug/l	25.0	ND	91	70-120			
Bromodichloromethane	20.2	2.0	0.30	ug/l	25.0	ND	81	70-140			
Bromoform	20.2	5.0	0.32	ug/l	25.0	ND	81	55-145			
Bromomethane	23.0	5.0	0.34	ug/l	25.0	ND	92	50-145			
Carbon tetrachloride	20.8	0.50	0.28	ug/l	25.0	ND	83	70-145			
Chlorobenzene	21.9	2.0	0.36	ug/l	25.0	ND	88	80-125			
Chloroethane	22.3	5.0	0.33	ug/l	25.0	ND	89	50-145			
Chloroform	21.0	2.0	0.33	ug/l	25.0	ND	84	70-135			
Chloromethane	21.8	5.0	0.30	ug/l	25.0	ND	87	35-145			
Dibromochloromethane	21.0	2.0	0.28	ug/l	25.0	ND	84	65-145			
1,2-Dichlorobenzene	22.2	2.0	0.32	ug/l	25.0	ND	89	75-130			
1,3-Dichlorobenzene	22.0	2.0	0.35	ug/l	25.0	ND	88	75-130			
1,4-Dichlorobenzene	22.0	2.0	0.37	ug/l	25.0	ND	88	80-120			
1,1-Dichloroethane	21.3	2.0	0.27	ug/l	25.0	ND	85	65-135			
1,2-Dichloroethane	19.6	0.50	0.28	ug/l	25.0	ND	78	60-150			
1,1-Dichloroethene	22.6	5.0	0.32	ug/l	25.0	ND	90	65-140			
trans-1,2-Dichloroethene	22.5	2.0	0.27	ug/l	25.0	ND	90	65-135			
1,2-Dichloropropane	22.1	2.0	0.35	ug/l	25.0	ND	88	65-130			
cis-1,3-Dichloropropene	22.2	2.0	0.22	ug/l	25.0	ND	89	70-140			
trans-1,3-Dichloropropene	21.7	2.0	0.24	ug/l	25.0	ND	87	70-140			
Ethylbenzene	23.3	2.0	0.25	ug/l	25.0	ND	93	70-130			
Methylene chloride	22.7	5.0	0.48	ug/l	25.0	0.95	87	60-135			
1,1,2,2-Tetrachloroethane	22.8	2.0	0.24	ug/l	25.0	ND	91	60-145			
Tetrachloroethene	21.3	2.0	0.32	ug/l	25.0	ND	85	70-130			
Toluene	22.5	2.0	0.36	ug/l	25.0	ND	90	70-120			
1,1,1-Trichloroethane	20.3	2.0	0.30	ug/l	25.0	0.76	78	75-140			
1,1,2-Trichloroethane	20.9	2.0	0.30	ug/l	25.0	ND	84	60-135			
Trichloroethene	22.1	2.0	0.26	ug/l	25.0	0.66	86	70-125			
Trichlorofluoromethane	19.6	5.0	0.34	ug/l	25.0	ND	78	55-145			
Vinyl chloride	21.6	0.50	0.26	ug/l	25.0	ND	86	40-135			
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: 5B19020 Extracted: 02/19/05

Matrix Spike Dup Analyzed: 02/19/2005 (5B19020-MSD1)

Source: IOB1556-01

Benzene	24.4	1.0	0.28	ug/l	25.0	ND	98	70-120	7	20	
Bromodichloromethane	21.5	2.0	0.30	ug/l	25.0	ND	86	70-140	6	20	
Bromoform	22.7	5.0	0.32	ug/l	25.0	ND	91	55-140	12	25	
Bromomethane	24.8	5.0	0.34	ug/l	25.0	ND	99	50-145	8	25	
Carbon tetrachloride	22.1	0.50	0.28	ug/l	25.0	ND	88	70-145	6	25	
Chlorobenzene	23.4	2.0	0.36	ug/l	25.0	ND	94	80-125	7	20	
Chloroethane	23.8	5.0	0.33	ug/l	25.0	ND	95	50-145	7	25	
Chloroform	22.2	2.0	0.33	ug/l	25.0	ND	89	70-135	6	20	
Chloromethane	23.2	5.0	0.30	ug/l	25.0	ND	93	35-145	6	25	
Dibromochloromethane	22.8	2.0	0.28	ug/l	25.0	ND	91	65-145	8	25	
1,2-Dichlorobenzene	23.3	2.0	0.32	ug/l	25.0	ND	93	75-130	5	20	
1,3-Dichlorobenzene	22.9	2.0	0.35	ug/l	25.0	ND	92	75-130	4	20	
1,4-Dichlorobenzene	23.0	2.0	0.37	ug/l	25.0	ND	92	80-120	4	20	
1,1-Dichloroethane	22.5	2.0	0.27	ug/l	25.0	ND	90	65-135	5	20	
1,2-Dichloroethane	23.3	0.50	0.28	ug/l	25.0	ND	93	60-150	17	20	
1,1-Dichloroethene	24.3	5.0	0.32	ug/l	25.0	ND	97	65-140	7	20	
trans-1,2-Dichloroethene	24.0	2.0	0.27	ug/l	25.0	ND	96	65-135	6	20	
1,2-Dichloropropane	23.7	2.0	0.35	ug/l	25.0	ND	95	65-130	7	20	
cis-1,3-Dichloropropene	23.9	2.0	0.22	ug/l	25.0	ND	96	70-140	7	20	
trans-1,3-Dichloropropene	23.7	2.0	0.24	ug/l	25.0	ND	95	70-140	9	25	
Ethylbenzene	24.8	2.0	0.25	ug/l	25.0	ND	99	70-130	6	20	
Methylene chloride	24.2	5.0	0.48	ug/l	25.0	0.95	93	60-135	6	20	
1,1,2,2-Tetrachloroethane	25.3	2.0	0.24	ug/l	25.0	ND	101	60-145	10	30	
Tetrachloroethene	23.0	2.0	0.32	ug/l	25.0	ND	92	70-130	8	20	
Toluene	24.0	2.0	0.36	ug/l	25.0	ND	96	70-120	6	20	
1,1,1-Trichloroethane	21.7	2.0	0.30	ug/l	25.0	0.76	84	75-140	7	20	
1,1,2-Trichloroethane	23.3	2.0	0.30	ug/l	25.0	ND	93	60-135	11	25	
Trichloroethene	23.0	2.0	0.26	ug/l	25.0	0.66	89	70-125	4	20	
Trichlorofluoromethane	20.7	5.0	0.34	ug/l	25.0	ND	83	55-145	5	25	
Vinyl chloride	22.8	0.50	0.26	ug/l	25.0	ND	91	40-135	5	30	
<i>Surrogate: Dibromofluoromethane</i>	24.1			ug/l	25.0		96	80-120			
<i>Surrogate: Toluene-d8</i>	25.8			ug/l	25.0		103	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	24.9			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05

Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
Blank Analyzed: 02/19/2005 (5B19020-BLK1)											
Acrolein	ND	50	4.6	ug/l							
Acrylonitrile	ND	50	5.1	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l							
Surrogate: Dibromofluoromethane	24.9			ug/l	25.0		100	80-120			
Surrogate: Toluene-d8	26.8			ug/l	25.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	25.2			ug/l	25.0		101	80-120			
LCS Analyzed: 02/19/2005 (5B19020-BS1)											
2-Chloroethyl vinyl ether	28.8	5.0	1.3	ug/l	25.0		115	20-175			
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	27.1			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104	80-120			
Matrix Spike Analyzed: 02/19/2005 (5B19020-MS1) Source: IOB1556-01											
2-Chloroethyl vinyl ether	21.2	5.0	1.3	ug/l	25.0	ND	85	20-175			
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120			
Matrix Spike Dup Analyzed: 02/19/2005 (5B19020-MSD1) Source: IOB1556-01											
2-Chloroethyl vinyl ether	24.9	5.0	1.3	ug/l	25.0	ND	100	20-175	16	25	
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.8			ug/l	25.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	24.9			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05									
Blank Analyzed: 02/25/2005 (5B22043-BLK1)									
Acenaphthene	ND	10	4.3	ug/l					
Acenaphthylene	ND	10	3.2	ug/l					
Aniline	ND	10	2.9	ug/l					
Anthracene	ND	10	3.2	ug/l					
Benzidine	ND	20	5.2	ug/l					
Benzoic acid	ND	20	2.6	ug/l					
Benzo(a)anthracene	ND	10	3.7	ug/l					
Benzo(b)fluoranthene	ND	10	2.7	ug/l					
Benzo(k)fluoranthene	ND	10	3.4	ug/l					
Benzo(g,h,i)perylene	ND	10	5.3	ug/l					
Benzo(a)pyrene	ND	10	3.5	ug/l					
Benzyl alcohol	ND	20	2.5	ug/l					
Bis(2-chloroethoxy)methane	ND	10	3.9	ug/l					
Bis(2-chloroethyl)ether	ND	10	4.4	ug/l					
Bis(2-chloroisopropyl)ether	ND	10	4.6	ug/l					
Bis(2-ethylhexyl)phthalate	ND	50	5.2	ug/l					
4-Bromophenyl phenyl ether	ND	10	4.6	ug/l					
Butyl benzyl phthalate	ND	20	3.5	ug/l					
4-Chloroaniline	ND	10	6.0	ug/l					
2-Chloronaphthalene	ND	10	4.0	ug/l					
4-Chloro-3-methylphenol	ND	20	3.5	ug/l					
2-Chlorophenol	ND	10	4.2	ug/l					
4-Chlorophenyl phenyl ether	ND	10	3.0	ug/l					
Chrysene	ND	10	2.8	ug/l					
Dibenz(a,h)anthracene	ND	20	4.7	ug/l					
Dibenzofuran	ND	10	2.6	ug/l					
Di-n-butyl phthalate	ND	20	2.8	ug/l					
1,3-Dichlorobenzene	ND	10	4.1	ug/l					
1,4-Dichlorobenzene	ND	10	3.9	ug/l					
1,2-Dichlorobenzene	ND	10	4.5	ug/l					
3,3-Dichlorobenzidine	ND	20	11	ug/l					
2,4-Dichlorophenol	ND	10	4.1	ug/l					
Diethyl phthalate	ND	10	3.1	ug/l					
2,4-Dimethylphenol	ND	20	4.4	ug/l					
Dimethyl phthalate	ND	10	3.6	ug/l					

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
Blank Analyzed: 02/25/2005 (5B22043-BLK1)										
4,6-Dinitro-2-methylphenol	ND	20	5.1	ug/l						
2,4-Dinitrophenol	ND	20	5.3	ug/l						
2,4-Dinitrotoluene	ND	10	4.2	ug/l						
2,6-Dinitrotoluene	ND	10	3.2	ug/l						
Di-n-octyl phthalate	ND	20	4.7	ug/l						
Fluoranthene	ND	10	4.2	ug/l						
Fluorene	ND	10	3.9	ug/l						
Hexachlorobenzene	ND	10	4.8	ug/l						
Hexachlorobutadiene	ND	10	4.2	ug/l						
Hexachlorocyclopentadiene	ND	20	3.4	ug/l						
Hexachloroethane	ND	10	4.2	ug/l						
Indeno(1,2,3-cd)pyrene	ND	20	5.4	ug/l						
Isophorone	ND	10	3.7	ug/l						
2-Methylnaphthalene	ND	10	3.0	ug/l						
2-Methylphenol	ND	10	3.7	ug/l						
4-Methylphenol	ND	10	3.8	ug/l						
Naphthalene	ND	10	4.5	ug/l						
2-Nitroaniline	ND	20	3.9	ug/l						
3-Nitroaniline	ND	20	4.5	ug/l						
4-Nitroaniline	ND	20	4.9	ug/l						
Nitrobenzene	ND	20	4.2	ug/l						
2-Nitrophenol	ND	10	4.2	ug/l						
4-Nitrophenol	ND	20	6.6	ug/l						
N-Nitrosodiphenylamine	ND	10	4.0	ug/l						
N-Nitroso-di-n-propylamine	ND	10	3.6	ug/l						
Pentachlorophenol	ND	20	4.0	ug/l						
Phenanthrene	ND	10	3.3	ug/l						
Phenol	ND	10	4.0	ug/l						
Pyrene	ND	10	3.9	ug/l						
1,2,4-Trichlorobenzene	ND	10	4.4	ug/l						
2,4,5-Trichlorophenol	ND	20	3.6	ug/l						
2,4,6-Trichlorophenol	ND	20	4.1	ug/l						
1,2-Diphenylhydrazine/Azobenzene	ND	20	5.0	ug/l						
N-Nitrosodimethylamine	ND	20	3.7	ug/l						
Surrogate: 2-Fluorophenol	138			ug/l	200	69	35-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
Blank Analyzed: 02/25/2005 (5B22043-BLK1)										
Surrogate: Phenol-d6	144			ug/l	200		72	45-120		
Surrogate: 2,4,6-Tribromophenol	162			ug/l	200		81	50-125		
Surrogate: Nitrobenzene-d5	76.2			ug/l	100		76	45-120		
Surrogate: 2-Fluorobiphenyl	79.8			ug/l	100		80	45-120		
Surrogate: Terphenyl-d14	70.2			ug/l	100		70	45-135		
LCS Analyzed: 02/25/2005 (5B22043-BS1)										
Acenaphthene	83.1	10	4.3	ug/l	100		83	55-120		M-NR1
Acenaphthylene	82.0	10	3.2	ug/l	100		82	55-120		
Aniline	78.1	10	2.9	ug/l	100		78	30-120		
Anthracene	86.0	10	3.2	ug/l	100		86	60-120		
Benzidine	150	20	5.2	ug/l	100		150	20-180		
Benzoic acid	68.1	20	2.6	ug/l	100		68	30-125		
Benzo(a)anthracene	82.9	10	3.7	ug/l	100		83	65-120		
Benzo(b)fluoranthene	84.5	10	2.7	ug/l	100		84	50-125		
Benzo(k)fluoranthene	89.6	10	3.4	ug/l	100		90	50-125		
Benzo(g,h,i)perylene	74.4	10	5.3	ug/l	100		74	35-160		
Benzo(a)pyrene	86.0	10	3.5	ug/l	100		86	55-125		
Benzyl alcohol	79.2	20	2.5	ug/l	100		79	40-130		
Bis(2-chloroethoxy)methane	82.5	10	3.9	ug/l	100		82	55-120		
Bis(2-chloroethyl)ether	68.6	10	4.4	ug/l	100		69	50-120		
Bis(2-chloroisopropyl)ether	77.4	10	4.6	ug/l	100		77	50-120		
Bis(2-ethylhexyl)phthalate	75.0	50	5.2	ug/l	100		75	65-125		
4-Bromophenyl phenyl ether	78.0	10	4.6	ug/l	100		78	55-125		
Butyl benzyl phthalate	79.3	20	3.5	ug/l	100		79	60-125		
4-Chloroaniline	80.4	10	6.0	ug/l	100		80	55-120		
2-Chloronaphthalene	80.9	10	4.0	ug/l	100		81	60-120		
4-Chloro-3-methylphenol	83.6	20	3.5	ug/l	100		84	60-120		
2-Chlorophenol	72.0	10	4.2	ug/l	100		72	45-120		
4-Chlorophenyl phenyl ether	80.7	10	3.0	ug/l	100		81	55-120		
Chrysene	83.0	10	2.8	ug/l	100		83	65-120		
Dibenz(a,h)anthracene	75.5	20	4.7	ug/l	100		76	40-160		
Dibenzofuran	81.1	10	2.6	ug/l	100		81	60-120		
Di-n-butyl phthalate	83.2	20	2.8	ug/l	100		83	65-125		
1,3-Dichlorobenzene	65.5	10	4.1	ug/l	100		66	40-120		
1,4-Dichlorobenzene	64.8	10	3.9	ug/l	100		65	40-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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: 5B22043 Extracted: 02/22/05											
LCS Analyzed: 02/25/2005 (SB22043-BS1)											
1,2-Dichlorobenzene	66.6	10	4.5	ug/l	100	67	40-120				M-NR1
3,3-Dichlorobenzidine	85.5	20	11	ug/l	100	86	50-170				
2,4-Dichlorophenol	80.7	10	4.1	ug/l	100	81	55-120				
Diethyl phthalate	78.4	10	3.1	ug/l	100	78	60-120				
2,4-Dimethylphenol	71.1	20	4.4	ug/l	100	71	35-120				
Dimethyl phthalate	78.0	10	3.6	ug/l	100	78	60-120				
4,6-Dinitro-2-methylphenol	77.3	20	5.1	ug/l	100	77	55-120				
2,4-Dinitrophenol	75.1	20	5.3	ug/l	100	75	40-140				
2,4-Dinitrotoluene	81.1	10	4.2	ug/l	100	81	60-140				
2,6-Dinitrotoluene	77.9	10	3.2	ug/l	100	78	65-125				
Di-n-octyl phthalate	68.3	20	4.7	ug/l	100	68	60-130				
Fluoranthene	86.3	10	4.2	ug/l	100	86	55-125				
Fluorene	83.9	10	3.9	ug/l	100	84	60-120				
Hexachlorobenzene	84.1	10	4.8	ug/l	100	84	50-120				
Hexachlorobutadiene	70.9	10	4.2	ug/l	100	71	45-120				
Hexachlorocyclopentadiene	69.3	20	3.4	ug/l	100	69	10-130				
Hexachloroethane	64.4	10	4.2	ug/l	100	64	40-120				
Indeno(1,2,3-cd)pyrene	71.9	20	5.4	ug/l	100	72	35-150				
Isophorone	75.7	10	3.7	ug/l	100	76	55-120				
2-Methylnaphthalene	80.5	10	3.0	ug/l	100	80	50-120				
2-Methylphenol	72.7	10	3.7	ug/l	100	73	45-120				
4-Methylphenol	75.3	10	3.8	ug/l	100	75	45-120				
Naphthalene	78.3	10	4.5	ug/l	100	78	50-120				
2-Nitroaniline	84.0	20	3.9	ug/l	100	84	60-130				
3-Nitroaniline	87.2	20	4.5	ug/l	100	87	50-140				
4-Nitroaniline	89.5	20	4.9	ug/l	100	90	45-160				
Nitrobenzene	72.3	20	4.2	ug/l	100	72	50-120				
2-Nitrophenol	79.1	10	4.2	ug/l	100	79	55-120				
4-Nitrophenol	74.9	20	6.6	ug/l	100	75	50-135				
N-Nitrosodiphenylamine	77.6	10	4.0	ug/l	100	78	60-120				
N-Nitroso-di-n-propylamine	73.9	10	3.6	ug/l	100	74	50-120				
Pentachlorophenol	88.3	20	4.0	ug/l	100	88	50-125				
Phenanthrene	84.1	10	3.3	ug/l	100	84	55-120				
Phenol	72.3	10	4.0	ug/l	100	72	45-120				
Pyrene	81.6	10	3.9	ug/l	100	82	50-120				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
LCS Analyzed: 02/25/2005 (5B22043-BS1)											
1,2,4-Trichlorobenzene	70.3	10	4.4	ug/l	100	70	50-120				M-NR1
2,4,5-Trichlorophenol	83.4	20	3.6	ug/l	100	83	60-120				
2,4,6-Trichlorophenol	81.7	20	4.1	ug/l	100	82	60-120				
1,2-Diphenylhydrazine/Azobenzene	84.6	20	5.0	ug/l	100	85	60-120				
N-Nitrosodimethylamine	73.1	20	3.7	ug/l	100	73	40-120				
Surrogate: 2-Fluorophenol	132			ug/l	200	66	35-120				
Surrogate: Phenol-d6	142			ug/l	200	71	45-120				
Surrogate: 2,4,6-Tribromophenol	166			ug/l	200	83	50-125				
Surrogate: Nitrobenzene-d5	75.9			ug/l	100	76	45-120				
Surrogate: 2-Fluorobiphenyl	77.6			ug/l	100	78	45-120				
Surrogate: Terphenyl-d14	76.0			ug/l	100	76	45-135				
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)											
Acenaphthene	77.9	10	4.3	ug/l	100	78	55-120	6	20		
Acenaphthylene	78.7	10	3.2	ug/l	100	79	55-120	4	20		
Aniline	62.7	10	2.9	ug/l	100	63	30-120	22	25		
Anthracene	83.5	10	3.2	ug/l	100	84	60-120	3	20		
Benzidine	ND	20	5.2	ug/l	100		20-180		35		L2
Benzoic acid	61.0	20	2.6	ug/l	100	61	30-125	11	30		
Benzo(a)anthracene	80.9	10	3.7	ug/l	100	81	65-120	2	20		
Benzo(b)fluoranthene	80.1	10	2.7	ug/l	100	80	50-125	5	25		
Benzo(k)fluoranthene	80.7	10	3.4	ug/l	100	81	50-125	10	20		
Benzo(g,h,i)perylene	86.3	10	5.3	ug/l	100	86	35-160	15	25		
Benzo(a)pyrene	80.9	10	3.5	ug/l	100	81	55-125	6	25		
Benzyl alcohol	78.0	20	2.5	ug/l	100	78	40-130	2	20		
Bis(2-chloroethoxy)methane	78.3	10	3.9	ug/l	100	78	55-120	5	20		
Bis(2-chloroethyl)ether	66.9	10	4.4	ug/l	100	67	50-120	3	20		
Bis(2-chloroisopropyl)ether	76.3	10	4.6	ug/l	100	76	50-120	1	20		
Bis(2-ethylhexyl)phthalate	69.6	50	5.2	ug/l	100	70	65-125	7	20		
4-Bromophenyl phenyl ether	75.9	10	4.6	ug/l	100	76	55-125	3	25		
Butyl benzyl phthalate	85.0	20	3.5	ug/l	100	85	60-125	7	20		
4-Chloroaniline	73.7	10	6.0	ug/l	100	74	55-120	9	25		
2-Chloronaphthalene	78.3	10	4.0	ug/l	100	78	60-120	3	20		
4-Chloro-3-methylphenol	75.8	20	3.5	ug/l	100	76	60-120	10	25		
2-Chlorophenol	70.2	10	4.2	ug/l	100	70	45-120	3	25		
4-Chlorophenyl phenyl ether	79.3	10	3.0	ug/l	100	79	55-120	2	20		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)											
Chrysene	81.6	10	2.8	ug/l	100	82	65-120	2	20		
Dibenz(a,h)anthracene	86.3	20	4.7	ug/l	100	86	40-160	13	25		
Dibenzofuran	77.5	10	2.6	ug/l	100	78	60-120	5	20		
Di-n-butyl phthalate	80.8	20	2.8	ug/l	100	81	65-125	3	20		
1,3-Dichlorobenzene	64.4	10	4.1	ug/l	100	64	40-120	2	25		
1,4-Dichlorobenzene	63.4	10	3.9	ug/l	100	63	40-120	2	25		
1,2-Dichlorobenzene	65.7	10	4.5	ug/l	100	66	40-120	1	25		
3,3-Dichlorobenzidine	76.3	20	11	ug/l	100	76	50-170	11	25		
2,4-Dichlorophenol	75.1	10	4.1	ug/l	100	75	55-120	7	20		
Diethyl phthalate	76.4	10	3.1	ug/l	100	76	60-120	3	20		
2,4-Dimethylphenol	67.0	20	4.4	ug/l	100	67	35-120	6	25		
Dimethyl phthalate	75.1	10	3.6	ug/l	100	75	60-120	4	20		
4,6-Dinitro-2-methylphenol	76.9	20	5.1	ug/l	100	77	55-120	1	25		
2,4-Dinitrophenol	70.5	20	5.3	ug/l	100	70	40-140	6	25		
2,4-Dinitrotoluene	77.8	10	4.2	ug/l	100	78	60-140	4	20		
2,6-Dinitrotoluene	75.3	10	3.2	ug/l	100	75	65-125	3	20		
Di-n-octyl phthalate	64.0	20	4.7	ug/l	100	64	60-130	7	20		
Fluoranthene	80.3	10	4.2	ug/l	100	80	55-125	7	20		
Fluorene	80.1	10	3.9	ug/l	100	80	60-120	5	20		
Hexachlorobenzene	79.9	10	4.8	ug/l	100	80	50-120	5	20		
Hexachlorobutadiene	67.7	10	4.2	ug/l	100	68	45-120	5	25		
Hexachlorocyclopentadiene	66.0	20	3.4	ug/l	100	66	10-130	5	30		
Hexachloroethane	63.8	10	4.2	ug/l	100	64	40-120	1	25		
Indeno(1,2,3-cd)pyrene	81.8	20	5.4	ug/l	100	82	35-150	13	25		
Isophorone	71.9	10	3.7	ug/l	100	72	55-120	5	20		
2-Methylnaphthalene	74.5	10	3.0	ug/l	100	74	50-120	8	20		
2-Methylphenol	71.4	10	3.7	ug/l	100	71	45-120	2	20		
4-Methylphenol	73.1	10	3.8	ug/l	100	73	45-120	3	20		
Naphthalene	75.6	10	4.5	ug/l	100	76	50-120	4	20		
2-Nitroaniline	80.5	20	3.9	ug/l	100	80	60-130	4	20		
3-Nitroaniline	81.1	20	4.5	ug/l	100	81	50-140	7	25		
4-Nitroaniline	79.5	20	4.9	ug/l	100	80	45-160	12	20		
Nitrobenzene	70.4	20	4.2	ug/l	100	70	50-120	3	25		
2-Nitrophenol	75.4	10	4.2	ug/l	100	75	55-120	5	25		
4-Nitrophenol	65.8	20	6.6	ug/l	100	66	50-135	13	25		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)											
N-Nitrosodiphenylamine	76.4	10	4.0	ug/l	100	76	60-120	2	20		
N-Nitroso-di-n-propylamine	70.3	10	3.6	ug/l	100	70	50-120	5	20		
Pentachlorophenol	83.9	20	4.0	ug/l	100	84	50-125	5	25		
Phenanthrene	80.8	10	3.3	ug/l	100	81	55-120	4	20		
Phenol	70.0	10	4.0	ug/l	100	70	45-120	3	25		
Pyrene	98.6	10	3.9	ug/l	100	99	50-120	19	25		
1,2,4-Trichlorobenzene	66.9	10	4.4	ug/l	100	67	50-120	5	20		
2,4,5-Trichlorophenol	76.7	20	3.6	ug/l	100	77	60-120	8	20		
2,4,6-Trichlorophenol	77.8	20	4.1	ug/l	100	78	60-120	5	20		
1,2-Diphenylhydrazine/Azobenzene	81.0	20	5.0	ug/l	100	81	60-120	4	25		
N-Nitrosodimethylamine	70.7	20	3.7	ug/l	100	71	40-120	3	20		
Surrogate: 2-Fluorophenol	126			ug/l	200	63	35-120				
Surrogate: Phenol-d6	137			ug/l	200	68	45-120				
Surrogate: 2,4,6-Tribromophenol	162			ug/l	200	81	50-125				
Surrogate: Nitrobenzene-d5	71.8			ug/l	100	72	45-120				
Surrogate: 2-Fluorobiphenyl	75.7			ug/l	100	76	45-120				
Surrogate: Terphenyl-d14	87.9			ug/l	100	88	45-135				

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------------------	---------	-------	-----------------

Batch: 5B22041 Extracted: 02/22/05

Blank Analyzed: 02/23/2005 (5B22041-BLK1)

Aldrin	ND	0.10	0.030	ug/l						
alpha-BHC	ND	0.10	0.015	ug/l						
beta-BHC	ND	0.10	0.015	ug/l						
delta-BHC	ND	0.20	0.020	ug/l						
gamma-BHC (Lindane)	ND	0.10	0.015	ug/l						
Chlordane	ND	1.0	0.20	ug/l						
4,4'-DDD	ND	0.10	0.015	ug/l						
4,4'-DDE	ND	0.10	0.020	ug/l						
4,4'-DDT	ND	0.10	0.030	ug/l						
Dieldrin	ND	0.10	0.015	ug/l						
Endosulfan I	ND	0.10	0.015	ug/l						
Endosulfan II	ND	0.10	0.040	ug/l						
Endosulfan sulfate	ND	0.20	0.015	ug/l						
Endrin	ND	0.10	0.015	ug/l						
Endrin aldehyde	ND	0.10	0.045	ug/l						
Endrin ketone	ND	0.10	0.020	ug/l						
Heptachlor	ND	0.10	0.030	ug/l						
Heptachlor epoxide	ND	0.10	0.020	ug/l						
Methoxychlor	ND	0.10	0.035	ug/l						
Toxaphene	ND	5.0	1.5	ug/l						
Surrogate: Tetrachloro-m-xylene	0.389			ug/l	0.500		78		35-120	
Surrogate: Decachlorobiphenyl	0.441			ug/l	0.500		88		45-120	

LCS Analyzed: 02/23/2005 (5B22041-BS1)

M-NR1

Aldrin	0.415	0.10	0.030	ug/l	0.500		83		45-115	
alpha-BHC	0.450	0.10	0.015	ug/l	0.500		90		45-115	
beta-BHC	0.420	0.10	0.015	ug/l	0.500		84		50-115	
delta-BHC	0.435	0.20	0.020	ug/l	0.500		87		55-120	
gamma-BHC (Lindane)	0.453	0.10	0.015	ug/l	0.500		91		45-115	
4,4'-DDD	0.505	0.10	0.015	ug/l	0.500		101		60-120	
4,4'-DDE	0.478	0.10	0.020	ug/l	0.500		96		55-120	
4,4'-DDT	0.481	0.10	0.030	ug/l	0.500		96		60-130	
Dieldrin	0.466	0.10	0.015	ug/l	0.500		93		55-120	
Endosulfan I	0.437	0.10	0.015	ug/l	0.500		87		50-115	
Endosulfan II	0.459	0.10	0.040	ug/l	0.500		92		60-125	
Endosulfan sulfate	0.466	0.20	0.015	ug/l	0.500		93		60-120	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Limit	Qualifiers
Batch: 5B22041 Extracted: 02/22/05											
LCS Analyzed: 02/23/2005 (5B22041-BS1)											
Endrin	0.518	0.10	0.015	ug/l	0.500		104	55-125			M-NR1
Endrin aldehyde	0.444	0.10	0.045	ug/l	0.500		89	55-115			
Endrin ketone	0.457	0.10	0.020	ug/l	0.500		91	60-120			
Heptachlor	0.443	0.10	0.030	ug/l	0.500		89	45-115			
Heptachlor epoxide	0.425	0.10	0.020	ug/l	0.500		85	50-120			
Methoxychlor	0.525	0.10	0.035	ug/l	0.500		105	60-135			
Surrogate: Tetrachloro-m-xylene	0.381			ug/l	0.500		76	35-120			
Surrogate: Decachlorobiphenyl	0.440			ug/l	0.500		88	45-120			
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD1)											
Aldrin	0.371	0.10	0.030	ug/l	0.500		74	45-115	11	30	
alpha-BHC	0.449	0.10	0.015	ug/l	0.500		90	45-115	0	30	
beta-BHC	0.419	0.10	0.015	ug/l	0.500		84	50-115	0	30	
delta-BHC	0.432	0.20	0.020	ug/l	0.500		86	55-120	1	30	
gamma-BHC (Lindane)	0.452	0.10	0.015	ug/l	0.500		90	45-115	0	30	
4,4'-DDD	0.496	0.10	0.015	ug/l	0.500		99	60-120	2	30	
4,4'-DDE	0.472	0.10	0.020	ug/l	0.500		94	55-120	1	30	
4,4'-DDT	0.481	0.10	0.030	ug/l	0.500		96	60-130	0	30	
Dieldrin	0.459	0.10	0.015	ug/l	0.500		92	55-120	2	30	
Endosulfan I	0.436	0.10	0.015	ug/l	0.500		87	50-115	0	30	
Endosulfan II	0.443	0.10	0.040	ug/l	0.500		89	60-125	4	30	
Endosulfan sulfate	0.461	0.20	0.015	ug/l	0.500		92	60-120	1	30	
Endrin	0.509	0.10	0.015	ug/l	0.500		102	55-125	2	30	
Endrin aldehyde	0.440	0.10	0.045	ug/l	0.500		88	55-115	1	30	
Endrin ketone	0.450	0.10	0.020	ug/l	0.500		90	60-120	2	30	
Heptachlor	0.446	0.10	0.030	ug/l	0.500		89	45-115	1	30	
Heptachlor epoxide	0.431	0.10	0.020	ug/l	0.500		86	50-120	1	30	
Methoxychlor	0.533	0.10	0.035	ug/l	0.500		107	60-135	2	30	
Surrogate: Tetrachloro-m-xylene	0.384			ug/l	0.500		77	35-120			
Surrogate: Decachlorobiphenyl	0.442			ug/l	0.500		88	45-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B22041 Extracted: 02/22/05										
Blank Analyzed: 02/23/2005 (5B22041-BLK1)										
Aroclor 1016	ND	1.0	0.20	ug/l						
Aroclor 1221	ND	1.0	0.10	ug/l						
Aroclor 1232	ND	1.0	0.15	ug/l						
Aroclor 1242	ND	1.0	0.15	ug/l						
Aroclor 1248	ND	1.0	0.25	ug/l						
Aroclor 1254	ND	1.0	0.25	ug/l						
Aroclor 1260	ND	1.0	0.40	ug/l						
Surrogate: Decachlorobiphenyl	0.340			ug/l	0.500		68	45-120		
LCS Analyzed: 02/23/2005 (5B22041-BS2)										
Aroclor 1016	2.62	1.0	0.20	ug/l	4.00		66	50-115		M-NRI
Aroclor 1260	2.49	1.0	0.40	ug/l	4.00		62	60-115		
Surrogate: Decachlorobiphenyl	0.312			ug/l	0.500		62	45-120		
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD2)										
Aroclor 1016	2.91	1.0	0.20	ug/l	4.00		73	50-115	10	30
Aroclor 1260	2.67	1.0	0.40	ug/l	4.00		67	60-115	7	25
Surrogate: Decachlorobiphenyl	0.418			ug/l	0.500		84	45-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD RPD	Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	-------	---------	-------	-----------------

Batch: 5B22063 Extracted: 02/22/05

Blank Analyzed: 02/22/2005 (5B22063-BLK1)

Mercury	ND	0.20	0.063	ug/l							
---------	----	------	-------	------	--	--	--	--	--	--	--

LCS Analyzed: 02/22/2005 (5B22063-BS1)

Mercury	8.32	0.20	0.063	ug/l	8.00		104	85-115			
---------	------	------	-------	------	------	--	-----	--------	--	--	--

Matrix Spike Analyzed: 02/22/2005 (5B22063-MS1)

Mercury	8.36	0.20	0.063	ug/l	8.00	0.074	104	70-130			
---------	------	------	-------	------	------	-------	-----	--------	--	--	--

Source: IOB1443-01

Matrix Spike Dup Analyzed: 02/22/2005 (5B22063-MSD1)

Mercury	8.38	0.20	0.063	ug/l	8.00	0.074	104	70-130	0	20	
---------	------	------	-------	------	------	-------	-----	--------	---	----	--

Source: IOB1443-01

Batch: 5B24093 Extracted: 02/24/05

Blank Analyzed: 02/25/2005-02/26/2005 (5B24093-BLK1)

Aluminum	ND	50	47	ug/l							
Arsenic	ND	5.0	3.8	ug/l							
Beryllium	ND	2.0	0.62	ug/l							
Boron	ND	0.050	0.0074	mg/l							
Chromium	ND	5.0	0.68	ug/l							
Nickel	ND	10	2.0	ug/l							
Selenium	ND	5.0	4.6	ug/l							
Silver	ND	10	1.3	ug/l							
Vanadium	ND	10	1.4	ug/l							
Zinc	7.80	20	3.7	ug/l							

LCS Analyzed: 02/25/2005-02/26/2005 (5B24093-BS1)

Aluminum	461	50	47	ug/l	500		92	85-115			
Arsenic	497	5.0	3.8	ug/l	500		99	85-115			
Beryllium	504	2.0	0.62	ug/l	500		101	85-115			
Boron	0.468	0.050	0.0074	mg/l	0.500		94	85-115			
Chromium	492	5.0	0.68	ug/l	500		98	85-115			
Nickel	488	10	2.0	ug/l	500		98	85-115			
Selenium	481	5.0	4.6	ug/l	500		96	85-115			
Silver	251	10	1.3	ug/l	250		100	85-115			
Vanadium	504	10	1.4	ug/l	500		101	85-115			
Zinc	490	20	3.7	ug/l	500		98	85-115			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	---------	-----------	-----------------

Batch: 5B24093 Extracted: 02/24/05

Matrix Spike Analyzed: 02/25/2005-02/26/2005 (5B24093-MS1)

Source: IOB1547-01

Aluminum	1250	50	47	ug/l	500	410	168	70-130		MI
Arsenic	515	5.0	3.8	ug/l	500	5.4	102	70-130		
Beryllium	520	2.0	0.62	ug/l	500	ND	104	70-130		
Boron	0.562	0.050	0.0074	mg/l	0.500	0.053	102	70-130		
Chromium	506	5.0	0.68	ug/l	500	ND	101	70-130		
Nickel	512	10	2.0	ug/l	500	ND	102	70-130		
Selenium	493	5.0	4.6	ug/l	500	ND	99	70-130		
Silver	250	10	1.3	ug/l	250	ND	100	70-130		
Vanadium	520	10	1.4	ug/l	500	3.1	103	70-130		
Zinc	521	20	3.7	ug/l	500	ND	104	70-130		

Matrix Spike Dup Analyzed: 02/25/2005-02/26/2005 (5B24093-MSD1)

Source: IOB1547-01

Aluminum	1300	50	47	ug/l	500	410	178	70-130	4	20	MI
Arsenic	527	5.0	3.8	ug/l	500	5.4	104	70-130	2	20	
Beryllium	525	2.0	0.62	ug/l	500	ND	105	70-130	1	20	
Boron	0.571	0.050	0.0074	mg/l	0.500	0.053	104	70-130	2	20	
Chromium	509	5.0	0.68	ug/l	500	ND	102	70-130	1	20	
Nickel	513	10	2.0	ug/l	500	ND	103	70-130	0	20	
Selenium	495	5.0	4.6	ug/l	500	ND	99	70-130	0	20	
Silver	251	10	1.3	ug/l	250	ND	100	70-130	0	20	
Vanadium	525	10	1.4	ug/l	500	3.1	104	70-130	1	20	
Zinc	523	20	3.7	ug/l	500	ND	105	70-130	0	20	

Batch: 5B24099 Extracted: 02/24/05

Blank Analyzed: 02/25/2005-02/26/2005 (5B24099-BLK1)

Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.015	ug/l							
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							
Thallium	ND	1.0	0.075	ug/l							

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD RPD	Limit	Data Qualifiers
Batch: 5B24099 Extracted: 02/24/05											
LCS Analyzed: 02/25/2005 (5B24099-BS1)											
Antimony	85.6	2.0	0.18	ug/l	80.0		107	85-115			
Cadmium	76.4	1.0	0.015	ug/l	80.0		96	85-115			
Copper	84.0	2.0	0.49	ug/l	80.0		105	85-115			
Lead	80.3	1.0	0.13	ug/l	80.0		100	85-115			
Thallium	78.5	1.0	0.075	ug/l	80.0		98	85-115			
Matrix Spike Analyzed: 02/25/2005 (5B24099-MS1) Source: IOB1490-01											
Antimony	85.7	2.0	0.18	ug/l	80.0	0.50	106	70-130			
Cadmium	75.1	1.0	0.015	ug/l	80.0	0.016	94	70-130			
Copper	82.5	2.0	0.49	ug/l	80.0	1.0	102	70-130			
Lead	77.6	1.0	0.13	ug/l	80.0	ND	97	70-130			
Thallium	76.5	1.0	0.075	ug/l	80.0	0.17	95	70-130			
Matrix Spike Analyzed: 02/25/2005 (5B24099-MS2) Source: IOB1557-01											
Antimony	83.8	2.0	0.18	ug/l	80.0	0.20	104	70-130			
Cadmium	74.6	1.0	0.015	ug/l	80.0	ND	93	70-130			
Copper	83.9	2.0	0.49	ug/l	80.0	ND	105	70-130			
Lead	77.7	1.0	0.13	ug/l	80.0	0.15	97	70-130			
Thallium	76.7	1.0	0.075	ug/l	80.0	0.19	96	70-130			
Matrix Spike Dup Analyzed: 02/25/2005 (5B24099-MSD1) Source: IOB1490-01											
Antimony	85.0	2.0	0.18	ug/l	80.0	0.50	106	70-130	1	20	
Cadmium	75.2	1.0	0.015	ug/l	80.0	0.016	94	70-130	0	20	
Copper	81.2	2.0	0.49	ug/l	80.0	1.0	100	70-130	2	20	
Lead	76.3	1.0	0.13	ug/l	80.0	ND	95	70-130	2	20	
Thallium	75.2	1.0	0.075	ug/l	80.0	0.17	94	70-130	2	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B18129 Extracted: 02/18/05										
Blank Analyzed: 02/18/2005 (5B18129-BLK1)										
Chloride	ND	0.50	0.26	mg/l						
Nitrate/Nitrite-N	ND	0.11	0.072	mg/l						
Sulfate	ND	0.50	0.18	mg/l						
LCS Analyzed: 02/18/2005 (5B18129-BS1)										
Chloride	5.11	0.50	0.26	mg/l	5.00		102		90-110	
Sulfate	10.6	0.50	0.18	mg/l	10.0		106		90-110	
Matrix Spike Analyzed: 02/18/2005 (5B18129-MS1)										
					Source: IOB1556-01					
Chloride	7.47	0.50	0.26	mg/l	5.00	2.1	107		80-120	
Sulfate	15.3	0.50	0.18	mg/l	10.0	4.7	106		80-120	
Matrix Spike Dup Analyzed: 02/18/2005 (5B18129-MSD1)										
					Source: IOB1556-01					
Chloride	7.43	0.50	0.26	mg/l	5.00	2.1	107	1	80-120	20
Sulfate	14.3	0.50	0.18	mg/l	10.0	4.7	96	7	80-120	20
Batch: 5B23082 Extracted: 02/23/05										
Blank Analyzed: 02/23/2005 (5B23082-BLK1)										
Oil & Grease	ND	5.0	0.94	mg/l						
LCS Analyzed: 02/23/2005 (5B23082-BS1)										
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80		65-120	M-NR1
LCS Dup Analyzed: 02/23/2005 (5B23082-BSD1)										
Oil & Grease	16.5	5.0	0.94	mg/l	20.0		82	4	65-120	20

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9830 South 51st St., Suite 9-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B23086 Extracted: 02/23/05											
Blank Analyzed: 02/25/2005 (5B23086-BLK1)											
Total Cyanide	ND	0.0050	0.0022	mg/l							
LCS Analyzed: 02/25/2005 (5B23086-BS1)											
Total Cyanide	0.197	0.0050	0.0022	mg/l	0.200		98	90-110			
Matrix Spike Analyzed: 02/25/2005 (5B23086-MS1)											
						Source: IOB1522-01					
Total Cyanide	0.206	0.0050	0.0022	mg/l	0.200	0.025	90	70-115			
Matrix Spike Dup Analyzed: 02/25/2005 (5B23086-MSD1)											
						Source: IOB1522-01					
Total Cyanide	0.206	0.0050	0.0022	mg/l	0.200	0.025	90	70-115	0	15	
Batch: 5B24111 Extracted: 02/24/05											
Blank Analyzed: 02/24/2005 (5B24111-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/24/2005 (5B24111-BS1)											
Total Dissolved Solids	976	10	10	mg/l	1000		98	90-110			
Duplicate Analyzed: 02/24/2005 (5B24111-DUP1)											
						Source: IOB1821-01					
Total Dissolved Solids	374	10	10	mg/l		380			2	10	
Batch: 5B25064 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25064-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 003 Report Number: IOB1571	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B25064 Extracted: 02/25/05											
LCS Analyzed: 02/25/2005 (5B25064-BS1)											
Perchlorate	48.4	4.0	0.80	ug/l	50.0		97	85-115			
Matrix Spike Analyzed: 02/25/2005 (5B25064-MS1)											
Perchlorate	51.3	4.0	0.80	ug/l	50.0	1.5	100	80-120			
Matrix Spike Dup Analyzed: 02/26/2005 (5B25064-MSD1)											
Perchlorate	51.4	4.0	0.80	ug/l	50.0	1.5	100	80-120	0	20	
Batch: 5B25089 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25089-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 02/25/2005 (5B25089-BS1)											
Total Suspended Solids	956	10	10	mg/l	1000		96	85-115			
Duplicate Analyzed: 02/25/2005 (5B25089-DUP1)											
Total Suspended Solids	ND	10	10	mg/l		ND				10	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

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
IOB1571-01	413.1 Oil and Grease	Oil & Grease	mg/l	1.20	5.0	15
IOB1571-01	Antimony-200.8	Antimony	ug/l	0.20	2.0	6.00
IOB1571-01	Boron-200.7	Boron	mg/l	0.045	0.050	1.00
IOB1571-01	Cadmium-200.8	Cadmium	ug/l	0.019	1.0	4.00
IOB1571-01	Chloride - 300.0	Chloride	mg/l	4.90	0.50	150
IOB1571-01	Copper-200.8	Copper	ug/l	3.30	2.0	14
IOB1571-01	Mercury - 245.1	Mercury	ug/l	0.056	0.20	0.20
IOB1571-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.22	0.11	10.00
IOB1571-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB1571-01	Sulfate-300.0	Sulfate	mg/l	9.70	0.50	250
IOB1571-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	130	10	850
IOB1571-01	Thallium-200.8	Thallium	ug/l	0.019	1.0	2.00

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05

Received: 02/18/05

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- L2** Laboratory Control Sample recovery was below method control limits.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- 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

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
 Received: 02/18/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 335.2	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

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR

Samples: IOB1571-01

Analysis Performed: EDD + Level 4

Samples: IOB1571-01

Aquatic Testing Laboratories-SUB California Cert #1775

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-Acute 96hr

Samples: IOB1571-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4

Samples: IOB1571-01

Analysis Performed: Gross Alpha

Samples: IOB1571-01

Analysis Performed: Gross Beta

Samples: IOB1571-01

Analysis Performed: Radium, Combined

Samples: IOB1571-01

Analysis Performed: Strontium 90

Samples: IOB1571-01

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
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 003

Report Number: IOB1571

Sampled: 02/18/05
Received: 02/18/05

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804
Analysis Performed: Tritium
Samples: IOB1571-01

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1571 <Page 39 of 39>

IOB1571

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5.8/12/04

Client Name/Address:		Project:																		
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Annual Outfall 003 Stormwater at RMHF																		
Project Manager: Bronwyn Kelly		Phone Number:																		
Sampler: <i>P. Kelly</i>		(526) 568-6691																		
		Fax Number:																		
		(526) 568-6515																		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, + PP	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl-, SO4, NO3+NO2-N, Perchlorate	TDS, TSS	VOCs (624), NPDES + PP	VOCs A+A+2CVE	Pesticides/PCBS - PP	Gross Alpha, Gross Beta, Tritium (906.0*, Sr-90 Radium 226 & 228	SVOCs - PP	Acute Toxicity	Cyanide	Field readings: Temp = 55.6 pH = 7.2	Comments
Outfall 003	W	1L Poly	1	2-18-05 12:25	HNO3	1A	X													
Outfall 003-Dup	W	1L Poly	1		HNO3	1B	X													
Outfall 003	W	1L Amber	2		None	2A, 2B		X												
Outfall 003	W	1L Amber	2		HCl	3A, 3B			X											
Outfall 003	W	Poly-500 ml	2		None	4A, 4B			X											
Outfall 003	W	Poly-500 ml	2		None	5A, 5B			X											
Outfall 003	W	VOAs	3		HCl	6A, 6B, 6C														
Outfall 003	W	VOA	3		None	7A, 7B, 7C							X							
Outfall 003	W	1L Amber	2		None	8A, 8B								X						
Outfall 003	W	1 Gal Poly VOAs	2		None	9A, 9B, 9C									X					Analyze for Total Combined RA-226 & RA-228 only if Gross Alpha/Beta > 15pCi/L
Outfall 003	W	1L Amber	2		None	10A, 10B														
Outfall 003	W	1 Gal Poly	1		None	11A														
Outfall 003	W	500ml Poly	1		NaOH	12														
Trip Blanks	W	VOA	3		None	13A, 13B, 13C														
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C						X								
Relinquished By	<i>[Signature]</i>		Date/Time:	2-18-05 1450	Received By	<i>[Signature]</i>		Date/Time:	2-18-05 1450											Turn around Time: (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal _____ Perchlorate Only 72 Hours _____ Metals Only 72 Hours _____
Relinquished By	<i>[Signature]</i>		Date/Time:	1830	Received By	<i>[Signature]</i>		Date/Time:	2-18-05 1850											Sample Integrity: (Check) On Ice: <input checked="" type="checkbox"/> <i>OK</i>
Relinquished By	<i>[Signature]</i>		Date/Time:		Received By	<i>[Signature]</i>		Date/Time:												



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 31, 2005

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

Attention: Bronwyn Kelly
Project: Annual Outfall 003
Sampled: 02/18/05
Del Mar Analytical Number: IOB1571

Dear Ms. Kelly:

Aquatic Testing Laboratories performed the Fathead Minnow 96 hr Percent Survival Bioassay (EPA Method 2000.0), Eberline Services performed the gross alpha/beta analyses (EPA 900.0), the tritium analysis (H-3, EPA 906.0), and the strontium analysis (SR -90 EPA 905.0), and Alta Analytical performed Method 1613 Dioxin for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	ATL ID	Eberline ID	Alta ID
Outfall 003	IOB1571-01	A-05021908-001	R502214-8293	25780-001

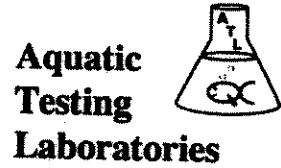
Attached are the original reports from the subcontract laboratories. If you have any questions or require further assistance, please do not hesitate to contact me (949) 261-1022, at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL



Michele Harper
Project Manager

LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

4350 Transport Street, Unit 107
Ventura, CA 93003

(805) 650-0546 FAX (805) 650-0756

CA DOHS ELAP Cert. No.: 1775

Date: February 23, 2005

Client: Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attn: Michele Harper

Laboratory No.: A-05021908-001
Sample ID.: IOB1571-01

Sample Control: The samples were received by ATL in a chilled state, with the chain of custody record attached.

Date Sampled: 02/18/05
Date Received: 02/19/05
Date Tested: 02/19/05 to 02/23/05

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

Result Summary:

<u>Sample ID.</u>	<u>Results</u>
IOB1571-01	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST



Lab No.: A-05021908-001
 Client/ID: Del Mar IOB1571-01

Start Date: 02/19/2005

TEST SUMMARY

Species: *Pimephales promelas*.
 Age: 12 (1-14) days.
 Regulations: NPDES.
 Test solution volume: 250 ml.
 Feeding: prior to renewal at 48 hrs.
 Number of replicates: 2.
 Dilution water: Moderately hard reconstituted water.
 Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.
 Test type: Static-Renewal.
 Test Protocol: EPA-821-R-02-012.
 Endpoints: Percent Survival at 96 hrs.
 Test chamber: 600 ml beakers.
 Temperature: 20 +/- 1°C.
 Number of fish per chamber: 10.
 QA/QC Batch No.: RT-050208.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.0	8.8	7.9	0	0	R 1330
	100%	20.1	9.7	6.6	0	0	
24 Hr	Control	19.3	7.0	7.9	0	0	R 1330
	100%	19.4	6.4	7.4	0	0	
48 Hr	Control	19.6	6.8	7.7	0	0	R 1340
	100%	19.3	5.2	7.2	0	0	
Renewal	Control	19.1	7.7	8.0	0	0	R 1300
	100%	19.7	8.4	7.2	0	0	
72 Hr	Control	19.1	6.8	7.6	0	0	R 1200
	100%	19.0	7.6	7.4	0	0	
96 Hr	Control	19.2	7.5	7.5	0	0	R 1200
	100%	19.0	8.0	7.3	0	0	

Comments:

Sample as received: Chlorine: 0 mg/l; pH: 6.6; Conductivity: 152 umho; Temp: 4°C;
 DO: 9.7 mg/l; Alkalinity: 47 mg/l; Hardness: 65 mg/l; NH₃-N: 0.5 mg/l.
 Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / No.
 Control: Alkalinity: 54 mg/l; Hardness: 92 mg/l; Conductivity: 280 umho.
 Test solution aerated (not to exceed 100 bubbles/min) to maintain DO > 4.0 mg/l? Yes / No.
 Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.

RESULTS

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



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
 9630 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 # IOB1571

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Aquatic Testing Laboratories-SUB 4350 Transport Street, Unit 107 Ventura, CA 93003 Phone : (805) 650-0546 Fax: (805) 650-0756

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

Analysis	Expiration	Comments
Sample ID: IOB1571-01 Water	Sampled: 02/18/05 12:25	
Bioassay-Acute 96hr	02/20/05 00:25	FH minnow, EPA/821-R02-012, Sub to AqTox Labs
Containers Supplied:		
1 gal Poly (IOB1571-01X)		

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): 4°C

Released By: [Signature] Date: 2/19/05 Time: 0830
 Received By: [Signature] Date: 2/19/05 Time: 0830
 Released By: [Signature] Date: 2/19/05 Time: 1100
 Received By: [Signature] Date: 2-19-05 Time: 1100



EBERLINE SERVICES

March 15, 2005

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

Reference: Del Mar Analytical Project No. IOB1571
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502214-8293

Dear Ms. Harper:

Enclosed are results from the analyses of one water sample received at Eberline Services on February 23, 2005. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analyses were gross alpha/gross beta (EPA900.0), tritium (H-3, EPA906.0), and strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require matrix spike analyses to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

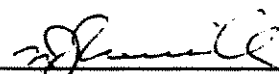
Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

Eberline Services

ANALYSIS RESULTS

SDG <u>8293</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502214-01</u>	Contract <u>PROJECT# 1081571</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
1081571-01	8293-001	02/18/05	03/08/05	GrossAlpha	0.651 ± 1.1	pCi/L	1.90
			03/08/05	Gross Beta	4.58 ± 1.4	pCi/L	1.97
			03/13/05	H3	10.7 ± 150	pCi/L	258
			03/12/05	Sr90	1.06 ± 0.23	pCi/L	0.261

Certified by 
Report Date 03/15/05
Page 1

Eberline Services

QC RESULTS

SDG <u>8293</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502214-01</u>	Contract <u>PROJECT# IOB1571</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

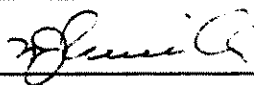
Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8294-003	GrossAlpha	10.9 ± 1.2	pCi/Smpl	10.2	0.313	107% recovery
		Gross Beta	9.49 ± 0.74	pCi/Smpl	10.1	0.546	94% recovery
		H3	214 ± 23	pCi/Smpl	235	25.4	91% recovery
		Sr90	9.75 ± 0.32	pCi/Smpl	10.1	0.145	97% recovery
<u>BLANK</u>							
	8294-004	GrossAlpha	-0.034 ± 0.23	pCi/Smpl	NA	0.415	<MDA
		Gross Beta	-0.236 ± 0.29	pCi/Smpl	NA	0.551	<MDA
		H3	9.66 ± 15	pCi/Smpl	NA	25.1	<MDA
		Sr90	-0.064 ± 0.098	pCi/Smpl	NA	0.140	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-005	GrossAlpha	0.399 ± 0.53	0.874
	Gross Beta	2.91 ± 1.2	1.78
	H3	76.8 ± 150	254
	Sr90	0.884 ± 0.24	0.281

<u>ORIGINALS</u>						
Sample ID	Results ± 2σ	MDA	3σ			
			RPD (Tot)	Eval		
8294-001	0.904 ± 0.74	1.00	-	0	satis.	
	3.32 ± 1.2	1.79	13	88	satis.	
	-41.9 ± 150	254	-	0	satis.	
	0.901 ± 0.24	0.280	2	61	satis.	

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-006	GrossAlpha	86.0 ± 5.3	0.881
	Gross Beta	72.1 ± 3.5	1.79
	H3	22300 ± 580	252

<u>ORIGINAL SAMPLE</u>					
Sample ID	Results ± 2σ	MDA	Added	%Recv	
8294-002	1.42 ± 0.93	1.19	71.5	118	
	3.75 ± 1.2	1.78	67.2	102	
	-77.0 ± 140	255	23600	95	

Certified by <u></u> Report Date <u>03/15/05</u> Page 2
--



17461 Derian Ave., Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Cotton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-8596 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 # IOB1571

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:

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

Standard TAT is requested unless specific due date is requested => Due Date: 4 weeks Initials: _____

Analysis	Expiration	Comments
Sample ID: IOB1571-01 Water Sampled: 02/18/05 12:25		
EDD + Level 4	03/18/05 12:25	
Gross Alpha-O	02/18/06 12:25	900.0, IF RESULT>15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/18/06 12:25	900.0, IF RESULT>50 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/18/06 12:25	HOLD for Gross A&B results; EPA 903.1 & 904.0
Strontium 90-O	02/18/06 12:25	EPA 905.0
Tritium-O	02/18/06 12:25	EPA 906.0

Containers Supplied:
 1 gal Poly (IOB1571-01S)
 40 ml Voa Vial (IOB1571-01T)
 40 ml Voa Vial (IOB1571-01U)

SAMPLE INTEGRITY:

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

Released By: [Signature] Date: 2-22-05 Time: 1700 Received By: _____ Date: _____ Time: _____

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



EBERLINE
SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL MAR ANALYT City: IRVINE State: CA

Date/Time received: 2/23/05 10:00 CoC No. IUB 1571

Container I.D. No. Special Requested TAT (Days) 4week P.O. Received Yes [] No []

INSPECTION

- 1. Custody seals on shipping container intact? Yes [] No [] N/A []
- 2. Custody seals on shipping container dated & signed? Yes [] No [] N/A []
- 3. Custody seals on sample containers intact? Yes [] No [] N/A []
- 4. Custody seals on sample containers dated & signed? Yes [] No [] N/A []
- 5. Packing material is: Wet [] Dry []
- 6. Number of samples in shipping container: 1 Sample Matrix WATER
- 7. Number of containers per sample: 3 (Or see CoC _____)
- 8. Samples are in correct container Yes [] No []
- 9. Paperwork agrees with samples? Yes [] No []
- 10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels []
- 11. Samples are: In good condition [] Leaking [] Broken Container [] Missing []
- 12. Samples are: Preserved [] Not preserved [] pH 2 Preservative HNO3
- 13. Describe any anomalies: _____

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
15. Inspected by AL Date: 2/23/05 Time: 10:00

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

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



March 01, 2005

Alta Project I.D.: 25780

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 February 24, 2005 under your Project Name "IOB1571". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,


Martha M. Maier
HRMS Services Director



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: 2/24/2005

Alta Lab. ID

Client Sample ID

25780-001

IOB1571-01

SECTION II



EPA Method 1613

Method Blank		Lab Sample: 0-MB001		Date Analyzed DB-225: NA	
Matrix:	Aqueous	QC Batch No.:	6543 <th>Date Analyzed DB-5:</th> <td>28-Feb-05 </td>	Date Analyzed DB-5:	28-Feb-05
Sample Size:	1.000 L	Date Extracted:	25-Feb-05 <th>Date Analyzed DB-225:</th> <td>NA </td>	Date Analyzed DB-225:	NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.866		75.9	25 - 164
1,2,3,7,8-PeCDD	ND	1.15		73.9	25 - 181
1,2,3,4,7,8-HxCDD	ND	1.88		70.6	32 - 141
1,2,3,6,7,8-HxCDD	ND	1.86		73.4	28 - 130
1,2,3,7,8,9-HxCDD	ND	1.84		67.4	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	3.38		56.3	17 - 157
OCDD	ND	8.88		78.7	24 - 169
2,3,7,8-TCDF	ND	0.545		68.1	24 - 185
1,2,3,7,8-PeCDF	ND	1.62		73.3	21 - 178
2,3,4,7,8-PeCDF	ND	1.45		60.2	26 - 152
1,2,3,4,7,8-HxCDF	ND	1.24		64.3	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.869		63.5	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.958		65.2	29 - 147
1,2,3,7,8,9-HxCDF	ND	1.55		54.3	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	2.22		59.8	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	1.68		54.9	17 - 157
OCDF	ND	4.49		77.4	35 - 197
Totals					
Total TCDD	ND	0.866			
Total PeCDD	ND	1.15			
Total HxCDD	ND	1.86			
Total HpCDD	ND	3.38			
Total TCDF	ND	0.545			
Total PeCDF	ND	1.54			
Total HxCDF	ND	1.37			
Total HpCDF	ND	2.38			
Footnotes					
a. Sample specific estimated detection limit.					
b. Estimated maximum possible concentration.					
c. Method detection limit.					
d. Lower control limit - upper control limit.					

Analyst: MS

Approved By: William J. Luksemburg 01-Mar-2005 16:29



EPA Method 1613

OPR Results		Lab Sample: 0-OPR001		Date Analyzed DB-5: 28-Feb-05		Date Analyzed DB-225: NA	
Matrix:	Aqueous	QC Batch No.:	6543	Date Analyzed DB-5:	28-Feb-05 <th>Date Analyzed DB-225:</th> <td>NA </td>	Date Analyzed DB-225:	NA
Sample Size:	1.000 L	Date Extracted:	25-Feb-05				
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL		
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	67.4	25 - 164		
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	64.0	25 - 181		
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	58.2	32 - 141		
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	62.5	28 - 130		
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.2	23 - 140		
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	51.4	17 - 157		
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	72.5	24 - 169		
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	59.4	24 - 185		
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	64.8	21 - 178		
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	49.4	26 - 152		
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	52.7	26 - 123		
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	55.2	28 - 136		
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	53.4	29 - 147		
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	45.6	28 - 143		
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	49.6	26 - 138		
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	49.0	17 - 157		
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	76.2	35 - 197		

Analyst: MS

Approved By: William J. Luksemburg 01-Mar-2005 16:29



Sample ID: **IOB1571-01**

EPA Method 1613

Client Data		Sample Data		Laboratory Data	
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	25780-001
Project:	IOB1571	Sample Size:	0.929 L	QC Batch No.:	6543
Date Collected:	18-Feb-05			Date Analyzed DB-5:	28-Feb-05
Time Collected:	1225			Date Analyzed DB-22.5:	NA

Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.623			13C-2,3,7,8-TCDD	84.6	25 - 164	
1,2,3,7,8-PeCDD	ND	1.44			13C-1,2,3,7,8-PeCDD	83.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.70			13C-1,2,3,4,7,8-HxCDD	79.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.68			13C-1,2,3,6,7,8-HxCDD	81.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.66			13C-1,2,3,4,6,7,8-HpCDD	79.7	23 - 140	
1,2,3,4,6,7,8-HpCDD	5.49			J	13C-OCDD	67.8	17 - 157	
OCDD	52.6			J	13C-2,3,7,8-TCDF	85.4	24 - 169	
2,3,7,8-TCDF	ND	0.523			13C-1,2,3,7,8-PeCDF	77.8	24 - 185	
1,2,3,7,8-PeCDF	ND	0.788			13C-2,3,4,7,8-PeCDF	80.0	21 - 178	
2,3,4,7,8-PeCDF	ND	0.742			13C-1,2,3,4,7,8-HxCDF	70.7	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.612			13C-1,2,3,6,7,8-HxCDF	72.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.592			13C-2,3,4,6,7,8-HxCDF	69.7	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.504			13C-1,2,3,7,8,9-HxCDF	73.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.751			13C-1,2,3,4,6,7,8-HpCDF	65.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	1.79			13C-1,2,3,4,7,8,9-HpCDF	73.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.692			13C-OCDF	68.7	17 - 157	
OCDF	ND				CRS 37Cl-2,3,7,8-TCDD	88.5	35 - 197	

Totals	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Footnotes
Total TCDD	ND	0.623			a. Sample specific estimated detection limit.
Total PeCDD	ND	1.71			b. Estimated maximum possible concentration.
Total HxCDD	ND	1.68			c. Method detection limit.
Total HpCDD	13.0				d. Lower control limit - upper control limit.
Total TCDF	ND	0.523			
Total PeCDF	ND	0.765			
Total HxCDF	ND	0.719			
Total HpCDF	ND		1.53		

Analyst: MS

Approved By: William J. Luksemburg 01-Mar-2005 16:29

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

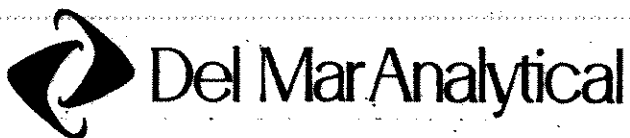
Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

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

CURRENT CERTIFICATIONS



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)



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
 9404 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-8398 Fax (619) 505-8688
 8830 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) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB1571

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue. Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Alta Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 933-0940 <div style="text-align: right; font-size: 1.2em; margin-top: 10px;">25780 0.8°C</div>

Standard TAT is requested unless specific due date is requested => Due Date: 2 weeks Initials: MH

Analysis	Expiration	Comments
Sample ID: IOB1571-01 Water	Sampled: 02/18/05 12:25	
1613-Dioxin-HR	02/25/05 12:25	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4-OUT	03/18/05 12:25	
Containers Supplied:		
1 L Amber (IOB1571-01C)		
1 L Amber (IOB1571-01D)		

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: George Capone Date: 2-23-05 Time: 1700
 Received By: Bethanna J. Benedict Date: 2/24/05 Time: 0905

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

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

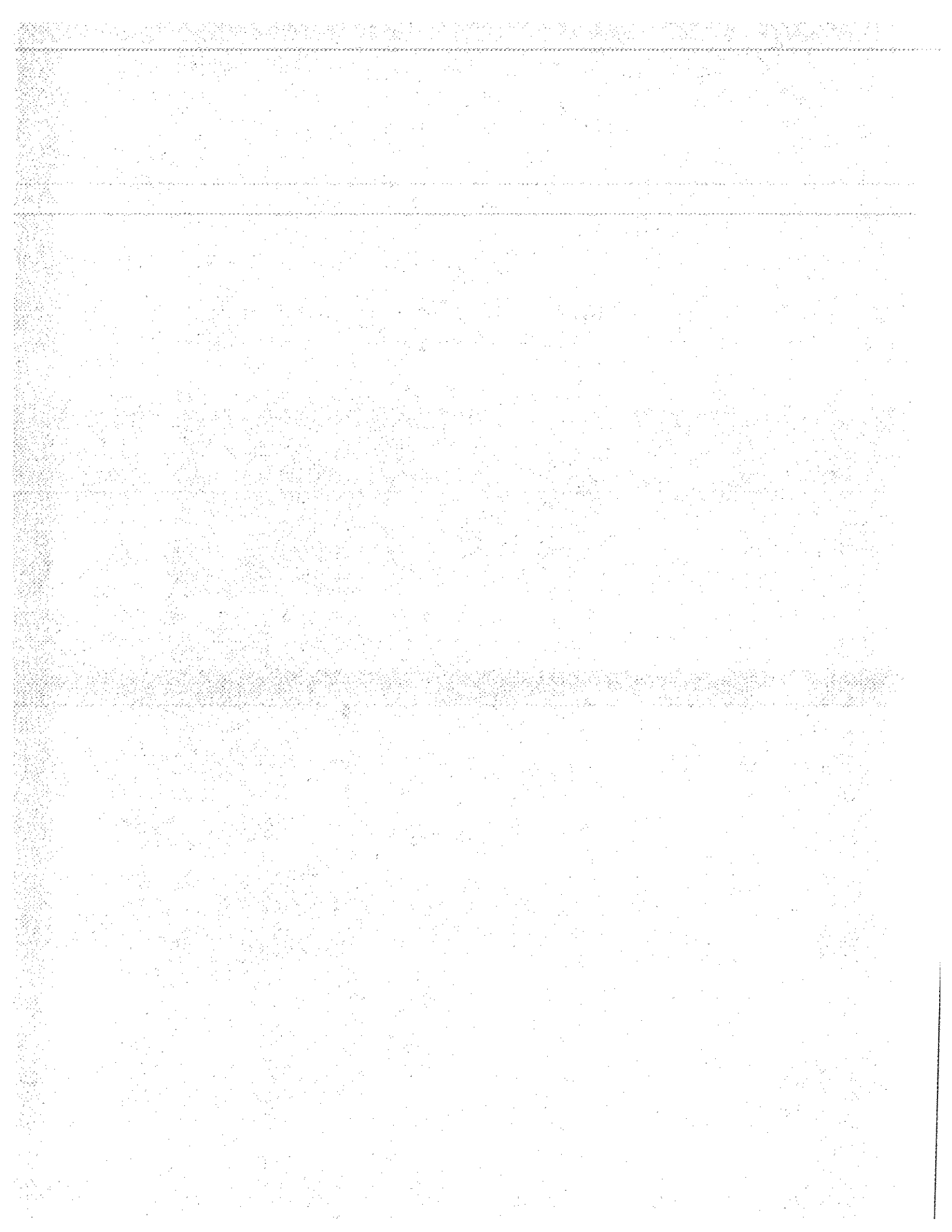
SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 25780

1. Date Samples Arrived: <u>2/24/05</u> <u>0905</u> Initials: <u>BB</u> Location: <u>WR-2</u>			
2. Time / Date logged in: <u>1220</u> <u>2/24/05</u> Initials: <u>BB</u> Location: <u>WR-2</u>			
3. Samples Arrived By: (circle) <u>FedEx</u> UPS World Courier Other:			
4. Shipping Preservation: (circle) <u>Ice / Blue Ice</u> / Dry Ice / None Temp °C <u>0.8</u>			
5. Shipping Container(s) intact? If not, describe condition in comment section.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Shipping Container(s) Custody Seals Present? Intact? If not intact, describe condition in comment section.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Shipping Documentation Present? (circle) Shipping Label <u>Airbill</u> Tracking Number <u>7904 3642 7349</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Sample Custody Seal(s) Present? No. of Seals _____ or Seal No. _____ Intact? If not intact, describe condition in comment section.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9. Sample Container Intact? If no, indicate sample condition in comment section.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Chain of Custody (COC) or other Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. COC/Documentation Acceptable? If no, complete COC Anomaly Form.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Shipping Container (circle): ALTA <u>Client</u> Retain or <u>Return</u> or Disposed			
13. Container(s) and/or Bottle(s) Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Drinking Water Sample? (HRMS Only) If yes, Acceptable Preservation? Y or N Preservation Info From? (circle) COC or Sample Container or None Noted	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments: samples initials found on sample label

ALTA Analytical Laboratory
El Dorado Hills, CA 95762



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711RA5
 Task Order 313150010
 SDG No. Multiple

No. of Analyses 8

Laboratory Eberline

Reviewer P. Meeks

Analysis/Method Radionuclides

Date: 03/28/05

Reviewer's Signature
P. Meeks

ACTION ITEMS*

1. Case Narrative
 Deficiencies

2. Out of Scope
 Analyses

3. Analyses Not
 Conducted

4. Missing Hardcopy
 Deliverables

5. Incorrect Hardcopy
 Deliverables

6. Deviations from
 Analysis Protocol, e.g.,

Qualifications applied for:

1. Detector efficiency outliers.
2. Exceeded holding imtes.

Holding Times
 GC/MS Tune/Inst.
 Performance

Calibrations

Blanks

Surrogates

Matrix Spike/Dup LCS

Field QC

Internal Standard

Performance

Compound Identification
 and Quantitation

System Performance

COMMENTS*

* 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: RADIONUCLIDES

SAMPLE DELIVERY GROUPS:
IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576

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#: IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 8
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 24, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0*, and validation procedures outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 004	IOB1556-01	8289-001	water	900.0, 905.0, 906.0
Outfall 005	IOB1557-01	8290-001	water	900.0, 905.0, 906.0
Outfall 006	IOB1559-01	8291-001	water	900.0, 905.0, 906.0
Outfall 018	IOB1570-01	8292-001	water	900.0, 905.0, 906.0
Outfall 003	IOB1571-01	8293-001	water	900.0, 905.0, 906.0
Outfall 003 Filtered	IOB1576-01	8294-001	water	900.0, 905.0, 906.0
Outfall 003 Unfiltered	IOB1576-02	8294-002	water	900.0, 905.0, 906.0
Outfall 003 Substrate	IOB1576-03	8295-001	solid	901.1

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4\pm 2^{\circ}\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition. All tritium samples were received unpreserved in glass containers. All gross alpha, gross beta, and strontium samples were preserved, except for the Outfall 003 samples in SDG IOB1556. Outfall 003 Filtered, was filtered by Eberline and then preserved. Outfall 003 Unfiltered was not preserved. According to the Los Angeles Water Quality Control Board (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel. The transfer COCs were signed by personnel from both laboratories, except for the COC listing Outfall 003 in SDG IOB1571, which was not signed as received by Eberline. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and preserved gross alpha, gross beta, and strontium samples were analyzed within 180 days of collection. The Outfall 003 Unfiltered gross alpha and gross beta samples were analyzed beyond the five day holding time for unpreserved samples; therefore, these gross alpha and gross beta results were qualified as estimated, "J." No further qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha and Gross Beta

The initial calibration included with the data was performed in February 2003. The detector efficiencies for Outfall 006, Outfall 018, Outfall 003, Outfall 003 Filtered, and Outfall 003 Unfiltered were less than 20%; therefore, these results were qualified as estimated, "UJ," for nondetects and, "J," for detects. The remaining detector efficiencies were above 20%.

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur.

Strontium-90

The initial calibrations were performed in June 1995. All strontium chemical yields were at least 80% and were considered acceptable. The strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

Cesium

The reviewer confirmed that the 662 KeV peak was used for quantitation, with a branch efficiency of 85%. No qualifications were necessary.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spikes (8294-002 and 8295-002) were analyzed in association with the samples in these SDGs. All blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analysis on Outfall 003 Filtered and Outfall 003 Substrate. All results were within the 3-sigma limits and all RPDs were $\leq 20\%$. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed matrix spike analyses on Outfall 003 Unfiltered for gross alpha, gross beta, and tritium. The recovery for gross alpha was above 3-sigma; however, as the recovery of 118% was considered acceptable, no qualifications were required. The remaining recoveries were within the 3-sigma limits. No qualifications were necessary.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these data packages. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

DATA VALIDATION REPORT

Project: NPDES
SDG No.: Multiple
Analysis: RAD

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8293</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502214-01</u>	Contract <u>PROJECT# 10B1571</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Client <u>Sample ID</u> Outfall 003 10B1571-01 pm 3/24/05	8293-001		02/18/05	03/08/05	GrossAlpha	0.651 ± 1.1	pCi/L	1.90	UJ	R
				03/08/05	Gross Beta	4.58 ± 1.4	pCi/L	1.97		
				03/13/05	H3	10.7 ± 150	pCi/L	258	U	
				03/12/05	Sr90	1.06 ± 0.23	pCi/L	0.261		

AMEC VALIDATED

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/15/05</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8294</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502215-01</u>	Contract <u>PROJECT# 10B1576</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Outfall 003 Filtered 10B1576-01	8294-001		02/18/05	03/08/05	GrossAlpha	0.904 ± 0.74	pCi/L	1.00	UJ	R
				03/08/05	Gross Beta	3.32 ± 1.2	pCi/L	1.79		
				03/12/05	H3	-41.9 ± 150	pCi/L	254		
				03/12/05	Sr90	0.901 ± 0.24	pCi/L	0.280		
Outfall 003 Unfiltered 10B1576-02	8294-002		02/18/05	03/08/05	GrossAlpha	1.42 ± 0.93	pCi/L	1.19	UJ	H, R
				03/08/05	Gross Beta	3.75 ± 1.2	pCi/L	1.78		
				03/12/05	H3	-77.0 ± 140	pCi/L	255		
				03/12/05	Sr90	0.892 ± 0.22	pCi/L	0.253		

AMEC VALIDATED

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/15/05</u>
Page 1

Eberline Services

ANALYSIS RESULTS

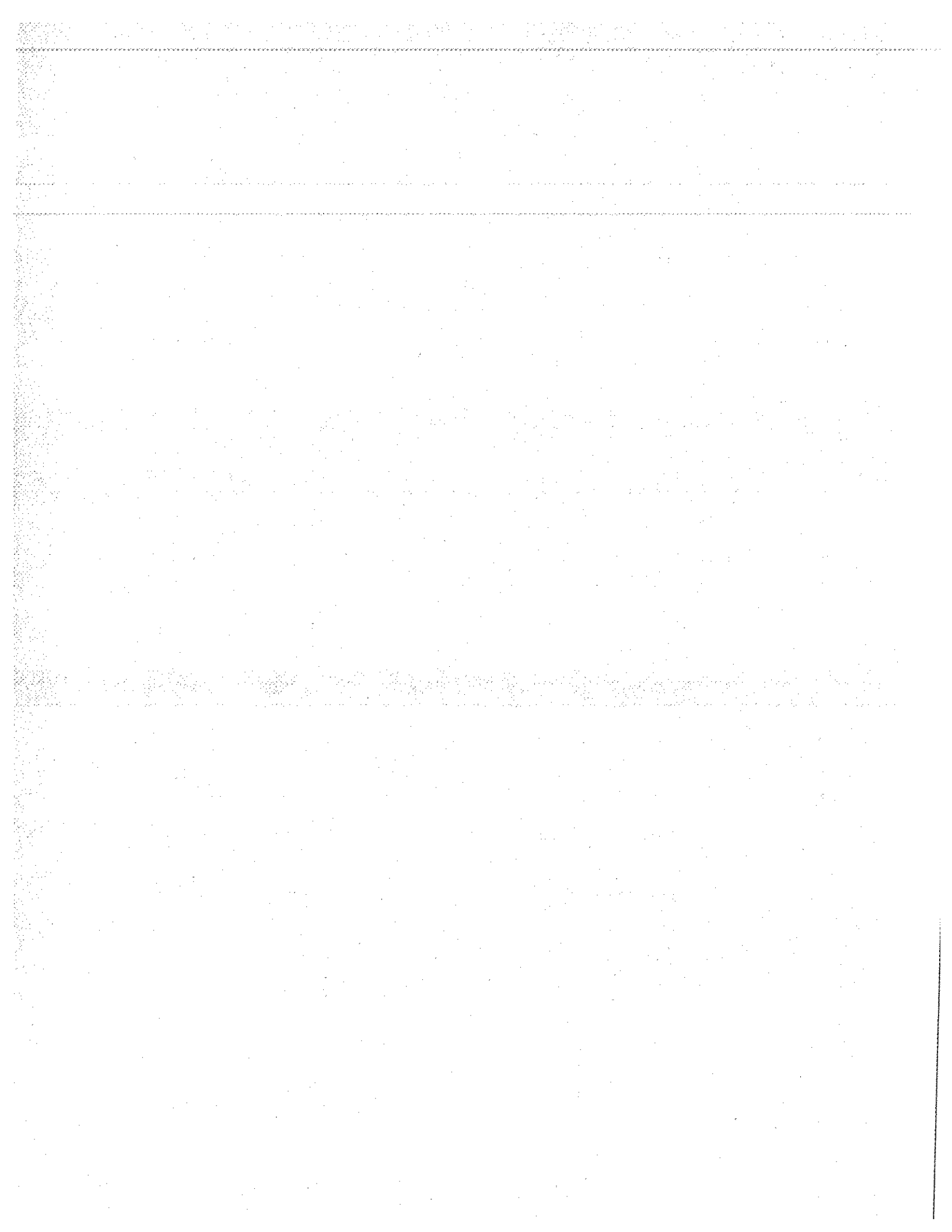
SDG <u>8295</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502216-01</u>	Contract <u>PROJECT# 10B1576</u>
Received Date <u>02/23/05</u>	Matrix <u>SOLID</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results $\pm 2\sigma$	Units	MDA	Rev Qual	Qual Code
		<u>Outfall 003 substrate</u>								
<u>IOB1576-03</u>		<u>8295-001</u>	<u>02/18/05</u>	<u>03/04/05</u>	<u>Cs137 (G)</u>	<u>U</u>	<u>pCi/Smpl</u>	<u>14.4</u>	<u>U</u>	

AMEC VALIDATED

LEVEL IV

Certified by <u><i>N. Smith</i></u>
Report Date <u>03/15/05</u>
Page 1



108157L

CHAIN OF CUSTODY FORM

Page 1 of 1

Del Mar Analytical Version 5/8/12/04

Client Name/Address:		Project:		ANALYSIS REQUIRED										Field readings:			
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Outfall 003 - 13267 Storm Water at RMHF		Sample Description	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	(FILTERED) Gross Alpha, Gross Beta, Sr-90 (905.0), Total Combined Radium 226& Radium 228	(UNFILTERED) Gross Alpha, Gross Beta, Sr-90 (905.0), Total Combined Radium 226& Radium 228	Tritium (906.0)	Substrate (Radiospectroscopy for Cesium-137)	Comments	Temp = 55.6 pH = 7.2	Turn around Time (check) 24 Hours _____ 48 Hours _____ 72 Hours _____ Perchlorate Only 72 Hours _____	Metals Only 72 Hours _____ Sample Integrity (Check) Intact _____ On Ice: X 30
Project Manager: Bronwyn Kelly Sampler: Pollock		Perimeter Pond Phone Number: (626) 568-6691 Fax Number: (626) 568-6515															
Outfall 003	W	1L Amber	4	2-18-05, 2:32	None					X							
Outfall 003	W	1L Amber	4	2-18-05, 2:32	HM03 5V					X							
Outfall 003	W	VOAS	2	2-18-05, 2:32	None					X							
<p>Relinquished By: <i>[Signature]</i> Date/Time: 2-18-05 1450 Received By: <i>[Signature]</i> Date/Time: 2/18/05 1450</p> <p>Relinquished By: <i>[Signature]</i> Date/Time: 2-18-05 1830 Received By: <i>[Signature]</i> Date/Time: 2/18/05 1830</p> <p>Relinquished By: <i>[Signature]</i> Date/Time: _____ Received By: <i>[Signature]</i> Date/Time: _____</p>																	

[Handwritten mark]



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 16, 2005

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

Attention: Bronwyn Kelly
Projects: 13267 (Study 2) / Routine Outfall 003
Sampled: 2/18/05
Del Mar Analytical Number: IOB1576

Dear Ms. Kelly:

Eberline Services performed the Gross Alpha/Beta (EPA 900.0), Tritium (EPA 906.0), Strontium-90 (EPA 905.0), and Cesium 137 by Gamma Spectroscopy (EPA 901.1) analyses for the projects referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	EBERLINE ID
Outfall 003 Filtered	IOB1576-01	R502215-01 / 8294-001
Outfall 003 Unfiltered	IOB1576-02	R502215-01 / 8294-002
Outfall 003 Substrate	IOB1576-03	R502216-01 / 8295-001

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.

Sincerely yours,
DEL MAR ANALYTICAL


Michele Harper
Project Manager



EBERLINE SERVICES

March 15, 2005

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

Reference: Del Mar Analytical Project No. IOB1576
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502215-8294

Dear Ms. Harper:

Enclosed are results from the analyses of two water samples received at Eberline Services on February 23, 2005. The samples were analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analyses were gross alpha/gross beta (EPA900.0), tritium (H-3, EPA906.0), and strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require matrix spike analyses to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: *Report*
Subcontract Form
Receipt checklist
Invoice

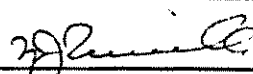
Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

Eberline Services

ANALYSIS RESULTS

SDG <u>8294</u> Work Order <u>R502215-01</u> Received Date <u>02/23/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# 10B1576</u> Matrix <u>WATER</u>
--	---

Client	Lab						
<u>Sample ID</u>	<u>Sample ID</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
10B1576-01	8294-001	02/18/05	03/08/05	GrossAlpha	0.904 ± 0.74	pCi/L	1.00
			03/08/05	Gross Beta	3.32 ± 1.2	pCi/L	1.79
			03/12/05	H3	-41.9 ± 150	pCi/L	254
			03/12/05	Sr90	0.901 ± 0.24	pCi/L	0.280
10B1576-02	8294-002	02/18/05	03/08/05	GrossAlpha	1.42 ± 0.93	pCi/L	1.19
			03/08/05	Gross Beta	3.75 ± 1.2	pCi/L	1.78
			03/12/05	H3	-77.0 ± 140	pCi/L	255
			03/12/05	Sr90	0.892 ± 0.22	pCi/L	0.253

Certified by <u></u> Report Date <u>03/15/05</u> Page 1
--

Eberline Services

QC RESULTS

SDG <u>8294</u> Work Order <u>R502215-01</u> Received Date <u>02/23/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# 10B1576</u> Matrix <u>WATER</u>
--	---

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8294-003	GrossAlpha	10.9 ± 1.2	pCi/Smpl	10.2	0.313	107% recovery
		Gross Beta	9.49 ± 0.74	pCi/Smpl	10.1	0.546	94% recovery
		H3	214 ± 23	pCi/Smpl	235	25.4	91% recovery
		Sr90	9.75 ± 0.32	pCi/Smpl	10.1	0.145	97% recovery


<u>BLANK</u>							
	8294-004	GrossAlpha	-0.034 ± 0.23	pCi/Smpl	NA	0.415	<MDA
		Gross Beta	-0.236 ± 0.29	pCi/Smpl	NA	0.551	<MDA
		H3	9.66 ± 15	pCi/Smpl	NA	25.1	<MDA
		Sr90	-0.064 ± 0.098	pCi/Smpl	NA	0.140	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-005	GrossAlpha	0.399 ± 0.53	0.874
	Gross Beta	2.91 ± 1.2	1.78
	H3	76.8 ± 150	254
	Sr90	0.884 ± 0.24	0.281

<u>ORIGINALS</u>					
Sample ID	Results ± 2σ	MDA	3σ	RPD (Tot)	Eval
8294-001	0.904 ± 0.74	1.00	-	0	0 satis.
	3.32 ± 1.2	1.79	13	88	88 satis.
	-41.9 ± 150	254	-	0	0 satis.
	0.901 ± 0.24	0.280	2	61	61 satis.

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-006	GrossAlpha	86.0 ± 5.3	0.881
	Gross Beta	72.1 ± 3.5	1.79
	H3	22300 ± 580	252

<u>ORIGINAL SAMPLE</u>					
Sample ID	Results ± 2σ	MDA	Added	%Recy	
8294-002	1.42 ± 0.93	1.19	71.5	118	
	3.75 ± 1.2	1.78	67.2	102	
	-77.0 ± 140	255	23600	95	

Certified by <u></u> Report Date <u>03/15/05</u> Page 2
--



March 15, 2005

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

Reference: Del Mar Analytical Project No. IOB1576
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502216-8295

Dear Ms. Harper:

Enclosed are Cs-137 gamma spectroscopy results for the solids filtered from Del Mar sample IOB1576-01. Sample IOB1576-01 was received at Eberline Services on February 23, 2005. The sample was filtered and the collected substrate was analyzed for gamma emitting radionuclides (EPA901.1). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. The parenthetical G after a nuclide indicates that the result was obtained by gamma spectroscopy. A "U" in the results column indicates that the nuclide was not detected greater than the indicated minimum detectable activity (MDA).

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

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

Eberline Services

ANALYSIS RESULTS

SDG <u>B295</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502216-01</u>	Contract <u>PROJECT# 1081576</u>
Received Date <u>02/23/05</u>	Matrix <u>SOLID</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
1081576-03	8295-001	02/18/05	03/04/05	Cs137 (G)	U	pCi/Smpl	14.4

Certified by <u><i>N. Samik</i></u>
Report Date <u>03/15/05</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8295</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502216-01</u>	Contract <u>PROJECT# IOB1576</u>
Received Date <u>02/23/05</u>	Matrix <u>SOLID</u>

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>	8295-002	Cs137 (G)	286 ± 25	pCi/Smpl	267	16.7	107% recovery
<u>BLANK</u>	8295-003	Cs137 (G)	U	pCi/Smpl	NA	11.7	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8295-004	Cs137 (G)	U	12.5

<u>ORIGINALS</u>			
Sample ID	Results ± 2σ	MDA	RPD (Tot) Eval
8295-001	U	14.4	3σ - 0 satis.

Certified by <u>[Signature]</u>
Report Date <u>03/15/05</u>
Page 2



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) 505-8586 Fax (619) 505-9889
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 796-3620 Fax (702) 796-3621

SUBCONTRACT ORDER - PROJECT # IOB1576

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Eberline Services 2030 Wright Avenue Richmond, CA 94804 Phone: (510) 235-2633 Fax: (510) 235-0438

Work Order Comments: Level IV Data, include std logs

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

Analysis	Expiration	Comments
Sample ID: IOB1576-01 Water	Sampled: 02/18/05 12:32	Filter w/ preweighed .45 um & preserve (except H3)
EDD + Level 4-OUT	03/18/05 12:32	**LEVEL IV QC, ACCESS 7 EDD**
Gross Alpha-O	02/18/06 12:32	900.0, IF RESULT>15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/18/06 12:32	900.0, IF RESULT>50 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/18/06 12:32	HOLD for Gross Alpha/Beta result; EPA 903.1 & 904.0
Strontium 90-O	02/18/06 12:32	905.0
Tritium-O	02/18/06 12:32	906

- Containers Supplied:
- 1 L Amber (IOB1576-01A)
 - 1 L Amber (IOB1576-01B)
 - 1 L Amber (IOB1576-01C)
 - 1 L Amber (IOB1576-01D)

Sample ID: IOB1576-02 Water	Sampled: 02/18/05 12:32	Analyze as received, do not preserve
Gross Alpha-O	02/18/06 12:32	900.0, IF RESULT>15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/18/06 12:32	900.0, IF RESULT>50 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/18/06 12:32	HOLD for Gross Alpha/Beta result; EPA 903.1 & 904.0
Strontium 90-O	02/18/06 12:32	905.0
Tritium-O	02/18/06 12:32	906

- Containers Supplied:
- 1 L Amber (IOB1576-02A)
 - 1 L Amber (IOB1576-02B)
 - 1 L Amber (IOB1576-02C)
 - 1 L Amber (IOB1576-02D)
 - 40 ml Voa Vial (IOB1576-02E)
 - 40 ml Voa Vial (IOB1576-02F)

Sample ID: IOB1576-03 Solid	Sampled: 02/18/05 12:32	Analyze substrate on filter from IOB1576-01
Gamma Scan-O	02/18/06 12:32	Cesium 137, EPA 901.1, 20 pci/sample RL

Michele Harper 2-22-05
 Released By _____ Date _____ Time 1700 Received By MK Date 2/23/05 Time 10:00

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



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
 6484 Chesapeake Drive, Suite 205, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9630 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) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB1576

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 Property: Yes No Samples Received at (temp): _____

Michelle Klapp 2-22-05 1700
 Released By _____ Date _____ Time _____ Received By _____ Date _____ Time _____

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



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL MAR ANALYT. City IRVINE State CA

Date/Time received 2/23/05 10:00 CoC No. TOB1576

Container I.D. No. 2880 Requested TAT (Days) 4 WK P.O. Received Yes [] No []

INSPECTION

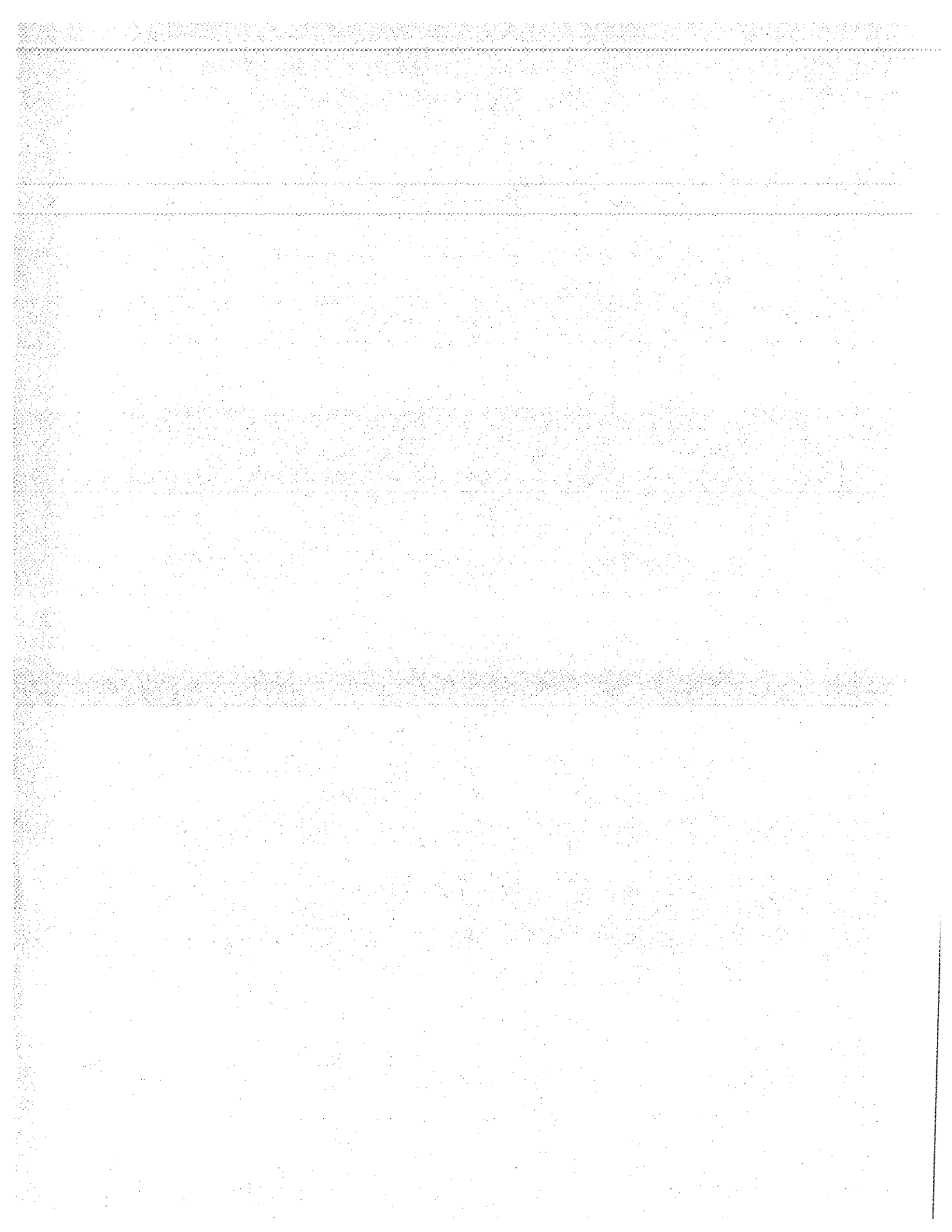
1. Custody seals on shipping container intact? Yes [✓] No [] N/A []
2. Custody seals on shipping container dated & signed? Yes [✓] No [] N/A []
3. Custody seals on sample containers intact? Yes [✓] No [] N/A []
4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [✓]
5. Packing material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

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____

15. Inspected by lu Date: 2/23/05 Time: 10:00

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

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

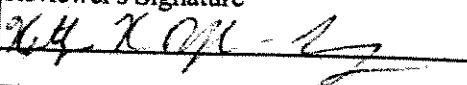


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711MT56
 Task Order 313150012
 SDG No. IOB2069
 No. of Analyses 1

Laboratory Del Mar Analytical
 Reviewer K. Okonzak
 Analysis/Method Metals

Date: 3/31/05
 Reviewer's Signature


ACTION ITEMS*

1. **Case Narrative**
Deficiencies _____
2. **Out of Scope**
Analyses _____
3. **Analyses Not Conducted**

4. **Missing Hardcopy**
Deliverables _____
5. **Incorrect Hardcopy**
Deliverables _____
6. **Deviations from Analysis**

Protocol, e.g., Holding Times GC/MS Tune/Inst. Perform Calibrations Blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications applied for: Analytes detected below the reporting limit was qualified as estimated, "J." Reporting limit standard results outside of control limits. Detects and negative results for associated method blanks and CCBs.
--	--

COMMENTS^b	Chromium is reported for Outfall 003 for both an ICP/MS analysis and an ICP analysis.
-----------------------------	---

^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: METALS

SAMPLE DELIVERY GROUPS: IOB2069

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Monitoring
Contract Task Order #: 313150012
SDG#: IOB2069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Okonzak-Lowry
Date of Review: March 31, 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 6010B for Inductively Coupled Plasma*, *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 003	Outfall 003	IOB2069-01	water	CAM Metals, Chromium (Total)

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the analyses presented in the data package. The sample in this SDG is part of a sample split analysis. The COC requested CAM metals and total chromium; therefore the chromium analysis was performed by ICP/MS as part of the CAM metals list and was also performed by ICP. Both the ICP/MS and ICP chromium results are reported. No sample qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analysis recorded in the raw data, documented that the sample analyses were performed within the specified holding times of six months for the ICP/MS and ICP metals. 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. The laboratory performed the required tune solution analyses. The %RSDs for the tune were all within the 5% control limit. 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 the ICP/MS and ICP metals. The applicable reporting limit check standards were recovered within the AMEC control limits of 70-130%, with the following exceptions: silver was recovered at 55.1% in the 0.1 µg/L standard, lead was not recovered and nickel was recovered at 277.4% in the 0.2 µg/L standard, and arsenic was recovered at 177.6% in the 1.0 µg/L standard. Therefore, arsenic and nickel detected in sample Outfall 003 were qualified as estimated, "J," and nondetected silver and lead in sample Outfall 003 were qualified as estimated, "UJ." No further qualifications were required.

2.4 BLANKS

There were detects and negative results reported in the associated method blank and calibration blank (CCB) analyses. The sample results were qualified for the blanks results as follows:

Findings	Associated Samples	Qualification of Data
Molybdenum was detected in 5C03885-BLK1 at 1.11 µg/L.	Outfall 003	Molybdenum detected in the sample was qualified "UJ."
Nickel was reported in 5C03885-BLK1 at -0.31057 µg/L.	Outfall 003	Nickel detected in the sample was qualified "J."
Chromium by ICP/MS was detected in CCB1 and CCB2 at 0.89 and 1.2 µg/L, respectively.	Outfall 003	The ICP/MS chromium detect was qualified "UJ."
Lead was reported in CCB1 and CCB2 at -0.1457 and -0.14472 µg/L, respectively.	Outfall 003	Nondetected lead in the sample was qualified "UJ."

2.5 ICP and ICP/MS INTERFERENCE CHECK SAMPLE (ICS A/AB)

Results were not provided for ICP-MS spiked interferents sulfur, phosphorus, carbon, titanium, and chloride. The results for potassium were above the calibration range of the instrument in both the ICSA and ICSAB analyses. Lead, beryllium, vanadium, selenium, and barium were not spiked into the ICSAB solution. Vanadium, cobalt, and barium were all detected at above the reporting limit in the ICSA analysis. 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 concentration of interferents was not high enough to cause matrix affects. No assessment could be made with respect to possible interference from sulfur, phosphorus, carbon, and chloride. No qualifications were required.

The results for the ICSA/ICSAB analyses reported in the raw data for the ICP analysis were within established control limits. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS sample was identified as 5C03085-BS1, and the ICP LCS sample was identified as 5C02083-BS1. The LCS results on the summary form and in the raw data was within the laboratory-established ICP/MS and ICP control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

MS/MSD analyses were performed on Outfall 003 for the ICP/MS analysis only. All the reported RPDs were less than the control limit of 20% and no qualifications were required.

2.8 MATRIX SPIKE

MS/MSD analyses were performed on Outfall 003 for the ICP/MS analysis only. The recoveries for all the reported analytes were within the AMEC control limits of 75-125% and no qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

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

2.10 ICP/MS SERIAL DILUTION

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

2.11 INTERNAL STANDARDS PERFORMANCE

The ICP-MS internal standard recoveries associated with the site sample 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 sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. The chromium results reported by ICP/MS and ICP are both reported on the Form Is. Analytes detected below the reporting limit in sample Outfall 003 were qualified as estimated, "J." No 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 sample in this SDG 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 sample.



Del Mar Analytical

17467 Dorian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3111
 1014 E. Cooley Dr., Suite A, Carlsbad, CA 92008 (760) 439-4650 FAX (760) 439-4650
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8576 FAX (619) 505-9600
 9530 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0888
 2320 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3620

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

Project ID: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: METALS

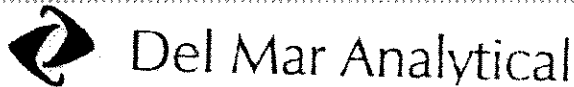
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers						
Sample ID: IOB2069-01 (DRAFT: Outfall 003 - Water) - cont.															
Reporting Units: mg/l															
Chromium	EPA 200.7	5C02083	0.00068	0.0050	0.0027	1	03/02/05	03/02/05	<table border="1"> <tr> <th>Rev</th> <th>Qual</th> <th>Qual Code</th> </tr> <tr> <td>J</td> <td>J</td> <td>DNLR</td> </tr> </table>	Rev	Qual	Qual Code	J	J	DNLR
Rev	Qual	Qual Code													
J	J	DNLR													

AMEC VALIDATED

Level IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



17464 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1012 FAX (949) 260-3261
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4067 FAX (949) 370-1044
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9685
 9830 South 31st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0013 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (DRAFT: Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Arsenic	EPA 200.8	5C03085	0.49	1.0	0.89	1	03/03/05	03/03/05	J J *3, DNQ
Barium	EPA 200.8	5C03085	0.14	1.0	66	1	03/03/05	03/03/05	J J *3, DNQ
Beryllium	EPA 200.8	5C03085	0.037	0.50	ND	1	03/03/05	03/03/05	U U
Chromium	EPA 200.8	5C03085	0.26	2.0	1.2	1	03/03/05	03/03/05	U J J B
Cobalt	EPA 200.8	5C03085	0.10	1.0	0.18	1	03/03/05	03/03/05	J J DNQ
Lead	EPA 200.8	5C03085	0.13	1.0	ND	1	03/03/05	03/03/05	U J J *3, DNQ
Molybdenum	EPA 200.8	5C03085	0.080	2.0	1.0	1	03/03/05	03/03/05	U J J B
Nickel	EPA 200.8	5C03085	0.15	2.0	0.36	1	03/03/05	03/03/05	J J *3, DNQ
Selenium	EPA 200.8	5C03085	0.36	2.0	1.8	1	03/03/05	03/03/05	J J DNQ
Silver	EPA 200.8	5C03085	0.089	1.0	ND	1	03/03/05	03/03/05	J J *3
Vanadium	EPA 200.8	5C03085	0.86	2.0	ND	1	03/03/05	03/03/05	U U
Zinc	EPA 200.8	5C03085	3.1	10	25	1	03/03/05	03/03/05	U U

AMEC VALIDATED

Level IV


DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711RA6
 Task Order 313150010
 SDG No. IOB2064, 65, 69

No. of Analyses 3
 Date: 03/31/05
 Reviewer's Signature


Laboratory Eberline
 Reviewer P. Meeks
 Analysis/Method Radionuclides

ACTION ITEMS^a

1. **Case Narrative Deficiencies**
2. **Out of Scope Analyses**
3. **Analyses Not Conducted**
4. **Missing Hardcopy Deliverables**
5. **Incorrect Hardcopy Deliverables**
6. **Deviations from Analysis Protocol, e.g.,**
 - Holding Times
 - GC/MS Tune/Inst. Performance
 - Calibrations
 - Blanks
 - Surrogates
 - Matrix Spike/Dup LCS
 - Field QC
 - Internal Standard Performance
 - Compound Identification and Quantitation
 - System Performance

COMMENTS^b Acceptable as reviewed.

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



DATA VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS:
IOB2064, IOB2065 & IOB2069

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#: IOB2064, IOB2065, IOB2069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 3
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 31, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0*, and validation procedures outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 011 Composite	IOB2064-01	8306-001	water	900.0, 905.0, 906.0
Outfall 011 Grab	IOB2065-01	8305-001	water	900.0, 905.0, 906.0
Outfall 003	IOB2069-01	8307-001	water	900.0, 905.0, 906.0

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel. The transfer COCs were signed by personnel from both laboratories. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and preserved gross alpha, gross beta, and strontium samples were analyzed within 180 days of collection. No qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha and Gross Beta

The initial calibration included with the data was performed in February 2003. The gross alpha detector efficiencies were all less than 20%; therefore, these results were qualified as estimated, "UJ," for nondetects and, "J," for detects. The remaining detector efficiencies were above 20%.

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur.

Strontium-90

The initial calibrations were performed in June 1995. All strontium chemical yields were at least 75% and were considered acceptable. The strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (8305-002) was analyzed in association with the samples in these SDGs. The strontium recovery exceeded the 3-sigma limit; however, the recovery of 110% was deemed acceptable. The remaining blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analysis on Outfall 011 Grab. The gross alpha and gross beta RPDs exceeded 20%; however, as the results were within the 3-sigma limits, they were deemed acceptable. The strontium and tritium results were within the 3-sigma limits and their RPDs were $\leq 20\%$. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed matrix spike analyses on Outfall 011 Grab for gross alpha, gross beta, and tritium. The recovery for gross beta was above 3-sigma; however, the recovery of 108% was considered acceptable. The remaining recoveries were within the 3-sigma limits. No qualifications were necessary.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these data packages. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8307</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R503012-01</u>	Contract <u>PROJECT# IOB2069</u>
Received Date <u>03/01/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA
Outfall 003 IOB2069-01 PM 3/31/05		8307-001	02/25/05	03/15/05	GrossAlpha	1.11 ± 1.5	pCi/L	2.46
				03/15/05	Gross Beta	8.61 ± 1.7	pCi/L	2.06
				03/17/05	H3	-14.1 ± 150	pCi/L	260
				03/18/05	Sr90	2.53 ± 0.40	pCi/L	0.404

Pass	Qual
03	Code
U	

AMEC VALIDATED

[Faint signature and stamp]

Certified by <u><i>n. J. Smith</i></u>
Report Date <u>03/24/05</u>
Page 1

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711SV35
 Task Order 313150010
 SDG No. IOB2069

Laboratory Del Mar Analytical

No. of Analyses 1

Reviewer L. Calvin

Date: April 4, 2005

Analysis/Method Semivolatiles by Method 625

Reviewer's Signature L. Calvin

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis	Qualifications assigned for the following:
Protocol, e.g.,	--initial calibration $r^2 < 0.995$
Holding Times	--continuing calibration %D > 20%
GC/MS Tune/Inst. Performance	--method blank contamination
Calibration	--benzidine not recovered in LCS/LCSD
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS ^b	

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IOB2069

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#: IOB2069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: April 4, 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 Semivolatile Organics (DVP-3, Rev. 2)*, *EPA Method 625*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 003	Outfall 003	IOB2069-01	water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$, at 4°C . The analysis did not require preservation, and no preservation was noted in the field. The COC noted that the sample was received intact. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 GC/MS TUNING

The DFTPP tunes met the criteria specified in Method 625, and the sample was analyzed within 12 hours of the DFTPP injection time. No qualifications were required.

2.3 CALIBRATION

The initial calibrations associated with this SDG were dated 02/24/05 and 02/15/05 (benzidine only). The average RRFs for were ≥ 0.05 and the %RSDs were $\leq 35\%$ or $r^2 \geq 0.995$ for all target compounds, with the exception of $r^2 < 0.995$ for benzoic acid and 4-nitroaniline in the calibration analyzed 02/24/05. Nondetect results for benzoic acid and 4-nitroaniline were qualified as estimated, "UJ." A representative number of average RRFs and %RSDs were checked from the raw data, and no calculation or transcription errors were noted.

The continuing calibrations associated with the sample analyses were dated 03/02/05 and 03/03/05 (benzidine only). The RRFs for all target compounds were ≥ 0.05 , and the %Ds were $\leq 20\%$, with the exception of the %D for pyrene in the calibration analyzed 03/02/03. The result for pyrene was qualified as estimated "UJ," in sample Outfall 003. A representative number of RRFs and %Ds were checked from the raw data, and no calculation or transcription errors were noted. No further qualifications were required.

2.4 BLANKS

One method blank (5B28001-BLK1) was extracted and analyzed with this SDG, with detects below the reporting limits for butylbenzylphthalate, di-n-butylphthalate, and diethylphthalate. Butylbenzylphthalate and di-n-butylphthalate were also detected below the reporting limits in sample Outfall 003, and were qualified as nondetects, "U," at the reporting limits. There were no other reportable detects in the method blank for the target compounds listed on the summary form. Review of the raw data indicated false positives or false negatives. No further qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/ blank spike duplicate pair (5B28001-BS1/BSD1) was extracted and analyzed with this SDG. For blank spike/blank spike duplicate pairs, qualifications are applied, if necessary, to the associated samples based on those recoveries consistently outside of the laboratory-established QC limits in both the blank spike and blank spike duplicate. Results for those compounds with recoveries not consistent within the pair, with RPDs above the QC limit, are qualified as estimated, "UJ" for nondetects and "J" for detects, in the associated samples.

Benzidine was not recovered in either the blank spike or the blank spike duplicate. The nondetect result for benzidine was rejected, "R," in sample Outfall 003. The remaining recoveries and all RPDs were within the laboratory QC limits. A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No further qualifications were required.

2.6 SURROGATE RECOVERY

The sample surrogate recoveries were within the laboratory QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were performed on the sample of this SDG. Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

There were no field QC samples associated with this SDG. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

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

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low level of the initial and the method detection limit study. The reporting limits were not adjusted for sample amount; however, the dilution factor on the sample result summary reflected the sample amount extracted. Results were reported in $\mu\text{g/L}$ (ppb). Results reported above the MDL but below the reporting limit were qualified as estimated, "J," by the laboratory. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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

2.13 SYSTEM PERFORMANCE

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



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: 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: IOB2069-01 (DRAFT: Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Acenaphthene	EPA 625	5B28001	0.10	0.50	ND	0.943	02/28/05	03/02/05	u
Acenaphthylene	EPA 625	5B28001	0.10	0.50	ND	0.943	02/28/05	03/02/05	u
Aniline	EPA 625	5B28001	2.9	10	ND	0.943	02/28/05	03/02/05	u
Anthracene	EPA 625	5B28001	0.083	0.50	ND	0.943	02/28/05	03/02/05	u
Benzidine	EPA 625	5B28001	3.2	5.0	ND	0.943	02/28/05	03/03/05	u
Benzoic acid	EPA 625	5B28001	3.7	20	ND	0.943	02/28/05	03/02/05	u
Benzo(a)anthracene	EPA 625	5B28001	0.038	5.0	ND	0.943	02/28/05	03/02/05	u
Benzo(a)pyrene	EPA 625	5B28001	0.14	2.0	ND	0.943	02/28/05	03/02/05	u
Benzo(b)fluoranthene	EPA 625	5B28001	0.050	2.0	ND	0.943	02/28/05	03/02/05	u
Benzo(g,h,i)perylene	EPA 625	5B28001	0.059	5.0	ND	0.943	02/28/05	03/02/05	u
Benzo(k)fluoranthene	EPA 625	5B28001	0.053	0.50	ND	0.943	02/28/05	03/02/05	u
Benzyl alcohol	EPA 625	5B28001	0.21	5.0	ND	0.943	02/28/05	03/02/05	u
Bis(2-chloroethoxy)methane	EPA 625	5B28001	0.072	0.50	ND	0.943	02/28/05	03/02/05	u
Bis(2-chloroethyl)ether	EPA 625	5B28001	0.034	0.50	ND	0.943	02/28/05	03/02/05	u
Bis(2-chloroisopropyl)ether	EPA 625	5B28001	0.11	0.50	ND	0.943	02/28/05	03/02/05	u
Bis(2-ethylhexyl)phthalate	EPA 625	5B28001	1.1	5.0	ND	0.943	02/28/05	03/02/05	u
4-Bromophenyl phenyl ether	EPA 625	5B28001	0.12	1.0	ND	0.943	02/28/05	03/02/05	u
Butyl benzyl phthalate	EPA 625	5B28001	0.34	5.0	ND	0.943	02/28/05	03/02/05	u
4-Chloroaniline	EPA 625	5B28001	0.20	2.0	ND	0.943	02/28/05	03/02/05	u
2-Chloronaphthalene	EPA 625	5B28001	0.059	0.50	ND	0.943	02/28/05	03/02/05	u
4-Chloro-3-methylphenol	EPA 625	5B28001	0.34	2.0	ND	0.943	02/28/05	03/02/05	u
4-Chlorophenyl phenyl ether	EPA 625	5B28001	0.056	0.50	ND	0.943	02/28/05	03/02/05	u
2-Chlorophenol	EPA 625	5B28001	0.12	1.0	ND	0.943	02/28/05	03/02/05	u
Chrysene	EPA 625	5B28001	0.072	0.50	ND	0.943	02/28/05	03/02/05	u
Dibenz(a,h)anthracene	EPA 625	5B28001	0.083	0.50	ND	0.943	02/28/05	03/02/05	u
Dibenzofuran	EPA 625	5B28001	0.075	0.50	ND	0.943	02/28/05	03/02/05	u
Di-n-butyl phthalate	EPA 625	5B28001	0.26	2.0	ND	0.943	02/28/05	03/02/05	u
1,2-Dichlorobenzene	EPA 625	5B28001	0.11	0.50	ND	0.943	02/28/05	03/02/05	u
1,3-Dichlorobenzene	EPA 625	5B28001	0.13	0.50	ND	0.943	02/28/05	03/02/05	u
1,4-Dichlorobenzene	EPA 625	5B28001	0.050	0.50	ND	0.943	02/28/05	03/02/05	u
3,3-Dichlorobenzidine	EPA 625	5B28001	0.93	5.0	ND	0.943	02/28/05	03/02/05	u
2,4-Dichlorophenol	EPA 625	5B28001	0.21	2.0	ND	0.943	02/28/05	03/02/05	u
Diethyl phthalate	EPA 625	5B28001	0.12	1.0	ND	0.943	02/28/05	03/02/05	u
2,4-Dimethylphenol	EPA 625	5B28001	0.31	2.0	ND	0.943	02/28/05	03/02/05	u
Dimethyl phthalate	EPA 625	5B28001	0.081	0.50	ND	0.943	02/28/05	03/02/05	u
4,6-Dinitro-2-methylphenol	EPA 625	5B28001	0.38	5.0	ND	0.943	02/28/05	03/02/05	u
2,4-Dinitrophenol	EPA 625	5B28001	2.7	5.0	ND	0.943	02/28/05	03/02/05	u
2,4-Dinitrotoluene	EPA 625	5B28001	0.23	5.0	ND	0.943	02/28/05	03/02/05	u
2,6-Dinitrotoluene	EPA 625	5B28001	0.24	5.0	ND	0.943	02/28/05	03/02/05	u
Di-n-octyl phthalate	EPA 625	5B28001	0.17	5.0	ND	0.943	02/28/05	03/02/05	u
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B28001	0.087	1.0	ND	0.943	02/28/05	03/02/05	u

rel qual
 anal code

R
 UT
 L2

L
 C

ND 20

B

ND 20

B

MC
 04-04-05

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. IOB2069 <Page 8 of 10>

AMEC VALIDATED

LEVEL IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711SV36
 Task Order 313150010
 SDG No. IOB20699

No. of Analyses 1

Laboratory Del Mar Analytical

Reviewer L. Calvin

Analysis/Method NDMA by Method 1625

Date: April 1, 2005

Reviewer's Signature

L. Calvin

ACTION ITEMS^a

1. Case Narrative
 Deficiencies

2. Out of Scope
 Analyses

3. Analyses Not Conducted

4. Missing Hardcopy
 Deliverables

5. Incorrect Hardcopy
 Deliverables

6. Deviations from Analysis
 Protocol, e.g.,
 Holding Times
 GC/MS Tune/Inst. Performance
 Calibration
 Method blanks
 Surrogates
 Matrix Spike/Dup LCS
 Field QC
 Internal Standard Performance
 Compound Identification
 Quantitation
 System Performance

COMMENTS^b

Acceptable as reviewed.

^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IOB2069

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#: IOB2069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: April 1, 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 Semivolatile Organics (DVP-3, Rev. 2)*, *EPA Method 1625C*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	Del Mar ID	Laboratory ID	Matrix	COC Method
Outfall 003	Outfall 003	IOB2069-01	water	1625C

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. The sample containers were received intact and in good condition. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed by both field and laboratory personnel. The COC did not indicate whether custody seals were present and intact on the cooler upon receipt at either laboratory. No qualifications were required.

2.1.3 Holding Times

The sample was extracted within the holding time of seven days from the date of collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 GC/MS TUNING

Tuning is not applicable for this analysis. No qualifications were required.

2.3 CALIBRATION

One eight-point initial calibration analyzed 02/23/05 was associated with the sample in this SDG. The %RSD for NDMA was ≤35%. An initial calibration verification (ICV) was analyzed following the initial calibration, with a recovery for NDMA within the QC limits of 80-120%. The continuing calibration associated with the sample analysis also had a recovery for NDMA within the QC limits. No qualifications were required.

2.4 BLANKS

One method blank (5C02001-BLK1) was extracted and analyzed with the sample of this SDG. NDMA was reported below the reporting limit in the method blank at a concentration of 0.000390 µg/L; however, as NDMA was not detected in the associated sample at a reportable concentration, no qualification was necessary. Review of the method blank raw data revealed no false positive. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (5C02001-BS1/BSD1) and one low-level blank spike (5C02001-BS2) were extracted and analyzed with the sample of this SDG. Recoveries were within the control limits of 70-130% for all of the blank spikes, and the RPD for 5C02001-BS1/BSD1 was within the QC limit of $\leq 20\%$. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

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

2.7.2 Field Duplicates

There were no field duplicate pairs associated with this SDG. Qualifications are not routinely assigned based on field duplicate results.

2.8 INTERNAL STANDARDS

The labeled internal standard recovery for the sample in this SDG was within the laboratory control limits of 25-175% of the associated continuing calibration internal standard. No qualifications were required.

2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for target compound NDMA by Method 1625C. Review of the raw data did not indicate any compound identification problems. No qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data, and no errors were noted. The reporting limit for NDMA was supported by the low level of the initial calibration. Results were reported in $\mu\text{g/L}$ (ppb). No qualifications were required.



Del Mar Analytical

17451 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 264-3297
 1014 E. Cobley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9089
 9630 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 3520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: LARWQCB Sample Splits

Outfall 003

Report Number: IOB2069

Sampled: 02/25/05

Received: 02/25/05

DRAFT: SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/1625C MOD)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (DRAFT: Outfall 003 - Water)									
Reporting Units: ug/l									
N-Nitrosodimethylamine	EPA 1625C Mod	5C02001	0.00020	0.0020	ND	0.943	03/02/05	03/03/05	

Rev
Qual
Code
 u

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO65
 Task Order 313150010
 SDG No. IOB2069
 No. of Analyses 2

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

Date: April 4, 2005
 Reviewer's Signature L. Calvin

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis	Qualifications assigned for the following:
Protocol, e.g.,	-- compounds without calibration estimated for quantitation
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS ^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IOB2069

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#: IOB2069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: L. Calvin
Date of Review: April 4, 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*, *EPA SW-846 Method 8260B*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the 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 003	Outfall 003	IOB2069-01	water	624/8260B
Trip Blank	Trip Blank	IOB2069-02	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 this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. The trip blank was preserved, and the site sample was unpreserved. 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 this SDG. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The preserved Trip Blank sample was analyzed within 14 days of collection, and the unpreserved site sample was analyzed within seven days of collection. No qualifications were required.

2.2 GC/MS TUNING

The ion abundance windows were consistent with those specified in the 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 times. The BFB summaries were verified from the raw data and no discrepancies were noted. No qualifications were required.

2.3 CALIBRATION

Three initial calibrations dated 02/18/05 (acrolein and acrylonitrile only), 02/18/05 (GCMS1), and 02/01/05 (GCMS33) were associated with the sample analyses. The average RRFs were ≥0.05 and the %RSDs were ≤35%. Three continuing calibrations associated with the sample analyses were analyzed 02/26/05. The RRFs were ≥0.05, and the %Ds were ≤20% for all applicable target compounds. A representative number of %RSDs and average RRFs from the initial calibrations, and %Ds and RRFs from the continuing calibrations were recalculated from the raw data, and no calculation or transcription errors were found. No further qualifications were required.

2.4 BLANKS

Two water method blanks (5B26009-BLK1 and 5C04021-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

Two water blank spikes (5B26009-BS1 and 5C04021-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

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

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 003. There were no target compounds detected above the MDLs in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field QC samples associated with this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples in this SDG were within the control limits established by the continuing calibration standards, of +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. A TIC search was performed for requested target compounds 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane, as these compounds were not included in the calibration (see section 2.11). Neither compound was detected as a TIC. 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

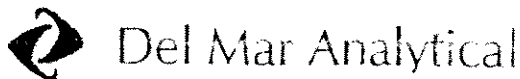
Compound quantification is verified at a Level IV data validation. The reporting limits were supported by the lowest concentrations of the initial calibration standards and by the MDL study. Calibration was not performed for target compounds 1,2-dichloro-1,1,2-trichloroethane and cyclohexane; therefore, the laboratory performed only a TIC search for those compounds. Nondetects for both compounds were qualified as estimated, "UJ," in sample Outfall 003. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. No calculation or transcription errors were noted. Results were reported in $\mu\text{g/L}$ (ppb). Detects reported between the MDL and the reporting limit were qualified as estimated, "J," by the laboratory. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

The laboratory did not provide TICs for this SDG. 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.



17461 Damian Ave., Suite 100, Irvine, CA 92614 (949) 261-1032 FAX (949) 260-8297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9463 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9870 South 37th St., Suite B-120, Phoenix, AZ 85044 (480) 95-0942 FAX (480) 785-0851
 2170 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-1620 FAX (702) 798-3621

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

Project ID: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Raw Qual	Final Code
Sample ID: IOB2069-01 (DRAFT: Outfall 003 - Water)											
Reporting Units: ug/l											
Benzene	EPA 624	5B26009	0.28	1.0	ND	1	02/26/05	02/26/05			
Bromodichloromethane	EPA 624	5B26009	0.30	2.0	ND	1	02/26/05	02/26/05			
Bromoform	EPA 624	5B26009	0.32	5.0	ND	1	02/26/05	02/26/05			
Bromomethane	EPA 624	5B26009	0.34	5.0	ND	1	02/26/05	02/26/05			
Trichlorotrifluoroethane (Freon 113)	EPA 624	5B26009	1.2	5.0	ND	1	02/26/05	02/26/05			
Carbon tetrachloride	EPA 624	5B26009	0.28	0.50	ND	1	02/26/05	02/26/05			
Chlorobenzene	EPA 624	5B26009	0.36	2.0	ND	1	02/26/05	02/26/05			
Chloroethane	EPA 624	5B26009	0.33	5.0	ND	1	02/26/05	02/26/05			
Chloroform	EPA 624	5B26009	0.33	2.0	ND	1	02/26/05	02/26/05			
Chloromethane	EPA 624	5B26009	0.30	5.0	ND	1	02/26/05	02/26/05			
Dibromochloromethane	EPA 624	5B26009	0.28	2.0	ND	1	02/26/05	02/26/05			
1,2-Dichlorobenzene	EPA 624	5B26009	0.32	2.0	ND	1	02/26/05	02/26/05			
1,3-Dichlorobenzene	EPA 624	5B26009	0.35	2.0	ND	1	02/26/05	02/26/05			
1,4-Dichlorobenzene	EPA 624	5B26009	0.37	2.0	ND	1	02/26/05	02/26/05			
1,1-Dichloroethane	EPA 624	5B26009	0.27	2.0	ND	1	02/26/05	02/26/05			
1,2-Dichloroethane	EPA 624	5B26009	0.28	0.50	ND	1	02/26/05	02/26/05			
1,1-Dichloroethene	EPA 624	5B26009	0.32	5.0	ND	1	02/26/05	02/26/05			
trans-1,2-Dichloroethene	EPA 624	5B26009	0.27	2.0	ND	1	02/26/05	02/26/05			
1,2-Dichloropropane	EPA 624	5B26009	0.35	2.0	ND	1	02/26/05	02/26/05			
cis-1,3-Dichloropropene	EPA 624	5B26009	0.22	2.0	ND	1	02/26/05	02/26/05			
trans-1,3-Dichloropropene	EPA 624	5B26009	0.24	2.0	ND	1	02/26/05	02/26/05			
Ethylbenzene	EPA 624	5B26009	0.25	2.0	ND	1	02/26/05	02/26/05			
Methylene chloride	EPA 624	5B26009	0.48	5.0	1.0	1	02/26/05	02/26/05			
1,1,2,2-Tetrachloroethane	EPA 624	5B26009	0.24	2.0	ND	1	02/26/05	02/26/05			
Tetrachloroethene	EPA 624	5B26009	0.32	2.0	ND	1	02/26/05	02/26/05			
Toluene	EPA 624	5B26009	0.36	2.0	ND	1	02/26/05	02/26/05			
1,1,1-Trichloroethane	EPA 624	5B26009	0.30	2.0	ND	1	02/26/05	02/26/05			
1,1,2-Trichloroethane	EPA 624	5B26009	0.30	2.0	ND	1	02/26/05	02/26/05			
Trichloroethene	EPA 624	5B26009	0.26	2.0	ND	1	02/26/05	02/26/05			
Trichlorofluoromethane	EPA 624	5B26009	0.34	5.0	ND	1	02/26/05	02/26/05			
Vinyl chloride	EPA 624	5B26009	0.26	0.50	ND	1	02/26/05	02/26/05			
Xylenes, Total	EPA 624	5B26009	0.52	4.0	ND	1	02/26/05	02/26/05			
Surrogate: Dibromofluoromethane (80-120%)					108 %						
Surrogate: Dibromofluoromethane (80-120%)					108 %						
Surrogate: Toluene-d8 (80-120%)					96 %						
Surrogate: Toluene-d8 (80-120%)					96 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %						

Raw Qual
 Final Code
 u
 J
 u
 DNR

AMEC VALIDATED
 LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE



17461 Deegan Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1914 E. Cooley Dr., Suite A, Colton, CA 92534 (909) 370-4667 FAX (949) 370-1046
 9484 Chiosapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9230 South 31st St., Suite D-126, Phoenix, AZ 85044 (480) 785-0643 FAX (480) 785-0851
 2520 E. Sunset Rd. #5, Las Vegas, NV 89126 (702) 796-8620 FAX (702) 796-8621

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

Project ID: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IOB2069-02 (DRAFT: Trip Blank - Water)											
Reporting Units: ug/l											
Benzene	EPA 624	5C04021	0.28	1.0	ND	1	03/04/05	03/04/05			
Bromodichloromethane	EPA 624	5C04021	0.30	2.0	ND	1	03/04/05	03/04/05			
Bromoform	EPA 624	5C04021	0.32	5.0	ND	1	03/04/05	03/04/05			
Bromomethane	EPA 624	5C04021	0.34	5.0	ND	1	03/04/05	03/04/05			
Trichlorotrifluoroethane (Freon 113)	EPA 624	5C04021	1.2	5.0	ND	1	03/04/05	03/04/05			
Carbon tetrachloride	EPA 624	5C04021	0.28	0.50	ND	1	03/04/05	03/04/05			
Chlorobenzene	EPA 624	5C04021	0.36	2.0	ND	1	03/04/05	03/04/05			
Chloroethane	EPA 624	5C04021	0.33	5.0	ND	1	03/04/05	03/04/05			
Chloroform	EPA 624	5C04021	0.33	2.0	ND	1	03/04/05	03/04/05			
Chloromethane	EPA 624	5C04021	0.30	5.0	ND	1	03/04/05	03/04/05			
Dibromochloromethane	EPA 624	5C04021	0.28	2.0	ND	1	03/04/05	03/04/05			
1,2-Dichlorobenzene	EPA 624	5C04021	0.32	2.0	ND	1	03/04/05	03/04/05			
1,3-Dichlorobenzene	EPA 624	5C04021	0.35	2.0	ND	1	03/04/05	03/04/05			
1,4-Dichlorobenzene	EPA 624	5C04021	0.37	2.0	ND	1	03/04/05	03/04/05			
1,1-Dichloroethane	EPA 624	5C04021	0.27	2.0	ND	1	03/04/05	03/04/05			
1,2-Dichloroethane	EPA 624	5C04021	0.28	0.50	ND	1	03/04/05	03/04/05			
1,1-Dichloroethene	EPA 624	5C04021	0.32	5.0	ND	1	03/04/05	03/04/05			
trans-1,2-Dichloroethene	EPA 624	5C04021	0.27	2.0	ND	1	03/04/05	03/04/05			
1,2-Dichloropropane	EPA 624	5C04021	0.35	2.0	ND	1	03/04/05	03/04/05			
cis-1,3-Dichloropropene	EPA 624	5C04021	0.22	2.0	ND	1	03/04/05	03/04/05			
trans-1,3-Dichloropropene	EPA 624	5C04021	0.24	2.0	ND	1	03/04/05	03/04/05			
Ethylbenzene	EPA 624	5C04021	0.25	2.0	ND	1	03/04/05	03/04/05			
Methylene chloride	EPA 624	5C04021	0.48	5.0	ND	1	03/04/05	03/04/05			
1,1,2,2-Tetrachloroethane	EPA 624	5C04021	0.24	2.0	ND	1	03/04/05	03/04/05			
Tetrachloroethene	EPA 624	5C04021	0.32	2.0	ND	1	03/04/05	03/04/05			
Toluene	EPA 624	5C04021	0.36	2.0	ND	1	03/04/05	03/04/05			
1,1,1-Trichloroethane	EPA 624	5C04021	0.30	2.0	ND	1	03/04/05	03/04/05			
1,1,2-Trichloroethane	EPA 624	5C04021	0.30	2.0	ND	1	03/04/05	03/04/05			
Trichloroethene	EPA 624	5C04021	0.26	2.0	ND	1	03/04/05	03/04/05			
Trichlorofluoromethane	EPA 624	5C04021	0.34	5.0	ND	1	03/04/05	03/04/05			
Vinyl chloride	EPA 624	5C04021	0.26	0.50	ND	1	03/04/05	03/04/05			
Xylenes, Total	EPA 624	5C04021	0.52	4.0	ND	1	03/04/05	03/04/05			
Trichlorotrifluoroethane (Freon 113)	EPA 624	5C04021	1.2	5.0	ND	1	03/04/05	03/04/05			
Surrogate: Dibromofluoromethane (80-120%)					103 %						
Surrogate: Dibromofluoromethane (80-120%)					103 %						
Surrogate: Toluene-d8 (80-120%)					100 %						
Surrogate: Toluene-d8 (80-120%)					100 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %						

Rev Qual
 Qual Code
 4

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1032 FAX (949) 260-3297
 1034 E. Conley Dr., Suite A, Coho, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9639 South 51st St., Suite 5-120, Phoenix, AZ 85044 (480) 785-0044 FAX (480) 785-0857
 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: LARWOCB Sample Splits

Outfall 003

Sampled: 02/25/05

Report Number: IOB2069

Received: 02/25/05

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: IOB2069-01 (DRAFT: Outfall 003 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5E26009	4.6	50	ND	1	02/26/05	02/26/05	
Acrylonitrile	EPA 624	5E26009	5.1	50	ND	1	02/26/05	02/26/05	
2-Chloroethyl vinyl ether	EPA 624	5E26009	1.3	5.0	ND	1	02/26/05	02/26/05	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					96 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				

Rev
Qual
Qual
CCLs

u
↓

AMEC VALIDATED
LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 DeSain Ave., Suite 100, Irvine, CA 92614 (949) 261-1622 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-7046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9830 South 21st St., Suite D-120, Phoenix, AZ 85044 (480) 785-4888 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IOB2069-01 (DRAFT: Outfall 003 - Water) - cont.											
Reporting Units: ug/l											
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5E26009	N/A	2.5	ND	1	02/26/05	02/26/05		UJ	*11
Cyclohexane	EPA 624 (MOD.)	5E26009	N/A	2.5	ND	1	02/26/05	02/26/05		UJ	*11
Sample ID: IOB2069-02 (DRAFT: Trip Blank - Water)											
Reporting Units: ug/l											
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5C04021	N/A	2.5	ND	1	03/04/05	03/04/05		UJ	*11
Cyclohexane	EPA 624 (MOD.)	5C04021	N/A	2.5	ND	1	03/04/05	03/04/05		UJ	*11

MC
04.04.05

AMEC VALIDATED
LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

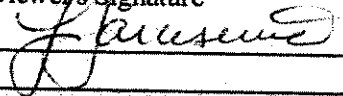
Package ID T711WC92
Task Order 313150012
SDG No. IOB2069

No. of Analyses 1

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

Date: 03/29/05
Reviewer's Signature


ACTION ITEMS*

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 detects below the reporting limit.

Holding Times

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

* 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: GENERAL MINERALS
SAMPLE DELIVERY GROUP: IOB2069

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Monitoring
Contract Task Order #: 313150012
Sample Delivery Group #: IOB2069
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Sample: 1
Reviewer: L. Jarusewic
Date of Review: March 29, 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 300.0, 330.5, 350.2, 405.1, 335.2, and 415.1. Standard Methods for the Examination of Water and Wastewater Method SM5540-C and 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 003	Outfall 003	IOB2069-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analyses and sample presented in this SDG. No 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 total organic carbon, the 14-day holding time for cyanide, the 48-hour holding time for phosphate, surfactants, and biological oxygen demand, and the 24-hour residual chlorine holding times were met. No qualifications were required.

2.2 CALIBRATION

For the applicable analyses, the initial calibration correlation coefficients were ≥ 0.995 . The initial and continuing calibration verification information was acceptable with %Rs within the control limits of 90-110%. For BOD, no information regarding the calibration of the oxygen meter was provided; however, as the LCS recovery was within the CCV control limits, no qualifications were required. 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. The total cyanide and phosphate reporting limit check standards were recovered within the control limits of 70-130%. Calibration is not applicable to residual chlorine. No qualifications were required.

2.3 BLANKS

The 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. Blank analyses are not applicable to residual chlorine. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLE

The laboratory control sample and laboratory control sample duplicate (BOD only) recoveries were within the laboratory-established control limits. The RPD was within the control limits of $\leq 20\%$. The LCS is not applicable to residual chlorine. No qualifications were required.

2.5 SURROGATES RECOVERY

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

2.6 LABORATORY DUPLICATES

No MS/MSD analyses were 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

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was 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. Surfactant detected below the reporting limit was qualified as estimated, "J." No transcription errors or calculation errors were noted. No further qualifications were required.

2.11 FIELD QC SAMPLE

Field QC sample 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 sample. No qualifications were required.

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3237
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-1885 FAX (949) 370-1034
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9081
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0255
 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

DRAFT: INORGANICS

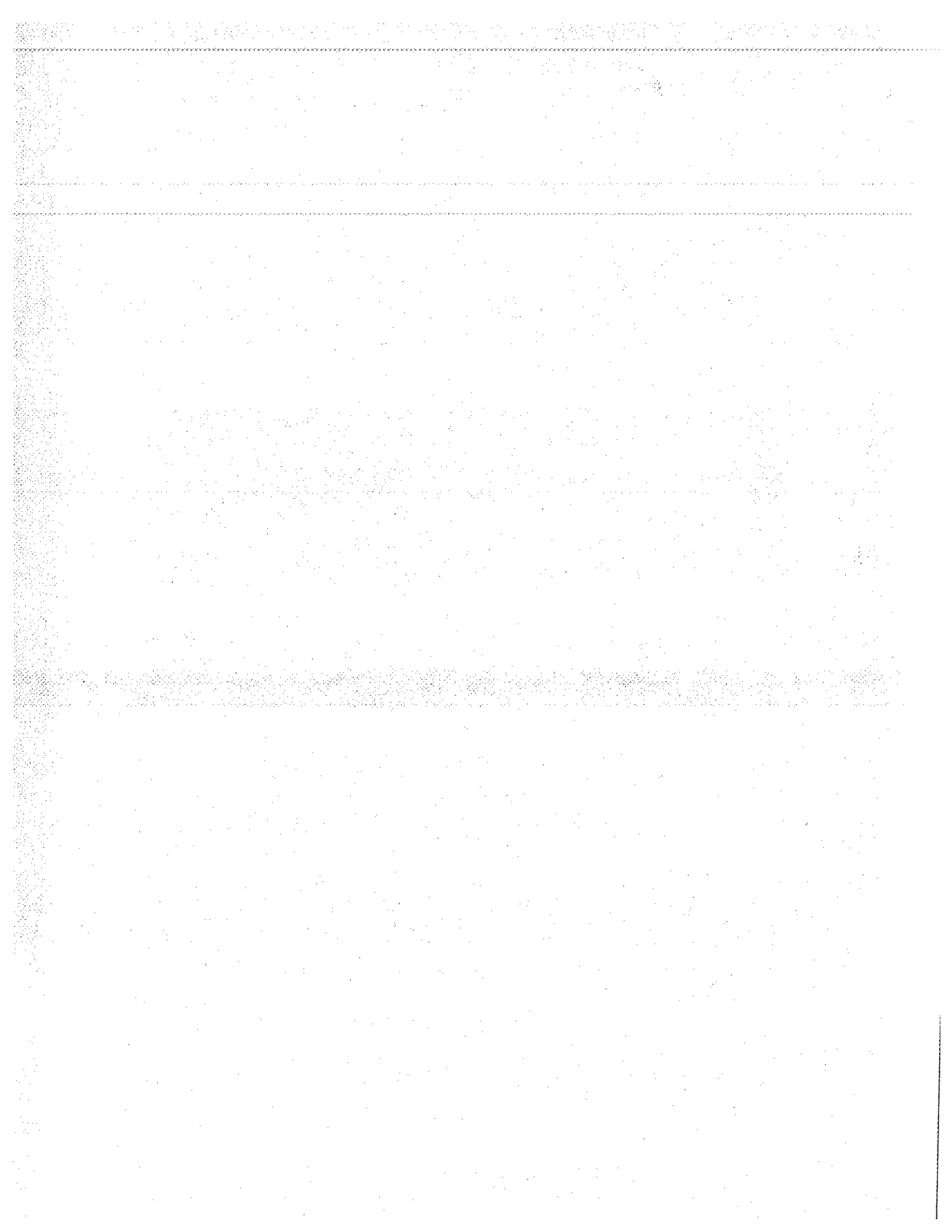
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (DRAFT: Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5C07070	0.30	0.50	5.6	1	03/07/05	03/07/05	REV QUAL COD
Biochemical Oxygen Demand	EPA 405.1	5B25128	0.59	2.0	ND	1	02/25/05	03/02/05	U
Total Cyanide	EPA 335.2	5B28115	0.0022	0.0050	ND	1	02/28/05	03/01/05	
Phosphate (PO4)	EPA 300.0	5B25042	0.35	0.50	ND	1	02/25/05	02/25/05	
Residual Chlorine	EPA 330.5	5B25120	0.10	0.10	ND	1	02/25/05	02/25/05	
Surfactants (MBAS)	SM5540-C	5B25118	0.044	0.10	0.056	1	02/25/05	02/25/05	J
Total Organic Carbon	EPA 415.1	5C03103	0.25	1.0	8.7	1	03/03/05	03/03/05	J DNQ

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





LABORATORY REPORT

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

Project: LARWQCB Sample Splits
Outfall 003

Sampled: 02/25/05
Received: 02/25/05
Issued: 04/06/05 08:42

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

SAMPLE CROSS REFERENCE

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

LABORATORY ID

IOB2069-01
IOB2069-02

CLIENT ID

Outfall 003
Trip Blank

MATRIX

Water
Water

Reviewed By:

Del Mar Analytical, Irvine
Michele Harper
Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

CORRECTIVE ACTION REPORT

Department: Extractions
Method: EPA 625
QC Batch: 5B28001

Date: 03/03/2005
Matrix: Water

Identification and Definition of Problem:

The percent recovery for benzidine in the LCS was below method acceptance limits.

Determination of the Cause of the Problem:

Benzidine is known to be a problematic compound. According to the EPA, it can be subject to oxidative losses during solvent extraction and its chromatographic behavior is poor.

Corrective Action Taken:

All results reported for benzidine are potentially biased low and can be considered estimates only.

Quality Assurance Approval:

Dave Dawes

Date: 03/04/2005 09:37 AM

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

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: IOB2069-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Trichlorotrifluoroethane (Freon 113)	EPA 624	5B26009	1.2	5.0	ND	1	02/26/05	02/26/05	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					96 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				
Sample ID: IOB2069-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Trichlorotrifluoroethane (Freon 113)	EPA 624	5C04021	1.2	5.0	ND	1	03/04/05	03/04/05	
Surrogate: Dibromofluoromethane (80-120%)					103 %				
Surrogate: Toluene-d8 (80-120%)					100 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



17461Derian 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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

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: IOB2069-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B26009	0.28	1.0	ND	1	02/26/05	02/26/05	
Bromodichloromethane	EPA 624	5B26009	0.30	2.0	ND	1	02/26/05	02/26/05	
Bromoform	EPA 624	5B26009	0.32	5.0	ND	1	02/26/05	02/26/05	
Bromomethane	EPA 624	5B26009	0.34	5.0	ND	1	02/26/05	02/26/05	
Carbon tetrachloride	EPA 624	5B26009	0.28	0.50	ND	1	02/26/05	02/26/05	
Chlorobenzene	EPA 624	5B26009	0.36	2.0	ND	1	02/26/05	02/26/05	
Chloroethane	EPA 624	5B26009	0.33	5.0	ND	1	02/26/05	02/26/05	
Chloroform	EPA 624	5B26009	0.33	2.0	ND	1	02/26/05	02/26/05	
Chloromethane	EPA 624	5B26009	0.30	5.0	ND	1	02/26/05	02/26/05	
Dibromochloromethane	EPA 624	5B26009	0.28	2.0	ND	1	02/26/05	02/26/05	
1,2-Dichlorobenzene	EPA 624	5B26009	0.32	2.0	ND	1	02/26/05	02/26/05	
1,3-Dichlorobenzene	EPA 624	5B26009	0.35	2.0	ND	1	02/26/05	02/26/05	
1,4-Dichlorobenzene	EPA 624	5B26009	0.37	2.0	ND	1	02/26/05	02/26/05	
1,1-Dichloroethane	EPA 624	5B26009	0.27	2.0	ND	1	02/26/05	02/26/05	
1,2-Dichloroethane	EPA 624	5B26009	0.28	0.50	ND	1	02/26/05	02/26/05	
1,1-Dichloroethene	EPA 624	5B26009	0.32	5.0	ND	1	02/26/05	02/26/05	
trans-1,2-Dichloroethene	EPA 624	5B26009	0.27	2.0	ND	1	02/26/05	02/26/05	
1,2-Dichloropropane	EPA 624	5B26009	0.35	2.0	ND	1	02/26/05	02/26/05	
cis-1,3-Dichloropropene	EPA 624	5B26009	0.22	2.0	ND	1	02/26/05	02/26/05	
trans-1,3-Dichloropropene	EPA 624	5B26009	0.24	2.0	ND	1	02/26/05	02/26/05	
Ethylbenzene	EPA 624	5B26009	0.25	2.0	ND	1	02/26/05	02/26/05	
Methylene chloride	EPA 624	5B26009	0.48	5.0	1.0	1	02/26/05	02/26/05	J
1,1,2,2-Tetrachloroethane	EPA 624	5B26009	0.24	2.0	ND	1	02/26/05	02/26/05	
Tetrachloroethene	EPA 624	5B26009	0.32	2.0	ND	1	02/26/05	02/26/05	
Toluene	EPA 624	5B26009	0.36	2.0	ND	1	02/26/05	02/26/05	
1,1,1-Trichloroethane	EPA 624	5B26009	0.30	2.0	ND	1	02/26/05	02/26/05	
1,1,2-Trichloroethane	EPA 624	5B26009	0.30	2.0	ND	1	02/26/05	02/26/05	
Trichloroethene	EPA 624	5B26009	0.26	2.0	ND	1	02/26/05	02/26/05	
Trichlorofluoromethane	EPA 624	5B26009	0.34	5.0	ND	1	02/26/05	02/26/05	
Vinyl chloride	EPA 624	5B26009	0.26	0.50	ND	1	02/26/05	02/26/05	
Xylenes, Total	EPA 624	5B26009	0.52	4.0	ND	1	02/26/05	02/26/05	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					96 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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: IOB2069-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5C04021	0.28	1.0	ND	1	03/04/05	03/04/05	
Bromodichloromethane	EPA 624	5C04021	0.30	2.0	ND	1	03/04/05	03/04/05	
Bromoform	EPA 624	5C04021	0.32	5.0	ND	1	03/04/05	03/04/05	
Bromomethane	EPA 624	5C04021	0.34	5.0	ND	1	03/04/05	03/04/05	
Carbon tetrachloride	EPA 624	5C04021	0.28	0.50	ND	1	03/04/05	03/04/05	
Chlorobenzene	EPA 624	5C04021	0.36	2.0	ND	1	03/04/05	03/04/05	
Chloroethane	EPA 624	5C04021	0.33	5.0	ND	1	03/04/05	03/04/05	
Chloroform	EPA 624	5C04021	0.33	2.0	ND	1	03/04/05	03/04/05	
Chloromethane	EPA 624	5C04021	0.30	5.0	ND	1	03/04/05	03/04/05	
Dibromochloromethane	EPA 624	5C04021	0.28	2.0	ND	1	03/04/05	03/04/05	
1,2-Dichlorobenzene	EPA 624	5C04021	0.32	2.0	ND	1	03/04/05	03/04/05	
1,3-Dichlorobenzene	EPA 624	5C04021	0.35	2.0	ND	1	03/04/05	03/04/05	
1,4-Dichlorobenzene	EPA 624	5C04021	0.37	2.0	ND	1	03/04/05	03/04/05	
1,1-Dichloroethane	EPA 624	5C04021	0.27	2.0	ND	1	03/04/05	03/04/05	
1,2-Dichloroethane	EPA 624	5C04021	0.28	0.50	ND	1	03/04/05	03/04/05	
1,1-Dichloroethene	EPA 624	5C04021	0.32	5.0	ND	1	03/04/05	03/04/05	
trans-1,2-Dichloroethene	EPA 624	5C04021	0.27	2.0	ND	1	03/04/05	03/04/05	
1,2-Dichloropropane	EPA 624	5C04021	0.35	2.0	ND	1	03/04/05	03/04/05	
cis-1,3-Dichloropropene	EPA 624	5C04021	0.22	2.0	ND	1	03/04/05	03/04/05	
trans-1,3-Dichloropropene	EPA 624	5C04021	0.24	2.0	ND	1	03/04/05	03/04/05	
Ethylbenzene	EPA 624	5C04021	0.25	2.0	ND	1	03/04/05	03/04/05	
Methylene chloride	EPA 624	5C04021	0.48	5.0	ND	1	03/04/05	03/04/05	
1,1,2,2-Tetrachloroethane	EPA 624	5C04021	0.24	2.0	ND	1	03/04/05	03/04/05	
Tetrachloroethene	EPA 624	5C04021	0.32	2.0	ND	1	03/04/05	03/04/05	
Toluene	EPA 624	5C04021	0.36	2.0	ND	1	03/04/05	03/04/05	
1,1,1-Trichloroethane	EPA 624	5C04021	0.30	2.0	ND	1	03/04/05	03/04/05	
1,1,2-Trichloroethane	EPA 624	5C04021	0.30	2.0	ND	1	03/04/05	03/04/05	
Trichloroethene	EPA 624	5C04021	0.26	2.0	ND	1	03/04/05	03/04/05	
Trichlorofluoromethane	EPA 624	5C04021	0.34	5.0	ND	1	03/04/05	03/04/05	
Vinyl chloride	EPA 624	5C04021	0.26	0.50	ND	1	03/04/05	03/04/05	
Xylenes, Total	EPA 624	5C04021	0.52	4.0	ND	1	03/04/05	03/04/05	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5C04021	1.2	5.0	ND	1	03/04/05	03/04/05	
Surrogate: Dibromofluoromethane (80-120%)									103 %
Surrogate: Toluene-d8 (80-120%)									100 %
Surrogate: 4-Bromofluorobenzene (80-120%)									96 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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: IOB2069-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B26009	4.6	50	ND	1	02/26/05	02/26/05	
Acrylonitrile	EPA 624	5B26009	5.1	50	ND	1	02/26/05	02/26/05	
2-Chloroethyl vinyl ether	EPA 624	5B26009	1.3	5.0	ND	1	02/26/05	02/26/05	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					96 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5B26009	N/A	2.5	ND	1	02/26/05	02/26/05	
Cyclohexane	EPA 624 (MOD.)	5B26009	N/A	2.5	ND	1	02/26/05	02/26/05	
Sample ID: IOB2069-02 (Trip Blank - Water)									
Reporting Units: ug/l									
1,2-Dichloro-1,1,2-trifluoroethane	EPA 624 (MOD.)	5C04021	N/A	2.5	ND	1	03/04/05	03/04/05	
Cyclohexane	EPA 624 (MOD.)	5C04021	N/A	2.5	ND	1	03/04/05	03/04/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/1625C MOD)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
N-Nitrosodimethylamine	EPA 1625C Mod	5C02001	0.00020	0.0020	ND	0.943	03/02/05	03/03/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: LARWQCB Sample Splits
Outfall 003
Report Number: IOB2069

Sampled: 02/25/05
Received: 02/25/05

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: IOB2069-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Acenaphthene	EPA 625	5B28001	0.10	0.50	ND	0.943	02/28/05	03/02/05	
Acenaphthylene	EPA 625	5B28001	0.10	0.50	ND	0.943	02/28/05	03/02/05	
Aniline	EPA 625	5B28001	2.9	10	ND	0.943	02/28/05	03/02/05	
Anthracene	EPA 625	5B28001	0.083	0.50	ND	0.943	02/28/05	03/02/05	
Benzidine	EPA 625	5B28001	3.2	5.0	ND	0.943	02/28/05	03/03/05	L2
Benzoic acid	EPA 625	5B28001	3.7	20	ND	0.943	02/28/05	03/02/05	
Benzo(a)anthracene	EPA 625	5B28001	0.038	5.0	ND	0.943	02/28/05	03/02/05	
Benzo(a)pyrene	EPA 625	5B28001	0.14	2.0	ND	0.943	02/28/05	03/02/05	
Benzo(b)fluoranthene	EPA 625	5B28001	0.050	2.0	ND	0.943	02/28/05	03/02/05	
Benzo(g,h,i)perylene	EPA 625	5B28001	0.059	5.0	ND	0.943	02/28/05	03/02/05	
Benzo(k)fluoranthene	EPA 625	5B28001	0.053	0.50	ND	0.943	02/28/05	03/02/05	
Benzyl alcohol	EPA 625	5B28001	0.21	5.0	ND	0.943	02/28/05	03/02/05	
Bis(2-chloroethoxy)methane	EPA 625	5B28001	0.072	0.50	ND	0.943	02/28/05	03/02/05	
Bis(2-chloroethyl)ether	EPA 625	5B28001	0.084	0.50	ND	0.943	02/28/05	03/02/05	
Bis(2-chloroisopropyl)ether	EPA 625	5B28001	0.11	0.50	ND	0.943	02/28/05	03/02/05	
Bis(2-ethylhexyl)phthalate	EPA 625	5B28001	1.1	5.0	ND	0.943	02/28/05	03/02/05	
4-Bromophenyl phenyl ether	EPA 625	5B28001	0.12	1.0	ND	0.943	02/28/05	03/02/05	
Butyl benzyl phthalate	EPA 625	5B28001	0.34	5.0	0.70	0.943	02/28/05	03/02/05	J
4-Chloroaniline	EPA 625	5B28001	0.20	2.0	ND	0.943	02/28/05	03/02/05	
2-Chloronaphthalene	EPA 625	5B28001	0.059	0.50	ND	0.943	02/28/05	03/02/05	
4-Chloro-3-methylphenol	EPA 625	5B28001	0.34	2.0	ND	0.943	02/28/05	03/02/05	
4-Chlorophenyl phenyl ether	EPA 625	5B28001	0.056	0.50	ND	0.943	02/28/05	03/02/05	
2-Chlorophenol	EPA 625	5B28001	0.12	1.0	ND	0.943	02/28/05	03/02/05	
Chrysene	EPA 625	5B28001	0.072	0.50	ND	0.943	02/28/05	03/02/05	
Dibenz(a,h)anthracene	EPA 625	5B28001	0.083	0.50	ND	0.943	02/28/05	03/02/05	
Dibenzofuran	EPA 625	5B28001	0.075	0.50	ND	0.943	02/28/05	03/02/05	
Di-n-butyl phthalate	EPA 625	5B28001	0.26	2.0	0.26	0.943	02/28/05	03/02/05	J
1,2-Dichlorobenzene	EPA 625	5B28001	0.11	0.50	ND	0.943	02/28/05	03/02/05	
1,3-Dichlorobenzene	EPA 625	5B28001	0.13	0.50	ND	0.943	02/28/05	03/02/05	
1,4-Dichlorobenzene	EPA 625	5B28001	0.050	0.50	ND	0.943	02/28/05	03/02/05	
3,3-Dichlorobenzidine	EPA 625	5B28001	0.93	5.0	ND	0.943	02/28/05	03/02/05	
2,4-Dichlorophenol	EPA 625	5B28001	0.21	2.0	ND	0.943	02/28/05	03/02/05	
Diethyl phthalate	EPA 625	5B28001	0.12	1.0	ND	0.943	02/28/05	03/02/05	
2,4-Dimethylphenol	EPA 625	5B28001	0.31	2.0	ND	0.943	02/28/05	03/02/05	
Dimethyl phthalate	EPA 625	5B28001	0.081	0.50	ND	0.943	02/28/05	03/02/05	
4,6-Dinitro-2-methylphenol	EPA 625	5B28001	0.38	5.0	ND	0.943	02/28/05	03/02/05	
2,4-Dinitrophenol	EPA 625	5B28001	2.7	5.0	ND	0.943	02/28/05	03/02/05	
2,4-Dinitrotoluene	EPA 625	5B28001	0.23	5.0	ND	0.943	02/28/05	03/02/05	
2,6-Dinitrotoluene	EPA 625	5B28001	0.24	5.0	ND	0.943	02/28/05	03/02/05	
Di-n-octyl phthalate	EPA 625	5B28001	0.17	5.0	ND	0.943	02/28/05	03/02/05	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B28001	0.087	1.0	ND	0.943	02/28/05	03/02/05	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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: IOB2069-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Fluoranthene	EPA 625	5B28001	0.089	0.50	ND	0.943	02/28/05	03/02/05	
Fluorene	EPA 625	5B28001	0.075	0.50	ND	0.943	02/28/05	03/02/05	
Hexachlorobenzene	EPA 625	5B28001	0.13	1.0	ND	0.943	02/28/05	03/02/05	
Hexachlorobutadiene	EPA 625	5B28001	0.38	2.0	ND	0.943	02/28/05	03/02/05	
Hexachlorocyclopentadiene	EPA 625	5B28001	1.8	5.0	ND	0.943	02/28/05	03/02/05	
Hexachloroethane	EPA 625	5B28001	0.51	3.0	ND	0.943	02/28/05	03/02/05	
Indeno(1,2,3-cd)pyrene	EPA 625	5B28001	0.19	2.0	ND	0.943	02/28/05	03/02/05	
Isophorone	EPA 625	5B28001	0.059	1.0	ND	0.943	02/28/05	03/02/05	
2-Methylnaphthalene	EPA 625	5B28001	0.13	1.0	ND	0.943	02/28/05	03/02/05	
2-Methylphenol	EPA 625	5B28001	0.28	2.0	ND	0.943	02/28/05	03/02/05	
4-Methylphenol	EPA 625	5B28001	0.20	5.0	ND	0.943	02/28/05	03/02/05	
Naphthalene	EPA 625	5B28001	0.13	1.0	ND	0.943	02/28/05	03/02/05	
2-Nitroaniline	EPA 625	5B28001	0.18	5.0	ND	0.943	02/28/05	03/02/05	
3-Nitroaniline	EPA 625	5B28001	0.35	5.0	ND	0.943	02/28/05	03/02/05	
4-Nitroaniline	EPA 625	5B28001	0.49	5.0	ND	0.943	02/28/05	03/02/05	
Nitrobenzene	EPA 625	5B28001	0.10	1.0	ND	0.943	02/28/05	03/02/05	
2-Nitrophenol	EPA 625	5B28001	0.23	2.0	ND	0.943	02/28/05	03/02/05	
4-Nitrophenol	EPA 625	5B28001	0.73	5.0	ND	0.943	02/28/05	03/02/05	
N-Nitroso-di-n-propylamine	EPA 625	5B28001	0.18	2.0	ND	0.943	02/28/05	03/02/05	
N-Nitrosodiphenylamine	EPA 625	5B28001	0.077	1.0	ND	0.943	02/28/05	03/02/05	
Pentachlorophenol	EPA 625	5B28001	0.78	2.0	ND	0.943	02/28/05	03/02/05	
Phenanthrene	EPA 625	5B28001	0.071	0.50	0.17	0.943	02/28/05	03/02/05	J
Phenol	EPA 625	5B28001	0.14	1.0	ND	0.943	02/28/05	03/02/05	
Pyrene	EPA 625	5B28001	0.059	0.50	ND	0.943	02/28/05	03/02/05	
1,2,4-Trichlorobenzene	EPA 625	5B28001	0.10	1.0	ND	0.943	02/28/05	03/02/05	
2,4,5-Trichlorophenol	EPA 625	5B28001	0.075	2.0	ND	0.943	02/28/05	03/02/05	
2,4,6-Trichlorophenol	EPA 625	5B28001	0.10	1.0	ND	0.943	02/28/05	03/02/05	
Surrogate: 2-Fluorophenol (35-120%)									75 %
Surrogate: Phenol-d6 (45-120%)									55 %
Surrogate: 2,4,6-Tribromophenol (50-125%)									96 %
Surrogate: Nitrobenzene-d5 (45-120%)									77 %
Surrogate: 2-Fluorobiphenyl (45-120%)									80 %
Surrogate: Terphenyl-d14 (45-135%)									87 %

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Boron	EPA 200.7	5C02083	0.0074	0.050	0.065	1	03/02/05	03/02/05	
Chromium	EPA 200.7	5C02083	0.00068	0.0050	0.0027	1	03/02/05	03/02/05	J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (Outfall 003 - Water) - cont.									
Reporting Units: ug/l									
Antimony	EPA 200.8	5C03085	0.18	2.0	0.58	1	03/03/05	03/03/05	J
Arsenic	EPA 200.8	5C03085	0.49	1.0	0.89	1	03/03/05	03/03/05	J
Barium	EPA 200.8	5C03085	0.14	1.0	66	1	03/03/05	03/03/05	
Beryllium	EPA 200.8	5C03085	0.037	0.50	ND	1	03/03/05	03/03/05	
Cadmium	EPA 200.8	5C03085	0.015	1.0	ND	1	03/03/05	03/03/05	
Chromium	EPA 200.8	5C03085	0.26	2.0	1.2	1	03/03/05	03/03/05	J
Cobalt	EPA 200.8	5C03085	0.10	1.0	0.18	1	03/03/05	03/03/05	J
Copper	EPA 200.8	5C03085	0.49	1.0	1.2	1	03/03/05	03/03/05	
Lead	EPA 200.8	5C03085	0.13	1.0	ND	1	03/03/05	03/03/05	
Mercury	EPA 245.1	5C02089	0.063	0.20	ND	1	03/02/05	03/02/05	
Molybdenum	EPA 200.8	5C03085	0.080	2.0	1.0	1	03/03/05	03/03/05	J
Nickel	EPA 200.8	5C03085	0.15	2.0	0.36	1	03/03/05	03/03/05	J
Selenium	EPA 200.8	5C03085	0.36	2.0	1.8	1	03/03/05	03/03/05	J
Silver	EPA 200.8	5C03085	0.089	1.0	ND	1	03/03/05	03/03/05	
Thallium	EPA 200.8	5C03085	0.075	1.0	ND	1	03/03/05	03/03/05	
Vanadium	EPA 200.8	5C03085	0.86	2.0	ND	1	03/03/05	03/03/05	
Zinc	EPA 200.8	5C03085	3.1	10	25	1	03/03/05	03/03/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5C07070	0.30	0.50	5.6	1	03/07/05	03/07/05	
Biochemical Oxygen Demand	EPA 405.1	5B25128	0.59	2.0	ND	1	02/25/05	03/02/05	
Chloride	EPA 300.0	5B25042	0.26	0.50	11	1	02/25/05	02/25/05	
Total Cyanide	EPA 335.2	5B28115	0.0022	0.0050	ND	1	02/28/05	03/01/05	
Fluoride	EPA 300.0	5B25042	0.10	0.50	0.20	1	02/25/05	02/25/05	J
Nitrate/Nitrite-N	EPA 300.0	5B25042	0.072	0.26	1.1	1	02/25/05	02/25/05	
Oil & Grease	EPA 413.1	5C02094	0.94	5.0	ND	1	03/02/05	03/02/05	
Phosphate (PO4)	EPA 300.0	5B25042	0.35	0.50	ND	1	02/25/05	02/25/05	
Residual Chlorine	EPA 330.5	5B25120	0.10	0.10	ND	1	02/25/05	02/25/05	
Sulfate	EPA 300.0	5B25042	0.36	1.0	83	2	02/25/05	02/25/05	
Surfactants (MBAS)	SM5540-C	5B25118	0.044	0.10	0.056	1	02/25/05	02/25/05	J
Total Dissolved Solids	SM2540C	5C02106	10	10	360	1	03/02/05	03/02/05	
Total Organic Carbon	EPA 415.1	5C03103	0.25	1.0	8.7	1	03/03/05	03/03/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB2069-01 (Outfall 003 - Water) - cont.									
Reporting Units: pH Units									
pH	EPA 150.1	5B25133	N/A	NA	7.73	1	02/25/05	02/25/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 003 (IOB2069-01) - Water	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
EPA 150.1	1	02/25/2005 13:45	02/25/2005 19:15	02/25/2005 22:25	02/25/2005 23:25
EPA 300.0	2	02/25/2005 13:45	02/25/2005 19:15	02/25/2005 20:15	02/25/2005 22:51
EPA 330.5	1	02/25/2005 13:45	02/25/2005 19:15	02/25/2005 22:33	02/25/2005 22:40
EPA 405.1	2	02/25/2005 13:45	02/25/2005 19:15	02/25/2005 21:00	03/02/2005 14:30
EPA 624	3	02/25/2005 13:45	02/25/2005 19:15	02/26/2005 00:00	02/26/2005 18:27
SM5540-C	2	02/25/2005 13:45	02/25/2005 19:15	02/25/2005 19:49	02/25/2005 23:14

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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: 5B26009 Extracted: 02/26/05											
Blank Analyzed: 02/26/2005 (5B26009-BLK1)											
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l							
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	24.4			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	24.4			ug/l	25.0		98	80-120			
LCS Analyzed: 02/26/2005 (5B26009-BS1)											
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	24.9			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	25.5			ug/l	25.0		102	80-120			
Matrix Spike Analyzed: 02/26/2005 (5B26009-MS1) Source: IOB2045-02											
Surrogate: Dibromofluoromethane	26.5			ug/l	25.0		106	80-120			
Surrogate: Toluene-d8	24.3			ug/l	25.0		97	80-120			
Surrogate: 4-Bromofluorobenzene	25.3			ug/l	25.0		101	80-120			
Matrix Spike Dup Analyzed: 02/26/2005 (5B26009-MSD1) Source: IOB2045-02											
Surrogate: Dibromofluoromethane	25.6			ug/l	25.0		102	80-120			
Surrogate: Toluene-d8	24.1			ug/l	25.0		96	80-120			
Surrogate: 4-Bromofluorobenzene	24.9			ug/l	25.0		100	80-120			
Batch: 5C04021 Extracted: 03/04/05											
Blank Analyzed: 03/04/2005 (5C04021-BLK1)											
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l							
Surrogate: Dibromofluoromethane	26.9			ug/l	25.0		108	80-120			
Surrogate: Toluene-d8	25.2			ug/l	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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: 5C04021 Extracted: 03/04/05											
LCS Analyzed: 03/04/2005 (5C04021-BS1)											
Surrogate: Dibromofluoromethane	27.5			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	25.2			ug/l	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	27.4			ug/l	25.0		110	80-120			
Matrix Spike Analyzed: 03/04/2005 (5C04021-MS1)											
						Source: IOB2009-03					
Surrogate: Dibromofluoromethane	27.4			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	26.9			ug/l	25.0		108	80-120			
Matrix Spike Dup Analyzed: 03/04/2005 (5C04021-MSD1)											
						Source: IOB2009-03					
Surrogate: Dibromofluoromethane	26.8			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	24.9			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B26009 Extracted: 02/26/05										
Blank Analyzed: 02/26/2005 (5B26009-BLK1)										
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.34	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.24	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	ND	5.0	0.48	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	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	2.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	0.50	0.26	ug/l						
Xylenes, Total	ND	4.0	0.52	ug/l						
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0	105	80-120			
Surrogate: Toluene-d8	24.4			ug/l	25.0	98	80-120			
Surrogate: 4-Bromofluorobenzene	24.4			ug/l	25.0	98	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

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	RPD Limit	Data Qualifiers
Batch: 5B26009 Extracted: 02/26/05										
LCS Analyzed: 02/26/2005 (5B26009-BS1)										
Benzene	28.2	1.0	0.28	ug/l	25.0		113 70-120			
Bromodichloromethane	27.2	2.0	0.30	ug/l	25.0		109 70-140			
Bromoform	22.4	5.0	0.32	ug/l	25.0		90 55-135			
Bromomethane	28.1	5.0	0.34	ug/l	25.0		112 60-140			
Carbon tetrachloride	26.7	0.50	0.28	ug/l	25.0		107 70-140			
Chlorobenzene	27.5	2.0	0.36	ug/l	25.0		110 80-125			
Chloroethane	27.7	5.0	0.33	ug/l	25.0		111 60-145			
Chloroform	30.0	2.0	0.33	ug/l	25.0		120 75-130			
Chloromethane	26.2	5.0	0.30	ug/l	25.0		105 40-145			
Dibromochloromethane	27.4	2.0	0.28	ug/l	25.0		110 65-145			
1,2-Dichlorobenzene	27.8	2.0	0.32	ug/l	25.0		111 80-120			
1,3-Dichlorobenzene	27.6	2.0	0.35	ug/l	25.0		110 80-120			
1,4-Dichlorobenzene	27.0	2.0	0.37	ug/l	25.0		108 80-120			
1,1-Dichloroethane	28.9	2.0	0.27	ug/l	25.0		116 70-135			
1,2-Dichloroethane	29.0	0.50	0.28	ug/l	25.0		116 60-150			
1,1-Dichloroethene	27.7	5.0	0.32	ug/l	25.0		111 75-135			
trans-1,2-Dichloroethene	29.0	2.0	0.27	ug/l	25.0		116 70-130			
1,2-Dichloropropane	28.1	2.0	0.35	ug/l	25.0		112 70-120			
cis-1,3-Dichloropropene	29.1	2.0	0.22	ug/l	25.0		116 75-130			
trans-1,3-Dichloropropene	29.1	2.0	0.24	ug/l	25.0		116 75-135			
Ethylbenzene	29.5	2.0	0.25	ug/l	25.0		118 80-120			
Methylene chloride	29.3	5.0	0.48	ug/l	25.0		117 60-135			
1,1,1,2-Tetrachloroethane	28.1	2.0	0.24	ug/l	25.0		112 60-135			
Tetrachloroethene	25.6	2.0	0.32	ug/l	25.0		102 75-125			
Toluene	27.8	2.0	0.36	ug/l	25.0		111 75-120			
1,1,1-Trichloroethane	28.5	2.0	0.30	ug/l	25.0		114 75-140			
1,1,2-Trichloroethane	28.2	2.0	0.30	ug/l	25.0		113 70-125			
Trichloroethene	26.2	2.0	0.26	ug/l	25.0		105 80-120			
Trichlorofluoromethane	29.0	5.0	0.34	ug/l	25.0		116 65-145			
Vinyl chloride	26.2	0.50	0.26	ug/l	25.0		105 50-130			
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105 80-120			
Surrogate: Toluene-d8	24.9			ug/l	25.0		100 80-120			
Surrogate: 4-Bromofluorobenzene	25.5			ug/l	25.0		102 80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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) 796-3620 FAX (702) 796-3621

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

Project ID: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B26009 Extracted: 02/26/05										
Matrix Spike Analyzed: 02/26/2005 (5B26009-MS1)										
						Source: IOB2045-02				
Benzene	26.6	1.0	0.28	ug/l	25.0	0.71	104	70-120		
Bromodichloromethane	25.4	2.0	0.30	ug/l	25.0	ND	102	70-140		
Bromoform	20.9	5.0	0.32	ug/l	25.0	ND	84	55-140		
Bromomethane	24.9	5.0	0.34	ug/l	25.0	ND	100	50-145		
Carbon tetrachloride	24.2	0.50	0.28	ug/l	25.0	ND	97	70-145		
Chlorobenzene	25.1	2.0	0.36	ug/l	25.0	ND	100	80-125		
Chloroethane	25.4	5.0	0.33	ug/l	25.0	ND	102	50-145		
Chloroform	79.4	2.0	0.33	ug/l	25.0	50	118	70-135		
Chloromethane	23.8	5.0	0.30	ug/l	25.0	ND	95	35-145		
Dibromochloromethane	25.2	2.0	0.28	ug/l	25.0	ND	101	65-145		
1,2-Dichlorobenzene	25.8	2.0	0.32	ug/l	25.0	ND	103	75-130		
1,3-Dichlorobenzene	25.2	2.0	0.35	ug/l	25.0	ND	101	75-130		
1,4-Dichlorobenzene	24.8	2.0	0.37	ug/l	25.0	ND	99	80-120		
1,1-Dichloroethane	26.8	2.0	0.27	ug/l	25.0	ND	107	65-135		
1,2-Dichloroethane	27.4	0.50	0.28	ug/l	25.0	0.30	108	60-150		
1,1-Dichloroethene	25.6	5.0	0.32	ug/l	25.0	ND	102	65-140		
trans-1,2-Dichloroethene	26.4	2.0	0.27	ug/l	25.0	ND	106	65-135		
1,2-Dichloropropane	26.0	2.0	0.35	ug/l	25.0	ND	104	65-130		
cis-1,3-Dichloropropene	26.7	2.0	0.22	ug/l	25.0	ND	107	70-140		
trans-1,3-Dichloropropene	27.2	2.0	0.24	ug/l	25.0	ND	109	70-140		
Ethylbenzene	27.0	2.0	0.25	ug/l	25.0	0.60	106	70-130		
Methylene chloride	38.7	5.0	0.48	ug/l	25.0	8.4	121	60-135		
1,1,2,2-Tetrachloroethane	27.2	2.0	0.24	ug/l	25.0	ND	109	60-145		
Tetrachloroethene	22.6	2.0	0.32	ug/l	25.0	ND	90	70-130		
Toluene	25.9	2.0	0.36	ug/l	25.0	ND	104	70-120		
1,1,1-Trichloroethane	26.6	2.0	0.30	ug/l	25.0	ND	106	75-140		
1,1,2-Trichloroethane	27.1	2.0	0.30	ug/l	25.0	ND	108	60-135		
Trichloroethene	25.2	2.0	0.26	ug/l	25.0	1.6	94	70-125		
Trichlorofluoromethane	64.8	5.0	0.34	ug/l	25.0	37	111	55-145		
Vinyl chloride	23.7	0.50	0.26	ug/l	25.0	ND	95	40-135		
Surrogate: Dibromofluoromethane	26.5			ug/l	25.0		106	80-120		
Surrogate: Toluene-d8	24.3			ug/l	25.0		97	80-120		
Surrogate: 4-Bromofluorobenzene	25.3			ug/l	25.0		101	80-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	-------	-----	-----------	-----------------

Batch: 5B26009 Extracted: 02/26/05

Matrix Spike Dup Analyzed: 02/26/2005 (5B26009-MSD1)

Source: IOB2045-02

Benzene	25.5	1.0	0.28	ug/l	25.0	0.71	99	70-120	4	20	
Bromodichloromethane	24.3	2.0	0.30	ug/l	25.0	ND	97	70-140	4	20	
Bromoform	20.8	5.0	0.32	ug/l	25.0	ND	83	55-140	1	25	
Bromomethane	23.6	5.0	0.34	ug/l	25.0	ND	94	50-145	5	25	
Carbon tetrachloride	23.5	0.50	0.28	ug/l	25.0	ND	94	70-145	3	25	
Chlorobenzene	24.5	2.0	0.36	ug/l	25.0	ND	98	80-125	2	20	
Chloroethane	24.0	5.0	0.33	ug/l	25.0	ND	96	50-145	6	25	
Chloroform	72.4	2.0	0.33	ug/l	25.0	50	90	70-135	9	20	
Chloromethane	22.1	5.0	0.30	ug/l	25.0	ND	88	35-145	7	25	
Dibromochloromethane	24.6	2.0	0.28	ug/l	25.0	ND	98	65-145	2	25	
1,2-Dichlorobenzene	25.0	2.0	0.32	ug/l	25.0	ND	100	75-130	3	20	
1,3-Dichlorobenzene	24.3	2.0	0.35	ug/l	25.0	ND	97	75-130	4	20	
1,4-Dichlorobenzene	24.0	2.0	0.37	ug/l	25.0	ND	96	80-120	3	20	
1,1-Dichloroethane	25.5	2.0	0.27	ug/l	25.0	ND	102	65-135	5	20	
1,2-Dichloroethane	26.2	0.50	0.28	ug/l	25.0	0.30	104	60-150	4	20	
1,1-Dichloroethene	23.9	5.0	0.32	ug/l	25.0	ND	96	65-140	7	20	
trans-1,2-Dichloroethene	25.4	2.0	0.27	ug/l	25.0	ND	102	65-135	4	20	
1,2-Dichloropropane	25.2	2.0	0.35	ug/l	25.0	ND	101	65-130	3	20	
cis-1,3-Dichloropropene	26.0	2.0	0.22	ug/l	25.0	ND	104	70-140	3	20	
trans-1,3-Dichloropropene	26.1	2.0	0.24	ug/l	25.0	ND	104	70-140	4	25	
Ethylbenzene	26.0	2.0	0.25	ug/l	25.0	0.60	102	70-130	4	20	
Methylene chloride	34.7	5.0	0.48	ug/l	25.0	8.4	105	60-135	11	20	
1,1,2,2-Tetrachloroethane	26.0	2.0	0.24	ug/l	25.0	ND	104	60-145	5	30	
Tetrachloroethene	22.2	2.0	0.32	ug/l	25.0	ND	89	70-130	2	20	
Toluene	24.8	2.0	0.36	ug/l	25.0	ND	99	70-120	4	20	
1,1,1-Trichloroethane	25.2	2.0	0.30	ug/l	25.0	ND	101	75-140	5	20	
1,1,2-Trichloroethane	25.5	2.0	0.30	ug/l	25.0	ND	102	60-135	6	25	
Trichloroethene	24.7	2.0	0.26	ug/l	25.0	1.6	92	70-125	2	20	
Trichlorofluoromethane	59.0	5.0	0.34	ug/l	25.0	37	88	55-145	9	25	
Vinyl chloride	22.3	0.50	0.26	ug/l	25.0	ND	89	40-135	6	30	
Surrogate: Dibromofluoromethane	25.6			ug/l	25.0		102	80-120			
Surrogate: Toluene-d8	24.1			ug/l	25.0		96	80-120			
Surrogate: 4-Bromofluorobenzene	24.9			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: LARWQCB Sample Splits
Outfall 003
Report Number: IOB2069

Sampled: 02/25/05
Received: 02/25/05

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	RPD Limit	Data Qualifiers
Batch: 5C04021 Extracted: 03/04/05										
Blank Analyzed: 03/04/2005 (5C04021-BLK1)										
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.34	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.24	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	ND	5.0	0.48	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	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	2.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	0.50	0.26	ug/l						
Xylenes, Total	ND	4.0	0.52	ug/l						
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l						
Surrogate: Dibromofluoromethane	26.9			ug/l	25.0	108	80-120			
Surrogate: Toluene-d8	25.2			ug/l	25.0	101	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0	98	80-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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: 5C04021 Extracted: 03/04/05											
LCS Analyzed: 03/04/2005 (5C04021-BS1)											
Benzene	24.6	1.0	0.28	ug/l	25.0		98	70-120			
Bromodichloromethane	26.8	2.0	0.30	ug/l	25.0		107	70-140			
Bromoform	32.0	5.0	0.32	ug/l	25.0		128	55-135			
Bromomethane	27.2	5.0	0.34	ug/l	25.0		109	60-140			
Carbon tetrachloride	25.9	0.50	0.28	ug/l	25.0		104	70-140			
Chlorobenzene	23.7	2.0	0.36	ug/l	25.0		95	80-125			
Chloroethane	26.3	5.0	0.33	ug/l	25.0		105	60-145			
Chloroform	26.5	2.0	0.33	ug/l	25.0		106	75-130			
Chloromethane	21.6	5.0	0.30	ug/l	25.0		86	40-145			
Dibromochloromethane	29.0	2.0	0.28	ug/l	25.0		116	65-145			
1,2-Dichlorobenzene	25.5	2.0	0.32	ug/l	25.0		102	80-120			
1,3-Dichlorobenzene	24.3	2.0	0.35	ug/l	25.0		97	80-120			
1,4-Dichlorobenzene	24.1	2.0	0.37	ug/l	25.0		96	80-120			
1,1-Dichloroethane	26.0	2.0	0.27	ug/l	25.0		104	70-135			
1,2-Dichloroethane	28.8	0.50	0.28	ug/l	25.0		115	60-150			
1,1-Dichloroethene	24.8	5.0	0.32	ug/l	25.0		99	75-135			
trans-1,2-Dichloroethene	25.0	2.0	0.27	ug/l	25.0		100	70-130			
1,2-Dichloropropane	25.4	2.0	0.35	ug/l	25.0		102	70-120			
cis-1,3-Dichloropropene	27.7	2.0	0.22	ug/l	25.0		111	75-130			
trans-1,3-Dichloropropene	29.8	2.0	0.24	ug/l	25.0		119	75-135			
Ethylbenzene	26.4	2.0	0.25	ug/l	25.0		106	80-120			
Methylene chloride	26.6	5.0	0.48	ug/l	25.0		106	60-135			
1,1,2,2-Tetrachloroethane	31.8	2.0	0.24	ug/l	25.0		127	60-135			
Tetrachloroethene	22.9	2.0	0.32	ug/l	25.0		92	75-125			
Toluene	24.7	2.0	0.36	ug/l	25.0		99	75-120			
1,1,1-Trichloroethane	27.3	2.0	0.30	ug/l	25.0		109	75-140			
1,1,2-Trichloroethane	30.1	2.0	0.30	ug/l	25.0		120	70-125			
Trichloroethene	23.6	2.0	0.26	ug/l	25.0		94	80-120			
Trichlorofluoromethane	26.4	5.0	0.34	ug/l	25.0		106	65-145			
Vinyl chloride	23.9	0.50	0.26	ug/l	25.0		96	50-130			
Surrogate: Dibromofluoromethane	27.5			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	25.2			ug/l	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	27.4			ug/l	25.0		110	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: LARWQCB Sample Splits
Outfall 003
Report Number: IOB2069

Sampled: 02/25/05
Received: 02/25/05

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: 5C04021 Extracted: 03/04/05											
Matrix Spike Analyzed: 03/04/2005 (5C04021-MS1)						Source: IOB2009-03					
Benzene	23.5	1.0	0.28	ug/l	25.0	ND	94	70-120			
Bromodichloromethane	25.7	2.0	0.30	ug/l	25.0	ND	103	70-140			
Bromoform	28.2	5.0	0.32	ug/l	25.0	ND	113	55-140			
Bromomethane	25.8	5.0	0.34	ug/l	25.0	ND	103	50-145			
Carbon tetrachloride	24.7	0.50	0.28	ug/l	25.0	ND	99	70-145			
Chlorobenzene	23.1	2.0	0.36	ug/l	25.0	ND	92	80-125			
Chloroethane	24.0	5.0	0.33	ug/l	25.0	ND	96	50-145			
Chloroform	25.6	2.0	0.33	ug/l	25.0	ND	102	70-135			
Chloromethane	19.2	5.0	0.30	ug/l	25.0	ND	77	35-145			
Dibromochloromethane	26.7	2.0	0.28	ug/l	25.0	ND	107	65-145			
1,2-Dichlorobenzene	25.1	2.0	0.32	ug/l	25.0	ND	100	75-130			
1,3-Dichlorobenzene	24.2	2.0	0.35	ug/l	25.0	ND	97	75-130			
1,4-Dichlorobenzene	24.2	2.0	0.37	ug/l	25.0	ND	97	80-120			
1,1-Dichloroethane	24.5	2.0	0.27	ug/l	25.0	ND	98	65-135			
1,2-Dichloroethane	26.8	0.50	0.28	ug/l	25.0	ND	107	60-150			
1,1-Dichloroethene	22.8	5.0	0.32	ug/l	25.0	ND	91	65-140			
trans-1,2-Dichloroethene	24.0	2.0	0.27	ug/l	25.0	ND	96	65-135			
1,2-Dichloropropane	24.3	2.0	0.35	ug/l	25.0	ND	97	65-130			
cis-1,3-Dichloropropene	25.6	2.0	0.22	ug/l	25.0	ND	102	70-140			
trans-1,3-Dichloropropene	27.3	2.0	0.24	ug/l	25.0	ND	109	70-140			
Ethylbenzene	25.9	2.0	0.25	ug/l	25.0	ND	104	70-130			
Methylene chloride	25.3	5.0	0.48	ug/l	25.0	ND	101	60-135			
1,1,1,2-Tetrachloroethane	28.9	2.0	0.24	ug/l	25.0	ND	116	60-145			
Tetrachloroethene	22.1	2.0	0.32	ug/l	25.0	ND	88	70-130			
Toluene	23.6	2.0	0.36	ug/l	25.0	ND	94	70-120			
1,1,1-Trichloroethane	26.3	2.0	0.30	ug/l	25.0	ND	105	75-140			
1,1,2-Trichloroethane	27.3	2.0	0.30	ug/l	25.0	ND	109	60-135			
Trichloroethene	22.3	2.0	0.26	ug/l	25.0	0.61	87	70-125			
Trichlorofluoromethane	24.8	5.0	0.34	ug/l	25.0	ND	99	55-145			
Vinyl chloride	23.4	0.50	0.26	ug/l	25.0	ND	94	40-135			
Surrogate: Dibromofluoromethane	27.4			ug/l	25.0		110	80-120			
Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	26.9			ug/l	25.0		108	80-120			

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: LARWQCB Sample Splits
Outfall 003
Report Number: IOB2069

Sampled: 02/25/05
Received: 02/25/05

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: 5C04021 Extracted: 03/04/05											
Matrix Spike Dup Analyzed: 03/04/2005 (5C04021-MSD1)						Source: IOB2009-03					
Benzene	23.0	1.0	0.28	ug/l	25.0	ND	92	70-120	2	20	
Bromodichloromethane	24.6	2.0	0.30	ug/l	25.0	ND	98	70-140	4	20	
Bromoform	25.8	5.0	0.32	ug/l	25.0	ND	103	55-140	9	25	
Bromomethane	26.0	5.0	0.34	ug/l	25.0	ND	104	50-145	1	25	
Carbon tetrachloride	24.4	0.50	0.28	ug/l	25.0	ND	98	70-145	1	25	
Chlorobenzene	22.6	2.0	0.36	ug/l	25.0	ND	90	80-125	2	20	
Chloroethane	23.9	5.0	0.33	ug/l	25.0	ND	96	50-145	0	25	
Chloroform	24.3	2.0	0.33	ug/l	25.0	ND	97	70-135	5	20	
Chloromethane	20.4	5.0	0.30	ug/l	25.0	ND	82	35-145	6	25	
Dibromochloromethane	25.3	2.0	0.28	ug/l	25.0	ND	101	65-145	5	25	
1,2-Dichlorobenzene	24.1	2.0	0.32	ug/l	25.0	ND	96	75-130	4	20	
1,3-Dichlorobenzene	23.9	2.0	0.35	ug/l	25.0	ND	96	75-130	1	20	
1,4-Dichlorobenzene	23.6	2.0	0.37	ug/l	25.0	ND	94	80-120	3	20	
1,1-Dichloroethane	23.8	2.0	0.27	ug/l	25.0	ND	95	65-135	3	20	
1,2-Dichloroethane	25.4	0.50	0.28	ug/l	25.0	ND	102	60-150	5	20	
1,1-Dichloroethene	22.2	5.0	0.32	ug/l	25.0	ND	89	65-140	3	20	
trans-1,2-Dichloroethene	23.4	2.0	0.27	ug/l	25.0	ND	94	65-135	3	20	
1,2-Dichloropropane	24.0	2.0	0.35	ug/l	25.0	ND	96	65-130	1	20	
cis-1,3-Dichloropropene	24.8	2.0	0.22	ug/l	25.0	ND	99	70-140	3	20	
trans-1,3-Dichloropropene	25.4	2.0	0.24	ug/l	25.0	ND	102	70-140	7	25	
Ethylbenzene	25.2	2.0	0.25	ug/l	25.0	ND	101	70-130	3	20	
Methylene chloride	23.4	5.0	0.48	ug/l	25.0	ND	94	60-135	8	20	
1,1,1,2-Tetrachloroethane	26.5	2.0	0.24	ug/l	25.0	ND	106	60-145	9	30	
Tetrachloroethene	21.6	2.0	0.32	ug/l	25.0	ND	86	70-130	2	20	
Toluene	23.2	2.0	0.36	ug/l	25.0	ND	93	70-120	2	20	
1,1,1-Trichloroethane	25.2	2.0	0.30	ug/l	25.0	ND	101	75-140	4	20	
1,1,2-Trichloroethane	25.6	2.0	0.30	ug/l	25.0	ND	102	60-135	6	25	
Trichloroethene	22.3	2.0	0.26	ug/l	25.0	0.61	87	70-125	0	20	
Trichlorofluoromethane	23.7	5.0	0.34	ug/l	25.0	ND	95	55-145	5	25	
Vinyl chloride	22.7	0.50	0.26	ug/l	25.0	ND	91	40-135	3	30	
Surrogate: Dibromofluoromethane	26.8			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	24.9			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B26009 Extracted: 02/26/05											
Blank Analyzed: 02/26/2005 (5B26009-BLK1)											
Acrolein	ND	50	4.6	ug/l							
Acrylonitrile	ND	50	5.1	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l							
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	24.4			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	24.4			ug/l	25.0		98	80-120			
LCS Analyzed: 02/26/2005 (5B26009-BS1)											
2-Chloroethyl vinyl ether	27.6	5.0	1.3	ug/l	25.0		110	20-175			
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	24.9			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	25.5			ug/l	25.0		102	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B26009 Extracted: 02/26/05										
Blank Analyzed: 02/26/2005 (5B26009-BLK1)										
1,2-Dichloro-1,1,2-trifluoroethane	ND	2.5	N/A	ug/l						
Cyclohexane	ND	2.5	N/A	ug/l						
Batch: 5C04021 Extracted: 03/04/05										
Blank Analyzed: 03/04/2005 (5C04021-BLK1)										
1,2-Dichloro-1,1,2-trifluoroethane	ND	2.5	N/A	ug/l						
Cyclohexane	ND	2.5	N/A	ug/l						

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/1625C MOD)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5C02001 Extracted: 03/02/05											
Blank Analyzed: 03/03/2005 (5C02001-BLK1)											
N-Nitrosodimethylamine	0.000390	0.0020	0.00020	ug/l							J
LCS Analyzed: 03/03/2005 (5C02001-BS1)											
N-Nitrosodimethylamine	0.00964	0.0020	0.00020	ug/l	0.0100		96	70-130			M-NR1
LCS Analyzed: 03/03/2005 (5C02001-BS2)											
N-Nitrosodimethylamine	0.00240	0.0020	0.00020	ug/l	0.00200		120	70-130			
LCS Dup Analyzed: 03/03/2005 (5C02001-BSD1)											
N-Nitrosodimethylamine	0.00964	0.0020	0.00020	ug/l	0.0100		96	70-130	0	20	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5B28001 Extracted: 02/28/05										
Blank Analyzed: 03/02/2005 (5B28001-BLK1)										
Acenaphthene	ND	0.50	0.10	ug/l						
Acenaphthylene	ND	0.50	0.10	ug/l						
Aniline	ND	10	2.9	ug/l						
Anthracene	ND	0.50	0.083	ug/l						
Benzidine	ND	5.0	3.2	ug/l						
Benzoic acid	ND	20	3.7	ug/l						
Benzo(a)anthracene	ND	5.0	0.038	ug/l						
Benzo(a)pyrene	ND	2.0	0.14	ug/l						
Benzo(b)fluoranthene	ND	2.0	0.050	ug/l						
Benzo(g,h,i)perylene	ND	5.0	0.059	ug/l						
Benzo(k)fluoranthene	ND	0.50	0.053	ug/l						
Benzyl alcohol	ND	5.0	0.21	ug/l						
Bis(2-chloroethoxy)methane	ND	0.50	0.072	ug/l						
Bis(2-chloroethyl)ether	ND	0.50	0.084	ug/l						
Bis(2-chloroisopropyl)ether	ND	0.50	0.11	ug/l						
Bis(2-ethylhexyl)phthalate	ND	5.0	1.1	ug/l						
4-Bromophenyl phenyl ether	ND	1.0	0.12	ug/l						
Butyl benzyl phthalate	1.00	5.0	0.34	ug/l						J
4-Chloroaniline	ND	2.0	0.20	ug/l						
2-Chloronaphthalene	ND	0.50	0.059	ug/l						
4-Chloro-3-methylphenol	ND	2.0	0.34	ug/l						
4-Chlorophenyl phenyl ether	ND	0.50	0.056	ug/l						
2-Chlorophenol	ND	1.0	0.12	ug/l						
Chrysene	ND	0.50	0.072	ug/l						
Dibenz(a,h)anthracene	ND	0.50	0.083	ug/l						
Dibenzofuran	ND	0.50	0.075	ug/l						
Di-n-butyl phthalate	0.380	2.0	0.26	ug/l						J
1,2-Dichlorobenzene	ND	0.50	0.11	ug/l						
1,3-Dichlorobenzene	ND	0.50	0.13	ug/l						
1,4-Dichlorobenzene	ND	0.50	0.050	ug/l						
3,3-Dichlorobenzidine	ND	5.0	0.93	ug/l						
2,4-Dichlorophenol	ND	2.0	0.21	ug/l						
Diethyl phthalate	0.140	1.0	0.12	ug/l						J
2,4-Dimethylphenol	ND	2.0	0.31	ug/l						
Dimethyl phthalate	ND	0.50	0.081	ug/l						

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: LARWQCB Sample Splits
Outfall 003
Report Number: IOB2069

Sampled: 02/25/05
Received: 02/25/05

METHOD BLANK/QC DATA

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

Table with columns: Analyte, Result, Reporting Limit, MDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Data Qualifiers. Includes a list of analytes such as 4,6-Dinitro-2-methylphenol and a surrogate 2-Fluorophenol.

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: LARWQCB Sample Splits
Outfall 003
Report Number: IOB2069

Sampled: 02/25/05
Received: 02/25/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	Data Qualifiers
Batch: 5B28001 Extracted: 02/28/05									
Blank Analyzed: 03/02/2005 (5B28001-BLK1)									
Surrogate: Phenol-d6	14.6			ug/l	20.0		73 45-120		
Surrogate: 2,4,6-Tribromophenol	19.1			ug/l	20.0		96 50-125		
Surrogate: Nitrobenzene-d5	7.80			ug/l	10.0		78 45-120		
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0		79 45-120		
Surrogate: Terphenyl-d14	8.86			ug/l	10.0		89 45-135		
LCS Analyzed: 03/02/2005-03/03/2005 (5B28001-BS1)									
Acenaphthene	8.22	0.50	0.10	ug/l	10.0		82 55-120		M-NR1
Acenaphthylene	8.76	0.50	0.10	ug/l	10.0		88 55-120		
Aniline	7.52	10	2.9	ug/l	10.0		75 30-120		J
Anthracene	8.80	0.50	0.083	ug/l	10.0		88 60-120		
Benzidine	ND	5.0	3.2	ug/l	10.0		20-180		L2
Benzoic acid	9.08	20	3.7	ug/l	10.0		91 30-125		J
Benzo(a)anthracene	8.64	5.0	0.038	ug/l	10.0		86 65-120		
Benzo(a)pyrene	9.26	2.0	0.14	ug/l	10.0		93 55-125		
Benzo(b)fluoranthene	8.54	2.0	0.050	ug/l	10.0		85 50-125		
Benzo(g,h,i)perylene	9.52	5.0	0.059	ug/l	10.0		95 35-160		
Benzo(k)fluoranthene	8.30	0.50	0.053	ug/l	10.0		83 50-125		
Benzyl alcohol	7.10	5.0	0.21	ug/l	10.0		71 40-130		
Bis(2-chloroethoxy)methane	8.10	0.50	0.072	ug/l	10.0		81 55-120		
Bis(2-chloroethyl)ether	7.30	0.50	0.084	ug/l	10.0		73 50-120		
Bis(2-chloroisopropyl)ether	7.94	0.50	0.11	ug/l	10.0		79 50-120		
Bis(2-ethylhexyl)phthalate	8.90	5.0	1.1	ug/l	10.0		89 65-125		
4-Bromophenyl phenyl ether	8.52	1.0	0.12	ug/l	10.0		85 55-125		
Butyl benzyl phthalate	9.04	5.0	0.34	ug/l	10.0		90 60-125		
4-Chloroaniline	6.48	2.0	0.20	ug/l	10.0		65 55-120		
2-Chloronaphthalene	8.36	0.50	0.059	ug/l	10.0		84 60-120		
4-Chloro-3-methylphenol	9.10	2.0	0.34	ug/l	10.0		91 60-120		
4-Chlorophenyl phenyl ether	8.74	0.50	0.056	ug/l	10.0		87 55-120		
2-Chlorophenol	7.64	1.0	0.12	ug/l	10.0		76 45-120		
Chrysene	8.52	0.50	0.072	ug/l	10.0		85 65-120		
Dibenz(a,h)anthracene	9.66	0.50	0.083	ug/l	10.0		97 40-160		
Dibenzofuran	8.48	0.50	0.075	ug/l	10.0		85 60-120		
Di-n-butyl phthalate	8.90	2.0	0.26	ug/l	10.0		89 65-125		
1,2-Dichlorobenzene	6.42	0.50	0.11	ug/l	10.0		64 40-120		
1,3-Dichlorobenzene	6.10	0.50	0.13	ug/l	10.0		61 40-120		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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: 5B28001 Extracted: 02/28/05											
LCS Analyzed: 03/02/2005-03/03/2005 (5B28001-BS1)											
1,4-Dichlorobenzene	6.00	0.50	0.050	ug/l	10.0	60	40-120				M-NR1
3,3-Dichlorobenzidine	6.60	5.0	0.93	ug/l	10.0	66	50-170				
2,4-Dichlorophenol	7.48	2.0	0.21	ug/l	10.0	75	55-120				
Diethyl phthalate	8.42	1.0	0.12	ug/l	10.0	84	60-120				
2,4-Dimethylphenol	6.90	2.0	0.31	ug/l	10.0	69	35-120				
Dimethyl phthalate	7.86	0.50	0.081	ug/l	10.0	79	60-120				
4,6-Dinitro-2-methylphenol	8.12	5.0	0.38	ug/l	10.0	81	55-120				
2,4-Dinitrophenol	7.80	5.0	2.7	ug/l	10.0	78	40-140				
2,4-Dinitrotoluene	7.92	5.0	0.23	ug/l	10.0	79	60-140				
2,6-Dinitrotoluene	7.94	5.0	0.24	ug/l	10.0	79	65-125				
Di-n-octyl phthalate	9.08	5.0	0.17	ug/l	10.0	91	60-130				
1,2-Diphenylhydrazine/Azobenzene	8.78	1.0	0.087	ug/l	10.0	88	60-120				
Fluoranthene	8.96	0.50	0.089	ug/l	10.0	90	55-125				
Fluorene	8.80	0.50	0.075	ug/l	10.0	88	60-120				
Hexachlorobenzene	9.14	1.0	0.13	ug/l	10.0	91	50-120				
Hexachlorobutadiene	6.76	2.0	0.38	ug/l	10.0	68	45-120				
Hexachlorocyclopentadiene	7.22	5.0	1.8	ug/l	10.0	72	10-130				
Hexachloroethane	6.00	3.0	0.51	ug/l	10.0	60	40-120				
Indeno(1,2,3-cd)pyrene	10.1	2.0	0.19	ug/l	10.0	101	35-150				
Isophorone	7.50	1.0	0.059	ug/l	10.0	75	55-120				
2-Methylnaphthalene	8.66	1.0	0.13	ug/l	10.0	87	50-120				
2-Methylphenol	7.66	2.0	0.28	ug/l	10.0	77	45-120				
4-Methylphenol	7.30	5.0	0.20	ug/l	10.0	73	45-120				
Naphthalene	8.08	1.0	0.13	ug/l	10.0	81	50-120				
2-Nitroaniline	8.22	5.0	0.18	ug/l	10.0	82	60-130				
3-Nitroaniline	8.00	5.0	0.35	ug/l	10.0	80	50-140				
4-Nitroaniline	7.86	5.0	0.49	ug/l	10.0	79	45-160				
Nitrobenzene	7.38	1.0	0.10	ug/l	10.0	74	50-120				
2-Nitrophenol	7.76	2.0	0.23	ug/l	10.0	78	55-120				
4-Nitrophenol	7.28	5.0	0.73	ug/l	10.0	73	50-135				
N-Nitrosodimethylamine	6.94	2.0	0.22	ug/l	10.0	69	40-120				
N-Nitroso-di-n-propylamine	6.80	2.0	0.18	ug/l	10.0	68	50-120				
N-Nitrosodiphenylamine	7.84	1.0	0.077	ug/l	10.0	78	60-120				
Pentachlorophenol	8.46	2.0	0.78	ug/l	10.0	85	50-125				
Phenanthrene	8.38	0.50	0.071	ug/l	10.0	84	55-120				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B28001 Extracted: 02/28/05											
LCS Analyzed: 03/02/2005-03/03/2005 (5B28001-BS1)											
Phenol	7.48	1.0	0.14	ug/l	10.0		75	45-120			M-NRI
Pyrene	8.86	0.50	0.059	ug/l	10.0		89	50-120			
1,2,4-Trichlorobenzene	7.18	1.0	0.10	ug/l	10.0		72	50-120			
2,4,5-Trichlorophenol	8.50	2.0	0.075	ug/l	10.0		85	60-120			
2,4,6-Trichlorophenol	8.80	1.0	0.10	ug/l	10.0		88	60-120			
Surrogate: 2-Fluorophenol	15.0			ug/l	20.0		75	35-120			
Surrogate: Phenol-d6	14.6			ug/l	20.0		73	45-120			
Surrogate: 2,4,6-Tribromophenol	19.3			ug/l	20.0		96	50-125			
Surrogate: Nitrobenzene-d5	7.94			ug/l	10.0		79	45-120			
Surrogate: 2-Fluorobiphenyl	8.42			ug/l	10.0		84	45-120			
Surrogate: Terphenyl-d14	8.96			ug/l	10.0		90	45-135			
LCS Dup Analyzed: 03/02/2005-03/03/2005 (5B28001-BSD1)											
Acenaphthene	8.34	0.50	0.10	ug/l	10.0		83	55-120	1	20	
Acenaphthylene	8.44	0.50	0.10	ug/l	10.0		84	55-120	4	20	
Aniline	7.86	10	2.9	ug/l	10.0		79	30-120	4	25	J
Anthracene	8.50	0.50	0.083	ug/l	10.0		85	60-120	3	20	
Benzidine	3.62	5.0	3.2	ug/l	10.0		36	20-180		35	J
Benzoic acid	6.72	20	3.7	ug/l	10.0		67	30-125	30	30	J
Benzo(a)anthracene	8.82	5.0	0.038	ug/l	10.0		88	65-120	2	20	
Benzo(a)pyrene	9.32	2.0	0.14	ug/l	10.0		93	55-125	1	25	
Benzo(b)fluoranthene	8.78	2.0	0.050	ug/l	10.0		88	50-125	3	25	
Benzo(g,h,i)perylene	9.94	5.0	0.059	ug/l	10.0		99	35-160	4	25	
Benzo(k)fluoranthene	8.56	0.50	0.053	ug/l	10.0		86	50-125	3	20	
Benzyl alcohol	8.08	5.0	0.21	ug/l	10.0		81	40-130	13	20	
Bis(2-chloroethoxy)methane	8.02	0.50	0.072	ug/l	10.0		80	55-120	1	20	
Bis(2-chloroethyl)ether	7.44	0.50	0.084	ug/l	10.0		74	50-120	2	20	
Bis(2-chloroisopropyl)ether	8.36	0.50	0.11	ug/l	10.0		84	50-120	5	20	
Bis(2-ethylhexyl)phthalate	9.44	5.0	1.1	ug/l	10.0		94	65-125	6	20	
4-Bromophenyl phenyl ether	8.02	1.0	0.12	ug/l	10.0		80	55-125	6	25	
Butyl benzyl phthalate	9.50	5.0	0.34	ug/l	10.0		95	60-125	5	20	
4-Chloroaniline	7.58	2.0	0.20	ug/l	10.0		76	55-120	16	25	
2-Chloronaphthalene	8.14	0.50	0.059	ug/l	10.0		81	60-120	3	20	
4-Chloro-3-methylphenol	8.74	2.0	0.34	ug/l	10.0		87	60-120	4	25	
4-Chlorophenyl phenyl ether	8.36	0.50	0.056	ug/l	10.0		84	55-120	4	20	
2-Chlorophenol	7.84	1.0	0.12	ug/l	10.0		78	45-120	3	25	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Limit	Qualifiers
Batch: 5B28001 Extracted: 02/28/05											
LCS Dup Analyzed: 03/02/2005-03/03/2005 (5B28001-BSD1)											
Chrysene	8.44	0.50	0.072	ug/l	10.0	84	65-120	1	20		
Dibenz(a,h)anthracene	10.0	0.50	0.083	ug/l	10.0	100	40-160	3	25		
Dibenzofuran	8.06	0.50	0.075	ug/l	10.0	81	60-120	5	20		
Di-n-butyl phthalate	8.74	2.0	0.26	ug/l	10.0	87	65-125	2	20		
1,2-Dichlorobenzene	6.26	0.50	0.11	ug/l	10.0	63	40-120	3	25		
1,3-Dichlorobenzene	6.00	0.50	0.13	ug/l	10.0	60	40-120	2	25		
1,4-Dichlorobenzene	6.10	0.50	0.050	ug/l	10.0	61	40-120	2	25		
3,3-Dichlorobenzidine	8.02	5.0	0.93	ug/l	10.0	80	50-170	19	25		
2,4-Dichlorophenol	7.58	2.0	0.21	ug/l	10.0	76	55-120	1	20		
Diethyl phthalate	8.02	1.0	0.12	ug/l	10.0	80	60-120	5	20		
2,4-Dimethylphenol	6.62	2.0	0.31	ug/l	10.0	66	35-120	4	25		
Dimethyl phthalate	7.74	0.50	0.081	ug/l	10.0	77	60-120	2	20		
4,6-Dinitro-2-methylphenol	7.88	5.0	0.38	ug/l	10.0	79	55-120	3	25		
2,4-Dinitrophenol	7.12	5.0	2.7	ug/l	10.0	71	40-140	9	25		
2,4-Dinitrotoluene	7.70	5.0	0.23	ug/l	10.0	77	60-140	3	20		
2,6-Dinitrotoluene	7.78	5.0	0.24	ug/l	10.0	78	65-125	2	20		
Di-n-octyl phthalate	9.70	5.0	0.17	ug/l	10.0	97	60-130	7	20		
1,2-Diphenylhydrazine/Azobenzene	8.30	1.0	0.087	ug/l	10.0	83	60-120	6	25		
Fluoranthene	8.94	0.50	0.089	ug/l	10.0	89	55-125	0	20		
Fluorene	8.56	0.50	0.075	ug/l	10.0	86	60-120	3	20		
Hexachlorobenzene	9.26	1.0	0.13	ug/l	10.0	93	50-120	1	20		
Hexachlorobutadiene	6.24	2.0	0.38	ug/l	10.0	62	45-120	8	25		
Hexachlorocyclopentadiene	7.08	5.0	1.8	ug/l	10.0	71	10-130	2	30		
Hexachloroethane	5.86	3.0	0.51	ug/l	10.0	59	40-120	2	25		
Indeno(1,2,3-cd)pyrene	10.3	2.0	0.19	ug/l	10.0	103	35-150	2	25		
Isophorone	7.42	1.0	0.059	ug/l	10.0	74	55-120	1	20		
2-Methylnaphthalene	8.06	1.0	0.13	ug/l	10.0	81	50-120	7	20		
2-Methylphenol	7.98	2.0	0.28	ug/l	10.0	80	45-120	4	20		
4-Methylphenol	7.60	5.0	0.20	ug/l	10.0	76	45-120	4	20		
Naphthalene	7.68	1.0	0.13	ug/l	10.0	77	50-120	5	20		
2-Nitroaniline	8.24	5.0	0.18	ug/l	10.0	82	60-130	0	20		
3-Nitroaniline	7.84	5.0	0.35	ug/l	10.0	78	50-140	2	25		
4-Nitroaniline	7.96	5.0	0.49	ug/l	10.0	80	45-160	1	20		
Nitrobenzene	7.00	1.0	0.10	ug/l	10.0	70	50-120	5	25		
2-Nitrophenol	8.10	2.0	0.23	ug/l	10.0	81	55-120	4	25		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B28001 Extracted: 02/28/05											
LCS Dup Analyzed: 03/02/2005-03/03/2005 (5B28001-BSD1)											
4-Nitrophenol	8.16	5.0	0.73	ug/l	10.0	82	50-135	11	25		
N-Nitrosodimethylamine	7.90	2.0	0.22	ug/l	10.0	79	40-120	13	20		
N-Nitroso-di-n-propylamine	7.56	2.0	0.18	ug/l	10.0	76	50-120	11	20		
N-Nitrosodiphenylamine	7.92	1.0	0.077	ug/l	10.0	79	60-120	1	20		
Pentachlorophenol	8.76	2.0	0.78	ug/l	10.0	88	50-125	3	25		
Phenanthrene	8.70	0.50	0.071	ug/l	10.0	87	55-120	4	20		
Phenol	7.60	1.0	0.14	ug/l	10.0	76	45-120	2	25		
Pyrene	8.74	0.50	0.059	ug/l	10.0	87	50-120	1	25		
1,2,4-Trichlorobenzene	6.58	1.0	0.10	ug/l	10.0	66	50-120	9	20		
2,4,5-Trichlorophenol	8.30	2.0	0.075	ug/l	10.0	83	60-120	2	20		
2,4,6-Trichlorophenol	8.64	1.0	0.10	ug/l	10.0	86	60-120	2	20		
Surrogate: 2-Fluorophenol	14.4			ug/l	20.0	72	35-120				
Surrogate: Phenol-d6	15.0			ug/l	20.0	75	45-120				
Surrogate: 2,4,6-Tribromophenol	19.8			ug/l	20.0	99	50-125				
Surrogate: Nitrobenzene-d5	7.80			ug/l	10.0	78	45-120				
Surrogate: 2-Fluorobiphenyl	7.90			ug/l	10.0	79	45-120				
Surrogate: Terphenyl-d14	8.80			ug/l	10.0	88	45-135				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 5C02083 Extracted: 03/02/05										
Blank Analyzed: 03/02/2005 (5C02083-BLK1)										
Boron	ND	0.050	0.0074	mg/l						
Chromium	ND	0.0050	0.00068	mg/l						
LCS Analyzed: 03/02/2005 (5C02083-BS1)										
Boron	0.468	0.050	0.0074	mg/l	0.500		94	85-115		
Chromium	0.497	0.0050	0.00068	mg/l	0.500		99	85-115		
Matrix Spike Analyzed: 03/02/2005 (5C02083-MS1) Source: IOB1981-05										
Boron	0.679	0.050	0.0074	mg/l	0.500	0.20	96	70-130		
Chromium	0.494	0.0050	0.00068	mg/l	0.500	0.0077	97	70-130		
Matrix Spike Dup Analyzed: 03/02/2005 (5C02083-MSD1) Source: IOB1981-05										
Boron	0.698	0.050	0.0074	mg/l	0.500	0.20	100	70-130	3	20
Chromium	0.508	0.0050	0.00068	mg/l	0.500	0.0077	100	70-130	3	20
Batch: 5C02089 Extracted: 03/02/05										
Blank Analyzed: 03/02/2005 (5C02089-BLK1)										
Mercury	ND	0.20	0.063	ug/l						
LCS Analyzed: 03/02/2005 (5C02089-BS1)										
Mercury	8.06	0.20	0.063	ug/l	8.00		101	85-115		
Matrix Spike Analyzed: 03/02/2005 (5C02089-MS1) Source: IOB1993-06										
Mercury	8.30	0.20	0.063	ug/l	8.00	ND	104	70-130		
Matrix Spike Dup Analyzed: 03/02/2005 (5C02089-MSD1) Source: IOB1993-06										
Mercury	8.18	0.20	0.063	ug/l	8.00	ND	102	70-130	1	20

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------------------	---------	-----------------

Batch: 5C03085 Extracted: 03/03/05

Blank Analyzed: 03/03/2005 (5C03085-BLK1)

Antimony	1.28	2.0	0.18	ug/l					J
Arsenic	ND	1.0	0.49	ug/l					
Barium	ND	1.0	0.14	ug/l					
Beryllium	ND	0.50	0.037	ug/l					
Cadmium	ND	1.0	0.015	ug/l					
Chromium	ND	2.0	0.26	ug/l					
Cobalt	ND	1.0	0.10	ug/l					
Copper	ND	1.0	0.49	ug/l					
Lead	ND	1.0	0.13	ug/l					
Molybdenum	1.11	2.0	0.080	ug/l					J
Nickel	ND	2.0	0.15	ug/l					
Selenium	ND	2.0	0.36	ug/l					
Silver	ND	1.0	0.089	ug/l					
Thallium	ND	1.0	0.075	ug/l					
Vanadium	ND	2.0	0.86	ug/l					
Zinc	ND	10	3.1	ug/l					

LCS Analyzed: 03/03/2005 (5C03085-BS1)

Antimony	90.2	2.0	0.18	ug/l	80.0	113	85-115
Arsenic	83.8	1.0	0.49	ug/l	80.0	105	85-115
Barium	86.1	1.0	0.14	ug/l	80.0	108	85-115
Beryllium	86.8	0.50	0.037	ug/l	80.0	108	85-115
Cadmium	83.1	1.0	0.015	ug/l	80.0	104	85-115
Chromium	81.1	2.0	0.26	ug/l	80.0	101	85-115
Cobalt	80.3	1.0	0.10	ug/l	80.0	100	85-115
Copper	78.5	1.0	0.49	ug/l	80.0	98	85-115
Lead	82.6	1.0	0.13	ug/l	80.0	103	85-115
Molybdenum	80.0	2.0	0.080	ug/l	80.0	100	85-115
Nickel	80.0	2.0	0.15	ug/l	80.0	100	85-115
Selenium	87.9	2.0	0.36	ug/l	80.0	110	85-115
Silver	81.3	1.0	0.089	ug/l	80.0	102	85-115
Thallium	85.6	1.0	0.075	ug/l	80.0	107	85-115
Vanadium	77.4	2.0	0.86	ug/l	80.0	97	85-115
Zinc	81.5	10	3.1	ug/l	80.0	102	85-115

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	------------	---------	-----------------

Batch: 5C03085 Extracted: 03/03/05

Matrix Spike Analyzed: 03/03/2005 (5C03085-MS1)

Source: IOB2069-01

Antimony	92.7	2.0	0.18	ug/l	80.0	0.58	115	70-130		
Arsenic	87.9	1.0	0.49	ug/l	80.0	0.89	109	70-130		
Barium	155	1.0	0.14	ug/l	80.0	66	111	70-130		
Beryllium	83.7	0.50	0.037	ug/l	80.0	ND	105	70-130		
Cadmium	83.5	1.0	0.015	ug/l	80.0	ND	104	70-130		
Chromium	84.3	2.0	0.26	ug/l	80.0	1.2	104	70-130		
Cobalt	81.4	1.0	0.10	ug/l	80.0	0.18	102	70-130		
Copper	78.8	1.0	0.49	ug/l	80.0	1.2	97	70-130		
Lead	82.3	1.0	0.13	ug/l	80.0	ND	103	70-130		
Molybdenum	84.5	2.0	0.080	ug/l	80.0	1.0	104	70-130		
Nickel	79.5	2.0	0.15	ug/l	80.0	0.36	99	70-130		
Selenium	90.6	2.0	0.36	ug/l	80.0	1.8	111	70-130		
Silver	80.4	1.0	0.089	ug/l	80.0	ND	100	70-130		
Thallium	86.2	1.0	0.075	ug/l	80.0	ND	108	70-130		
Vanadium	82.5	2.0	0.86	ug/l	80.0	ND	103	70-130		
Zinc	103	10	3.1	ug/l	80.0	25	98	70-130		

Matrix Spike Analyzed: 03/03/2005 (5C03085-MS2)

Source: IOB2149-04

Antimony	96.1	2.0	0.18	ug/l	80.0	0.53	119	70-130		
Arsenic	100	1.0	0.49	ug/l	80.0	13	109	70-130		
Barium	284	1.0	0.14	ug/l	80.0	180	130	70-130		
Beryllium	78.8	0.50	0.037	ug/l	80.0	0.048	98	70-130		
Cadmium	80.9	1.0	0.015	ug/l	80.0	0.053	101	70-130		
Chromium	85.0	2.0	0.26	ug/l	80.0	0.67	105	70-130		
Cobalt	81.6	1.0	0.10	ug/l	80.0	0.59	101	70-130		
Copper	75.9	1.0	0.49	ug/l	80.0	2.9	91	70-130		
Lead	78.9	1.0	0.13	ug/l	80.0	0.20	98	70-130		
Molybdenum	93.5	2.0	0.080	ug/l	80.0	6.7	108	70-130		
Nickel	77.3	2.0	0.15	ug/l	80.0	0.93	95	70-130		
Selenium	97.5	2.0	0.36	ug/l	80.0	6.5	114	70-130		
Silver	77.1	1.0	0.089	ug/l	80.0	ND	96	70-130		
Thallium	81.5	1.0	0.075	ug/l	80.0	ND	102	70-130		
Vanadium	91.7	2.0	0.86	ug/l	80.0	4.5	109	70-130		
Zinc	101	10	3.1	ug/l	80.0	28	91	70-130		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB2069 <Page 38 of 47>



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5C03085 Extracted: 03/03/05											
Matrix Spike Dup Analyzed: 03/03/2005 (5C03085-MSD1)						Source: IOB2069-01					
Antimony	88.4	2.0	0.18	ug/l	80.0	0.58	110	70-130	5	20	
Arsenic	84.3	1.0	0.49	ug/l	80.0	0.89	104	70-130	4	20	
Barium	151	1.0	0.14	ug/l	80.0	66	106	70-130	3	20	
Beryllium	80.3	0.50	0.037	ug/l	80.0	ND	100	70-130	4	20	
Cadmium	81.5	1.0	0.015	ug/l	80.0	ND	102	70-130	2	20	
Chromium	82.0	2.0	0.26	ug/l	80.0	1.2	101	70-130	3	20	
Cobalt	78.6	1.0	0.10	ug/l	80.0	0.18	98	70-130	4	20	
Copper	76.4	1.0	0.49	ug/l	80.0	1.2	94	70-130	3	20	
Lead	80.0	1.0	0.13	ug/l	80.0	ND	100	70-130	3	20	
Molybdenum	81.1	2.0	0.080	ug/l	80.0	1.0	100	70-130	4	20	
Nickel	77.6	2.0	0.15	ug/l	80.0	0.36	97	70-130	2	20	
Selenium	87.1	2.0	0.36	ug/l	80.0	1.8	107	70-130	4	20	
Silver	78.7	1.0	0.089	ug/l	80.0	ND	98	70-130	2	20	
Thallium	83.7	1.0	0.075	ug/l	80.0	ND	105	70-130	3	20	
Vanadium	81.0	2.0	0.86	ug/l	80.0	ND	101	70-130	2	20	
Zinc	99.9	10	3.1	ug/l	80.0	25	94	70-130	3	20	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B25042 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25042-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Fluoride	ND	0.50	0.10	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l							
Phosphate (PO4)	ND	0.50	0.35	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 02/25/2005 (5B25042-BS1)											
Chloride	5.13	0.50	0.26	mg/l	5.00		103	90-110			
Fluoride	5.07	0.50	0.10	mg/l	5.00		101	90-110			
Phosphate (PO4)	5.22	0.50	0.35	mg/l	5.00		104	90-110			
Sulfate	10.5	0.50	0.18	mg/l	10.0		105	90-110			
Matrix Spike Analyzed: 02/25/2005 (5B25042-MS1) Source: IOB1979-01											
Chloride	13.9	0.50	0.26	mg/l	5.00	9.6	86	80-120			
Fluoride	5.02	0.50	0.10	mg/l	5.00	0.36	93	80-120			
Phosphate (PO4)	6.59	0.50	0.35	mg/l	5.00	ND	132	80-120			MI
Sulfate	57.0	0.50	0.18	mg/l	10.0	49	80	80-120			
Matrix Spike Dup Analyzed: 02/25/2005 (5B25042-MSD1) Source: IOB1979-01											
Chloride	14.3	0.50	0.26	mg/l	5.00	9.6	94	80-120	3	20	
Fluoride	5.13	0.50	0.10	mg/l	5.00	0.36	95	80-120	2	20	
Phosphate (PO4)	6.51	0.50	0.35	mg/l	5.00	ND	130	80-120	1	20	MI
Sulfate	58.2	0.50	0.18	mg/l	10.0	49	92	80-120	2	20	
Batch: 5B25118 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25118-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B25118 Extracted: 02/25/05											
LCS Analyzed: 02/25/2005 (5B25118-BS1)											
Surfactants (MBAS)	0.247	0.10	0.044	mg/l	0.250		99	90-110			
Matrix Spike Analyzed: 02/25/2005 (5B25118-MS1)											
Surfactants (MBAS)	0.278	0.10	0.044	mg/l	0.250	ND	111	50-125			
Matrix Spike Dup Analyzed: 02/25/2005 (5B25118-MSD1)											
Surfactants (MBAS)	0.267	0.10	0.044	mg/l	0.250	ND	107	50-125	4	20	
Batch: 5B25120 Extracted: 02/25/05											
Duplicate Analyzed: 02/25/2005 (5B25120-DUP1)											
Residual Chlorine	ND	0.10	0.10	mg/l		ND				20	
Batch: 5B25128 Extracted: 02/25/05											
Blank Analyzed: 03/02/2005 (5B25128-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/02/2005 (5B25128-BS1)											
Biochemical Oxygen Demand	203	100	30	mg/l	198		103	85-115			
LCS Dup Analyzed: 03/02/2005 (5B25128-BSD1)											
Biochemical Oxygen Demand	202	100	30	mg/l	198		102	85-115	1	20	
Batch: 5B25133 Extracted: 02/25/05											
Duplicate Analyzed: 02/25/2005 (5B25133-DUP1)											
pH	8.07	NA	N/A	pH Units		8.12			1	5	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B28115 Extracted: 02/28/05											
Blank Analyzed: 03/01/2005 (5B28115-BLK1)											
Total Cyanide	ND	0.0050	0.0022	mg/l							
LCS Analyzed: 03/01/2005 (5B28115-BS1)											
Total Cyanide	0.197	0.0050	0.0022	mg/l	0.200		98	90-110			
Matrix Spike Analyzed: 03/01/2005 (5B28115-MS1)											
						Source: IOB2064-01					
Total Cyanide	0.202	0.0050	0.0022	mg/l	0.200	ND	101	70-115			
Matrix Spike Dup Analyzed: 03/01/2005 (5B28115-MSD1)											
						Source: IOB2064-01					
Total Cyanide	0.210	0.0050	0.0022	mg/l	0.200	ND	105	70-115	4	15	
Batch: 5C02094 Extracted: 03/02/05											
Blank Analyzed: 03/02/2005 (5C02094-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/02/2005 (5C02094-BS1)											
Oil & Grease	18.5	5.0	0.94	mg/l	20.0		92	65-120			M-NR1
LCS Dup Analyzed: 03/02/2005 (5C02094-BSD1)											
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120	7	20	
Batch: 5C02106 Extracted: 03/02/05											
Blank Analyzed: 03/02/2005 (5C02106-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5C02106 Extracted: 03/02/05											
LCS Analyzed: 03/02/2005 (5C02106-BS1)											
Total Dissolved Solids	1030	10	10	mg/l	1000		103	90-110			
Duplicate Analyzed: 03/02/2005 (5C02106-DUP1)											
						Source: IOB1887-01					
Total Dissolved Solids	1120	10	10	mg/l		1100			2	10	
Batch: 5C03103 Extracted: 03/03/05											
Blank Analyzed: 03/03/2005 (5C03103-BLK1)											
Total Organic Carbon	ND	1.0	0.25	mg/l							
LCS Analyzed: 03/03/2005 (5C03103-BS1)											
Total Organic Carbon	10.3	1.0	0.25	mg/l	10.0		103	90-110			
Matrix Spike Analyzed: 03/03/2005 (5C03103-MS1)											
						Source: IOB2137-02					
Total Organic Carbon	9.84	1.0	0.25	mg/l	5.00	5.1	95	80-120			
Matrix Spike Dup Analyzed: 03/03/2005 (5C03103-MSD1)											
						Source: IOB2137-02					
Total Organic Carbon	10.1	1.0	0.25	mg/l	5.00	5.1	100	80-120	3	20	
Batch: 5C07070 Extracted: 03/07/05											
Blank Analyzed: 03/07/2005 (5C07070-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/07/2005 (5C07070-BS1)											
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0		95	80-115			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5C07070 Extracted: 03/07/05											
Matrix Spike Analyzed: 03/07/2005 (5C07070-MS1)						Source: IOB2063-01					
Ammonia-N (Distilled)	9.80	0.50	0.30	mg/l	10.0	ND	98	70-120			
Matrix Spike Dup Analyzed: 03/07/2005 (5C07070-MSD1)						Source: IOB2063-01					
Ammonia-N (Distilled)	9.52	0.50	0.30	mg/l	10.0	ND	95	70-120	3	15	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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: LARWQCB Sample Splits
 Outfall 003
 Report Number: IOB2069

Sampled: 02/25/05
 Received: 02/25/05

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
IOB2069-01	413.1 Oil and Grease	Oil & Grease	mg/l	0	5.0	15
IOB2069-01	Antimony-200.8	Antimony	ug/l	0.58	2.0	6.00
IOB2069-01	Boron-200.7	Boron	mg/l	0.065	0.050	1.00
IOB2069-01	Cadmium-200.8	Cadmium	ug/l	0	1.0	4.00
IOB2069-01	Chloride - 300.0	Chloride	mg/l	11	0.50	150
IOB2069-01	Copper-200.8, 1ppb	Copper	ug/l	1.20	1.0	14
IOB2069-01	Fluoride-300.0	Fluoride	mg/l	0.20	0.50	1.60
IOB2069-01	Mercury - 245.1	Mercury	ug/l	0.016	0.20	0.20
IOB2069-01	NDMA-1625C Mod	N-Nitrosodimethylamine	ug/l	0.00012	0.0020	8.10
IOB2069-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	1.10	0.26	10.00
IOB2069-01	Sulfate-300.0	Sulfate	mg/l	83	1.0	250
IOB2069-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	360	10	850
IOB2069-01	Thallium-200.8	Thallium	ug/l	0.051	1.0	2.00

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

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 unknown quality.
- L2** Laboratory Control Sample recovery was below method control limits.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- 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

ADDITIONAL COMMENTS

For TICs:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA/NIH library.

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.



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 (949) 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: LARWQCB Sample Splits Outfall 003 Report Number: IOB2069	Sampled: 02/25/05 Received: 02/25/05
--	--	---

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 150.1	Water	X	X
EPA 1625C Mod	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 330.5	Water	X	X
EPA 335.2	Water	X	X
EPA 350.2	Water	X	X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 415.1	Water	X	X
EPA 624 (MOD.)	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

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4
Samples: IOB2069-01

Analysis Performed: Gross Alpha
Samples: IOB2069-01

Analysis Performed: Gross Beta
Samples: IOB2069-01

Analysis Performed: Radium, Combined
Samples: IOB2069-01

Analysis Performed: Strontium 90
Samples: IOB2069-01

Analysis Performed: Tritium
Samples: IOB2069-01

Del Mar Analytical, Irvine
Michele Harper
Project Manager

CHAIN OF CUSTODY FORM

Version 02/17/05

Del Mar Analytical

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

Project:
 Boeing-SSFL NPDES
 270C Split samples
 Outfall 003

Del Mar Contact: Michele Harper
Project Manager: Bronwyn Kelly
Sampler: Bronwyn Kelly

Phone Number:
 (626) 568-6691
Fax Number:
 (626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	Total Organic Carbon	Chloride, TDS, Sulfate, Boron, Fluoride	MBS/phosphate (total)	N-Nitrosodimethylamine	Cyanide	Ammonia -N	Radioactivity - Gross Alpha, Gross Beta, Combined Radium 226 & Radium 228, Tritium, Strontium-90	Field readings: Temp = pH =	Comments
Outfall 003	W					X								
Outfall 003	W						X							
Outfall 003	W						X							
Outfall 003	W							X						
Outfall 003	W								X					
Outfall 003	W									X				
Outfall 003	W										X			
Trip Blank			3											X

Relinquished By <i>Bronwyn Kelly</i>	Date/Time: 12/15/05	Received By <i>600 Kelly</i>	Date/Time: 2/15/05	1600
Relinquished By <i>Bronwyn Kelly</i>	Date/Time: 2/15/05	Received By	Date/Time:	
Relinquished By	Date/Time:	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 _____ On Ice: _____

269 total bottles

270C Volatile Organics

April 4, 2005

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

Attention: Bronwyn Kelly
Project: LARWQCB Samples Splits/ Outfall 003
Sampled: 02/25/05
Del Mar Analytical Number: IOB2069

Dear Ms. Kelly:

Eberline Services performed gross alpha/ gross beta (EPA 900.0) tritium (H-3, EPA 906.0), and strontium-90 (Sr-90, EPA 905.0) analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	EBERLINE ID
Outfall 003	IOB2069-01	R503012-8307

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 at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL


Michele Harper
Project Manager



EBERLINE SERVICES

March 24, 2005

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

Reference: Del Mar Analytical Project No. IOB2069
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R503012-8307

Dear Ms. Harper:

Enclosed are results from the analyses of one water sample received at Eberline Services on March 1, 2005. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analyses were gross alpha/gross beta (EPA900.0), tritium (H-3, EPA906.0), and strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require matrix spike analyses to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MC/M/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

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

Eberline Services

ANALYSIS RESULTS

SDG <u>8307</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R503012-01</u>	Contract <u>PROJECT# IOB2069</u>
Received Date <u>03/01/05</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>IOB2069-01</u>	<u>8307-001</u>	<u>02/25/05</u>	<u>03/15/05</u>	<u>GrossAlpha</u>	<u>1.11 ± 1.5</u>	<u>pCi/L</u>	<u>2.46</u>
			<u>03/15/05</u>	<u>Gross Beta</u>	<u>8.61 ± 1.7</u>	<u>pCi/L</u>	<u>2.06</u>
			<u>03/17/05</u>	<u>H3</u>	<u>-14.1 ± 150</u>	<u>pCi/L</u>	<u>260</u>
			<u>03/18/05</u>	<u>Sr90</u>	<u>2.53 ± 0.40</u>	<u>pCi/L</u>	<u>0.404</u>

Certified by <u>[Signature]</u>
Report Date <u>03/24/05</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8307</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R503012-01</u>	Contract <u>PROJECT# IOB2069</u>
Received Date <u>03/01/05</u>	Matrix <u>WATER</u>

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8305-002	GrossAlpha	10.5 ± 1.2	pCi/Smpl	11.2	0.436	94% recovery
		Gross Beta	11.2 ± 0.81	pCi/Smpl	12.1	0.584	93% recovery
		H3	266 ± 25	pCi/Smpl	258	26.2	103% recovery
		Sr90	12.2 ± 0.57	pCi/Smpl	11.1	0.236	110% recovery
<u>BLANK</u>							
	8305-003	GrossAlpha	-0.070 ± 0.17	pCi/Smpl	NA	0.417	<MDA
		Gross Beta	-0.046 ± 0.31	pCi/Smpl	NA	0.545	<MDA
		H3	1.77 ± 15	pCi/Smpl	NA	26.0	<MDA
		Sr90	-0.098 ± 0.12	pCi/Smpl	NA	0.224	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results + 2σ	MDA
8305-004	GrossAlpha	0.325 ± 0.53	0.874
	Gross Beta	2.92 ± 1.2	1.82
	H3	-91.7 ± 150	260
	Sr90	-0.070 ± 0.21	0.441

<u>ORIGINALS</u>						
Sample ID	Results + 2σ	MDA	3σ	RPD (Tot)	Eval	
8305-001	1.50 ± 0.89	1.05	129	178	satis.	
	2.27 ± 1.2	1.77	25	103	satis.	
	-45.7 ± 150	259	-	0	satis.	
	0.206 ± 0.25	0.451	-	0	satis.	

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results + 2σ	MDA
8305-005	GrossAlpha	74.5 ± 5.1	0.951
	Gross Beta	82.2 ± 3.8	1.89
	H3	31400 ± 690	263

<u>ORIGINAL SAMPLE</u>						
Sample ID	Results + 2σ	MDA	Added	%Recv		
8305-001	1.50 ± 0.89	1.05	76.6	95		
	2.27 ± 1.2	1.77	73.8	108		
	-45.7 ± 150	259	31400	100		

Certified by <u><i>[Signature]</i></u> Report Date <u>03/24/05</u> Page 2



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 89129 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IOB2069

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

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

Analysis	Expiration	Comments
Sample ID: <u>IOB2069-01</u> Water	Sampled: 02/25/05 13:45	Instant Notification
EDD + Level 4-OUT	03/25/05 13:45	**LEVEL IV QC, ACCESS 7 EDD**
Gross Alpha-O	02/25/06 13:45	900.0, IF RESULT > 15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/25/06 13:45	900.0, IF RESULT > 50 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/25/06 13:45	HOLD for Gross Alpha/Beta result; EPA 903.1 & 904.0
Strontium 90-O	02/25/06 13:45	905.0
Tritium-O	02/25/06 13:45	906

Containers Supplied:

1 gal Poly (IOB2069-01T) *W/ HNO₃*
 40 ml Voa Vial (IOB2069-01V)
 40 ml Voa Vial (IOB2069-01W)

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

Vin Bank 2-28-05 1700 Alex Belmont 3/1/05 10:00
 Released By Date Time Received By Date Time

Released By Date Time Received By Date Time



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client DEL. MAR ANALYT City IRVINE State CA

Date/Time received 3/1/05 10:00 CoC No. 10B2069

Container I.D. No. RELMR COLON Requested TAT (Days) STAND P.D. Received Yes [] No []

INSPECTION

- 1. Custody seals on shipping container intact? Yes [✓] No [] N/A []
- 2. Custody seals on shipping container dated & signed? Yes [✓] No [] N/A []
- 3. Custody seals on sample containers intact? Yes [] No [] N/A [✓]
- 4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [✓]
- 5. Packing material is: Wet [✓] Dry []
- 6. Number of samples in shipping container: 1 Sample Matrix WATER
- 7. Number of containers per sample: 3 (Or see CoC _____)
- 8. Samples are in correct container Yes [✓] No []
- 9. Paperwork agrees with samples? Yes [✓] No []
- 10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels [✓]
- 11. Samples are: In good condition [✓] Leaking [] Broken Container [] Missing []
- 12. Samples are: Preserved [✓] Not preserved [] pH 2 Preservative HNO3
- 13. Describe any anomalies: _____

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____

15. Inspected by AK Date: 3/1/05 Time: 10:00

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

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. _____ Calibration date _____

APPENDIX G

Section 18

February Outfall 004

AMEC Data Validation Reports


Del Mar Analytical Laboratory Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF30
 Task Order 313150010
 SDG No. Multi
 No. of Analyses 13

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

Date: March 18, 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., 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	Detects below the calibration range were qualified "J." False negative and false positives noted. Several transcription errors were noted.

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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 13
No. of Reanalyses/Dilutions: 0
Reviewer: H. Chang
Date of Review: March 18, 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 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 AP)	Matrix	COC Method
Outfall 001	IOB0980-01	P5072_2989_007	water	1613B
Outfall 002	IOB0981-01	P5072_2989_013	water	1613B
Outfall 003	IOB0988-01	P5072_2989_012	water	1613B
Outfall 004	IOB1002-01	P5072_2989_009	water	1613B
Outfall 005	IOB0990-01	P5072_2989_006	water	1613B
Outfall 006	IOB0992-01	P5072_2989_010	water	1613B
Outfall 007	IOB0993-01	P5072_2989_002	water	1613B
Outfall 008	IOB0997-01	P5072_2989_004	water	1613B
Outfall 009	IOB0996-01	P5072_2989_003	water	1613B
Outfall 010	IOB1001-01	P5072_2989_001	water	1613B
Outfall 011 Composite	IOB1004-01	P5072_2989_011	water	1613B
Outfall 011	IOB1014-01	P5072_2989_005	water	1613B
Outfall 018	IOB1008-01	P5072_2989_008	water	1613B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ except sample Outfall 009 which was at 8°C . Due to non-volatile nature of the analytes, no qualifications were necessary for the elevated cooler temperature. The samples were received at Pace Analytical with cooler temperatures of 1.6°C , 2.3°C , and 3°C . The samples were received at Alta Analytical Perspectives with cooler temperatures of 1°C and 3°C . According to the laboratory login sheets, all samples were received intact and in good condition at Del Mar and Alta AP. No sample conditions were available for review for the sample receipt at Pace. No qualifications were required.

2.1.2 Chain of Custody

It appears that the samples were initially sent from Del Mar Analytical to Pace Analytical then subsequently shipped to Alta Analytical Perspectives. The COCs from the field to Del Mar, Del Mar to Pace, and Pace to Alta were available for review. The COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. The custody seals were not present on the coolers upon receipt at either Del Mar or Alta. No custody seal information was available for Pace. 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 Column Performance Check Standard (CPSM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to initial calibration analysis. A separate CPSM was not analyzed for daily analytical sequence; instead, CPSM compounds were added to OPR analysis. 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

There was one initial calibrations, analyzed 08/12/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the native compounds and $\leq 35\%$ for the labeled compounds. The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

2.4 BLANKS

One method blank (0_2989_MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (0_2989_OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. The laboratory reported total PeCDFs detects in samples Outfall 005, Outfall 006, Outfall 007, and Outfall 011. The reviewer deemed the signals used to be below the signal-to-noise ratio of 2.5 and the results were changed to nondetects. A false negative for total HxCDD was noted in sample Outfall 001 and was changed to a detect. No further qualifications were required.


2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the lower method calibration level (MCL) were qualified as estimated, "J." The laboratory did not flag OCDD in samples Outfall 002 and Outfall 003 although the reported concentrations were below the lower MCL. OCDD in these samples was qualified as estimated, "J." The laboratory did not notate detects below the lower MCL for totals. These totals were qualified as estimated, "J." The "DNQ" qualification code was applied only if all components of the totals were below the lower MCL.

The laboratory indicated that one of the non-2,3,7,8 substituted HxCDD detect, present in majority of the samples, was due to recovery standard (13C-1,2,3,4,6,7-HxCDD) contribution. This compound was also present in the method blank. This compound was not included in the total HxCDD concentration. Several total HxCDD results could not be reproduced from the raw data by the reviewer and were hand-corrected on the Form I. No further qualifications were required.

Sample ID: IOB1002-01 *Outfall 004* **Method 1613**

Client Data		Sample Data		Laboratory Data	
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072
Project ID:	General Analytical HRMS	Weight/Volume:	1.05 L	Sample ID:	P5072_2989_009
Date Collected:	10 Feb 05	pH	6	QC Batch No.:	2989
Analyte	Conc.	DL	EMPC	Qualifier	Recoveries
	pg/L	pg/L	pg/L		ES CS
2,3,7,8-TCDD	ND	1.44			78.2
1,2,3,7,8-PeCDD	ND	2.04			84.9
1,2,3,4,7,8-HxCDD	ND	2.74			79.7
1,2,3,6,7,8-HxCDD	ND	2.88			79.7
1,2,3,7,8,9-HxCDD	ND	3.13			79.7
1,2,3,4,6,7,8-HpCDD	12.1	5.97		J	63
OCDD	163	11.8			63
2,3,7,8-TCDF	ND	1.03			78.2
1,2,3,7,8-PeCDF	ND	2.11			77.7
2,3,4,7,8-PeCDF	ND	1.95			77.7
1,2,3,4,7,8-HxCDF	ND	0.815			79.7
1,2,3,6,7,8-HxCDF	ND	0.78			79.7
2,3,4,6,7,8-HxCDF	ND	0.99			79.7
1,2,3,7,8,9-HxCDF	ND	1.51			79.7
1,2,3,4,6,7,8-HpCDF	ND	1.69			63
1,2,3,4,7,8,9-HpCDF	ND	2.59			63
OCDF	ND	10.1			63
Totals & TEQs					
TCDDs	ND	1.44			
PeCDDs	ND	2.04			
HxCDDs	ND	2.92			
HpCDDs	12.1	5.97	23.4		
TCDFs	ND	1.03			
PeCDFs	ND	2.03			
HxCDFs	ND	0.989			
HpCDFs	5.96	2.1			
Total PCDD/Fs	182		193		



ALTA ANALYTICAL PERSPECTIVES
 2714 Exchange Drive
 Wilmington
 North Carolina 28405
 USA
 Tel: 910 794-1613
 Fax: 910 794-3919
 e-mail: yt@ultratrace.com
 web: www.ultratrace.com

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711MT51
 Task Order 313150010
 SDG No. IOB1002

No. of Analyses 1

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method Metals

Date: <u>03/28/05</u>
Reviewer's Signature <i>L. Jarusewic</i>

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications applied for detects below the reporting limit.
Holding Times	
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 VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: METALS
SAMPLE DELIVERY GROUP: IOB1002

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#: IOB1002
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: L. Jarusewic
Date of Review: March 28, 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*, 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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB1002
Analysis: METALS

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 004	Outfall 004	IOB1002-01	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 sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analysis presented in this SDG. A memo from MWH personnel dated 02/17/05 requested a change of analysis from annual to routine constituents. A duplicate sample was submitted for the sample in this SDG; however, duplicate analyses were not required. No sample qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COC and the date of analysis recorded in the raw data, documented that the sample analysis was performed within the specified holding times of six months for the ICP/MS metals. 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 lead and the reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

2.4 BLANKS

The method blanks and bracketing ICB/CCBs associated with sample Outfall 004 were nondetects at the laboratory's MDL for lead. No sample qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analysis. Results were not provided for spiked interferences sulfur, phosphorus, carbon, titanium, and chloride. Lead was not spiked into the ICSAB solution; therefore, these results could not be assessed. The results for sodium and potassium were above the calibration range of the instrument in the ICSA and ICSAB analyses; however, as these analytes were not reported in the site sample, no qualifications were required. The validator reviewed the raw data for the site sample ICP/MS analyses for the level of reported interferences, Al, Ca, Fe, and Mg, and determined that the concentration of interferences was not high enough to cause matrix effects. No assessment could be made with respect to possible interference from sulfur, phosphorus, carbon, titanium, and chloride. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS sample was identified as 5B17129-BS1. The LCS result on the summary form and in the raw data was within the laboratory-established ICP/MS control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKE

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

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of this sample; 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 sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.11 INTERNAL STANDARDS PERFORMANCE

The ICP-MS internal standard recoveries for the site sample 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 sample in this data package. Calculations were verified, and the sample result reported on the Form I was verified against the raw data. No transcription errors or calculation errors were noted. Lead detected below the reporting limit was 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 sample in this SDG 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 sample.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9184 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) 785-3851
 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 004

Report Number: IOB1002

Sampled: 02/11/05
 Received: 02/11/05

DRAFT: METALS

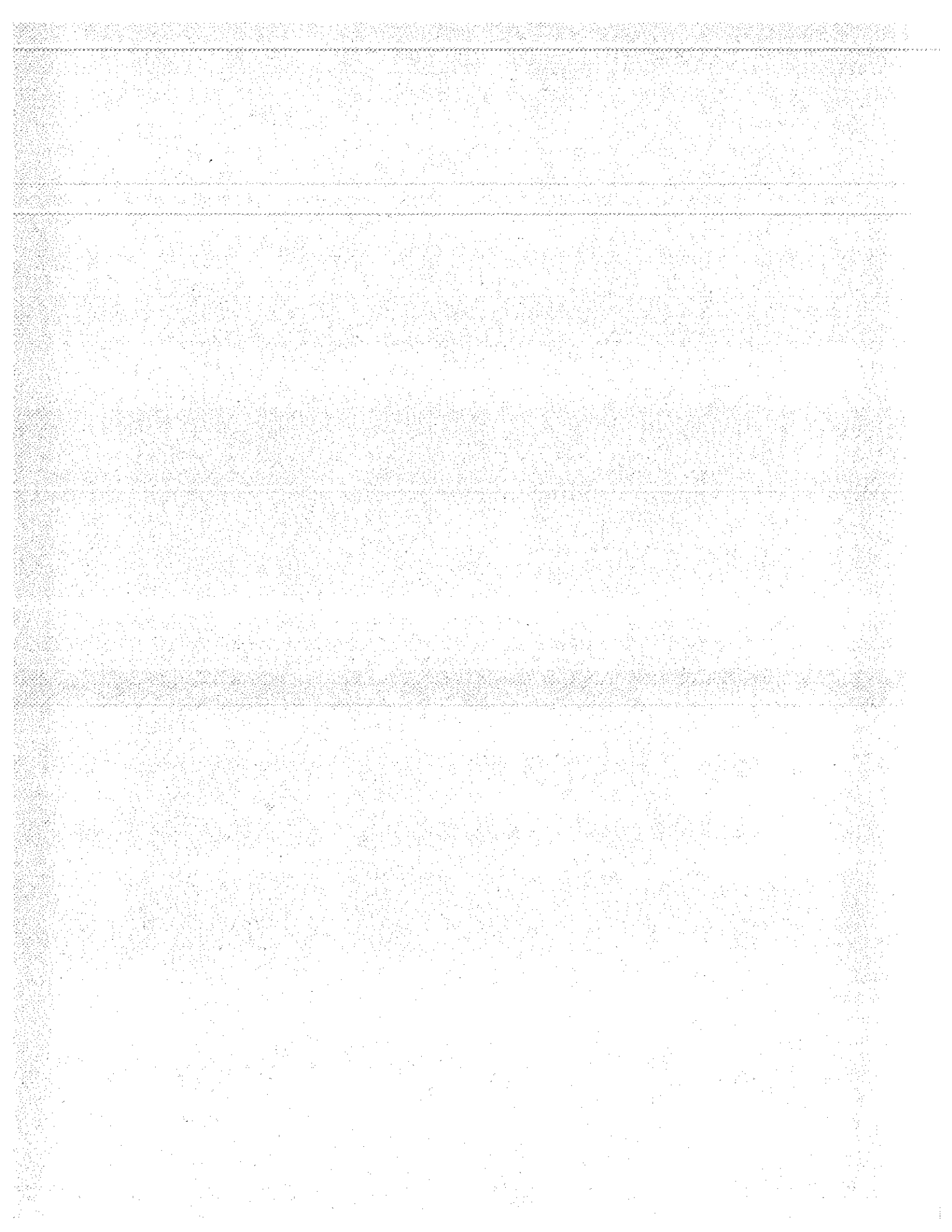
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1002-01 (DRAFT: Outfall 004 - Water)									
Reporting Units: ug/l									
Lead	EPA 200.8	5B17129	0.13	1.0	0.27	1	02/17/05	02/22/05	J J DNG

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





Del Mar Analytical

17461 Derlan 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 (949) 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

LABORATORY REPORT

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

Project: Routine Outfall 004

Sampled: 02/11/05
 Received: 02/11/05
 Issued: 03/28/05 10:28

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 7 pages, are included and are an integral part of this report. This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID
 IOB1002-01

CLIENT ID
 Outfall 004

MATRIX
 Water

Reviewed By:

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 004

Report Number: IOB1002

Sampled: 02/11/05

Received: 02/11/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1002-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	5B17129	0.18	2.0	0.33	1	02/17/05	02/22/05	J
Cadmium	EPA 200.8	5B17129	0.015	1.0	0.026	1	02/17/05	02/22/05	J
Copper	EPA 200.8	5B17129	0.49	2.0	1.4	1	02/17/05	02/22/05	J
Lead	EPA 200.8	5B17129	0.13	1.0	0.27	1	02/17/05	02/22/05	J
Mercury	EPA 245.1	5B15070	0.063	0.20	0.19	1	02/15/05	02/15/05	J

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 004

Report Number: IOB1002

Sampled: 02/11/05

Received: 02/11/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1002-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	5B11120	0.26	0.50	1.1	1	02/11/05	02/12/05	
Nitrate/Nitrite-N	EPA 300.0	5B11120	0.072	0.26	0.23	1	02/11/05	02/12/05	J
Oil & Grease	EPA 413.1	5B17117	0.94	5.0	ND	1	02/17/05	02/17/05	
Sulfate	EPA 300.0	5B11120	0.18	0.50	3.0	1	02/11/05	02/12/05	
Total Dissolved Solids	SM2540C	5B17104	10	10	37	1	02/17/05	02/17/05	
Total Suspended Solids	EPA 160.2	5B17069	10	10	ND	1	02/17/05	02/17/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 004

Report Number: IOB1002

Sampled: 02/11/05

Received: 02/11/05

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 004 (IOB1002-01) - Water EPA 300.0	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
	2	02/11/2005 14:25	02/11/2005 20:30	02/11/2005 23:00	02/12/2005 06:22

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 004

Report Number: IOB1002

Sampled: 02/11/05
 Received: 02/11/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Limit	Qualifiers
Batch: 5B15070 Extracted: 02/15/05											
Blank Analyzed: 02/15/2005 (5B15070-BLK1)											
Mercury	ND	0.20	0.063	ug/l							
LCS Analyzed: 02/15/2005 (5B15070-BS1)											
Mercury	8.18	0.20	0.063	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 02/15/2005 (5B15070-MS1)											
						Source: IOB1088-01					
Mercury	8.26	0.20	0.063	ug/l	8.00	ND	103	70-130			
Matrix Spike Dup Analyzed: 02/15/2005 (5B15070-MSD1)											
						Source: IOB1088-01					
Mercury	8.26	0.20	0.063	ug/l	8.00	ND	103	70-130	0	20	
Batch: 5B17129 Extracted: 02/17/05											
Blank Analyzed: 02/22/2005 (5B17129-BLK1)											
Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.015	ug/l							
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							
LCS Analyzed: 02/22/2005 (5B17129-BS1)											
Antimony	85.6	2.0	0.18	ug/l	80.0		107	85-115			
Cadmium	76.5	1.0	0.015	ug/l	80.0		96	85-115			
Copper	79.4	2.0	0.49	ug/l	80.0		99	85-115			
Lead	77.5	1.0	0.13	ug/l	80.0		97	85-115			
Matrix Spike Analyzed: 02/22/2005 (5B17129-MS1)											
						Source: IOB1230-01					
Antimony	89.6	2.0	0.18	ug/l	80.0	1.2	110	70-130			
Cadmium	75.7	1.0	0.015	ug/l	80.0	0.10	94	70-130			
Copper	111	2.0	0.49	ug/l	80.0	33	98	70-130			
Lead	77.8	1.0	0.13	ug/l	80.0	1.8	95	70-130			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 004 Report Number: IOB1002	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B17129 Extracted: 02/17/05											
Matrix Spike Dup Analyzed: 02/22/2005 (5B17129-MSD1)						Source: IOB1230-01					
Antimony	87.5	2.0	0.18	ug/l	80.0	1.2	108	70-130	2	20	
Cadmium	73.8	1.0	0.015	ug/l	80.0	0.10	92	70-130	3	20	
Copper	108	2.0	0.49	ug/l	80.0	33	94	70-130	3	20	
Lead	77.5	1.0	0.13	ug/l	80.0	1.8	95	70-130	0	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 004

Report Number: IOB1002

Sampled: 02/11/05
 Received: 02/11/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B11120 Extracted: 02/11/05										
Blank Analyzed: 02/11/2005 (5B11120-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: 02/11/2005 (5B11120-BS1)										
Chloride	4.84	0.50	0.26	mg/l	5.00		97	90-110		
Sulfate	10.0	0.50	0.18	mg/l	10.0		100	90-110		
Matrix Spike Analyzed: 02/12/2005 (5B11120-MS1) Source: IOB0980-01										
Chloride	15.6	0.50	0.26	mg/l	5.00	11	92	80-120		
Sulfate	38.7	0.50	0.18	mg/l	10.0	29	97	80-120		
Matrix Spike Dup Analyzed: 02/12/2005 (5B11120-MSD1) Source: IOB0980-01										
Chloride	15.8	0.50	0.26	mg/l	5.00	11	96	80-120	1	20
Sulfate	39.3	0.50	0.18	mg/l	10.0	29	103	80-120	2	20
Batch: 5B17069 Extracted: 02/17/05										
Blank Analyzed: 02/17/2005 (5B17069-BLK1)										
Total Suspended Solids	ND	10	10	mg/l						
LCS Analyzed: 02/17/2005 (5B17069-BS1)										
Total Suspended Solids	977	10	10	mg/l	1000		98	85-115		
Duplicate Analyzed: 02/17/2005 (5B17069-DUP1) Source: IOB0990-01										
Total Suspended Solids	ND	10	10	mg/l		ND				10

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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 004 Report Number: IOB1002	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B17104 Extracted: 02/17/05											
Blank Analyzed: 02/17/2005 (5B17104-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/17/2005 (5B17104-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/17/2005 (5B17104-DUP1)											
						Source: IOB1273-03					
Total Dissolved Solids	483	10	10	mg/l		490			1	10	
Batch: 5B17117 Extracted: 02/17/05											
Blank Analyzed: 02/17/2005 (5B17117-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 02/17/2005 (5B17117-BS1)											
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120			M-NR1
LCS Dup Analyzed: 02/17/2005 (5B17117-BSD1)											
Oil & Grease	16.4	5.0	0.94	mg/l	20.0		82	65-120	7	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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) 370-4687 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9889
 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 004

Report Number: IOB1002

Sampled: 02/11/05

Received: 02/11/05

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
IOB1002-01	413.1 Oil and Grease	Oil & Grease	mg/l	0	5.0	15
IOB1002-01	Antimony-200.8	Antimony	ug/l	0.33	2.0	6.00
IOB1002-01	Cadmium-200.8	Cadmium	ug/l	0.026	1.0	4.00
IOB1002-01	Chloride - 300.0	Chloride	mg/l	1.10	0.50	150
IOB1002-01	Copper-200.8	Copper	ug/l	1.40	2.0	14
IOB1002-01	Mercury - 245.1	Mercury	ug/l	0.19	0.20	0.20
IOB1002-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.23	0.26	10.00
IOB1002-01	Sulfate-300.0	Sulfate	mg/l	3.00	0.50	250
IOB1002-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	37	10	850

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 004

Report Number: IOB1002

Sampled: 02/11/05
Received: 02/11/05

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 unknown quality.
- 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
Wendy Kirkeeng For Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1002 <Page 10 of 11>



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 (949) 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 004

Report Number: IOB1002

Sampled: 02/11/05

Received: 02/11/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

Subcontracted Laboratories

Alta Analytical Perspectives

Analysis Performed: 1613-Dioxin-HR

Samples: IOB1002-01

Analysis Performed: EDD + Level 4

Samples: IOB1002-01

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

10B1002

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5 8/12/04

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

Project:
 Boeing-SSL NPDES
 Annual Outfall 004
 Stormwater at SRE

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

Sampler: Paloch

Total Recoverable Metals: As, Pb, Cu, Cd, Ni, Cr, V, Mn, Hg

Field readings:
 Temp = 54.7
 pH = 6.9

Comments:

			ANALYSIS REQUIRED																
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl-, SO4, NO3+NO2-N, Perchlorate	TDS, TSS	VOCs (624), NPDES + PP	VOCs A+A+2CVE	Pesticides/PCEs - PP	Gross Alpha, Gross Beta, Tritium (906.0°, Sr-90 (905.) Total Combined Radium 226 & 228	SVOCs - PP	Acute Toxicity	Cyanide	
Outfall 004	W	1L Poly	1	2/10/05 14:25	HNO3	1A	X												
Outfall 004-Dup	W	1L Poly	1		HNO3	1B	X												
Outfall 004	W	1L Amber	2		None	2A,2B		X											
Outfall 004	W	1L Amber	2		HCl	3A, 3B													
Outfall 004	W	Poly-500 ml	2		None	4A, 4B		X											
Outfall 004	W	Poly-500 ml	2		None	5A, 5B					X								
Outfall 004	W	VOAs	3		HCl	6A, 6B, 6C						X							
Outfall 004	W	VOA	3		None	7A, 7B, 7C						X							
Outfall 004	W	1L Amber	2		None	8A, 8B							X						
Outfall 004	W	1 Gal Poly VOAs	2		None	9A, 9B, 9C									X				
Outfall 004	W	1L Amber	2		None	10A, 10B										X			
Outfall 004	W	1 Gal Poly	1		None	11A											X		
Outfall 004	W	500ml Poly	1		NaOH	12													
Trip Blanks	W	VOA	3		None	13A, 13B, 13C						X							
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C						X							
Relinquished By	S. Paloch		2-10-05	1700	Received By	S. Paloch		Date/Time: 2/10/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700	
Relinquished By	S. Paloch		2-10-05	1700	Received By	S. Paloch		Date/Time: 2/10/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700	
Relinquished By	S. Paloch		2-10-05	1700	Received By	S. Paloch		Date/Time: 2/10/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700		Date/Time: 2/11/05 1700	
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) <input checked="checked" type="checkbox"/> Intact <input type="checkbox"/> On Ice																			
Date/Time: 2/11/05 1700																			

10B

F A X



300 N. Lake Ave., Suite 1200
Pasadena, California 91101
Tel: 626-568-6691
Fax: 626-568-6515

Date: 02/17/05

To: Michele Harper / Del Mar Analytical
Patti Meeks / AMEC
Krissi McIlvenna / MWH

Fax No: 949-260-3297
303-935-6575
925-975-3412

From: Bronwyn K. Kelly

sign:

Subject: Chain-of-Custody Form Analytical Request Change

No. of Pages: 2
(including cover)

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

Del Mar Work Order #	Sample ID	Date Collected	Change(s) Requested, Not Completed	Change(s) and Method (s) New Requested
IOB0988	Outfall 003	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO ₄ , N ₃ +NO ₂ -N, Perchlorate, TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1002	Outfall 004	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO ₄ , N ₃ +NO ₂ -N, Perchlorate, TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB0990	Outfall 005	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO ₄ , N ₃ +NO ₂ -N, Perchlorate, TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.

IOB0992	Outfall 006	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N)3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1008	Outfall 018	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N)3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1014	Outfall 011	02/11/04	Chromium IV	
IOA0131	Outfall 011 -- Composite	01/04/05		Ammonia, BOD, Chloride, Nitrate/Nitrite as N, Oil and Grease, Sulfate, MBAS, TDS, TSS, TOC, Settleable Solids, Turbidity, Cr, Cyanide, perchlorate, Conductivity, Cu, Hg, TCDD
IOA0121	Outfall 011 -- Grab	01/04/05		Total Recoverable Hydrocarbons, Extractable Fuel Hydrocarbons, GRO, Fluoride, Residual Chlorine, TOC, Cr VI, 1,4-Dioxane, Monomethyl Hydrazine, Bioassays, SVOC (625)-PP list, Pcs/PCB-PP list (608), Total Recoverable Metals, Cyclohexane & Freon 123a & A+A+2CVE (624), Radchem

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

_____ X
 _____ X

This Change Order supersedes all previous change orders submitted.

Thank you





2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 23, 2005

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

Attention: Bronwyn Kelly

Project: Routine Outfall 004
Sampled: 02/11/05
Del Mar Analytical Number: IOB1002

Dear Ms. Kelly:

Alta Analytical Perspectives performed the EPA Method 1613 Dioxin analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	Alta ID
Outfall 004	IOB1002-01	P5072 2989 009

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 at extension 215.

Sincerely yours,
DEL MAR ANALYTICAL

Michele Harper
Project Manager


ALTA ANALYTICAL PERSPECTIVES

3 March 2005

Scott Unze
 Pace Analytical Services
 1700 Elm Street
 Minneapolis, MN 55414

Ph.: 612-607-1700
 Fax: 612-607-6444

Subject: Certificate of Results

Dear Scott;

Attached to this narrative are the analytical results you requested on the samples submitted for the determination of polychlorinated dibenzo-*p*-dioxins and dibenzofurans. The insert below summarizes the relevant information pertaining to your project. In particular, the QC annotations bring to your attention specific analytical observations and assessments made during the sample handling and data interpretation phases. A brief description of the report's components is provided on the next page.

Project Information Summary	When applicable, see QC Annotations for details
Client Project No.	
AAP Project No.	P5072
Analytical Protocol	Method 1613B
No. Samples Submitted	13
No. Samples Analyzed	13
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
No. Outstanding Samples	0
Date Received	1-Mar-2005
Condition Received	good
Temperature upon Receipt (C)	1-3
Extraction within Holding Time	yes
Analysis within Holding Time	yes
Data meet QA/QC Requirements	yes
Exceptions	none
Analytical Difficulties	none

2714 EXCHANGE DRIVE
 WILMINGTON
 NORTH CAROLINA 28405
 TEL: 910-794-1613 FAX 910-794-3919

QC Annotations:

1. A "J" data qualifier is used for analytes with a concentration below the reporting limit.

Alta Analytical Perspectives remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please, do not hesitate to contact us. We wanted to thank you for choosing Alta Analytical Perspectives as part of your analytical support team.


Sincerely,



Amy J. Boehm
Project Manager

Sample ID: IOB1002-01

Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	01 Mar 05
Project ID:	General Analytical HRMS	Weight/Volume:	1.05 L	Sample ID:	P5072_2989_009	Date Extracted:	01 Mar 05
Date Collected:	10 Feb 05	pH	6	QC Batch No.:	2989	Date Analyzed:	03 Mar 05
Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries		
					ES	CS	
2,3,7,8-TCDD	ND	1.44			72.2	78.2	
1,2,3,7,8-PeCDD	ND	2.04			73.5	84.9	
1,2,3,4,7,8-HxCDD	ND	2.74			72.7	79.7	
1,2,3,6,7,8-HxCDD	ND	2.88			78.4	79.7	
1,2,3,7,8,9-HxCDD	ND	3.13			73	79.7	
1,2,3,4,6,7,8-HpCDD	12.1	5.97		J	62.5	63	
OCDD	183	11.8			49.7	65	
2,3,7,8-TCDF	ND	1.03			74.2	78.2	
1,2,3,7,8-PeCDF	ND	2.11			75.9	77.7	
2,3,4,7,8-PeCDF	ND	1.95			74.1	77.7	
1,2,3,4,7,8-HxCDF	ND	0.815			72.1	79.7	
1,2,3,6,7,8-HxCDF	ND	0.78			77.1	79.7	
2,3,4,6,7,8-HxCDF	ND	0.99			70.3	79.7	
1,2,3,7,8,9-HxCDF	ND	1.51			84.5	79.7	
1,2,3,4,6,7,8-HpCDF	ND	1.69			54.2	63	
1,2,3,4,7,8,9-HpCDF	ND	2.59			52.9	63	
OCDF	ND	10.1			49.7	63	
Totals & TEQs							
TCDDs	ND	1.44			 <p>ALTA ANALYTICAL PERSPECTIVES</p> <p>2714 Exchange Drive Wilmington North Carolina 28405 USA</p> <p>Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com</p>		
PeCDDs	ND	2.04					
HxCDDs	ND	2.92					
HpCDDs	12.1	5.97	23.4				
TCDFs	ND	1.03					
PeCDFs	ND	2.03					
HxCDFs	ND	0.989					
HpCDFs	5.96	2.1					
Total PCDD/Fs	182		193				

Checkcode: 0812


AAP 2005 Rev. B

Reviewer
Date

[Signature]
03 Mar 05

Sample ID: 0_2989_MB001

Method 1613

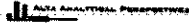
Client Data		Sample Data		Laboratory Data			
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	n/a
Project ID:	General Analytical HRMS	Weight/Volume:	1.00 L	Sample ID:	0_2989_MB001	Date Extracted:	01 Mar 05
Date Collected:	n/a	pH	6	QC Batch No.:	2989	Date Analyzed:	02 Mar 05
Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries		
					ES	CS	
2,3,7,8-TCDD	ND	1.65			75.2	80.6	
1,2,3,7,8-PeCDD	ND	1.55			70.5	83.7	
1,2,3,4,7,8-HxCDD	ND	2.57			80	86.4	
1,2,3,6,7,8-HxCDD	ND	2.4			91.5	86.4	
1,2,3,7,8,9-HxCDD	ND	2.8			66	86.4	
1,2,3,4,6,7,8-HpCDD	ND	1.98			74.9	69.8	
OCDD	ND	4.78			67.4	69.8	
2,3,7,8-TCDF	ND	1.04			81.1	80.6	
1,2,3,7,8-PeCDF	ND	1.91			85.1	82.9	
2,3,4,7,8-PeCDF	ND	1.98			76.8	82.9	
1,2,3,4,7,8-HxCDF	ND	0.812			79.4	86.4	
1,2,3,6,7,8-HxCDF	ND	0.764			86.7	86.4	
2,3,4,6,7,8-HxCDF	ND	1.01			77.8	86.4	
1,2,3,7,8,9-HxCDF	ND	1.42			75.6	86.4	
1,2,3,4,6,7,8-HpCDF	ND	1.78			64.7	69.8	
1,2,3,4,7,8,9-HpCDF	ND	2.67			65.1	69.8	
OCDF	ND	11.1			67.2	69.8	
Totals & TEQs							
TCDDs	ND	1.65			 <p>ALTA ANALYTICAL PERSPECTIVES</p> <p>2714 Exchange Drive Wilmington North Carolina 28405 USA</p> <p>Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com</p>		
PeCDDs	ND	1.55					
HxCDDs	ND	2.59					
HpCDDs	ND	1.98					
TCDFs	ND	1.04					
PeCDFs	ND	1.94					
HxCDFs	ND	0.974					
HpCDFs	ND	2.19					
Total PCDD/Fs	0		0				

Checkcode: 3385

AAP 2005 Rev. B

Reviewer: *[Signature]*
Date: 03 Mar 05

Sample Summary
 Part 1



Method 1613

Analyte	0_2889_MB 001	IOB1001-01	IOB0983-01	IOB0994-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0980-01	IOB1008-01	IOB1002-01	IOB0982-01	IOB1004-01	IOB0988-01	IOB0981-01
	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L
2,3,7,8-TCDF	(1.66)	(2.29)	(2.08)	(2.02)	(1.34)	(1.71)	(2.29)	(2.58)	(1.61)	(1.44)	(2.87)	(1.79)	(3.24)	(3.01)
1,2,3,7,8-PeCDD	(1.58)	(1.85)	(1.79)	(2.09)	(2.11)	(1.73)	(3.2)	(1.88)	(1.62)	(2.04)	(3.14)	(2.92)	(2.18)	(5.38)
1,2,3,4,7,8-HxCDD	(2.57)	(3.45)	(2.58)	(2.71)	(2.48)	(3.88)	(4.19)	(2.42)	3.87	(2.74)	(5.91)	(12.2)	(4.91)	(4.84)
1,2,3,6,7,8-HxCDD	(2.4)	(3.21)	(2.57)	(2.7)	(2.34)	(3.8)	(4.11)	(2.41)	8.47	(2.88)	(5.98)	(12)	(4.84)	(4.7)
1,2,3,7,8,9-HxCDD	(2.8)	(3.83)	(3.13)	(3.33)	(2.82)	(4.88)	(4.85)	(2.88)	5.27	(3.13)	(7.12)	(13.8)	(5.54)	(8.81)
1,2,3,4,6,7,8-HpCDD	(1.98)	75.4	31.8	10	(9.38)	12.2	(8.34)	49.8	207	12.1	(10.8)	20.8	(3.18)	(8.8)
OCDD	(4.78)	883	267	134	70.4	157	58.1	471	2120	183	70.2	213	50.3	50
2,3,7,8-TCDF	(1.04)	(1.24)	(1.54)	(1.88)	(0.998)	(2.08)	(1.37)	(1.64)	(1.48)	(1.03)	(2.58)	(2.71)	(2.38)	(2.61)
1,2,3,7,8-PeCDF	(1.91)	(1.79)	(2.78)	(1.44)	(2.33)	(1.84)	(3.71)	(1.98)	(2.36)	(2.11)	(4.02)	(2.62)	(2.98)	(2.48)
1,2,3,4,7,8-HxCDF	(1.88)	(1.88)	(2.8)	(1.48)	(2.42)	(1.89)	(3.89)	(2.03)	(2.31)	(1.95)	(3.97)	(2.53)	(3)	(2.49)
1,2,3,6,7,8-HxCDF	(0.812)	(0.867)	(0.9)	(0.785)	(0.943)	(1.36)	(1.38)	(1.47)	(0.97)	(0.815)	(1.55)	(8.88)	(1.62)	(1.13)
1,2,3,6,7,8,9-HxCDF	(0.764)	(0.843)	(0.827)	(0.706)	(0.871)	(1.31)	(1.3)	(1.51)	(0.898)	(0.78)	(1.42)	(8.24)	(1.53)	(1.19)
1,2,3,4,6,7,8-HpCDF	(1.01)	(1.12)	(1.04)	(0.933)	(1.12)	(1.85)	(1.73)	(1.9)	(1.1)	(0.89)	(1.91)	(8.23)	(2.03)	(1.48)
1,2,3,4,6,7,8,9-HpCDF	(1.42)	(1.67)	(1.58)	(1.47)	(1.73)	(2.41)	(2.58)	(2.85)	(1.7)	(1.51)	(2.81)	(12.4)	(2.74)	(2.95)
OCDF	(2.67)	(3.45)	(2.95)	(7.47)	(3.25)	(2.43)	(4.88)	(2.58)	(4.43)	(2.59)	(7.3)	(5.49)	(3.04)	(4.88)
	(11.1)	155	(11)	(22.4)	(12.4)	(8.53)	(14.9)	34.8	87.1	(10.1)	(7.89)	(20.8)	(13.1)	(8.89)
Checkcode	3385	4381	4681	4985	5239	5527	5787	0087	0335	0812	3029	4355	4822	4900

() = DL
 [] = EMPC

Reviewer: *[Signature]*
 Date: *[Date]*

P5072 - Totals
Project ID: General Analytical HRMS

Sample Summary Part 2		ALTA ANALYTICAL PERSPECTIVES												Method 1613
Analyte	0_2989_MB001	IOB1001-01	IOB0993-01	IOB0996-01	IOB0997-01	IOB1014-01	IOB0998-01	IOB0999-01	IOB1008-01	IOB1002-01	IOB0992-01	IOB1004-01	IOB0994-01	IOB0991-01
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
Totals														
TCDDs	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
PeCDDs	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
HxCDDs	0	7.38	4.44	0	0	0	0	0	39.8	0	0	0	0	0
HpCDDs	0	163	65.1	25.2	9.46	29.6	0	101	415	12.1	0	43.1	12.2	0
OCDD	0	883	287	134	70.4	157	56.1	471	2120	163	70.2	213	50.3	50
TCDFs	0	0	0	0	0	0	0	0	6.53	0	0	0	0	0
PeCDFs	0	0	0.858	0	0	0.76	0.256	0	2.57	0	0.458	0	0	0
HxCDFs	0	2.68	0	0	0	0	0	4.13	32.8	0	0	0	0	0
HpCDFs	0	92.9	0	0	0	10.2	0	36.5	98.7	5.96	0	0	0	0
OCDF	0	155	0	0	0	0	0	34.9	67.1	0	0	0	0	0
Total PCDD/Fs (ND=0; EMPC=0)	0.00	1,290	338	159	79.9	197	56.4	648	2,800	182	70.7	258	62.6	50
Total PCDD/Fs (ND=0; EMPC=EMPC)	0.00	1,300	342	160	79.9	197	56.4	663	2,830	193	70.7	258	62.6	50
Total PCDD/Fs (2378-X ND=DL; EMPC=EMPC)	42.2	1,330	381	215	128	238	119	691	2,840	229	144	370	121	114
Total 2378s (ND=0; EMPC=0)	0.00	1,130	299	144	70.4	173	56.1	587	2,440	176	70.2	234	50.3	50
Total 2378s (ND=0.5; EMPC=0)	21.1	1,140	319	172	94.6	193	87.5	581	2,450	193	107	291	79.5	82
Total 2378s (ND=1; EMPC=0)	42.2	1,180	338	200	119	214	119	595	2,450	211	144	348	109	114
Total 2378s (ND=0; EMPC=1)	0.00	1,130	299	144	70.4	173	56.1	567	2,440	176	70.2	234	50.3	50
Total 2378s (ND=0.5; EMPC=1)	21.1	1,140	319	172	94.6	193	87.5	581	2,450	193	107	291	79.5	82
Total 2378s (ND=1; EMPC=1)	42.2	1,180	338	200	119	214	119	595	2,450	211	144	348	109	114
Checkcode	3385	4361	4681	4965	5239	5527	5797	0087	0335	0612	3929	4355	4622	4900

Total 2378s = Sum of 17 2378-substituted PCDD/PCDF congeners (SARA 313)

() = DL
 [] = EMPC

Reviewer: *ASMAKES*
 Date:

P5072 - Others
Project ID: General Analytical HRMS

Sample Summary
Part 3

ALTA ANALYTICAL PERSPECTIVES

Method 1613

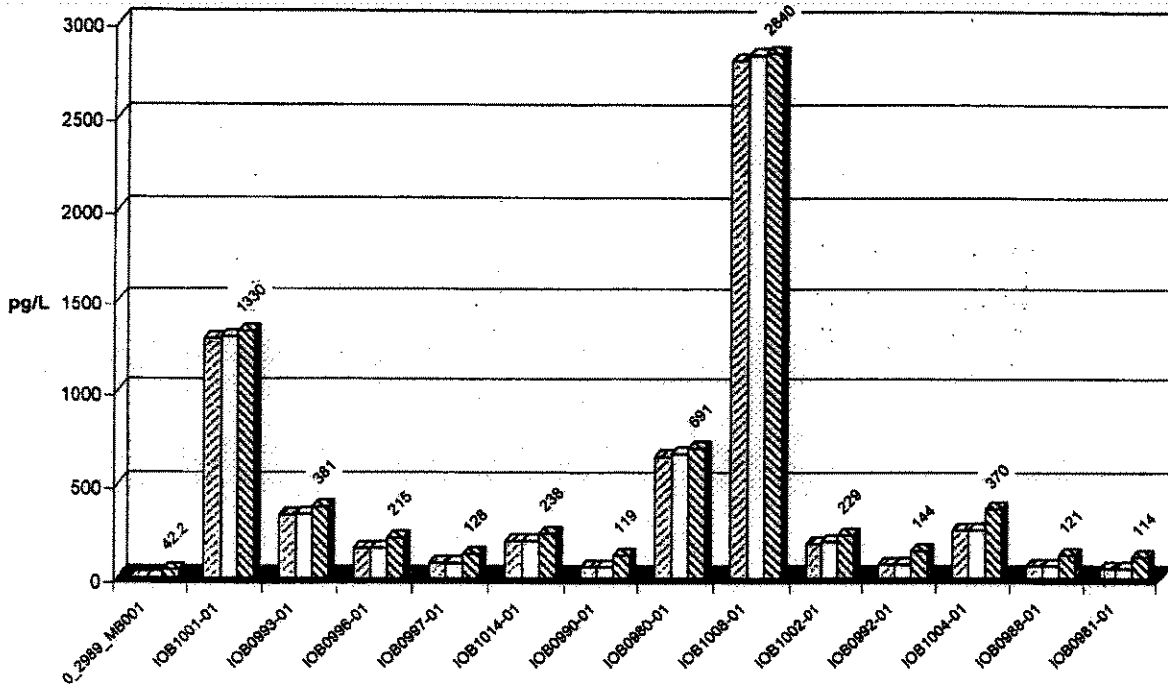
Analyte	0_2585_MB001	IOB1001-01	IOB0983-01	IOB0986-01	IOB0987-01	IOB1014-01	IOB0990-01	IOB0980-01	IOB1008-01	IOB1002-01	IOB0982-01	IOB1004-01	IOB0988-01	IOB0981-01
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
Other PCDD/Fs (ND=0, EMPC=0)														
Other TCDD	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
Other PeCDD	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
Other HxCDD	0	7.38	4.44	0	0	0	0	0	22.5	0	0	0	0	0
Other HpCDD	0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	0	0	22.3	12.2	0
Other TCDF	0	0	0	0	0	0	0	0	8.53	0	0	0	0	0
Other PeCDF	0	0	0.858	0	0	0.78	0.256	0	2.57	0	0.456	0	0	0
Other HxCDF	0	2.88	0	0	0	0	0	4.13	32.8	0	0	0	0	0
Other HpCDF	0	76.1	0	0	0	6.16	0	25.7	71.6	5.96	0	0	0	0
Other PCDD/Fs (ND=0, EMPC=EMPC)														
Other TCDD	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
Other PeCDD	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
Other HxCDD	0	7.38	8.57	0	0	0	0	8.86	47.7	0	0	0	0	0
Other HpCDD	0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	11.3	0	22.3	12.2	0
Other TCDF	0	0	0	0	0	0	0	2.21	6.53	0	0	0	0	0
Other PeCDF	0	0	0.858	0.213	0	0.78	0.256	0.368	2.57	0	0.456	0	0	0
Other HxCDF	0	9.88	0	0	0	0	0	7.22	32.8	0	0	0	0	0
Other HpCDF	0	76.1	0	0	0	6.16	0	25.7	71.6	5.96	0	0	0	0
Checksum	3885	4361	4881	4965	5239	5527	5797	0067	0335	0612	3829	4355	4622	4900

() = DL
 [] = EMPC

Reviewer: *0*
 Date: *03/02/03*

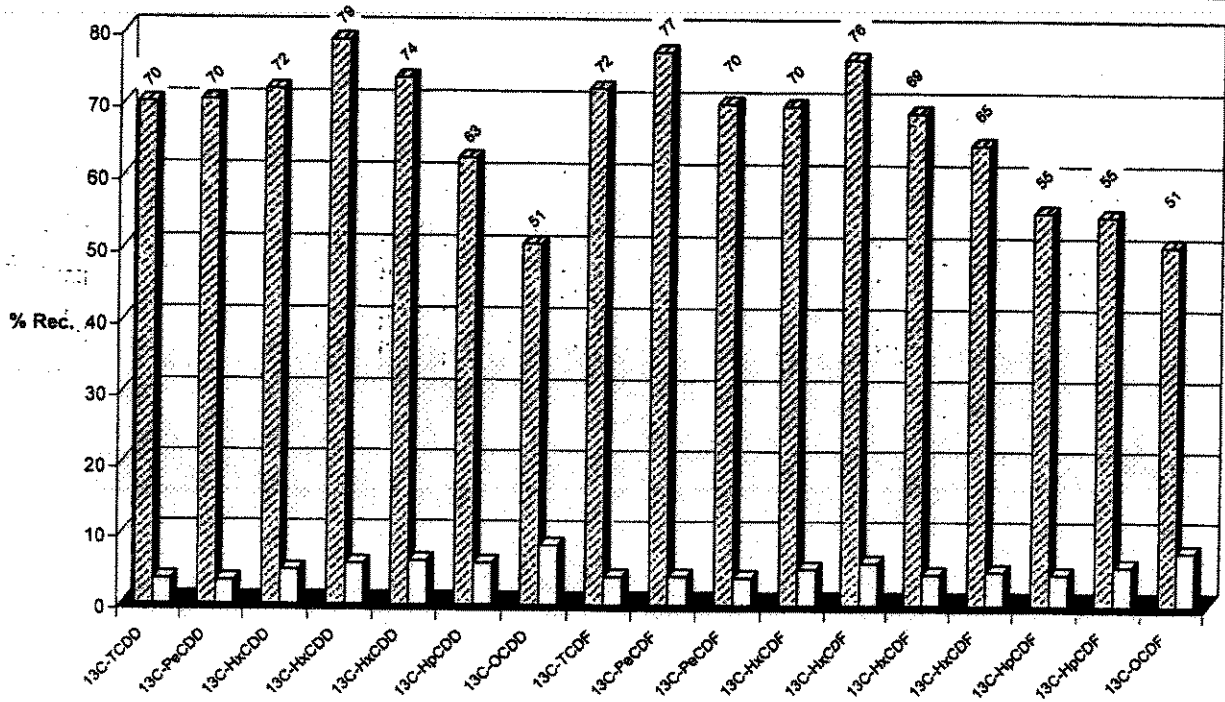
Totals
Project ID: General Analytical HRMS
P5072

▨ Total PCDD/Fs (ND=0; EMPC=0)
 □ Total PCDD/Fs (ND=0; EMPC=EMPC)
 ▩ Total PCDD/Fs (2378-X ND=DL; EMPC=EMPC)



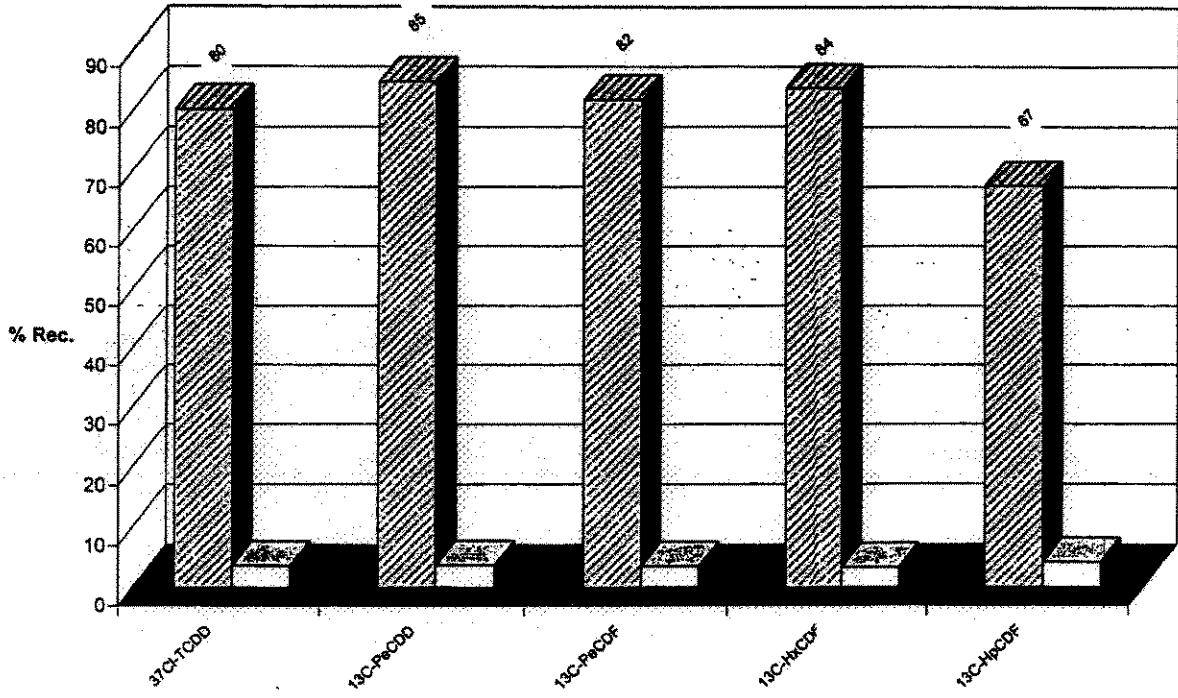
Mean Recoveries of Extraction Standards (N=14)
Project ID: General Analytical HRMS
P5072

Mean Std. Dev.



Mean Recoveries of Clean-Up Standards (N=14)
Project ID: General Analytical HRMS
P5072

Mean Std. Dev.





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) 370-4657 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Suncast Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IOB1002

107702

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:
 Pace Analytical, MN- SUB
 1700 Elm Street, Ste 200
 Minneapolis, MN 55414
 Phone : (612) 607-1700
 Fax: (612) 607-6444

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

Analysis	Expiration	Comments
Sample ID: IOB1002-01 Water	Sampled: 02/11/05 14:25	
1613-Dioxin-HR	02/18/05 14:25	J flags, 17 congeners, no TEQ, sub to Pace-MN
EDD + Level 4	03/11/05 14:25	Excel EDD email to pm, Include Std logs for Lvl IV

107702001

Containers Supplied:
 1 L Amber (IOB1002-01C)
 1 L Amber (IOB1002-01D)

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): 3

~~Released By _____ Date 2-14-05 Time 1700 Received By Bryant Fleck Date 2-15-05 Time 9-00~~

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



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

814593

Section C

Section B

Required Client Information:

Report To: SCOTT UNZE

Copy To: ↓

Invoice To: ↓

P.O. 1700 Elm St.

Project Name: Suite 200

Project Number: Mpls., MN 55414

Phone: Fax:

To Be Completed by Face Analytical and Client

Quote Reference:

Client Information (Check quote/contract):

Requested Due Date: 3 Day

* Turn around times less than 14 days-subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.

Turn-Around Time (TAT) in calendar days.

Project Manager: SCOTT UNZE

Project #:

Profile #:

Requested Analysis:

Section D Required Client Information:

SAMPLE ID

One character per box (A-Z, 0-9, -)

Sample IDs MUST BE UNIQUE

Valid Matrix Codes 4:

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	Containers	Preservatives							Remarks / Lab ID		
					Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O8	Methanol		Other	
1	I0B1001-01	02/10/05	15:30	1X									X	
2	I0B0993-01		10:50											
3	I0B0996-01		12:15											
4	I0B0997-01		15:16											
5	I0B1014-01		12:20											
6	I0B0990-01		08:55											
7	I0B0980-01		10:56											
8	I0B1008-01		13:32											
9	I0B1002-01		14:25											
10	I0B0992-01		10:15											
11	I0B1004-01		16:00											
12	I0B0988-01		11:44											

1413: P001/PF
1415: (Flat Top)
1417: RW

REGULATORY AGENCY: NC SC GA Other

NPDES GROUND WATER DRINKING WATER

UST RCRA Other

SAMPLE NOTES: Email to: Scott.Unze@pacelabs.com

Additional Comments: Sample I0B1002-01 & I0B0988-01 are both dated 02/10/05

Signature: Scott Unze Date Signed: 02-10-05

PRINT Name of SAMPLER: Scott Unze

SIGNATURE of SAMPLER: Scott Unze

DATE Signed: MM/DD/YY

SITE LOCATION: NC SC GA Other

REGULATORY AGENCY: NPDES GROUND WATER DRINKING WATER

UST RCRA Other

SAMPLE NOTES: Email to: Scott.Unze@pacelabs.com

Additional Comments: Sample I0B1002-01 & I0B0988-01 are both dated 02/10/05

Signature: Scott Unze Date Signed: 02-10-05

PRINT Name of SAMPLER: Scott Unze

SIGNATURE of SAMPLER: Scott Unze

DATE Signed: MM/DD/YY

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Section B

Section C

814592

Page: 2 of 2

Required Client Information:

Section A

Company: Pace

Address: 1700 Elm Street
Suite 200
N. Pls., Nw 55414

Report To: Scott Unze

Section B

Client Information (Check quote/contract):

Project Name: 3 Day
Requested Due Date: 3 Day

Copy To:

Section C

Project Manager: Scott Unze

Profile #:

Requested Analytic:

Requested Analytic: 1613 - PCOL/DR
(3 - Rings Lead)

Requested Analytic: 1613 - PCOL/DR
(3 - Rings Lead)

Requested Analytic: 1613 - PCOL/DR
(3 - Rings Lead)

ITEM #	Section D	Required Client Information:	Matrix Code	DATE COLLECTED		TIME COLLECTED	Containers	Preservatives						Remarks / Lab ID	
				mm/dd/yy	hr/mm/amp			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ SO ₄		Methanol
1	10B09B1-01		WT	08/21/05	08:21	1X									
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

SAMPLE CONDITION

Temp in °C: 3.1

Received on Ice: Y/N

Sealed Cooler: Y/N

Samples Intact: Y/N

REGULATORY AGENCY

NC SC GA Other

MPDES GROUND WATER DRINKING WATER

UST RCRA Other

SAMPLE NOTES

Email to:

Scott. Unze @ pace-labs .com

RELEASING BY / AFFILIATION DATE TIME ACCEPTED BY / AFFILIATION DATE TIME

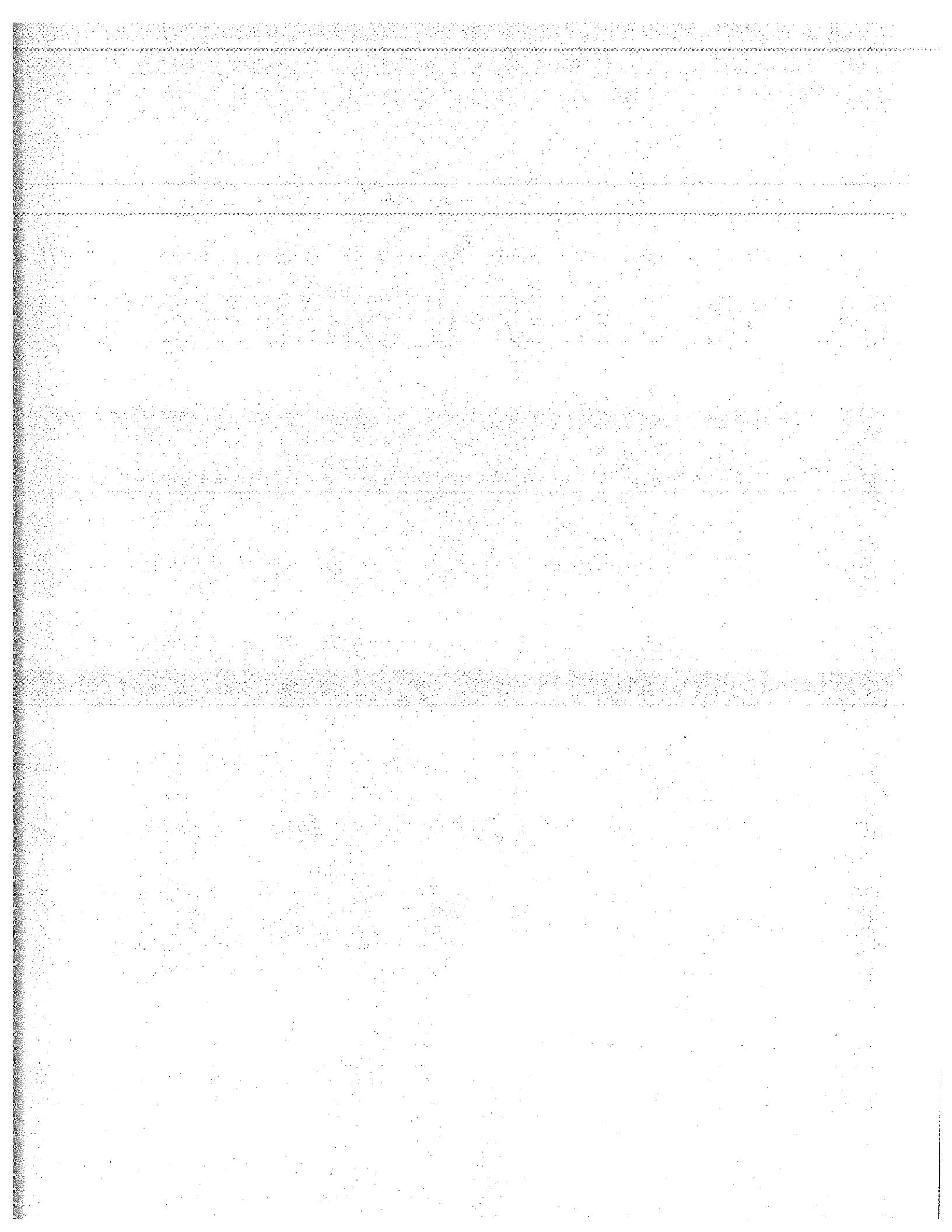
Scott. Unze / Pace Labs 08/21/05 15:25 Ben Padon 3:15 PM Pace

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: _____

SIGNATURE of SAMPLER: _____

DATE Signed: (MM/DD/YY) _____



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

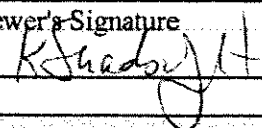
AMEC Earth & Environmental
 550 South Wadsworth Boulevard
 Suite 500
 Lakewood, CO 80226

Package ID T711DF29
 Task Order 313150010
 SDG No. Multiple
 No. of Analyses 6

Laboratory Alta

Reviewer K. Shadowlight

Analysis/Method Dioxins

Date: March 9, 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., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications were assigned for the following: * EMPCs * Detects below the lower method calibration level * Diphenyl ether interference
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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 9, 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 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	IOB1560-01	25788-001	water	1613
Outfall 004	IOB1556-01	25786-001	water	1613
Outfall 005	IOB1557-01	25787-001	water	1613
Outfall 006	IOB1559-01	25784-001	water	1613
Outfall 009	IOB1574-01	25789-001	water	1613
Outfall 010	IOB1575-01	25785-001	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

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The samples were shipped to Alta for dioxin/furan analyses and were received below the temperature limits at 0.8°C and 1.6°C ; however, as none of the samples were noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheets, all samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs and transfer COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The coolers 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 summary report 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

There were two initial calibrations, analyzed 08/30/04 and 10/04/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6543-MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (6543-OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. Compounds flagged by the laboratory with a "D" qualifier indicated possible diphenylether interference and were qualified as estimated, "J." Any reported EMPC was qualified as an estimated nondetect, "UJ." Any detects below the lower method calibration level (MCL) were qualified as estimated, "J;" however, as Alta analyzed an additional calibration standard, not all results below the method calibration level were appropriately qualified by the laboratory. These results were qualified as estimated, "J," by the reviewer. No further qualifications were required.



Sample ID: IOB1556-01		EPA Method 1613						
Client Data		Laboratory Data						
Name: Del Mar Analytical, Irvine	Lab Sample: 25786-001	Date Received: 24-Feb-05						
Project: IOB1556	QC Batch No.: 6543	Date Extracted: 25-Feb-05						
Date Collected: 18-Feb-05	Date Analyzed DB-5: 1-Mar-05	Date Analyzed DB-225: NA						
Time Collected: 1120								
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.86			IS 13C-2,3,7,8-TCDD	58.8	25 - 164	
1,2,3,7,8-PeCDD	ND	1.38			13C-1,2,3,7,8-PeCDD	55.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	4.25			13C-1,2,3,4,7,8-HxCDD	58.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	4.14			13C-1,2,3,6,7,8-HxCDD	63.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	4.18			13C-1,2,3,4,6,7,8-HpCDD	57.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	22.6			J	13C-OCDD	48.6	17 - 157	
OCDD	262				13C-2,3,7,8-TCDF	61.7	24 - 169	
2,3,7,8-TCDF	ND	1.65			13C-1,2,3,7,8-PeCDF	50.9	24 - 185	
1,2,3,7,8-PeCDF	ND	2.94			13C-2,3,4,7,8-PeCDF	53.7	21 - 178	
2,3,4,7,8-PeCDF	ND	2.70			13C-1,2,3,4,7,8-HxCDF	53.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	1.94			13C-1,2,3,6,7,8-HxCDF	60.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	1.86			13C-2,3,4,6,7,8-HxCDF	60.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	2.11			13C-1,2,3,7,8,9-HxCDF	57.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	3.16			13C-1,2,3,4,6,7,8-HpCDF	57.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	4.20			J	13C-1,2,3,4,7,8,9-HpCDF	58.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	2.86			13C-OCDF	54.2	17 - 157	
OCDF	ND		8.06		CRS 37Cl-2,3,7,8-TCDD	81.4	35 - 197	
Totals								
Total TCDD	ND	1.86						
Total PeCDD	ND	1.38						
Total HxCDD	ND	4.18						
Total HpCDD	42.4							
Total TCDF	ND	1.65						
Total PeCDF	ND	2.81						
Total HxCDF	ND	2.21						
Total HpCDF	11.1							
Footnotes								
a. Sample specific estimated detection limit.								
b. Estimated maximum possible concentration.								
c. Method detection limit.								
d. Lower control limit - upper control limit.								

Analyst: JMH
 Approved By: William J. Luksemburg 02-Mar-2005 08:43

AMEC VALIDATED

LEVEL IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711MT55
 Task Order 313150010
 SDG No. IOB1556

No. of Analyses 1

Laboratory Del Mar

Reviewer P. Meeks

Analysis/Method Metals

Date: <u>03/28/05</u>
Reviewer's Signature <i>P. Meeks</i>

ACTION ITEMS*

- | | |
|---------------------------------|--|
| 1. Case Narrative | |
| Deficiencies | |
| 2. Out of Scope | |
| Analyses | |
| 3. Analyses Not | |
| Conducted | |
| 4. Missing Hardcopy | |
| Deliverables | |
| 5. Incorrect Hardcopy | |
| Deliverables | |
| 6. Deviations from | Qualifications applied for: |
| Analysis Protocol, e.g., | 1. Detects below the reporting limit. |
| Holding Times | 2. Negative results and detects in the blanks. |
| GC/MS Tune/Inst. | 3. Reporting limit check standard recovery outliers |
| 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 VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: METALS

SAMPLE DELIVERY GROUP: IOB1556

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#: IOB1556
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 28, 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 6010B for Inductively Coupled Plasma*, 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.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB1556
Analysis: MET

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
Outfall 004	Outfall 004	IOB1556-01	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 sample in this SDG was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. A duplicate samples was submitted for Outfall 004; however, duplicate analyses were not required. No sample qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data, documented that the sample analyses were performed within the specified holding times of six months for the ICP and ICP/MS metals. 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. Arsenic and silver were recovered below the control limit in the ICP reporting limit check standard at 61% and 51%, respectively; therefore, nondetected arsenic and silver in Outfall 004 were qualified as estimated, "UJ." Aluminum was recovered above the limit in the ICP reporting limit check standard; however, as aluminum was detected in Outfall 004, at $\geq 3 \times \text{RL}$, no qualifications were required. The remaining reporting limit check standards were recovered within the AMEC control limits of 70-130%. No further sample qualifications were required.

2.4 BLANKS

Selenium was reported in a bracketing CCB at -0.0095 mg/L; therefore, nondetected selenium in Outfall 004 was qualified as estimated, "UJ." Zinc was detected in method blank 5B24093-BLK1 at 0.0078 mg/L; therefore, zinc detected in Outfall 004 was qualified as estimated, "UJ." 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 lead was not spiked into the ICSAB solution. The results for sodium and potassium were above the calibration range of the instrument in all the ICSA and ICSAB analyses, and aluminum was recovered below the control limit at 78% and above the calibration range in the ICSAB analyses; however, as these analytes were not reported in the site samples, no qualifications were required. 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 level 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, and chloride.

ICSA and ICSAB analyses were included in the raw data for the ICP analyses, but were not run on the days the site sample was analyzed. The recoveries for the interferents and the other spiked analytes were within the control limits of 80-120%. In the ICSA analysis there was a negative result for chromium that greater than the absolute value of the reporting limit. The validator reviewed the raw data for the site sample ICP analyses for the level of reported interferents, Al, Ca, Fe, and Mg, and determined that the level of reported interferents were not high enough to cause matrix affects. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS sample was identified as 5B24099-BS1 and the ICP LCS sample was identified as 5B24093-BS2. The LCS results on the summary forms and in the raw data were within the laboratory-established ICP and ICP/MS control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKE

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

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of this sample; 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 sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.11 INTERNAL STANDARDS PERFORMANCE

The ICP-MS internal standard recoveries for the site sample 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 sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Analytes detected below the reporting limit were qualified as estimated, "J." No further qualifications were required.

2.13 FIELD QC SAMPLES

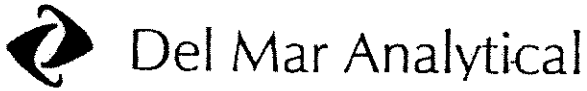
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.13.1 Field Blanks and Equipment Rinsates

The sample in this SDG 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 sample.



17461 Dorian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Rev Qual	Qual Code
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water) - cont.										
Reporting Units: ug/l										
Aluminum	EPA 200.7	5B24093	47	50	350	1	02/24/05	02/26/05		
Lead	EPA 200.8	5B24099	0.13	1.0	0.35	1	02/24/05	02/25/05	J	J DNG
Vanadium	EPA 200.7	5B24093	1.4	10	2.3	1	02/24/05	02/25/05	J	J DNG

**LEVEL IV
 AMEC VALIDATED**

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 370-1056
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9669
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Data Code
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water) - cont.										
Reporting Units: mg/l										
Arsenic	EPA 200.7	5B24093	0.0038	0.0050	ND	1	02/24/05	02/25/05	UJ	#3
Beryllium	EPA 200.7	5B24093	0.00062	0.0020	ND	1	02/24/05	02/25/05	U	
Chromium	EPA 200.7	5B24093	0.00068	0.0050	0.0012	1	02/24/05	02/25/05	J J	DN9
Nickel	EPA 200.7	5B24093	0.0020	0.010	ND	1	02/24/05	02/25/05	U	
Selenium	EPA 200.7	5B24093	0.0046	0.0050	ND	1	02/24/05	02/26/05	UJ	B
Silver	EPA 200.7	5B24093	0.0013	0.010	ND	1	02/24/05	02/26/05	UJ	#3
Zinc	EPA 200.7	5B24093	0.0037	0.020	0.0059	1	02/24/05	02/25/05	UJ B, J	B

LEVEL IV
AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: PESTICIDES/PCBs

SAMPLE DELIVERY GROUP: IOB1556

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#: IOB1556
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Pesticides/PCBs
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 30, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedures (DVP-4, Rev.2)*, *EPA Method 608*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the summary form 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	Method
Outfall 004	Outfall 004	IOB1556-01	water	608

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 cooler was received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The analysis did not require preservation, and no preservation was noted in the field. The COC noted that the samples were received intact. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 PESTICIDES INSTRUMENT PERFORMANCE

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

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

2.3 CALIBRATION

2.3.1 Analytical Sequence

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

2.3.2 Initial Calibration

There was one initial calibration dated 02/23/05 associated with the pesticide analysis of this SDG, which consisted of six point calibrations for all pesticide target compounds on two analytical columns. The %RSDs were within the EPA Method 608 QC limit of $\leq 10\%$ or the r^2 values were ≥ 0.995 on both analytical columns. There was one initial calibration dated 02/11/05 associated with the PCB analysis in this SDG which consisted of five points for Aroclor 1016 and Aroclor 1260. Single point calibrations for Aroclor 1242, Aroclor 1248, and Aroclor 1254 were also analyzed. The average %RSDs for the individual peaks of Aroclor 1016 and Aroclor 1260 were $\leq 10\%$ or the r^2 values were ≥ 0.995 on both analytical columns. An ICV was analyzed immediately following each of the initial calibrations. The %Ds for all target compounds were within the QC limits of 15% on both analytical columns. A representative number of %RSDs and ICV %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.3.3 Continuing Calibration

The continuing calibrations associated with sample Outfall 004 were bracketed by four continuing calibrations, two preceding and two following the analyses. The %Ds for heptachlor, endrin, and 4,4'-DDD exceeded 15% in both analytical columns (Channels A and B) in the calibration analyzed 02/23/05 (12:42 p.m.) and the %Ds for alpha-BHC, gamma-BHC, and 4,4'-DDE exceeded 15% on the primary column only (Channel A) in the calibration analyzed 02/23/05 (01:14 p.m.); therefore, the aforementioned target compounds were qualified as estimated, "UJ," in Outfall 004. Target compounds alpha-BHC, gamma-BHC, delta-BHC, 4,4'-DDT, and methoxychlor exceeded 15% on the confirmation column (Channel B); however, as all results were reported from Channel A (primary column), no further qualifications were applied to the pesticide analysis.

The remaining %Ds were within the Method QC limit of $\pm 15\%$ for the remaining calibrations. The PCB analysis for this SDG was bracketed by two CCVs and the %Ds for Aroclor 1016 and Aroclor 1260 were $\leq 15\%$. A representative number of %Ds were recalculated from the raw data and no transcription or calculation errors were noted.

No further qualifications were required.

2.4 BLANKS

2.4.1 Instrument Blanks

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

2.4.2 Method Blanks

One water method blank (5B22041-BLK1) was extracted and analyzed with this SDG. There were no pesticide target compounds or Aroclors detected in the method blank. Review of the chromatograms showed no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (5B22041-BS1/BSD1) was extracted and analyzed with this SDG. The recoveries for all spiked pesticide target compounds and Aroclors were within the laboratory-established QC limits and the RPDs were $\leq 30\%$. A representative number of recoveries were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.6 SURROGATE RECOVERY

The sample and all QC samples were fortified with the surrogate compounds decachlorobiphenyl and tetrachloro-m-xylene. Surrogate recoveries for the pesticide and PCB analyses of the samples were within the laboratory-established control limits. The recoveries were calculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses associated with this SDG. Method accuracy and precision were assessed based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 SAMPLE CLEANUP PERFORMANCE

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

2.9 FIELD QC SAMPLES

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

2.9.1 Field Blanks and Equipment Rinsates

There were no field QC samples associated with the samples in this SDG. No qualifications were required.

2.9.2 Field Duplicates

There were no field duplicate samples associated with the sample in this SDG.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for pesticide target compounds and PCBs by EPA Method 608. Compound identification is verified at a Level IV validation. Review of chromatograms and

retention times indicated no problems with compound identification for the samples in this SDG. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified for this SDG; however, as there were no detects reported in the sample, quantitation was verified by recalculating a representative number of blank spike and surrogate recoveries. Reporting limits were supported by the low level standard of the initial calibration and the laboratory MDL studies. The water reporting limits were not adjusted for sample amounts on the result summaries; however, the dilution factors listed on the summaries reflected the sample volumes extracted. Results were reported in ug/L (ppb). No qualifications were required.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3287
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1016
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8196 FAX (858) 505-9669
 5830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers		QUAL CODE
									REV	QUAL	
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water) - cont.											
Reporting Units: ug/l											
Aldrin	EPA 608	5B22041	0.030	0.10	ND	0.962	02/22/05	02/23/05	U		
alpha-BHC	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	U	U	C
beta-BHC	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	U		
delta-BHC	EPA 608	5B22041	0.020	0.20	ND	0.962	02/22/05	02/23/05	U		
gamma-BHC (Lindane)	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	U	U	C
Chlordane	EPA 608	5B22041	0.20	1.0	ND	0.962	02/22/05	02/23/05	U		
4,4'-DDD	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	U	U	C
4,4'-DDE	EPA 608	5B22041	0.020	0.10	ND	0.962	02/22/05	02/23/05	U	U	C
4,4'-DDT	EPA 608	5B22041	0.030	0.10	ND	0.962	02/22/05	02/23/05	U		
Dieldrin	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05			
Endosulfan I	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05			
Endosulfan II	EPA 608	5B22041	0.040	0.10	ND	0.962	02/22/05	02/23/05			
Endosulfan sulfate	EPA 608	5B22041	0.015	0.20	ND	0.962	02/22/05	02/23/05			
Endrin	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05			
Endrin aldehyde	EPA 608	5B22041	0.045	0.10	ND	0.962	02/22/05	02/23/05			
Endrin ketone	EPA 608	5B22041	0.020	0.10	ND	0.962	02/22/05	02/23/05			
Heptachlor	EPA 608	5B22041	0.030	0.10	ND	0.962	02/22/05	02/23/05			
Heptachlor epoxide	EPA 608	5B22041	0.020	0.10	ND	0.962	02/22/05	02/23/05			
Methoxychlor	EPA 608	5B22041	0.035	0.10	ND	0.962	02/22/05	02/23/05			
Toxaphene	EPA 608	5B22041	1.5	5.0	ND	0.962	02/22/05	02/23/05			
Surrogate: Tetrachloro-m-xylene (35-120%)											65 %
Surrogate: Decachlorobiphenyl (45-120%)											84 %

ANEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



17461 Dorian Ave., Suite 100, Irvine, CA 92614 (949) 261-7022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4657 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9330 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

DRAFT: TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									REV QUAL	QUAL CODE
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water) - cont.										
Reporting Units: ug/l										
Aroclor 1016	EPA 608	5B22041	0.20	1.0	ND	0.962	02/22/05	02/23/05	CC ↓	
Aroclor 1221	EPA 608	5B22041	0.10	1.0	ND	0.962	02/22/05	02/23/05		
Aroclor 1232	EPA 608	5B22041	0.15	1.0	ND	0.962	02/22/05	02/23/05		
Aroclor 1242	EPA 608	5B22041	0.15	1.0	ND	0.962	02/22/05	02/23/05		
Aroclor 1248	EPA 608	5B22041	0.25	1.0	ND	0.962	02/22/05	02/23/05		
Aroclor 1254	EPA 608	5B22041	0.25	1.0	ND	0.962	02/22/05	02/23/05		
Aroclor 1260	EPA 608	5B22041	0.40	1.0	ND	0.962	02/22/05	02/23/05		
Surrogate: Decachlorobiphenyl (45-120%)					75 %					

**AMEC VALIDATED
 LEVEL IV**

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. IOB1556 <Page 9 of 33>



DATA VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS:

IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576

Prepared by

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

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 004	IOB1556-01	8289-001	water	900.0, 905.0, 906.0
Outfall 005	IOB1557-01	8290-001	water	900.0, 905.0, 906.0
Outfall 006	IOB1559-01	8291-001	water	900.0, 905.0, 906.0
Outfall 018	IOB1570-01	8292-001	water	900.0, 905.0, 906.0
Outfall 003	IOB1571-01	8293-001	water	900.0, 905.0, 906.0
Outfall 003 Filtered	IOB1576-01	8294-001	water	900.0, 905.0, 906.0
Outfall 003 Unfiltered	IOB1576-02	8294-002	water	900.0, 905.0, 906.0
Outfall 003 Substrate	IOB1576-03	8295-001	solid	901.1

1. INTRODUCTION

Task Order Title: NPDES Monitoring
Contract Task Order #: 313150010
SDG#: IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 8
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 24, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0*, and validation procedures 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.

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4\pm 2^{\circ}\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition. All tritium samples were received unpreserved in glass containers. All gross alpha, gross beta, and strontium samples were preserved, except for the Outfall 003 samples in SDG IOB1556. Outfall 003 Filtered, was filtered by Eberline and then preserved. Outfall 003 Unfiltered was not preserved. According to the Los Angeles Water Quality Control Board (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel. The transfer COCs were signed by personnel from both laboratories, except for the COC listing Outfall 003 in SDG IOB1571, which was not signed as received by Eberline. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and preserved gross alpha, gross beta, and strontium samples were analyzed within 180 days of collection. The Outfall 003 Unfiltered gross alpha and gross beta samples were analyzed beyond the five day holding time for unpreserved samples; therefore, these gross alpha and gross beta results were qualified as estimated, "J." No further qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha and Gross Beta

The initial calibration included with the data was performed in February 2003. The detector efficiencies for Outfall 006, Outfall 018, Outfall 003, Outfall 003 Filtered, and Outfall 003 Unfiltered were less than 20%; therefore, these results were qualified as estimated, "UJ," for nondetects and, "J," for detects. The remaining detector efficiencies were above 20%.

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur.

Strontium-90

The initial calibrations were performed in June 1995. All strontium chemical yields were at least 80% and were considered acceptable. The strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

Cesium

The reviewer confirmed that the 662 KeV peak was used for quantitation, with a branch efficiency of 85%. No qualifications were necessary.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spikes (8294-002 and 8295-002) were analyzed in association with the samples in these SDGs. All blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analysis on Outfall 003 Filtered and Outfall 003 Substrate. All results were within the 3-sigma limits and all RPDs were $\leq 20\%$. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed matrix spike analyses on Outfall 003 Unfiltered for gross alpha, gross beta, and tritium. The recovery for gross alpha was above 3-sigma; however, as the recovery of 118% was considered acceptable, no qualifications were required. The remaining recoveries were within the 3-sigma limits. No qualifications were necessary.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these data packages. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

DATA VALIDATION REPORT

Project: NPDES
SDG No.: Multiple
Analysis: RAD

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8289</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502210-01</u>	Contract <u>PROJECT# 1081556</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
Outfall 004 1081556-01	8289-001	02/18/05	03/08/05	GrossAlpha	0.309 ± 0.49	pCi/L	0.796	U		
			03/08/05	Gross Beta	2.21 ± 1.2	pCi/L	1.76			
			03/12/05	H3	0 ± 150	pCi/L	257	U		
			03/12/05	Sr90	0.333 ± 0.22	pCi/L	0.285			

mm 3/24/05

AMEC VALIDATED

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/15/05</u>
Page 1


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711SV34
 Task Order 313150010
 SDG No. IOB1556

No. of Analyses 1

Laboratory Del Mar
 Reviewer M. Pokorny
 Analysis/Method Semivolatiles

Date: March 30, 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	Qualifications were required for calibration, LCS, and internal standard outliers.
Protocol, e.g.,	
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: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IOB1556

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#: IOB1556
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: M. Pokorny
Date of Review: March 30, 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 Semivolatile Organics (DVP-3, Rev. 2)*, *EPA Method 625*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 004	Outfall 004	IOB1556-01	water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C, at 2°C. The analysis did not require preservation, and no preservation was noted in the field. The COC noted that the sample was received intact. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 GC/MS TUNING

The DFTPP tunes met the criteria specified in Method 625, and the sample was analyzed within 12 hours of the DFTPP injection time. No qualifications were required.

2.3 CALIBRATION

The initial calibration associated with this SDG was dated 02/25/05. The average RRFs for were ≥0.05 and the %RSDs were ≤35% or $r^2 \geq 0.995$ for all target compounds except for the r^2 benzoic acid. Benzoic acid was qualified as an estimated nondetect, "UJ," in the sample of this SDG. A representative number of average RRFs and %RSDs were checked from the raw data, and no calculation or transcription errors were noted. The continuing calibration associated with the sample analysis was analyzed 02/25/05. The RRFs for all target compounds were ≥0.05, and the %Ds were ≤20%, except for the %Ds for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. 2,4-Dinitrophenol and 4,6-dinitro-2-methylphenol were qualified as estimated nondetects, "UJ," in the sample of this SDG. A representative number of RRFs and %Ds were checked from the raw data, and no calculation or transcription errors were noted. No further qualifications were required.

2.4 BLANKS

One method blank (5B22043-BLK1) was extracted and analyzed with this SDG. No target compounds were reported in the method blank. Review of the raw data indicated no reportable false negatives or false positives.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/ blank spike duplicate pair (5B22043-BS1/BSD1) was extracted and analyzed with this SDG. For blank spike/blank spike duplicate pairs, qualifications are applied, if necessary, to the associated samples based on those recoveries consistently outside of the laboratory-established QC limits in both the blank spike and blank spike duplicate. Results for those compounds with recoveries not consistent within the pair, with RPDs above the QC limit, are qualified as estimated, "UJ," for nondetects, and "J," for detects, in the associated samples. All percent recoveries and RPDs were within the laboratory QC limits except for benzidine. Benzidine was not recovered in the BSD and its RPD exceeded the control limit. The sample of this SDG had benzidine qualified as an estimated nondetect, "UJ." A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No further qualifications were required.

2.6 SURROGATE RECOVERY

The sample surrogate recoveries were within the laboratory QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were associated with this SDG. Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

There were no field QC samples associated with this SDG. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples associated with this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ± 30 seconds for retention times except for the area count below the QC limits for perylene-d12. The target compounds associated with perylene-d12 were qualified as estimated nondetects, "UJ,"

in the sample of this SDG. A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low level of the initial and the method detection limit study. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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

2.13 SYSTEM PERFORMANCE

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



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3287
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 803, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9669
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0831
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

DRAFT: 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	
									REV QUAL	QUAL CODE
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water)										
Reporting Units: ug/l										
Acenaphthene	EPA 625	5B22043	4.3	10	ND	0.966	02/22/05	02/25/05	U	
Acenaphthylene	EPA 625	5B22043	3.2	10	ND	0.966	02/22/05	02/25/05	U	
Aniline	EPA 625	5B22043	2.9	10	ND	0.966	02/22/05	02/25/05	U	
Anthracene	EPA 625	5B22043	3.2	10	ND	0.966	02/22/05	02/25/05	U	
Benzidine	EPA 625	5B22043	5.2	20	ND	0.966	02/22/05	02/25/05	U	
Benzoic acid	EPA 625	5B22043	2.6	20	ND	0.966	02/22/05	02/25/05	U	
Benzo(a)anthracene	EPA 625	5B22043	3.7	10	ND	0.966	02/22/05	02/25/05	U	
Benzo(b)fluoranthene	EPA 625	5B22043	2.7	10	ND	0.966	02/22/05	02/25/05	U	
Benzo(k)fluoranthene	EPA 625	5B22043	3.4	10	ND	0.966	02/22/05	02/25/05	U	
Benzo(g,h,i)perylene	EPA 625	5B22043	5.3	10	ND	0.966	02/22/05	02/25/05	U	
Benzo(a)pyrene	EPA 625	5B22043	3.5	10	ND	0.966	02/22/05	02/25/05	U	
Benzyl alcohol	EPA 625	5B22043	2.5	20	ND	0.966	02/22/05	02/25/05	U	
Bis(2-chloroethoxy)methane	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05	U	
Bis(2-chloroethyl)ether	EPA 625	5B22043	4.4	10	ND	0.966	02/22/05	02/25/05	U	
Bis(2-chloroisopropyl)ether	EPA 625	5B22043	4.6	10	ND	0.966	02/22/05	02/25/05	U	
Bis(2-ethylhexyl)phthalate	EPA 625	5B22043	5.2	50	ND	0.966	02/22/05	02/25/05	U	
4-Bromophenyl phenyl ether	EPA 625	5B22043	4.6	10	ND	0.966	02/22/05	02/25/05	U	
Butyl benzyl phthalate	EPA 625	5B22043	3.5	20	ND	0.966	02/22/05	02/25/05	U	
4-Chloroaniline	EPA 625	5B22043	6.0	10	ND	0.966	02/22/05	02/25/05	U	
2-Chloronaphthalene	EPA 625	5B22043	4.0	10	ND	0.966	02/22/05	02/25/05	U	
4-Chloro-3-methylphenol	EPA 625	5B22043	3.5	20	ND	0.966	02/22/05	02/25/05	U	
2-Chlorophenol	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	U	
4-Chlorophenyl phenyl ether	EPA 625	5B22043	3.0	10	ND	0.966	02/22/05	02/25/05	U	
Chrysene	EPA 625	5B22043	2.8	10	ND	0.966	02/22/05	02/25/05	U	
Dibenz(a,h)anthracene	EPA 625	5B22043	4.7	20	ND	0.966	02/22/05	02/25/05	U	
Dibenzofuran	EPA 625	5B22043	2.6	10	ND	0.966	02/22/05	02/25/05	U	
Di-n-butyl phthalate	EPA 625	5B22043	2.8	20	ND	0.966	02/22/05	02/25/05	U	
1,3-Dichlorobenzene	EPA 625	5B22043	4.1	10	ND	0.966	02/22/05	02/25/05	U	
1,4-Dichlorobenzene	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05	U	
1,2-Dichlorobenzene	EPA 625	5B22043	4.5	10	ND	0.966	02/22/05	02/25/05	U	
3,3-Dichlorobenzidine	EPA 625	5B22043	11	20	ND	0.966	02/22/05	02/25/05	U	
2,4-Dichlorophenol	EPA 625	5B22043	4.1	10	ND	0.966	02/22/05	02/25/05	U	
Diethyl phthalate	EPA 625	5B22043	3.1	10	ND	0.966	02/22/05	02/25/05	U	
2,4-Dimethylphenol	EPA 625	5B22043	4.4	20	ND	0.966	02/22/05	02/25/05	U	
Dimethyl phthalate	EPA 625	5B22043	3.6	10	ND	0.966	02/22/05	02/25/05	U	
4,6-Dinitro-2-methylphenol	EPA 625	5B22043	5.1	20	ND	0.966	02/22/05	02/25/05	U	
2,4-Dinitrophenol	EPA 625	5B22043	5.3	20	ND	0.966	02/22/05	02/25/05	U	
2,4-Dinitrotoluene	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	U	
2,6-Dinitrotoluene	EPA 625	5B22043	3.2	10	ND	0.966	02/22/05	02/25/05	U	
Di-n-octyl phthalate	EPA 625	5B22043	4.7	20	ND	0.966	02/22/05	02/25/05	U	
Fluoranthene	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	U	

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1556 <Page 6 of 33>

AMEC VALIDATED



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: 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	QUAL CODE
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water) - cont.										
Reporting Units: ug/l										
Fluorene	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05	U	
Hexachlorobenzene	EPA 625	5B22043	4.8	10	ND	0.966	02/22/05	02/25/05		
Hexachlorobutadiene	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05		
Hexachlorocyclopentadiene	EPA 625	5B22043	3.4	20	ND	0.966	02/22/05	02/25/05		
Hexachloroethane	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05		
Indeno(1,2,3-cd)pyrene	EPA 625	5B22043	5.4	20	ND	0.966	02/22/05	02/25/05		
Isophorone	EPA 625	5B22043	3.7	10	ND	0.966	02/22/05	02/25/05		
2-Methylnaphthalene	EPA 625	5B22043	3.0	10	ND	0.966	02/22/05	02/25/05		
2-Methylphenol	EPA 625	5B22043	3.7	10	ND	0.966	02/22/05	02/25/05		
4-Methylphenol	EPA 625	5B22043	3.8	10	ND	0.966	02/22/05	02/25/05		
Naphthalene	EPA 625	5B22043	4.5	10	ND	0.966	02/22/05	02/25/05		
2-Nitroaniline	EPA 625	5B22043	3.9	20	ND	0.966	02/22/05	02/25/05		
3-Nitroaniline	EPA 625	5B22043	4.5	20	ND	0.966	02/22/05	02/25/05		
4-Nitroaniline	EPA 625	5B22043	4.9	20	ND	0.966	02/22/05	02/25/05		
Nitrobenzene	EPA 625	5B22043	4.2	20	ND	0.966	02/22/05	02/25/05		
2-Nitrophenol	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05		
4-Nitrophenol	EPA 625	5B22043	6.6	20	ND	0.966	02/22/05	02/25/05		
N-Nitrosodiphenylamine	EPA 625	5B22043	4.0	10	ND	0.966	02/22/05	02/25/05		
N-Nitroso-di-n-propylamine	EPA 625	5B22043	3.6	10	ND	0.966	02/22/05	02/25/05		
Pentachlorophenol	EPA 625	5B22043	4.0	20	ND	0.966	02/22/05	02/25/05		
Phenanthrene	EPA 625	5B22043	3.3	10	ND	0.966	02/22/05	02/25/05		
Phenol	EPA 625	5B22043	4.0	10	ND	0.966	02/22/05	02/25/05		
Pyrene	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05		
1,2,4-Trichlorobenzene	EPA 625	5B22043	4.4	10	ND	0.966	02/22/05	02/25/05		
2,4,5-Trichlorophenol	EPA 625	5B22043	3.6	20	ND	0.966	02/22/05	02/25/05		
2,4,6-Trichlorophenol	EPA 625	5B22043	4.1	20	ND	0.966	02/22/05	02/25/05		
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B22043	5.0	20	ND	0.966	02/22/05	02/25/05		
N-Nitrosodimethylamine	EPA 625	5B22043	3.7	20	ND	0.966	02/22/05	02/25/05		
Surrogate: 2-Fluorophenol (35-120%)					68 %					
Surrogate: Phenol-d6 (45-120%)					75 %					
Surrogate: 2,4,6-Tribromophenol (50-125%)					84 %					
Surrogate: Nitrobenzene-d5 (45-120%)					76 %					
Surrogate: 2-Fluorobiphenyl (45-120%)					80 %					
Surrogate: Terphenyl-d14 (45-135%)					115 %					

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1556 <Page 7 of 33>

AMEC VALIDATED

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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


Package ID T711VO64
 Task Order 313150010
 SDG No. IOB1556

No. of Analyses 2

Laboratory Del Mar

Reviewer M. Pokorny

Analysis/Method Volatiles

Date: March 31, 2005
 Reviewer's Signature


ACTION ITEMS*	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Perform Calibrations Blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification and Quantitation System Performance	Qualifications required for calibration outlier and trip blank contamination.
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 GROUP: IOB1556

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#: IOB1556
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: M. Pokorny
Date of Review: April 1, 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*, *EPA SW-846 Method 8260B*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the 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 004	Outfall 004	IOB1556-01	water	624
Trip Blank	Trip Blank	IOB1556-02	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 this SDG 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 this SDG. 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 the EPA Method 624 and SW-846 Method 8260B, and all ion abundances were within the established windows. The samples and associated QC were analyzed within 12 hours of the BFB injection times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

Two initial calibrations dated 11/03/04 (acrolein, acrylonitrile, and Freon 113 only) and 02/07/05 were associated with this SDG. The average RRFs were ≥ 0.05 for all compounds listed on the sample result summaries except for the RRF for acrolein. Acrolein was rejected, "R," in both of the samples. The %RSDs were $\leq 35\%$ for the target compounds analyzed by EPA Method 624, and the %RSD for trichlorotrifluoroethane (Freon 113) analyzed by EPA SW-846 Method 8260B was $\leq 15\%$. Two continuing calibrations associated with the sample analyses were analyzed 02/19/05 (09:11 and 09:42). The RRFs were ≥ 0.05 in all of the continuing calibrations, except for the RRF for acrolein. Acrolein was rejected, "R," in both of the samples of this SDG. The %D for acrolein exceeded 20% in the continuing calibration, but was already rejected and not further qualified. No qualifications were required for the Trip blank. The %Ds were $\leq 20\%$ for the remaining target compounds listed on the result summaries except for the %D for 1,1,1-trichloroethane. 1,1,1-Trichloroethane was qualified as an estimated nondetect in sample Outfall 004. A representative number of %RSDs and average RRFs from the initial calibrations, and %Ds

and RRFs from the continuing calibrations were recalculated from the raw data, and no calculation or transcription errors were found. No further qualifications were required.

2.4 BLANKS

One water method blank (5B19020-BLK1) was 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

One water blank spike (5B19020-BS1) was 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 Outfall004 was the MS/MSD analyses performed with the samples of this SDG. All percent recoveries 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

Sample Trip Blank was the trip blank associated with this SDG. Methylene chloride was reported in the trip blank at 1.3ug/L, and was qualified as a nondetect, "U," in sample Outfall 004. No further qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field QC samples associated with this SDG. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples associated with this SDG. No qualifications were required.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples in this SDG were within the control limits established by the continuing calibration standards, of +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 the 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 standards and by the MDL study. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in $\mu\text{g/L}$ (ppb). No calculation or transcription errors were noted. Target compound detects below the reporting limits were qualified as estimated, "J," by the laboratory. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

The laboratory did not provide TICs for this SDG. 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.



17461 Denian 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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9530 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 783-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev	Qual	Cost
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water)												
Reporting Units: ug/l												
Acrolein	EPA 624	5B19020	4.5	50	ND	1	02/19/05	02/19/05		R	R	
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05		U		
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05		U		
Surrogate: Dibromofluoromethane (80-120%)					98 %							
Surrogate: Toluene-d8 (80-120%)					103 %							
Surrogate: 4-Bromofluorobenzene (80-120%)					98 %							
Sample ID: IOB1556-02 (DRAFT: Trip Blanks - Water)												
Reporting Units: ug/l												
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05		R	R	
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05		U		
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05		U		
Surrogate: Dibromofluoromethane (80-120%)					98 %							
Surrogate: Toluene-d8 (80-120%)					102 %							
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %							

Rev Qual Cost

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1556 <Page 5 of 33>

LEVEL IV



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 360-3257
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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. Sunrise Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Qual Code
Sample ID: IOB1556-02 (DRAFT: Trip Blanks - Water)										
Reporting Units: ug/l										
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05		
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05		
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05		
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05		
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05		
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05		
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05		
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05		
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05		
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05		
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05		
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05		
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05		
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05		
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05		
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05		
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05		
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05		
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05		
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05		
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05		
Methylene chloride	EPA 624	5B19020	0.48	5.0	1.3	1	02/19/05	02/19/05	J	J DNQ
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05		
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05		
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05		
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05		
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05		
Trichloroethene	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05		
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05		
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05		
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05		
Surrogate: Dibromofluoromethane (80-120%)					98 %					
Surrogate: Toluene-d8 (80-120%)					102 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %					

Qual Code

U
↓
J
↓

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced except in full, without written permission from Del Mar Analytical. IOB1556 <Page 4 of 33>

LEVEL IV



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 361-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8536 FAX (658) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0831
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Lead Analyst	Lead Code
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water)											
Reporting Units: ug/l											
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05			
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05			
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05			
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05			
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05			
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05			
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05			
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05			
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05			
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05			
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05			
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05			
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05			
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05			
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05			
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05			
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05			
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05			
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05			
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05			
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05			
Methylene chloride	EPA 624	5B19020	0.48	5.0	0.05	1	02/19/05	02/19/05	U J		DNR T
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05			
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05			
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05			
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	0.76	1	02/19/05	02/19/05	J		DNR C
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05			
Trichloroethene	EPA 624	5B19020	0.26	2.0	0.66	1	02/19/05	02/19/05	J		DNR
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05			
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05			
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05			
Surrogate: Dibromofluoromethane (80-120%)					98 %						
Surrogate: Toluene-d8 (80-120%)					103 %						
Surrogate: 4-Bromofluorobenzene (80-120%)					98 %						

Lead Analyst
Lead Code

U

U J

U U U

J U J

J J

U U

U U

U U

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1556 <Page 3 of 33>
 MF 3-31-05

10/10/05 IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711WC91
Task Order 313150010
SDG No. IOB1556

No. of Analyses 1
Date: 03/28/05
Reviewer's Signature
L. Jarusewicz

Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

ACTION ITEMS*

1. Case Narrative
Deficiencies

2. Out of Scope
Analyses

3. Analyses Not
Conducted

4. Missing Hardcopy
Deliverables

5. Incorrect Hardcopy
Deliverables

6. Deviations from Analysis Protocol, e.g., The reviewer changed the cyanide MDL on the Form I due to reported negative MB results.

- Holding Times
- 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

* 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: GENERAL MINERALS
SAMPLE DELIVERY GROUP: IOB1556

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 #: IOB1556
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
Reviewer: L. Jarusewic
Date of Review: March 28, 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 335.2 and 160.1*, 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 004	Outfall 004	IOB1556-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analyses and sample presented in this SDG. No information was provided on whether the samples were received intact. No qualifications were required.

2.1.3 Holding Times

The holding times were assessed by comparing the dates of collection with the dates of analyses. The 14-day analytical holding time for cyanide and the seven-day holding time for total suspended solids were met. No qualifications were required.

2.2 CALIBRATION

For the cyanide analysis, the initial calibration correlation coefficient was ≥ 0.995 . The initial and continuing calibration verification information was acceptable with %Rs within the control limits of 90-110%. The total cyanide reporting limit check standard was recovered within the control limits of 70-130%. Calibration is not applicable to total suspended solids. No qualifications were required.

2.3 BLANKS

The total suspended solids method blank result reported on the summary form and in the raw data for blank analysis associated with the sample was a nondetect at the reporting limit. The total cyanide method blank (5B22061-BLK1) was reported at -0.0039 mg/L; therefore, nondetected cyanide in Outfall 004 was qualified as estimated, "UJ." No further qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

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

2.5 SURROGATES RECOVERY

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

2.6 LABORATORY DUPLICATES

No MS/MSD analyses were 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

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

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 was verified against the raw data. Cyanide in Outfall 004 was reported in the raw data at -0.0033 mg/L and the method blank associated with Outfall 004 was reported at -0.0039 mg/L. Due to these negative results, the reviewer raised the MDL on the Form I to the level of interference. No transcription errors or calculation errors were noted. No 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 sample in this SDG had no associated field QC samples. No qualifications were required.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: IOB1556
Analysis: General Minerals

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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 (949) 370-10-6
 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) 785-0543 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3220 FAX (702) 798-3621

MWH-Pasadena/Boeing Project ID: Annual Outfall 004
 300 North Lake Avenue, Suite 1200
 Pasadena, CA 91101 Report Number: IOB1556
 Attention: Bronwyn Kelly Sampled: 02/18/05
 Received: 02/18/05

DRAFT: INORGANICS

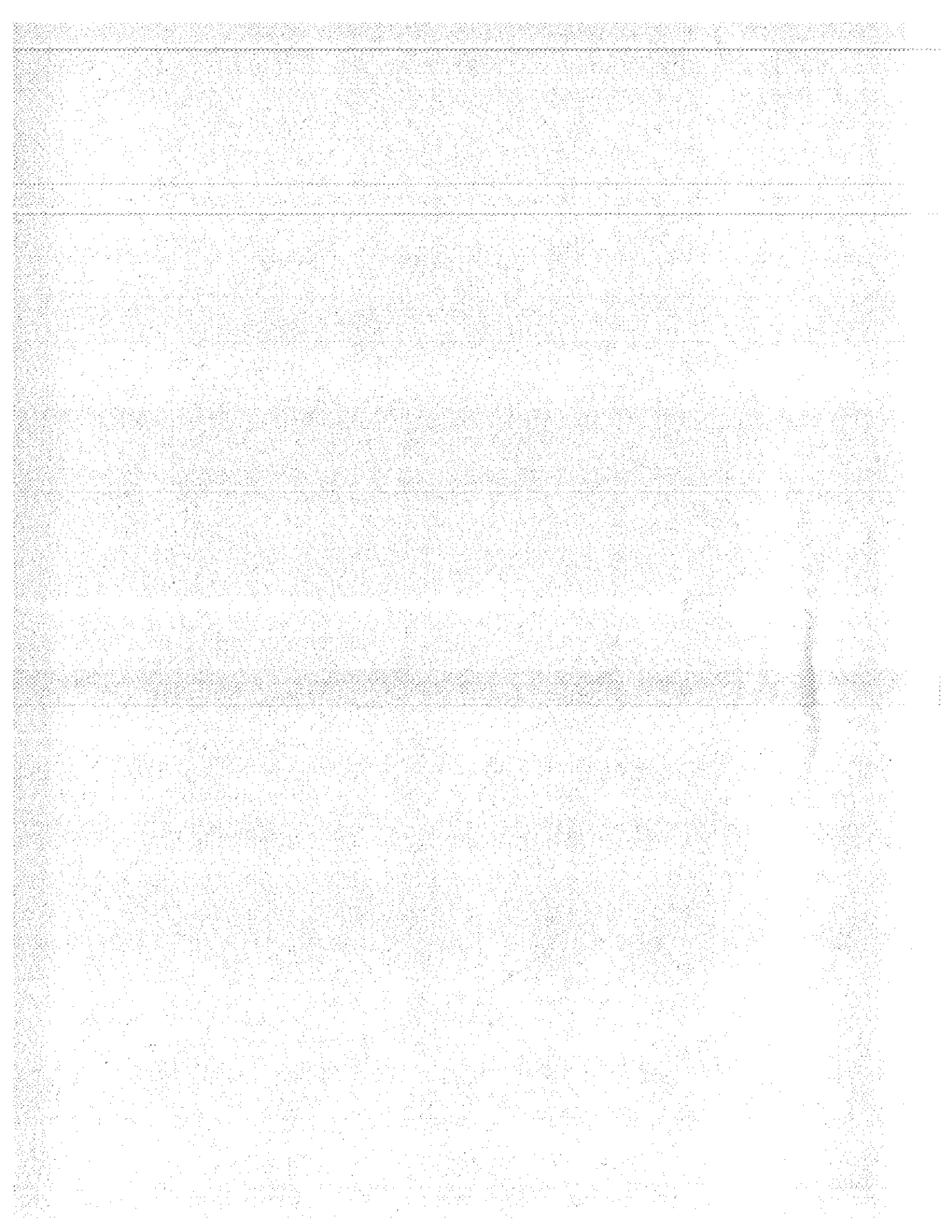
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1556-01 (DRAFT: Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Total Cyanide	EPA 335.2	5B22061	0.0039	0.0050	ND	1	02/22/05	02/22/05	UT
Total Suspended Solids	EPA 160.2	5B23109	10	10	ND	1	02/23/05	02/23/05	U

4/28/05

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE





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 (949) 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

LABORATORY REPORT

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

Project: Annual Outfall 004

Sampled: 02/18/05
 Received: 02/18/05
 Issued: 03/28/05 09:56

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IOB1556-01	Outfall 004	Water
IOB1556-02	Trip Blanks	Water

Reviewed By:

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

CORRECTIVE ACTION REPORT

Department: Extractions

Date: 02/28/2005

Method: EPA 625

Matrix: Water

QC Batch: 5B22043

Identification and Definition of Problem:

The percent recovery for benzidine in the BSD was below method acceptance limits.

Determination of the Cause of the Problem:

Benzidine is known to be a problematic compound. According to the EPA, it can be subject to oxidative losses during solvent extraction and its chromatographic behavior is poor.

Corrective Action Taken:

The percent recovery in the BS was within the acceptance limits. All results reported for benzidine are potentially biased low and can be considered estimates only.

Quality Assurance Approval:

Rima Angkasa

Date: 03/02/2005 08:43 AM

Del Mar Analytical, Irvine
Wendy Kirkeeng For Michele Harper
Project Manager



Del Mar Analytical

17461 Derran 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

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: IOB1556-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)					98 %				
Surrogate: Toluene-d8 (80-120%)					103 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					98 %				
Sample ID: IOB1556-02 (Trip Blanks - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)					98 %				
Surrogate: Toluene-d8 (80-120%)					102 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

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: IOB1556-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	
Methylene chloride	EPA 624	5B19020	0.48	5.0	0.95	1	02/19/05	02/19/05	J
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	0.76	1	02/19/05	02/19/05	J
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichloroethene	EPA 624	5B19020	0.26	2.0	0.66	1	02/19/05	02/19/05	J
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)					98 %				
Surrogate: Toluene-d8 (80-120%)					103 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					98 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



Del Mar Analytical

17461 Darian 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1556-02 (Trip Blanks - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	
Methylene chloride	EPA 624	5B19020	0.48	5.0	1.3	1	02/19/05	02/19/05	J
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichloroethene	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05	
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)					98 %				
Surrogate: Toluene-d8 (80-120%)					102 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					97 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1556-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	5B22043	4.3	10	ND	0.966	02/22/05	02/25/05	
Acenaphthylene	EPA 625	5B22043	3.2	10	ND	0.966	02/22/05	02/25/05	
Aniline	EPA 625	5B22043	2.9	10	ND	0.966	02/22/05	02/25/05	
Anthracene	EPA 625	5B22043	3.2	10	ND	0.966	02/22/05	02/25/05	
Benzidine	EPA 625	5B22043	5.2	20	ND	0.966	02/22/05	02/25/05	L2
Benzoic acid	EPA 625	5B22043	2.6	20	ND	0.966	02/22/05	02/25/05	
Benzo(a)anthracene	EPA 625	5B22043	3.7	10	ND	0.966	02/22/05	02/25/05	
Benzo(b)fluoranthene	EPA 625	5B22043	2.7	10	ND	0.966	02/22/05	02/25/05	
Benzo(k)fluoranthene	EPA 625	5B22043	3.4	10	ND	0.966	02/22/05	02/25/05	
Benzo(g,h,i)perylene	EPA 625	5B22043	5.3	10	ND	0.966	02/22/05	02/25/05	
Benzo(a)pyrene	EPA 625	5B22043	3.5	10	ND	0.966	02/22/05	02/25/05	
Benzyl alcohol	EPA 625	5B22043	2.5	20	ND	0.966	02/22/05	02/25/05	
Bis(2-chloroethoxy)methane	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05	
Bis(2-chloroethyl)ether	EPA 625	5B22043	4.4	10	ND	0.966	02/22/05	02/25/05	
Bis(2-chloroisopropyl)ether	EPA 625	5B22043	4.6	10	ND	0.966	02/22/05	02/25/05	
Bis(2-ethylhexyl)phthalate	EPA 625	5B22043	5.2	50	ND	0.966	02/22/05	02/25/05	
4-Bromophenyl phenyl ether	EPA 625	5B22043	4.6	10	ND	0.966	02/22/05	02/25/05	
Butyl benzyl phthalate	EPA 625	5B22043	3.5	20	ND	0.966	02/22/05	02/25/05	
4-Chloroaniline	EPA 625	5B22043	6.0	10	ND	0.966	02/22/05	02/25/05	
2-Chloronaphthalene	EPA 625	5B22043	4.0	10	ND	0.966	02/22/05	02/25/05	
4-Chloro-3-methylphenol	EPA 625	5B22043	3.5	20	ND	0.966	02/22/05	02/25/05	
2-Chlorophenol	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	
4-Chlorophenyl phenyl ether	EPA 625	5B22043	3.0	10	ND	0.966	02/22/05	02/25/05	
Chrysene	EPA 625	5B22043	2.8	10	ND	0.966	02/22/05	02/25/05	
Dibenz(a,h)anthracene	EPA 625	5B22043	4.7	20	ND	0.966	02/22/05	02/25/05	
Dibenzofuran	EPA 625	5B22043	2.6	10	ND	0.966	02/22/05	02/25/05	
Di-n-butyl phthalate	EPA 625	5B22043	2.8	20	ND	0.966	02/22/05	02/25/05	
1,3-Dichlorobenzene	EPA 625	5B22043	4.1	10	ND	0.966	02/22/05	02/25/05	
1,4-Dichlorobenzene	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05	
1,2-Dichlorobenzene	EPA 625	5B22043	4.5	10	ND	0.966	02/22/05	02/25/05	
3,3-Dichlorobenzidine	EPA 625	5B22043	11	20	ND	0.966	02/22/05	02/25/05	
2,4-Dichlorophenol	EPA 625	5B22043	4.1	10	ND	0.966	02/22/05	02/25/05	
Diethyl phthalate	EPA 625	5B22043	3.1	10	ND	0.966	02/22/05	02/25/05	
2,4-Dimethylphenol	EPA 625	5B22043	4.4	20	ND	0.966	02/22/05	02/25/05	
Dimethyl phthalate	EPA 625	5B22043	3.6	10	ND	0.966	02/22/05	02/25/05	
4,6-Dinitro-2-methylphenol	EPA 625	5B22043	5.1	20	ND	0.966	02/22/05	02/25/05	
2,4-Dinitrophenol	EPA 625	5B22043	5.3	20	ND	0.966	02/22/05	02/25/05	
2,4-Dinitrotoluene	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	
2,6-Dinitrotoluene	EPA 625	5B22043	3.2	10	ND	0.966	02/22/05	02/25/05	
Di-n-octyl phthalate	EPA 625	5B22043	4.7	20	ND	0.966	02/22/05	02/25/05	
Fluoranthene	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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) 370-4687 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8586 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1556-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Fluorene	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05	
Hexachlorobenzene	EPA 625	5B22043	4.8	10	ND	0.966	02/22/05	02/25/05	
Hexachlorobutadiene	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	
Hexachlorocyclopentadiene	EPA 625	5B22043	3.4	20	ND	0.966	02/22/05	02/25/05	
Hexachloroethane	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	
Indeno(1,2,3-cd)pyrene	EPA 625	5B22043	5.4	20	ND	0.966	02/22/05	02/25/05	
Isophorone	EPA 625	5B22043	3.7	10	ND	0.966	02/22/05	02/25/05	
2-Methylnaphthalene	EPA 625	5B22043	3.0	10	ND	0.966	02/22/05	02/25/05	
2-Methylphenol	EPA 625	5B22043	3.7	10	ND	0.966	02/22/05	02/25/05	
4-Methylphenol	EPA 625	5B22043	3.8	10	ND	0.966	02/22/05	02/25/05	
Naphthalene	EPA 625	5B22043	4.5	10	ND	0.966	02/22/05	02/25/05	
2-Nitroaniline	EPA 625	5B22043	3.9	20	ND	0.966	02/22/05	02/25/05	
3-Nitroaniline	EPA 625	5B22043	4.5	20	ND	0.966	02/22/05	02/25/05	
4-Nitroaniline	EPA 625	5B22043	4.9	20	ND	0.966	02/22/05	02/25/05	
Nitrobenzene	EPA 625	5B22043	4.2	20	ND	0.966	02/22/05	02/25/05	
2-Nitrophenol	EPA 625	5B22043	4.2	10	ND	0.966	02/22/05	02/25/05	
4-Nitrophenol	EPA 625	5B22043	6.6	20	ND	0.966	02/22/05	02/25/05	
N-Nitrosodiphenylamine	EPA 625	5B22043	4.0	10	ND	0.966	02/22/05	02/25/05	
N-Nitroso-di-n-propylamine	EPA 625	5B22043	3.6	10	ND	0.966	02/22/05	02/25/05	
Pentachlorophenol	EPA 625	5B22043	4.0	20	ND	0.966	02/22/05	02/25/05	
Phenanthrene	EPA 625	5B22043	3.3	10	ND	0.966	02/22/05	02/25/05	
Phenol	EPA 625	5B22043	4.0	10	ND	0.966	02/22/05	02/25/05	
Pyrene	EPA 625	5B22043	3.9	10	ND	0.966	02/22/05	02/25/05	
1,2,4-Trichlorobenzene	EPA 625	5B22043	4.4	10	ND	0.966	02/22/05	02/25/05	
2,4,5-Trichlorophenol	EPA 625	5B22043	3.6	20	ND	0.966	02/22/05	02/25/05	
2,4,6-Trichlorophenol	EPA 625	5B22043	4.1	20	ND	0.966	02/22/05	02/25/05	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B22043	5.0	20	ND	0.966	02/22/05	02/25/05	
N-Nitrosodimethylamine	EPA 625	5B22043	3.7	20	ND	0.966	02/22/05	02/25/05	
Surrogate: 2-Fluorophenol (35-120%)					68 %				
Surrogate: Phenol-d6 (45-120%)					75 %				
Surrogate: 2,4,6-Tribromophenol (50-125%)					84 %				
Surrogate: Nitrobenzene-d5 (45-120%)					76 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					80 %				
Surrogate: Terphenyl-d14 (45-135%)					115 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1556-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Aldrin	EPA 608	5B22041	0.030	0.10	ND	0.962	02/22/05	02/23/05	
alpha-BHC	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	
beta-BHC	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	
delta-BHC	EPA 608	5B22041	0.020	0.20	ND	0.962	02/22/05	02/23/05	
gamma-BHC (Lindane)	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	
Chlordane	EPA 608	5B22041	0.20	1.0	ND	0.962	02/22/05	02/23/05	
4,4'-DDD	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	
4,4'-DDE	EPA 608	5B22041	0.020	0.10	ND	0.962	02/22/05	02/23/05	
4,4'-DDT	EPA 608	5B22041	0.030	0.10	ND	0.962	02/22/05	02/23/05	
Dieldrin	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	
Endosulfan I	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	
Endosulfan II	EPA 608	5B22041	0.040	0.10	ND	0.962	02/22/05	02/23/05	
Endosulfan sulfate	EPA 608	5B22041	0.015	0.20	ND	0.962	02/22/05	02/23/05	
Endrin	EPA 608	5B22041	0.015	0.10	ND	0.962	02/22/05	02/23/05	
Endrin aldehyde	EPA 608	5B22041	0.045	0.10	ND	0.962	02/22/05	02/23/05	
Endrin ketone	EPA 608	5B22041	0.020	0.10	ND	0.962	02/22/05	02/23/05	
Heptachlor	EPA 608	5B22041	0.030	0.10	ND	0.962	02/22/05	02/23/05	
Heptachlor epoxide	EPA 608	5B22041	0.020	0.10	ND	0.962	02/22/05	02/23/05	
Methoxychlor	EPA 608	5B22041	0.035	0.10	ND	0.962	02/22/05	02/23/05	
Toxaphene	EPA 608	5B22041	1.5	5.0	ND	0.962	02/22/05	02/23/05	
Surrogate: Tetrachloro-m-xylene (35-120%)									65 %
Surrogate: Decachlorobiphenyl (45-120%)									84 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Darian 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1556-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	5B22041	0.20	1.0	ND	0.962	02/22/05	02/23/05	
Aroclor 1221	EPA 608	5B22041	0.10	1.0	ND	0.962	02/22/05	02/23/05	
Aroclor 1232	EPA 608	5B22041	0.15	1.0	ND	0.962	02/22/05	02/23/05	
Aroclor 1242	EPA 608	5B22041	0.15	1.0	ND	0.962	02/22/05	02/23/05	
Aroclor 1248	EPA 608	5B22041	0.25	1.0	ND	0.962	02/22/05	02/23/05	
Aroclor 1254	EPA 608	5B22041	0.25	1.0	ND	0.962	02/22/05	02/23/05	
Aroclor 1260	EPA 608	5B22041	0.40	1.0	ND	0.962	02/22/05	02/23/05	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					75 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Darian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Coitton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 004 Report Number: IOB1556	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1556-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Boron	EPA 200.7	5B24093	0.0074	0.050	ND	1	02/24/05	02/25/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Derran 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1556-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Aluminum	EPA 200.7	5B24093	47	50	350	1	02/24/05	02/26/05	
Antimony	EPA 200.8	5B24099	0.18	2.0	0.42	1	02/24/05	02/25/05	J
Arsenic	EPA 200.7	5B24093	3.8	5.0	ND	1	02/24/05	02/25/05	
Beryllium	EPA 200.7	5B24093	0.62	2.0	ND	1	02/24/05	02/25/05	
Cadmium	EPA 200.8	5B24099	0.015	1.0	0.034	1	02/24/05	02/25/05	J
Chromium	EPA 200.7	5B24093	0.68	5.0	1.2	1	02/24/05	02/25/05	J
Copper	EPA 200.8	5B24099	0.49	2.0	1.7	1	02/24/05	02/25/05	J
Lead	EPA 200.8	5B24099	0.13	1.0	0.35	1	02/24/05	02/25/05	J
Mercury	EPA 245.1	5B22063	0.063	0.20	ND	1	02/22/05	02/22/05	
Nickel	EPA 200.7	5B24093	2.0	10	ND	1	02/24/05	02/25/05	
Selenium	EPA 200.7	5B24093	4.6	5.0	ND	1	02/24/05	02/26/05	
Silver	EPA 200.7	5B24093	1.3	10	ND	1	02/24/05	02/26/05	
Thallium	EPA 200.8	5B24099	0.075	1.0	0.21	1	02/24/05	02/25/05	J
Vanadium	EPA 200.7	5B24093	1.4	10	2.3	1	02/24/05	02/25/05	J
Zinc	EPA 200.7	5B24093	3.7	20	5.9	1	02/24/05	02/25/05	B, J

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Derran 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1556-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	5B18129	0.26	0.50	2.1	1	02/18/05	02/18/05	
Total Cyanide	EPA 335.2	5B22061	0.0022	0.0050	ND	1	02/22/05	02/22/05	
Nitrate/Nitrite-N	EPA 300.0	5B18129	0.072	0.11	0.26	1	02/18/05	02/18/05	
Oil & Grease	EPA 413.1	5B23082	0.94	5.0	ND	1	02/23/05	02/23/05	
Sulfate	EPA 300.0	5B18129	0.18	0.50	4.7	1	02/18/05	02/18/05	
Total Dissolved Solids	SM2540C	5B23077	10	10	71	1	02/23/05	02/23/05	
Total Suspended Solids	EPA 160.2	5B23109	10	10	ND	1	02/23/05	02/23/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004 Report Number: IOB1556	Sampled: 02/18/05 Received: 02/18/05
--	--	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1556-01 (Outfall 004 - Water) - cont.									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	5B25063	0.80	4.0	ND	1	02/25/05	02/26/05	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 004 (IOB1556-01) - Water					
EPA 300.0	2	02/18/2005 11:20	02/18/2005 18:30	02/18/2005 21:30	02/18/2005 22:04
EPA 624	3	02/18/2005 11:20	02/18/2005 18:30	02/19/2005 00:00	02/19/2005 13:21
Sample ID: Trip Blanks (IOB1556-02) - Water					
EPA 624	3	02/18/2005 14:50	02/18/2005 18:30	02/19/2005 00:00	02/19/2005 15:24

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
Blank Analyzed: 02/19/2005 (5B19020-BLK1)											
Acrolein	ND	50	4.6	ug/l							
Acrylonitrile	ND	50	5.1	ug/l							
2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l							
Surrogate: Dibromofluoromethane	24.9			ug/l	25.0		100	80-120			
Surrogate: Toluene-d8	26.8			ug/l	25.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	25.2			ug/l	25.0		101	80-120			
LCS Analyzed: 02/19/2005 (5B19020-BS1)											
2-Chloroethyl vinyl ether	28.8	5.0	1.3	ug/l	25.0		115	20-175			
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	27.1			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104	80-120			
Matrix Spike Analyzed: 02/19/2005 (5B19020-MS1) Source: IOB1556-01											
2-Chloroethyl vinyl ether	21.2	5.0	1.3	ug/l	25.0	ND	85	20-175			
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120			
Matrix Spike Dup Analyzed: 02/19/2005 (5B19020-MSD1) Source: IOB1556-01											
2-Chloroethyl vinyl ether	24.9	5.0	1.3	ug/l	25.0	ND	100	20-175	16	25	
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.8			ug/l	25.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	24.9			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B19020 Extracted: 02/19/05										
Blank Analyzed: 02/19/2005 (5B19020-BLK1)										
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.34	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.24	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	ND	5.0	0.48	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	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	2.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	0.50	0.26	ug/l						
Xylenes, Total	ND	4.0	0.52	ug/l						
Surrogate: Dibromofluoromethane	24.9			ug/l	25.0		100	80-120		
Surrogate: Toluene-d8	26.8			ug/l	25.0		107	80-120		
Surrogate: 4-Bromofluorobenzene	25.2			ug/l	25.0		101	80-120		

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Darian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4687 FAX (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B19020 Extracted: 02/19/05										
LCS Analyzed: 02/19/2005 (5B19020-BS1)										
Benzene	25.3	1.0	0.28	ug/l	25.0		101 70-120			
Bromodichloromethane	22.8	2.0	0.30	ug/l	25.0		91 70-140			
Bromoform	24.9	5.0	0.32	ug/l	25.0		100 55-135			
Bromomethane	26.0	5.0	0.34	ug/l	25.0		104 60-140			
Carbon tetrachloride	22.7	0.50	0.28	ug/l	25.0		91 70-140			
Chlorobenzene	24.2	2.0	0.36	ug/l	25.0		97 80-125			
Chloroethane	25.4	5.0	0.33	ug/l	25.0		102 60-145			
Chloroform	23.2	2.0	0.33	ug/l	25.0		93 75-130			
Chloromethane	25.1	5.0	0.30	ug/l	25.0		100 40-145			
Dibromochloromethane	24.2	2.0	0.28	ug/l	25.0		97 65-145			
1,2-Dichlorobenzene	24.5	2.0	0.32	ug/l	25.0		98 80-120			
1,3-Dichlorobenzene	23.7	2.0	0.35	ug/l	25.0		95 80-120			
1,4-Dichlorobenzene	23.9	2.0	0.37	ug/l	25.0		96 80-120			
1,1-Dichloroethane	23.4	2.0	0.27	ug/l	25.0		94 70-135			
1,2-Dichloroethane	22.7	0.50	0.28	ug/l	25.0		91 60-150			
1,1-Dichloroethene	25.6	5.0	0.32	ug/l	25.0		102 75-135			
trans-1,2-Dichloroethene	24.9	2.0	0.27	ug/l	25.0		100 70-130			
1,2-Dichloropropane	25.2	2.0	0.35	ug/l	25.0		101 70-120			
cis-1,3-Dichloropropene	25.2	2.0	0.22	ug/l	25.0		101 75-130			
trans-1,3-Dichloropropene	25.6	2.0	0.24	ug/l	25.0		102 75-135			
Ethylbenzene	25.2	2.0	0.25	ug/l	25.0		101 80-120			
Methylene chloride	24.7	5.0	0.48	ug/l	25.0		99 60-135			
1,1,2,2-Tetrachloroethane	27.6	2.0	0.24	ug/l	25.0		110 60-135			
Tetrachloroethene	23.8	2.0	0.32	ug/l	25.0		95 75-125			
Toluene	25.0	2.0	0.36	ug/l	25.0		100 75-120			
1,1,1-Trichloroethane	21.8	2.0	0.30	ug/l	25.0		87 75-140			
1,1,2-Trichloroethane	25.2	2.0	0.30	ug/l	25.0		101 70-125			
Trichloroethene	24.4	2.0	0.26	ug/l	25.0		98 80-120			
Trichlorofluoromethane	21.9	5.0	0.34	ug/l	25.0		88 65-145			
Vinyl chloride	24.1	0.50	0.26	ug/l	25.0		96 50-130			
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101 80-120			
Surrogate: Toluene-d8	27.1			ug/l	25.0		108 80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104 80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
Matrix Spike Analyzed: 02/19/2005 (5B19020-MS1)						Source: IOB1556-01					
Benzene	22.7	1.0	0.28	ug/l	25.0	ND	91	70-120			
Bromodichloromethane	20.2	2.0	0.30	ug/l	25.0	ND	81	70-140			
Bromoform	20.2	5.0	0.32	ug/l	25.0	ND	81	55-140			
Bromomethane	23.0	5.0	0.34	ug/l	25.0	ND	92	50-145			
Carbon tetrachloride	20.8	0.50	0.28	ug/l	25.0	ND	83	70-145			
Chlorobenzene	21.9	2.0	0.36	ug/l	25.0	ND	88	80-125			
Chloroethane	22.3	5.0	0.33	ug/l	25.0	ND	89	50-145			
Chloroform	21.0	2.0	0.33	ug/l	25.0	ND	84	70-135			
Chloromethane	21.8	5.0	0.30	ug/l	25.0	ND	87	35-145			
Dibromochloromethane	21.0	2.0	0.28	ug/l	25.0	ND	84	65-145			
1,2-Dichlorobenzene	22.2	2.0	0.32	ug/l	25.0	ND	89	75-130			
1,3-Dichlorobenzene	22.0	2.0	0.35	ug/l	25.0	ND	88	75-130			
1,4-Dichlorobenzene	22.0	2.0	0.37	ug/l	25.0	ND	88	80-120			
1,1-Dichloroethane	21.3	2.0	0.27	ug/l	25.0	ND	85	65-135			
1,2-Dichloroethane	19.6	0.50	0.28	ug/l	25.0	ND	78	60-150			
1,1-Dichloroethene	22.6	5.0	0.32	ug/l	25.0	ND	90	65-140			
trans-1,2-Dichloroethene	22.5	2.0	0.27	ug/l	25.0	ND	90	65-135			
1,2-Dichloropropane	22.1	2.0	0.35	ug/l	25.0	ND	88	65-130			
cis-1,3-Dichloropropene	22.2	2.0	0.22	ug/l	25.0	ND	89	70-140			
trans-1,3-Dichloropropene	21.7	2.0	0.24	ug/l	25.0	ND	87	70-140			
Ethylbenzene	23.3	2.0	0.25	ug/l	25.0	ND	93	70-130			
Methylene chloride	22.7	5.0	0.48	ug/l	25.0	0.95	87	60-135			
1,1,2,2-Tetrachloroethane	22.8	2.0	0.24	ug/l	25.0	ND	91	60-145			
Tetrachloroethene	21.3	2.0	0.32	ug/l	25.0	ND	85	70-130			
Toluene	22.5	2.0	0.36	ug/l	25.0	ND	90	70-120			
1,1,1-Trichloroethane	20.3	2.0	0.30	ug/l	25.0	0.76	78	75-140			
1,1,2-Trichloroethane	20.9	2.0	0.30	ug/l	25.0	ND	84	60-135			
Trichloroethene	22.1	2.0	0.26	ug/l	25.0	0.66	86	70-125			
Trichlorofluoromethane	19.6	5.0	0.34	ug/l	25.0	ND	78	55-145			
Vinyl chloride	21.6	0.50	0.26	ug/l	25.0	ND	86	40-135			
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



Del Mar Analytical

17461 Darian 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
Matrix Spike Dup Analyzed: 02/19/2005 (5B19020-MSD1)						Source: IOB1556-01					
Benzene	24.4	1.0	0.28	ug/l	25.0	ND	98	70-120	7	20	
Bromodichloromethane	21.5	2.0	0.30	ug/l	25.0	ND	86	70-140	6	20	
Bromoform	22.7	5.0	0.32	ug/l	25.0	ND	91	55-140	12	25	
Bromomethane	24.8	5.0	0.34	ug/l	25.0	ND	99	50-145	8	25	
Carbon tetrachloride	22.1	0.50	0.28	ug/l	25.0	ND	88	70-145	6	25	
Chlorobenzene	23.4	2.0	0.36	ug/l	25.0	ND	94	80-125	7	20	
Chloroethane	23.8	5.0	0.33	ug/l	25.0	ND	95	50-145	7	25	
Chloroform	22.2	2.0	0.33	ug/l	25.0	ND	89	70-135	6	20	
Chloromethane	23.2	5.0	0.30	ug/l	25.0	ND	93	35-145	6	25	
Dibromochloromethane	22.8	2.0	0.28	ug/l	25.0	ND	91	65-145	8	25	
1,2-Dichlorobenzene	23.3	2.0	0.32	ug/l	25.0	ND	93	75-130	5	20	
1,3-Dichlorobenzene	22.9	2.0	0.35	ug/l	25.0	ND	92	75-130	4	20	
1,4-Dichlorobenzene	23.0	2.0	0.37	ug/l	25.0	ND	92	80-120	4	20	
1,1-Dichloroethane	22.5	2.0	0.27	ug/l	25.0	ND	90	65-135	5	20	
1,2-Dichloroethane	23.3	0.50	0.28	ug/l	25.0	ND	93	60-150	17	20	
1,1-Dichloroethene	24.3	5.0	0.32	ug/l	25.0	ND	97	65-140	7	20	
trans-1,2-Dichloroethene	24.0	2.0	0.27	ug/l	25.0	ND	96	65-135	6	20	
1,2-Dichloropropane	23.7	2.0	0.35	ug/l	25.0	ND	95	65-130	7	20	
cis-1,3-Dichloropropene	23.9	2.0	0.22	ug/l	25.0	ND	96	70-140	7	20	
trans-1,3-Dichloropropene	23.7	2.0	0.24	ug/l	25.0	ND	95	70-140	9	25	
Ethylbenzene	24.8	2.0	0.25	ug/l	25.0	ND	99	70-130	6	20	
Methylene chloride	24.2	5.0	0.48	ug/l	25.0	0.95	93	60-135	6	20	
1,1,2,2-Tetrachloroethane	25.3	2.0	0.24	ug/l	25.0	ND	101	60-145	10	30	
Tetrachloroethene	23.0	2.0	0.32	ug/l	25.0	ND	92	70-130	8	20	
Toluene	24.0	2.0	0.36	ug/l	25.0	ND	96	70-120	6	20	
1,1,1-Trichloroethane	21.7	2.0	0.30	ug/l	25.0	0.76	84	75-140	7	20	
1,1,2-Trichloroethane	23.3	2.0	0.30	ug/l	25.0	ND	93	60-135	11	25	
Trichloroethene	23.0	2.0	0.26	ug/l	25.0	0.66	89	70-125	4	20	
Trichlorofluoromethane	20.7	5.0	0.34	ug/l	25.0	ND	83	55-145	5	25	
Vinyl chloride	22.8	0.50	0.26	ug/l	25.0	ND	91	40-135	5	30	
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.8			ug/l	25.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	24.9			ug/l	25.0		100	80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
Blank Analyzed: 02/25/2005 (5B22043-BLK1)										
Acenaphthene	ND	10	4.3	ug/l						
Acenaphthylene	ND	10	3.2	ug/l						
Aniline	ND	10	2.9	ug/l						
Anthracene	ND	10	3.2	ug/l						
Benzidine	ND	20	5.2	ug/l						
Benzoic acid	ND	20	2.6	ug/l						
Benzo(a)anthracene	ND	10	3.7	ug/l						
Benzo(b)fluoranthene	ND	10	2.7	ug/l						
Benzo(k)fluoranthene	ND	10	3.4	ug/l						
Benzo(g,h,i)perylene	ND	10	5.3	ug/l						
Benzo(a)pyrene	ND	10	3.5	ug/l						
Benzyl alcohol	ND	20	2.5	ug/l						
Bis(2-chloroethoxy)methane	ND	10	3.9	ug/l						
Bis(2-chloroethyl)ether	ND	10	4.4	ug/l						
Bis(2-chloroisopropyl)ether	ND	10	4.6	ug/l						
Bis(2-ethylhexyl)phthalate	ND	50	5.2	ug/l						
4-Bromophenyl phenyl ether	ND	10	4.6	ug/l						
Butyl benzyl phthalate	ND	20	3.5	ug/l						
4-Chloroaniline	ND	10	6.0	ug/l						
2-Chloronaphthalene	ND	10	4.0	ug/l						
4-Chloro-3-methylphenol	ND	20	3.5	ug/l						
2-Chlorophenol	ND	10	4.2	ug/l						
4-Chlorophenyl phenyl ether	ND	10	3.0	ug/l						
Chrysene	ND	10	2.8	ug/l						
Dibenz(a,h)anthracene	ND	20	4.7	ug/l						
Dibenzofuran	ND	10	2.6	ug/l						
Di-n-butyl phthalate	ND	20	2.8	ug/l						
1,3-Dichlorobenzene	ND	10	4.1	ug/l						
1,4-Dichlorobenzene	ND	10	3.9	ug/l						
1,2-Dichlorobenzene	ND	10	4.5	ug/l						
3,3-Dichlorobenzidine	ND	20	11	ug/l						
2,4-Dichlorophenol	ND	10	4.1	ug/l						
Diethyl phthalate	ND	10	3.1	ug/l						
2,4-Dimethylphenol	ND	20	4.4	ug/l						
Dimethyl phthalate	ND	10	3.6	ug/l						

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-8689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
Blank Analyzed: 02/25/2005 (5B22043-BLK1)										
4,6-Dinitro-2-methylphenol	ND	20	5.1	ug/l						
2,4-Dinitrophenol	ND	20	5.3	ug/l						
2,4-Dinitrotoluene	ND	10	4.2	ug/l						
2,6-Dinitrotoluene	ND	10	3.2	ug/l						
Di-n-octyl phthalate	ND	20	4.7	ug/l						
Fluoranthene	ND	10	4.2	ug/l						
Fluorene	ND	10	3.9	ug/l						
Hexachlorobenzene	ND	10	4.8	ug/l						
Hexachlorobutadiene	ND	10	4.2	ug/l						
Hexachlorocyclopentadiene	ND	20	3.4	ug/l						
Hexachloroethane	ND	10	4.2	ug/l						
Indeno(1,2,3-cd)pyrene	ND	20	5.4	ug/l						
Isophorone	ND	10	3.7	ug/l						
2-Methylnaphthalene	ND	10	3.0	ug/l						
2-Methylphenol	ND	10	3.7	ug/l						
4-Methylphenol	ND	10	3.8	ug/l						
Naphthalene	ND	10	4.5	ug/l						
2-Nitroaniline	ND	20	3.9	ug/l						
3-Nitroaniline	ND	20	4.5	ug/l						
4-Nitroaniline	ND	20	4.9	ug/l						
Nitrobenzene	ND	20	4.2	ug/l						
2-Nitrophenol	ND	10	4.2	ug/l						
4-Nitrophenol	ND	20	6.6	ug/l						
N-Nitrosodiphenylamine	ND	10	4.0	ug/l						
N-Nitroso-di-n-propylamine	ND	10	3.6	ug/l						
Pentachlorophenol	ND	20	4.0	ug/l						
Phenanthrene	ND	10	3.3	ug/l						
Phenol	ND	10	4.0	ug/l						
Pyrene	ND	10	3.9	ug/l						
1,2,4-Trichlorobenzene	ND	10	4.4	ug/l						
2,4,5-Trichlorophenol	ND	20	3.6	ug/l						
2,4,6-Trichlorophenol	ND	20	4.1	ug/l						
1,2-Diphenylhydrazine/Azobenzene	ND	20	5.0	ug/l						
N-Nitrosodimethylamine	ND	20	3.7	ug/l						
Surrogate: 2-Fluorophenol	138			ug/l	200		69	35-120		

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
Blank Analyzed: 02/25/2005 (5B22043-BLK1)											
Surrogate: Phenol-d6	144			ug/l	200		72	45-120			
Surrogate: 2,4,6-Tribromophenol	162			ug/l	200		81	50-125			
Surrogate: Nitrobenzene-d5	76.2			ug/l	100		76	45-120			
Surrogate: 2-Fluorobiphenyl	79.8			ug/l	100		80	45-120			
Surrogate: Terphenyl-d14	70.2			ug/l	100		70	45-135			
LCS Analyzed: 02/25/2005 (5B22043-BS1)											
Acenaphthene	83.1	10	4.3	ug/l	100		83	55-120			M-NR1
Acenaphthylene	82.0	10	3.2	ug/l	100		82	55-120			
Aniline	78.1	10	2.9	ug/l	100		78	30-120			
Anthracene	86.0	10	3.2	ug/l	100		86	60-120			
Benzidine	150	20	5.2	ug/l	100		150	20-180			
Benzoic acid	68.1	20	2.6	ug/l	100		68	30-125			
Benzo(a)anthracene	82.9	10	3.7	ug/l	100		83	65-120			
Benzo(b)fluoranthene	84.5	10	2.7	ug/l	100		84	50-125			
Benzo(k)fluoranthene	89.6	10	3.4	ug/l	100		90	50-125			
Benzo(g,h,i)perylene	74.4	10	5.3	ug/l	100		74	35-160			
Benzo(a)pyrene	86.0	10	3.5	ug/l	100		86	55-125			
Benzyl alcohol	79.2	20	2.5	ug/l	100		79	40-130			
Bis(2-chloroethoxy)methane	82.5	10	3.9	ug/l	100		82	55-120			
Bis(2-chloroethyl)ether	68.6	10	4.4	ug/l	100		69	50-120			
Bis(2-chloroisopropyl)ether	77.4	10	4.6	ug/l	100		77	50-120			
Bis(2-ethylhexyl)phthalate	75.0	50	5.2	ug/l	100		75	65-125			
4-Bromophenyl phenyl ether	78.0	10	4.6	ug/l	100		78	55-125			
Butyl benzyl phthalate	79.3	20	3.5	ug/l	100		79	60-125			
4-Chloroaniline	80.4	10	6.0	ug/l	100		80	55-120			
2-Chloronaphthalene	80.9	10	4.0	ug/l	100		81	60-120			
4-Chloro-3-methylphenol	83.6	20	3.5	ug/l	100		84	60-120			
2-Chlorophenol	72.0	10	4.2	ug/l	100		72	45-120			
4-Chlorophenyl phenyl ether	80.7	10	3.0	ug/l	100		81	55-120			
Chrysene	83.0	10	2.8	ug/l	100		83	65-120			
Dibenz(a,h)anthracene	75.5	20	4.7	ug/l	100		76	40-160			
Dibenzofuran	81.1	10	2.6	ug/l	100		81	60-120			
Di-n-butyl phthalate	83.2	20	2.8	ug/l	100		83	65-125			
1,3-Dichlorobenzene	65.5	10	4.1	ug/l	100		66	40-120			
1,4-Dichlorobenzene	64.8	10	3.9	ug/l	100		65	40-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
LCS Analyzed: 02/25/2005 (5B22043-BS1)										
1,2-Dichlorobenzene	66.6	10	4.5	ug/l	100	67	40-120			M-NR1
3,3-Dichlorobenzidine	85.5	20	11	ug/l	100	86	50-170			
2,4-Dichlorophenol	80.7	10	4.1	ug/l	100	81	55-120			
Diethyl phthalate	78.4	10	3.1	ug/l	100	78	60-120			
2,4-Dimethylphenol	71.1	20	4.4	ug/l	100	71	35-120			
Dimethyl phthalate	78.0	10	3.6	ug/l	100	78	60-120			
4,6-Dinitro-2-methylphenol	77.3	20	5.1	ug/l	100	77	55-120			
2,4-Dinitrophenol	75.1	20	5.3	ug/l	100	75	40-140			
2,4-Dinitrotoluene	81.1	10	4.2	ug/l	100	81	60-140			
2,6-Dinitrotoluene	77.9	10	3.2	ug/l	100	78	65-125			
Di-n-octyl phthalate	68.3	20	4.7	ug/l	100	68	60-130			
Fluoranthene	86.3	10	4.2	ug/l	100	86	55-125			
Fluorene	83.9	10	3.9	ug/l	100	84	60-120			
Hexachlorobenzene	84.1	10	4.8	ug/l	100	84	50-120			
Hexachlorobutadiene	70.9	10	4.2	ug/l	100	71	45-120			
Hexachlorocyclopentadiene	69.3	20	3.4	ug/l	100	69	10-130			
Hexachloroethane	64.4	10	4.2	ug/l	100	64	40-120			
Indeno(1,2,3-cd)pyrene	71.9	20	5.4	ug/l	100	72	35-150			
Isophorone	75.7	10	3.7	ug/l	100	76	55-120			
2-Methylnaphthalene	80.5	10	3.0	ug/l	100	80	50-120			
2-Methylphenol	72.7	10	3.7	ug/l	100	73	45-120			
4-Methylphenol	75.3	10	3.8	ug/l	100	75	45-120			
Naphthalene	78.3	10	4.5	ug/l	100	78	50-120			
2-Nitroaniline	84.0	20	3.9	ug/l	100	84	60-130			
3-Nitroaniline	87.2	20	4.5	ug/l	100	87	50-140			
4-Nitroaniline	89.5	20	4.9	ug/l	100	90	45-160			
Nitrobenzene	72.3	20	4.2	ug/l	100	72	50-120			
2-Nitrophenol	79.1	10	4.2	ug/l	100	79	55-120			
4-Nitrophenol	74.9	20	6.6	ug/l	100	75	50-135			
N-Nitrosodiphenylamine	77.6	10	4.0	ug/l	100	78	60-120			
N-Nitroso-di-n-propylamine	73.9	10	3.6	ug/l	100	74	50-120			
Pentachlorophenol	88.3	20	4.0	ug/l	100	88	50-125			
Phenanthrene	84.1	10	3.3	ug/l	100	84	55-120			
Phenol	72.3	10	4.0	ug/l	100	72	45-120			
Pyrene	81.6	10	3.9	ug/l	100	82	50-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
LCS Analyzed: 02/25/2005 (5B22043-BS1)										
1,2,4-Trichlorobenzene	70.3	10	4.4	ug/l	100	70	50-120			M-NR1
2,4,5-Trichlorophenol	83.4	20	3.6	ug/l	100	83	60-120			
2,4,6-Trichlorophenol	81.7	20	4.1	ug/l	100	82	60-120			
1,2-Diphenylhydrazine/Azobenzene	84.6	20	5.0	ug/l	100	85	60-120			
N-Nitrosodimethylamine	73.1	20	3.7	ug/l	100	73	40-120			
Surrogate: 2-Fluorophenol	132			ug/l	200	66	35-120			
Surrogate: Phenol-d6	142			ug/l	200	71	45-120			
Surrogate: 2,4,6-Tribromophenol	166			ug/l	200	83	50-125			
Surrogate: Nitrobenzene-d5	75.9			ug/l	100	76	45-120			
Surrogate: 2-Fluorobiphenyl	77.6			ug/l	100	78	45-120			
Surrogate: Terphenyl-d14	76.0			ug/l	100	76	45-135			
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)										
Acenaphthene	77.9	10	4.3	ug/l	100	78	55-120	6	20	
Acenaphthylene	78.7	10	3.2	ug/l	100	79	55-120	4	20	
Aniline	62.7	10	2.9	ug/l	100	63	30-120	22	25	
Anthracene	83.5	10	3.2	ug/l	100	84	60-120	3	20	
Benzidine	ND	20	5.2	ug/l	100		20-180		35	L2
Benzoic acid	61.0	20	2.6	ug/l	100	61	30-125	11	30	
Benzo(a)anthracene	80.9	10	3.7	ug/l	100	81	65-120	2	20	
Benzo(b)fluoranthene	80.1	10	2.7	ug/l	100	80	50-125	5	25	
Benzo(k)fluoranthene	80.7	10	3.4	ug/l	100	81	50-125	10	20	
Benzo(g,h,i)perylene	86.3	10	5.3	ug/l	100	86	35-160	15	25	
Benzo(a)pyrene	80.9	10	3.5	ug/l	100	81	55-125	6	25	
Benzyl alcohol	78.0	20	2.5	ug/l	100	78	40-130	2	20	
Bis(2-chloroethoxy)methane	78.3	10	3.9	ug/l	100	78	55-120	5	20	
Bis(2-chloroethyl)ether	66.9	10	4.4	ug/l	100	67	50-120	3	20	
Bis(2-chloroisopropyl)ether	76.3	10	4.6	ug/l	100	76	50-120	1	20	
Bis(2-ethylhexyl)phthalate	69.6	50	5.2	ug/l	100	70	65-125	7	20	
4-Bromophenyl phenyl ether	75.9	10	4.6	ug/l	100	76	55-125	3	25	
Butyl benzyl phthalate	85.0	20	3.5	ug/l	100	85	60-125	7	20	
4-Chloroaniline	73.7	10	6.0	ug/l	100	74	55-120	9	25	
2-Chloronaphthalene	78.3	10	4.0	ug/l	100	78	60-120	3	20	
4-Chloro-3-methylphenol	75.8	20	3.5	ug/l	100	76	60-120	10	25	
2-Chlorophenol	70.2	10	4.2	ug/l	100	70	45-120	3	25	
4-Chlorophenyl phenyl ether	79.3	10	3.0	ug/l	100	79	55-120	2	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)											
Chrysene	81.6	10	2.8	ug/l	100	82	65-120	2	20		
Dibenz(a,h)anthracene	86.3	20	4.7	ug/l	100	86	40-160	13	25		
Dibenzofuran	77.5	10	2.6	ug/l	100	78	60-120	5	20		
Di-n-butyl phthalate	80.8	20	2.8	ug/l	100	81	65-125	3	20		
1,3-Dichlorobenzene	64.4	10	4.1	ug/l	100	64	40-120	2	25		
1,4-Dichlorobenzene	63.4	10	3.9	ug/l	100	63	40-120	2	25		
1,2-Dichlorobenzene	65.7	10	4.5	ug/l	100	66	40-120	1	25		
3,3-Dichlorobenzidine	76.3	20	1.1	ug/l	100	76	50-170	11	25		
2,4-Dichlorophenol	75.1	10	4.1	ug/l	100	75	55-120	7	20		
Diethyl phthalate	76.4	10	3.1	ug/l	100	76	60-120	3	20		
2,4-Dimethylphenol	67.0	20	4.4	ug/l	100	67	35-120	6	25		
Dimethyl phthalate	75.1	10	3.6	ug/l	100	75	60-120	4	20		
4,6-Dinitro-2-methylphenol	76.9	20	5.1	ug/l	100	77	55-120	1	25		
2,4-Dinitrophenol	70.5	20	5.3	ug/l	100	70	40-140	6	25		
2,4-Dinitrotoluene	77.8	10	4.2	ug/l	100	78	60-140	4	20		
2,6-Dinitrotoluene	75.3	10	3.2	ug/l	100	75	65-125	3	20		
Di-n-octyl phthalate	64.0	20	4.7	ug/l	100	64	60-130	7	20		
Fluoranthene	80.3	10	4.2	ug/l	100	80	55-125	7	20		
Fluorene	80.1	10	3.9	ug/l	100	80	60-120	5	20		
Hexachlorobenzene	79.9	10	4.8	ug/l	100	80	50-120	5	20		
Hexachlorobutadiene	67.7	10	4.2	ug/l	100	68	45-120	5	25		
Hexachlorocyclopentadiene	66.0	20	3.4	ug/l	100	66	10-130	5	30		
Hexachloroethane	63.8	10	4.2	ug/l	100	64	40-120	1	25		
Indeno(1,2,3-cd)pyrene	81.8	20	5.4	ug/l	100	82	35-150	13	25		
Isophorone	71.9	10	3.7	ug/l	100	72	55-120	5	20		
2-Methylnaphthalene	74.5	10	3.0	ug/l	100	74	50-120	8	20		
2-Methylphenol	71.4	10	3.7	ug/l	100	71	45-120	2	20		
4-Methylphenol	73.1	10	3.8	ug/l	100	73	45-120	3	20		
Naphthalene	75.6	10	4.5	ug/l	100	76	50-120	4	20		
2-Nitroaniline	80.5	20	3.9	ug/l	100	80	60-130	4	20		
3-Nitroaniline	81.1	20	4.5	ug/l	100	81	50-140	7	25		
4-Nitroaniline	79.5	20	4.9	ug/l	100	80	45-160	12	20		
Nitrobenzene	70.4	20	4.2	ug/l	100	70	50-120	3	25		
2-Nitrophenol	75.4	10	4.2	ug/l	100	75	55-120	5	25		
4-Nitrophenol	65.8	20	6.6	ug/l	100	66	50-135	13	25		

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)											
N-Nitrosodiphenylamine	76.4	10	4.0	ug/l	100		76	60-120	2	20	
N-Nitroso-di-n-propylamine	70.3	10	3.6	ug/l	100		70	50-120	5	20	
Pentachlorophenol	83.9	20	4.0	ug/l	100		84	50-125	5	25	
Phenanthrene	80.8	10	3.3	ug/l	100		81	55-120	4	20	
Phenol	70.0	10	4.0	ug/l	100		70	45-120	3	25	
Pyrene	98.6	10	3.9	ug/l	100		99	50-120	19	25	
1,2,4-Trichlorobenzene	66.9	10	4.4	ug/l	100		67	50-120	5	20	
2,4,5-Trichlorophenol	76.7	20	3.6	ug/l	100		77	60-120	8	20	
2,4,6-Trichlorophenol	77.8	20	4.1	ug/l	100		78	60-120	5	20	
1,2-Diphenylhydrazine/Azobenzene	81.0	20	5.0	ug/l	100		81	60-120	4	25	
N-Nitrosodimethylamine	70.7	20	3.7	ug/l	100		71	40-120	3	20	
Surrogate: 2-Fluorophenol	126			ug/l	200		63	35-120			
Surrogate: Phenol-d6	137			ug/l	200		68	45-120			
Surrogate: 2,4,6-Tribromophenol	162			ug/l	200		81	50-125			
Surrogate: Nitrobenzene-d5	71.8			ug/l	100		72	45-120			
Surrogate: 2-Fluorobiphenyl	75.7			ug/l	100		76	45-120			
Surrogate: Terphenyl-d14	87.9			ug/l	100		88	45-135			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Data Limit	Qualifiers
Batch: 5B22041 Extracted: 02/22/05										
Blank Analyzed: 02/23/2005 (5B22041-BLK1)										
Aldrin	ND	0.10	0.030	ug/l						
alpha-BHC	ND	0.10	0.015	ug/l						
beta-BHC	ND	0.10	0.015	ug/l						
delta-BHC	ND	0.20	0.020	ug/l						
gamma-BHC (Lindane)	ND	0.10	0.015	ug/l						
Chlordane	ND	1.0	0.20	ug/l						
4,4'-DDD	ND	0.10	0.015	ug/l						
4,4'-DDE	ND	0.10	0.020	ug/l						
4,4'-DDT	ND	0.10	0.030	ug/l						
Dieldrin	ND	0.10	0.015	ug/l						
Endosulfan I	ND	0.10	0.015	ug/l						
Endosulfan II	ND	0.10	0.040	ug/l						
Endosulfan sulfate	ND	0.20	0.015	ug/l						
Endrin	ND	0.10	0.015	ug/l						
Endrin aldehyde	ND	0.10	0.045	ug/l						
Endrin ketone	ND	0.10	0.020	ug/l						
Heptachlor	ND	0.10	0.030	ug/l						
Heptachlor epoxide	ND	0.10	0.020	ug/l						
Methoxychlor	ND	0.10	0.035	ug/l						
Toxaphene	ND	5.0	1.5	ug/l						
Surrogate: Tetrachloro-m-xylene	0.389			ug/l	0.500		78	35-120		
Surrogate: Decachlorobiphenyl	0.441			ug/l	0.500		88	45-120		
LCS Analyzed: 02/23/2005 (5B22041-BS1)										
Aldrin	0.415	0.10	0.030	ug/l	0.500		83	45-115		M-NR1
alpha-BHC	0.450	0.10	0.015	ug/l	0.500		90	45-115		
beta-BHC	0.420	0.10	0.015	ug/l	0.500		84	50-115		
delta-BHC	0.435	0.20	0.020	ug/l	0.500		87	55-120		
gamma-BHC (Lindane)	0.453	0.10	0.015	ug/l	0.500		91	45-115		
4,4'-DDD	0.505	0.10	0.015	ug/l	0.500		101	60-120		
4,4'-DDE	0.478	0.10	0.020	ug/l	0.500		96	55-120		
4,4'-DDT	0.481	0.10	0.030	ug/l	0.500		96	60-130		
Dieldrin	0.466	0.10	0.015	ug/l	0.500		93	55-120		
Endosulfan I	0.437	0.10	0.015	ug/l	0.500		87	50-115		
Endosulfan II	0.459	0.10	0.040	ug/l	0.500		92	60-125		
Endosulfan sulfate	0.466	0.20	0.015	ug/l	0.500		93	60-120		

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22041 Extracted: 02/22/05											
LCS Analyzed: 02/23/2005 (5B22041-BS1)											
Endrin	0.518	0.10	0.015	ug/l	0.500		104	55-125			M-NR1
Endrin aldehyde	0.444	0.10	0.045	ug/l	0.500		89	55-115			
Endrin ketone	0.457	0.10	0.020	ug/l	0.500		91	60-120			
Heptachlor	0.443	0.10	0.030	ug/l	0.500		89	45-115			
Heptachlor epoxide	0.425	0.10	0.020	ug/l	0.500		85	50-120			
Methoxychlor	0.525	0.10	0.035	ug/l	0.500		105	60-135			
Surrogate: Tetrachloro-m-xylene	0.381			ug/l	0.500		76	35-120			
Surrogate: Decachlorobiphenyl	0.440			ug/l	0.500		88	45-120			
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD1)											
Aldrin	0.371	0.10	0.030	ug/l	0.500		74	45-115	11	30	
alpha-BHC	0.449	0.10	0.015	ug/l	0.500		90	45-115	0	30	
beta-BHC	0.419	0.10	0.015	ug/l	0.500		84	50-115	0	30	
delta-BHC	0.432	0.20	0.020	ug/l	0.500		86	55-120	1	30	
gamma-BHC (Lindane)	0.452	0.10	0.015	ug/l	0.500		90	45-115	0	30	
4,4'-DDD	0.496	0.10	0.015	ug/l	0.500		99	60-120	2	30	
4,4'-DDE	0.472	0.10	0.020	ug/l	0.500		94	55-120	1	30	
4,4'-DDT	0.481	0.10	0.030	ug/l	0.500		96	60-130	0	30	
Dieldrin	0.459	0.10	0.015	ug/l	0.500		92	55-120	2	30	
Endosulfan I	0.436	0.10	0.015	ug/l	0.500		87	50-115	0	30	
Endosulfan II	0.443	0.10	0.040	ug/l	0.500		89	60-125	4	30	
Endosulfan sulfate	0.461	0.20	0.015	ug/l	0.500		92	60-120	1	30	
Endrin	0.509	0.10	0.015	ug/l	0.500		102	55-125	2	30	
Endrin aldehyde	0.440	0.10	0.045	ug/l	0.500		88	55-115	1	30	
Endrin ketone	0.450	0.10	0.020	ug/l	0.500		90	60-120	2	30	
Heptachlor	0.446	0.10	0.030	ug/l	0.500		89	45-115	1	30	
Heptachlor epoxide	0.431	0.10	0.020	ug/l	0.500		86	50-120	1	30	
Methoxychlor	0.533	0.10	0.035	ug/l	0.500		107	60-135	2	30	
Surrogate: Tetrachloro-m-xylene	0.384			ug/l	0.500		77	35-120			
Surrogate: Decachlorobiphenyl	0.442			ug/l	0.500		88	45-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8596 FAX (658) 505-9689
 9630 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22041 Extracted: 02/22/05										
Blank Analyzed: 02/23/2005 (5B22041-BLK1)										
Aroclor 1016	ND	1.0	0.20	ug/l						
Aroclor 1221	ND	1.0	0.10	ug/l						
Aroclor 1232	ND	1.0	0.15	ug/l						
Aroclor 1242	ND	1.0	0.15	ug/l						
Aroclor 1248	ND	1.0	0.25	ug/l						
Aroclor 1254	ND	1.0	0.25	ug/l						
Aroclor 1260	ND	1.0	0.40	ug/l						
Surrogate: Decachlorobiphenyl	0.340			ug/l	0.500		68 45-120			
LCS Analyzed: 02/23/2005 (5B22041-BS2)										
Aroclor 1016	2.62	1.0	0.20	ug/l	4.00		66 50-115			M-NR1
Aroclor 1260	2.49	1.0	0.40	ug/l	4.00		62 60-115			
Surrogate: Decachlorobiphenyl	0.312			ug/l	0.500		62 45-120			
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD2)										
Aroclor 1016	2.91	1.0	0.20	ug/l	4.00		73 50-115	10	30	
Aroclor 1260	2.67	1.0	0.40	ug/l	4.00		67 60-115	7	25	
Surrogate: Decachlorobiphenyl	0.418			ug/l	0.500		84 45-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004 Report Number: IOB1556	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22063 Extracted: 02/22/05										
Blank Analyzed: 02/22/2005 (5B22063-BLK1)										
Mercury	ND	0.20	0.063	ug/l						
LCS Analyzed: 02/22/2005 (5B22063-BS1)										
Mercury	8.32	0.20	0.063	ug/l	8.00		104 85-115			
Matrix Spike Analyzed: 02/22/2005 (5B22063-MS1) Source: IOB1443-01										
Mercury	8.36	0.20	0.063	ug/l	8.00	0.074	104 70-130			
Matrix Spike Dup Analyzed: 02/22/2005 (5B22063-MSD1) Source: IOB1443-01										
Mercury	8.38	0.20	0.063	ug/l	8.00	0.074	104 70-130	0	20	
Batch: 5B24093 Extracted: 02/24/05										
Blank Analyzed: 02/25/2005-02/26/2005 (5B24093-BLK1)										
Aluminum	ND	50	47	ug/l						
Arsenic	ND	5.0	3.8	ug/l						
Beryllium	ND	2.0	0.62	ug/l						
Boron	ND	0.050	0.0074	mg/l						
Chromium	ND	5.0	0.68	ug/l						
Nickel	ND	10	2.0	ug/l						
Selenium	ND	5.0	4.6	ug/l						
Silver	ND	10	1.3	ug/l						
Vanadium	ND	10	1.4	ug/l						
Zinc	7.80	20	3.7	ug/l						J
LCS Analyzed: 02/25/2005-02/26/2005 (5B24093-BS1)										
Aluminum	461	50	47	ug/l	500		92 85-115			
Arsenic	497	5.0	3.8	ug/l	500		99 85-115			
Beryllium	504	2.0	0.62	ug/l	500		101 85-115			
Boron	0.468	0.050	0.0074	mg/l	0.500		94 85-115			
Chromium	492	5.0	0.68	ug/l	500		98 85-115			
Nickel	488	10	2.0	ug/l	500		98 85-115			
Selenium	481	5.0	4.6	ug/l	500		96 85-115			
Silver	251	10	1.3	ug/l	250		100 85-115			
Vanadium	504	10	1.4	ug/l	500		101 85-115			
Zinc	490	20	3.7	ug/l	500		98 85-115			

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	-------------	---------	-----------	-----------------

Batch: 5B24093 Extracted: 02/24/05

Matrix Spike Analyzed: 02/25/2005-02/26/2005 (5B24093-MS1)

Source: IOB1547-01

Aluminum	1250	50	47	ug/l	500	410	168	70-130			MI
Arsenic	515	5.0	3.8	ug/l	500	5.4	102	70-130			
Beryllium	520	2.0	0.62	ug/l	500	ND	104	70-130			
Boron	0.562	0.050	0.0074	mg/l	0.500	0.053	102	70-130			
Chromium	506	5.0	0.68	ug/l	500	ND	101	70-130			
Nickel	512	10	2.0	ug/l	500	ND	102	70-130			
Selenium	493	5.0	4.6	ug/l	500	ND	99	70-130			
Silver	250	10	1.3	ug/l	250	ND	100	70-130			
Vanadium	520	10	1.4	ug/l	500	3.1	103	70-130			
Zinc	521	20	3.7	ug/l	500	ND	104	70-130			

Matrix Spike Dup Analyzed: 02/25/2005-02/26/2005 (5B24093-MSD1)

Source: IOB1547-01

Aluminum	1300	50	47	ug/l	500	410	178	70-130	4	20	MI
Arsenic	527	5.0	3.8	ug/l	500	5.4	104	70-130	2	20	
Beryllium	525	2.0	0.62	ug/l	500	ND	105	70-130	1	20	
Boron	0.571	0.050	0.0074	mg/l	0.500	0.053	104	70-130	2	20	
Chromium	509	5.0	0.68	ug/l	500	ND	102	70-130	1	20	
Nickel	513	10	2.0	ug/l	500	ND	103	70-130	0	20	
Selenium	495	5.0	4.6	ug/l	500	ND	99	70-130	0	20	
Silver	251	10	1.3	ug/l	250	ND	100	70-130	0	20	
Vanadium	525	10	1.4	ug/l	500	3.1	104	70-130	1	20	
Zinc	523	20	3.7	ug/l	500	ND	105	70-130	0	20	

Batch: 5B24099 Extracted: 02/24/05

Blank Analyzed: 02/25/2005-02/26/2005 (5B24099-BLK1)

Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.015	ug/l							
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							
Thallium	ND	1.0	0.075	ug/l							

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8586 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 5B24099 Extracted: 02/24/05										
LCS Analyzed: 02/25/2005 (5B24099-BS1)										
Antimony	85.6	2.0	0.18	ug/l	80.0		107 85-115			
Cadmium	76.4	1.0	0.015	ug/l	80.0		96 85-115			
Copper	84.0	2.0	0.49	ug/l	80.0		105 85-115			
Lead	80.3	1.0	0.13	ug/l	80.0		100 85-115			
Thallium	78.5	1.0	0.075	ug/l	80.0		98 85-115			
Matrix Spike Analyzed: 02/25/2005 (5B24099-MS1) Source: IOB1490-01										
Antimony	85.7	2.0	0.18	ug/l	80.0	0.50	106 70-130			
Cadmium	75.1	1.0	0.015	ug/l	80.0	0.016	94 70-130			
Copper	82.5	2.0	0.49	ug/l	80.0	1.0	102 70-130			
Lead	77.6	1.0	0.13	ug/l	80.0	ND	97 70-130			
Thallium	76.5	1.0	0.075	ug/l	80.0	0.17	95 70-130			
Matrix Spike Analyzed: 02/25/2005 (5B24099-MS2) Source: IOB1557-01										
Antimony	83.8	2.0	0.18	ug/l	80.0	0.20	104 70-130			
Cadmium	74.6	1.0	0.015	ug/l	80.0	ND	93 70-130			
Copper	83.9	2.0	0.49	ug/l	80.0	ND	105 70-130			
Lead	77.7	1.0	0.13	ug/l	80.0	0.15	97 70-130			
Thallium	76.7	1.0	0.075	ug/l	80.0	0.19	96 70-130			
Matrix Spike Dup Analyzed: 02/25/2005 (5B24099-MSD1) Source: IOB1490-01										
Antimony	85.0	2.0	0.18	ug/l	80.0	0.50	106 70-130	1	20	
Cadmium	75.2	1.0	0.015	ug/l	80.0	0.016	94 70-130	0	20	
Copper	81.2	2.0	0.49	ug/l	80.0	1.0	100 70-130	2	20	
Lead	76.3	1.0	0.13	ug/l	80.0	ND	95 70-130	2	20	
Thallium	75.2	1.0	0.075	ug/l	80.0	0.17	94 70-130	2	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Limit	Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	------------	---------	------------	------------

Batch: 5B18129 Extracted: 02/18/05

Blank Analyzed: 02/18/2005 (5B18129-BLK1)

Chloride	ND	0.50	0.26	mg/l							
Nitrate/Nitrite-N	ND	0.11	0.072	mg/l							
Sulfate	ND	0.50	0.18	mg/l							

LCS Analyzed: 02/18/2005 (5B18129-BS1)

Chloride	5.11	0.50	0.26	mg/l	5.00		102	90-110			
Sulfate	10.6	0.50	0.18	mg/l	10.0		106	90-110			

Matrix Spike Analyzed: 02/18/2005 (5B18129-MS1)

Source: IOB1556-01

Chloride	7.47	0.50	0.26	mg/l	5.00	2.1	107	80-120			
Sulfate	15.3	0.50	0.18	mg/l	10.0	4.7	106	80-120			

Matrix Spike Dup Analyzed: 02/18/2005 (5B18129-MSD1)

Source: IOB1556-01

Chloride	7.43	0.50	0.26	mg/l	5.00	2.1	107	80-120	1	20	
Sulfate	14.3	0.50	0.18	mg/l	10.0	4.7	96	80-120	7	20	

Batch: 5B22061 Extracted: 02/22/05

Blank Analyzed: 02/22/2005 (5B22061-BLK1)

Total Cyanide	ND	0.0050	0.0022	mg/l							
---------------	----	--------	--------	------	--	--	--	--	--	--	--

LCS Analyzed: 02/22/2005 (5B22061-BS1)

Total Cyanide	0.194	0.0050	0.0022	mg/l	0.200		97	90-110			
---------------	-------	--------	--------	------	-------	--	----	--------	--	--	--

Matrix Spike Analyzed: 02/22/2005 (5B22061-MS1)

Source: IOB1557-01

Total Cyanide	0.190	0.0050	0.0022	mg/l	0.200	ND	95	70-115			
---------------	-------	--------	--------	------	-------	----	----	--------	--	--	--

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Coitton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 004 Report Number: IOB1556	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22061 Extracted: 02/22/05											
Matrix Spike Dup Analyzed: 02/22/2005 (5B22061-MSD1)						Source: IOB1557-01					
Total Cyanide	0.187	0.0050	0.0022	mg/l	0.200	ND	94	70-115	2	15	
Batch: 5B23077 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23077-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/23/2005 (5B23077-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/23/2005 (5B23077-DUP1)						Source: IOB1667-06					
Total Dissolved Solids	880	10	10	mg/l		880			0	10	
Batch: 5B23082 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23082-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 02/23/2005 (5B23082-BS1)											
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			M-NR1
LCS Dup Analyzed: 02/23/2005 (5B23082-BSD1)											
Oil & Grease	16.5	5.0	0.94	mg/l	20.0		82	65-120	4	20	
Batch: 5B23109 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23109-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B23109 Extracted: 02/23/05											
LCS Analyzed: 02/23/2005 (5B23109-BS1)											
Total Suspended Solids	991	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 02/23/2005 (5B23109-DUP1)											
Total Suspended Solids	ND	10	10	mg/l		Source: IOB1557-01 ND				10	
Batch: 5B25063 Extracted: 02/25/05											
Blank Analyzed: 02/25/2005 (5B25063-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/25/2005 (5B25063-BS1)											
Perchlorate	50.7	4.0	0.80	ug/l	50.0		101	85-115			
Matrix Spike Analyzed: 02/26/2005 (5B25063-MS1)											
Perchlorate	50.3	4.0	0.80	ug/l	50.0	Source: IOB1697-02 1.3	98	80-120			
Matrix Spike Dup Analyzed: 02/26/2005 (5B25063-MSD1)											
Perchlorate	51.5	4.0	0.80	ug/l	50.0	Source: IOB1697-02 1.3	100	80-120	2	20	

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Derran 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

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
IOB1556-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.49	5.0	15
IOB1556-01	Antimony-200.8	Antimony	ug/l	0.42	2.0	6.00
IOB1556-01	Boron-200.7	Boron	mg/l	0.0047	0.050	1.00
IOB1556-01	Cadmium-200.8	Cadmium	ug/l	0.034	1.0	4.00
IOB1556-01	Chloride - 300.0	Chloride	mg/l	2.10	0.50	150
IOB1556-01	Copper-200.8	Copper	ug/l	1.70	2.0	14
IOB1556-01	Mercury - 245.1	Mercury	ug/l	0.052	0.20	0.20
IOB1556-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.26	0.11	10.00
IOB1556-01	Perchlorate 314.0	Perchlorate	ug/l	0.30	4.0	6.00
IOB1556-01	Sulfate-300.0	Sulfate	mg/l	4.70	0.50	250
IOB1556-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	71	10	850
IOB1556-01	Thallium-200.8	Thallium	ug/l	0.21	1.0	2.00

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
Received: 02/18/05

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- L2** Laboratory Control Sample recovery was below method control limits.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- 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

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

Del Mar Analytical, Irvine
Wendy Kirkeeng For Michele Harper
Project Manager



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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
 Received: 02/18/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 335.2	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

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR
 Samples: IOB1556-01

Analysis Performed: EDD + Level 4
 Samples: IOB1556-01

Aquatic Testing Laboratories-SUB California Cert #1775

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-Acute 96hr
 Samples: IOB1556-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4
 Samples: IOB1556-01

Analysis Performed: Gross Alpha
 Samples: IOB1556-01

Analysis Performed: Gross Beta
 Samples: IOB1556-01

Analysis Performed: Strontium 90
 Samples: IOB1556-01

Analysis Performed: Tritium
 Samples: IOB1556-01

Del Mar Analytical, Irvine
 Wendy Kirkeeng For Michele Harper
 Project Manager



Del Mar Analytical

17461 Darian 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 (949) 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: Annual Outfall 004

Report Number: IOB1556

Sampled: 02/18/05
Received: 02/18/05

Del Mar Analytical, Irvine
Wendy Kirkeeng For Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1556 <Page 39 of 39>

IOB1556

CHAIN OF CUSTODY FORM

Del Mar Analytical version 5/8/12/04

Client Name/Address:		Project:		ANALYSIS REQUIRED										Field readings:				
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Annual Outfall 004 Stormwater at SRE		Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, + PP	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl ₂ , SO ₄ , NO ₃ +NO ₂ -N, Perchlorate	TDS, TSS	VOCs (624), NPDES + PP	VOCs A+A+2CVE	Pesticides/PCBs - PP	Gross Alpha, Gross Beta, Tritium (906.0°, Sr-90 Radium 226 & 228	SVOCs - PP	Acute Toxicity	Cyanide	Temp = 54.7 pH = 7.4	Comments	
Sample Description	Sample Matrix	Container Type	# of Cont.	Preservative	Sampling Date/Time	Bottle #												
Outfall 004	W	1L Poly	1	HNO3	2-18-05 11:20	1A	X											
Outfall 004-Dup	W	1L Poly	1	HNO3		1B	X											
Outfall 004	W	1L Amber	2	None		2A,2B												
Outfall 004	W	1L Amber	2	HCl		3A, 3B	X											
Outfall 004	W	Poly-500 ml	2	None		4A, 4B												
Outfall 004	W	Poly-500 ml	2	None		5A, 5B		X										
Outfall 004	W	VOAs	3	HCl		6A, 6B, 6C		X										
Outfall 004	W	VOA	3	None		7A, 7B, 7C			X									
Outfall 004	W	1L Amber	2	None		8A, 8B				X								
Outfall 004	W	1 Gal Poly VOAs	1	None		9A					X							
Outfall 004	W	1 Gal Poly VOAs	2	None		9B,9C												
Outfall 004	W	1L Amber	2	None		10A, 10B												
Outfall 004	W	1 Gal Poly	1	None		11A												
Outfall 004	W	500ml Poly	1	NaOH		12												
Trip Blanks	W	VOA	3	None		13A, 13B, 13C												
Trip Blank	W	VOAs	3	HCl		14A, 14B, 14C			X									
Relinquished By	[Signature]		Date/Time:	2-18-05 1400	Received By	[Signature]		Date/Time:	2-18-05 1450									Turn around Time: (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal _____ Perchlorate Only 72 Hours _____ Metals Only 72 Hours _____
Relinquished By	[Signature]		Date/Time:	2-18-05 1830	Received By	[Signature]		Date/Time:	2-18-05 1830									Sample Integrity: (Check) On Ice: _____ Intact _____
Relinquished By	[Signature]		Date/Time:	2-18-05 1830	Received By	[Signature]		Date/Time:	2-18-05 1830									Metals Only 72 Hours _____ Sample Integrity: (Check) On Ice: _____ Intact _____



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 23, 2005

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

Attention: Bronwyn Kelly
Projects: Annual Outfall 004
Sampled: 02/18/05
Del Mar Analytical Number: IOB1556

Dear Ms. Kelly:

Alta Analytical Laboratory performed the Method 1613 Dioxin, Aquatic Testing Laboratories tested Fathead Minnow 96 hr Percent Survival Bioassay (EPA Method 2000.0) and Eberline Services performed the gross alpha/gross beta (EPA 900.0), tritium (H-3, EPA 906.0), and strontium-90 (Sr-90, EPA 905.0) analyses for the projects referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	Alta ID	Aquatic ID	EBERLINE ID
Outfall 004	IOB1556-01	25786-001	A-5021904-001	R502210-01/8289-001

Attached are the original reports from the subcontract laboratories. 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



March 02, 2005

Alta Project I.D.: 25786

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 February 24, 2005 under your Project Name "IOB1556". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,


Martha M. Maier
HRMS Services Director



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: 2/24/2005

Alta Lab. ID

Client Sample ID

25786-001

IOB1556-01

SECTION II



Method Blank		EPA Method 1613					
Matrix:	Aqueous	QC Batch No.:	6543	Lab Sample:	0-MB001		
Sample Size:	1.000 L	Date Extracted:	25-Feb-05	Date Analyzed DB-5:	28-Feb-05		
				Date Analyzed DB-225:	NA		
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.866		IS 13C-2,3,7,8-TCDD	75.9	25 - 164	
1,2,3,7,8-PeCDD	ND	1.15		13C-1,2,3,7,8-PeCDD	73.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.88		13C-1,2,3,4,7,8-HxCDD	70.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.86		13C-1,2,3,6,7,8-HxCDD	73.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.84		13C-1,2,3,4,6,7,8-HpCDD	67.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	3.38		13C-OCDD	56.3	17 - 157	
OCDD	ND	8.88		13C-2,3,7,8-TCDF	78.7	24 - 169	
2,3,7,8-TCDF	ND	0.545		13C-1,2,3,7,8-PeCDF	68.1	24 - 185	
1,2,3,7,8-PeCDF	ND	1.62		13C-2,3,4,7,8-PeCDF	73.3	21 - 178	
2,3,4,7,8-PeCDF	ND	1.45		13C-1,2,3,4,7,8-HxCDF	60.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	1.24		13C-1,2,3,6,7,8-HxCDF	64.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.869		13C-2,3,4,6,7,8-HxCDF	63.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.958		13C-1,2,3,7,8,9-HxCDF	65.2	29 - 147	
1,2,3,7,8,9-HxCDF	ND	1.55		13C-1,2,3,4,6,7,8-HpCDF	54.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	2.22		13C-1,2,3,4,7,8,9-HpCDF	59.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	1.68		13C-OCDF	54.9	17 - 157	
OCDF	ND	4.49		CRS 37Cl-2,3,7,8-TCDD	77.4	35 - 197	
Totals							
Total TCDD	ND	0.866					
Total PeCDD	ND	1.15					
Total HxCDD	ND	1.86					
Total HpCDD	ND	3.38					
Total TCDF	ND	0.545					
Total PeCDF	ND	1.54					
Total HxCDF	ND	1.37					
Total HpCDF	ND	2.38					

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

Analyst: MAS

Approved By:

William J. Luksemburg 02-Mar-2005 08:43



EPA Method 1613

OPR Results		Lab Sample: 0-OPR001		Date Analyzed DB-5: 28-Feb-05		Date Analyzed DB-225: NA	
Matrix:	Aqueous	QC Batch No.:	6543 <th colspan="4"></th>				
Sample Size:	1.000 L	Date Extracted:	25-Feb-05 <th colspan="4"></th>				
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	
2,3,7,8-TCDD	10.0	8.67	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	67.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	43.8	35 - 71	13C-1,2,3,7,8-PeCDD	64.0	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	42.5	35 - 82	13C-1,2,3,4,7,8-HxCDD	58.2	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	43.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	62.5	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	43.7	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	42.5	35 - 70	13C-OCDD	51.4	17 - 157	
OCDD	100	87.0	78 - 144	13C-2,3,7,8-TCDF	72.5	24 - 169	
2,3,7,8-TCDF	10.0	7.98	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	59.4	24 - 185	
1,2,3,7,8-PeCDF	50.0	41.4	40 - 67	13C-2,3,4,7,8-PeCDF	64.8	21 - 178	
2,3,4,7,8-PeCDF	50.0	42.3	34 - 80	13C-1,2,3,4,7,8-HxCDF	49.4	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	42.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	52.7	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	43.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	55.2	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	42.3	35 - 78	13C-1,2,3,7,8,9-HxCDF	53.4	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	43.5	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	45.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	41.8	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	49.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	42.7	39 - 69	13C-OCDF	49.0	17 - 157	
OCDF	100	88.8	63 - 170	<u>CRS</u> 37Cl-2,3,7,8-TCDD	76.2	35 - 197	

Analyst: MAS

Approved By: William J. Luksemburg 02-Mar-2005 08:43



Sample ID: IOB1556-01

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name: Project: Date Collected: Time Collected:	Del Mar Analytical, Irvine IOB1556 18-Feb-05 1120	Matrix: Sample Size:	Aqueous 1.029 L	Lab Sample: QC Batch No.: Date Analyzed DB-5:	25786-001 6543 1-Mar-05	Date Received: Date Extracted: Date Analyzed DB-225:	24-Feb-05 25-Feb-05 NA
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.86		IS 13C-2,3,7,8-TCDD	58.8	25 - 164	
1,2,3,7,8-PeCDD	ND	1.38		13C-1,2,3,7,8-PeCDD	55.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	4.25		13C-1,2,3,4,7,8-HxCDD	58.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	4.14		13C-1,2,3,6,7,8-HxCDD	63.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	4.18		13C-1,2,3,4,6,7,8-HpCDD	57.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	22.6			13C-OCDD	48.6	17 - 157	
OCDD	262			13C-2,3,7,8-TCDF	61.7	24 - 169	
2,3,7,8-TCDF	ND	1.65		13C-1,2,3,7,8-PeCDF	50.9	24 - 185	
1,2,3,7,8-PeCDF	ND	2.94		13C-2,3,4,7,8-PeCDF	53.7	21 - 178	
2,3,4,7,8-PeCDF	ND	2.70		13C-1,2,3,4,7,8-HxCDF	53.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	1.94		13C-1,2,3,6,7,8-HxCDF	60.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	1.86		13C-2,3,4,6,7,8-HxCDF	60.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	2.11		13C-1,2,3,7,8,9-HxCDF	57.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	3.16		13C-1,2,3,4,6,7,8-HpCDF	57.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	4.20			13C-1,2,3,4,7,8,9-HpCDF	58.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	2.86		13C-OCDF	54.2	17 - 157	
OCDF	ND		8.06	CRS 37Cl-2,3,7,8-TCDD	81.4	35 - 197	
Totals							
Total TCDD	ND	1.86					
Total PeCDD	ND	1.38					
Total HxCDD	ND	4.18					
Total HpCDD	42.4						
Total TCDF	ND	1.65					
Total PeCDF	ND	2.81					
Total HxCDF	ND	2.21					
Total HpCDF	11.1						

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

Analyst: JMH

Approved By:

William J. Luksemburg 02-Mar-2005 08:43

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

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

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



CURRENT CERTIFICATIONS

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)

09/28/04



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4867 Fax (909) 370-1046
 9404 Chocomaque Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9396 Fax (619) 505-9638
 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) 788-3620 Fax (702) 788-3621

SUBCONTRACT ORDER - PROJECT # IOB1556

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Alta Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 933-0940 <div style="text-align: right; font-size: 1.2em; margin-top: 10px;"> 25786 1.6°C </div>

Standard TAT is requested unless specific due date is requested => Due Date: 2 weeks Initials: VB

Analysis	Expiration	Comments
Sample ID: IOB1556-01 Water	Sampled: 02/18/05 11:20	
1613-Dioxin-HR	02/25/05 11:20	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4-OUT	03/18/05 11:20	
Containers Supplied:		
1 L Amber (IOB1556-01C)		
1 L Amber (IOB1556-01D)		

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 Property: Yes No Samples Received at (temp): _____

Released By: [Signature] Date: 2-23-05 Time: 1700 Received By: Bethina P. Benedict Date: 2/24/05 Time: 0905

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

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 25786

1. Date Samples Arrived: <u>2/24/05 0905</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
2. Time / Date logged in: <u>1335 2/24/05</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
3. Samples Arrived By: (circle) <u>FedEx</u> UPS World Courier Other:			
4. Shipping Preservation: (circle) <u>Ice</u> <u>Blue Ice</u> / Dry Ice / None Temp °C <u>1.6°C</u>			
5. Shipping Container(s) Intact? If not, describe condition in comment section.	YES	NO	NA
6. Shipping Container(s) Custody Seals Present? Intact? If not intact, describe condition in comment section.	✓		
7. Shipping Documentation Present? (circle) Shipping Label <u>Airbill</u> Tracking Number <u>79043642 7350</u>	✓		
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 <u>Client</u> Retain or <u>Return</u> 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: Samplers initials found on sample label.

ALTA Analytical Laboratory
El Dorado Hills, CA 95762

LABORATORY REPORT

**Aquatic
Testing
Laboratories**



"dedicated to providing quality aquatic toxicity testing"

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

Date: February 23, 2005

Client: Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attn: Michele Harper

Laboratory No.: A-05021904-001
Sample ID.: IOB1556-01

Sample Control: The samples were received by ATL in a chilled state, with the chain of custody record attached.

Date Sampled: 02/18/05
Date Received: 02/19/05
Date Tested: 02/19/05 to 02/23/05

Sample Analysis: The following analyses were performed on your sample:

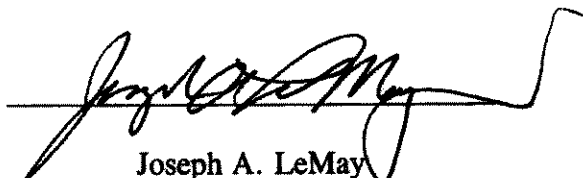
Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).

Attached are the test data generated from the analysis of your sample.

Result Summary:

<u>Sample ID.</u>	<u>Results</u>
IOB1556-01	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:


Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST



Lab No.: A-05021904-001

Client/ID: Del Mar IOB1556-01

Start Date: 02/19/2005

TEST SUMMARY

Species: *Pimephales promelas*.

Age: 12 (1-14) days.

Regulations: NPDES.

Test solution volume: 250 ml.

Feeding: prior to renewal at 48 hrs.

Number of replicates: 2.

Dilution water: Moderately hard reconstituted water.

Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.

Test type: Static-Renewal.

Test Protocol: EPA-821-R-02-012.

Endpoints: Percent Survival at 96 hrs.

Test chamber: 600 ml beakers.

Temperature: 20 +/- 1°C.

Number of fish per chamber: 10.

QA/QC Batch No.: RT-050208.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.0	8.8	7.9	0	0	R 1330
	100%	20.2	9.7	6.8	0	0	
24 Hr	Control	19.3	7.0	7.9	0	0	R 1330
	100%	19.3	7.0	7.5	0	0	
48 Hr	Control	19.6	6.8	7.7	0	0	R 1300
	100%	19.3	5.0	7.3	0	0	
Renewal	Control	19.4	7.7	8.0	0	0	R 1300
	100%	19.5	8.1	7.6	0	0	
72 Hr	Control	19.1	6.8	7.6	0	0	R 1200
	100%	19.1	7.4	7.4	0	0	
96 Hr	Control	19.2	7.5	7.5	0	0	R 1200
	100%	19.1	8.1	7.2	0	0	

Comments:

Sample as received: Chlorine: 0 mg/l; pH: 6.8; Conductivity: 60 umho; Temp: 4°C;

DO: 9.7 mg/l; Alkalinity: 25 mg/l; Hardness: 30 mg/l; NH₃-N: 0.3 mg/l.

Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / No. ()

Control: Alkalinity: 54 mg/l; Hardness: 92 mg/l; Conductivity: 280 umho.

Test solution aerated (not to exceed 100 bubbles/min) to maintain DO > 4.0 mg/l? Yes / No. (X)

Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.

RESULTS

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



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 # IOB1556

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:

Aquatic Testing Laboratories-SUB
4350 Transport Street, Unit 107
Ventura, CA 93003
Phone : (805) 650-0546
Fax: (805) 650-0756

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

Analysis	Expiration	Comments
Sample ID: IOB1556-01 Water	Sampled: 02/18/05 11:20	
Bioassay-Acute 96hr	02/19/05 23:20	FH minnow, EPA/821-R02-012, Sub to AqTox Labs
Containers Supplied: 1 gal Poly (IOB1556-01X)		

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): 4°C

Released By: [Signature] Date: 2-19-05 Time: 11:00 Received By: [Signature] Date: 2-19-05 Time: 11:00
 Released By: [Signature] Date: 2-19-05 Time: 11:00 Received By: [Signature] Date: 2-19-05 Time: 11:00



***REFERENCE
TOXICANT
DATA***

FATHEAD MINNOW ACUTE REFERENCE TOXICANT TEST

QA/QC Batch No.: AT050208

Species: Pimephales promelas
 Test type: Static, renewal at 48hr.
 Test chamber volume: 250 ml.
 Test chamber: 600 ml beakers.
 Number of replicates: 2.
 Photoperiod: 16/8 hrs Light/dark.

TEST SUMMARY

Source: In-Lab Culture.
 Regulations: NEDES.
 Endpoints: LC50 at 96 hrs.
 Temperature: 20 +/- 1°C.
 Number of fish per chamber: 10.
 Ref. toxicant: Sodium dodecyl sulfate (SDS).

Age: 13 days (1-14).

Test Protocol: EPA/600/4-90/027F.

Feeding: Prior to renewal at 48hr.

Aeration: None, unless DO drops below 4.0 mg/l

Dilution water: Mod. hard reconstituted water.

TEST DATA

DATE/TIME:	INITIAL					24 Hr					48 Hr					72 Hr					96 Hr					
	DO	pH	°C	DO	pH	# Dead	°C	DO	pH	# Dead	°C	DO	pH	# Dead	°C	DO	pH	# Dead	°C	DO	pH	# Dead				
<u>2805 1130</u>	<u>8.8</u>	<u>7.8</u>	<u>20.2</u>	<u>8.2</u>	<u>7.5</u>	<u>0</u>	<u>20.2</u>	<u>9.1</u>	<u>7.9</u>	<u>20.2</u>	<u>7.0</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.1</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.1</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>
<u>2805 1200</u>	<u>8.8</u>	<u>7.8</u>	<u>20.1</u>	<u>8.1</u>	<u>7.4</u>	<u>0</u>	<u>20.1</u>	<u>9.3</u>	<u>7.9</u>	<u>20.2</u>	<u>7.1</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>
<u>2805 1200</u>	<u>8.9</u>	<u>7.8</u>	<u>20.1</u>	<u>8.6</u>	<u>7.4</u>	<u>0</u>	<u>20.1</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.3</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>
<u>2805 1200</u>	<u>8.9</u>	<u>7.8</u>	<u>20.2</u>	<u>7.8</u>	<u>7.3</u>	<u>3</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.3</u>	<u>11</u>	<u>10</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>
<u>2805 1200</u>	<u>8.9</u>	<u>7.8</u>	<u>20.2</u>	<u>7.5</u>	<u>7.3</u>	<u>10</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.3</u>	<u>10</u>	<u>10</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>	<u>20.2</u>	<u>9.0</u>	<u>7.9</u>	<u>20.2</u>	<u>7.6</u>	<u>0</u>

Comments:

Control: Alkalinity: 60 mg/l; Hardness: 98 mg/l; Conductivity: 305 umho.
 SDS: Alkalinity: 59 mg/l; Hardness: 97 mg/l; Conductivity: 295 umho.

RESULTS

LC50: 28 mg/l 95% Confidence Limits: ≤ ≤ mg/l

Method: Graphical Trimmed Spearman-Kärber Probit

Acute Fish Test-96 Hr Survival

Start Date: 08 Feb-05 11:00 Test ID: RT-050208f Sample ID: REF-Ref Toxicant
 End Date: 12 Feb-05 12:00 Lab ID: CAATL-Aquatic Testing Labs Sample Type: SDS-Sodium dodecyl sulfate
 Sample Date: 08 Feb-05 00:00 Protocol: EPAA 91-EPA Acute Test Species: PP-Pimephales promelas

Comments:

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

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

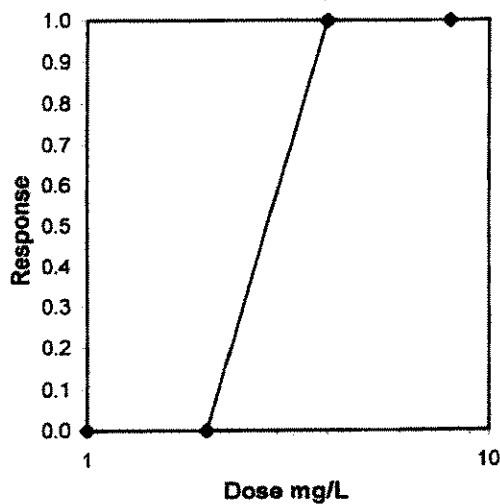
Auxiliary Tests

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

Statistic Critical Skew Kurt

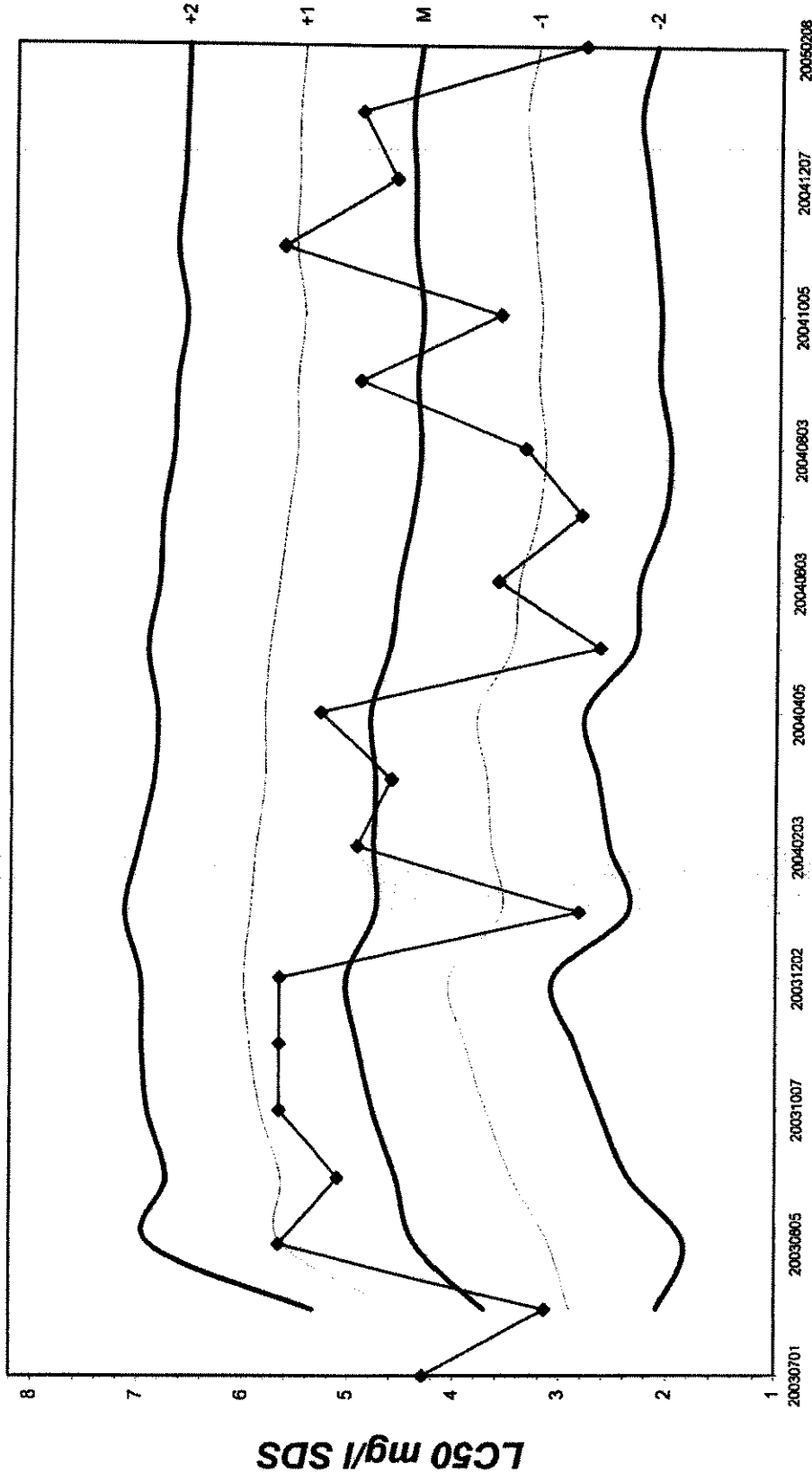
Graphical Method

Trim Level EC50
 0.0% 2.8284



Fathead Minnow Larvae Acute Laboratory Control Chart

CV% = 25.3



Reference Toxicant Tests

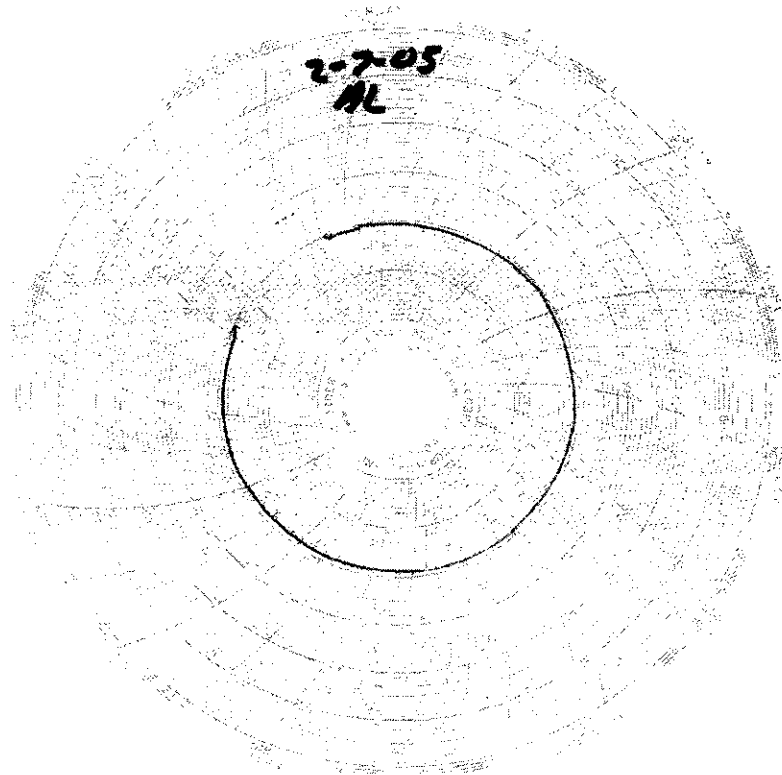


Laboratory Temperature Chart

QA/QC Batch No: RT-050208

Date Tested: 02/08/05 to 02/12/05

Acceptable Range: 20 \pm 1 $^{\circ}$ C





EBERLINE SERVICES

March 15, 2005

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

Reference: Del Mar Analytical Project No. IOB1556
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502210-8289

Dear Ms. Harper:

Enclosed are results from the analyses of one water sample received at Eberline Services on February 23, 2005. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analyses were gross alpha/gross beta (EPA900.0), tritium (H-3, EPA906.0), and strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require matrix spike analyses to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MC/Mnjv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice


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

Eberline Services

ANALYSIS RESULTS

SDG <u>8289</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502210-01</u>	Contract <u>PROJECT# 1081556</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
1081556-01	8289-001	02/18/05	03/08/05	GrossAlpha	0.309 ± 0.49	pCi/L	0.796
			03/08/05	Gross Beta	2.21 ± 1.2	pCi/L	1.76
			03/12/05	H3	0 ± 150	pCi/L	257
			03/12/05	Sr90	0.333 ± 0.22	pCi/L	0.285

Certified by <u></u>
Report Date <u>03/15/05</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8289</u> Work Order <u>R502210-01</u> Received Date <u>02/23/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# IOB1556</u> Matrix <u>WATER</u>
--	---

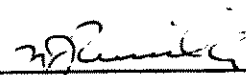
Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8294-003	GrossAlpha	10.9 ± 1.2	pCi/Smpl	10.2	0.313	107% recovery
		Gross Beta	9.49 ± 0.74	pCi/Smpl	10.1	0.546	94% recovery
		H3	214 ± 23	pCi/Smpl	235	25.4	91% recovery
		Sr90	9.75 ± 0.32	pCi/Smpl	10.1	0.145	97% recovery
<u>BLANK</u>							
	8294-004	GrossAlpha	-0.034 ± 0.23	pCi/Smpl	NA	0.415	<MDA
		Gross Beta	-0.236 ± 0.29	pCi/Smpl	NA	0.551	<MDA
		H3	9.66 ± 15	pCi/Smpl	NA	25.1	<MDA
		Sr90	-0.064 ± 0.098	pCi/Smpl	NA	0.140	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-005	GrossAlpha	0.399 ± 0.53	0.874
	Gross Beta	2.91 ± 1.2	1.78
	H3	76.8 ± 150	254
	Sr90	0.884 ± 0.24	0.281

<u>ORIGINALS</u>					
Sample ID	Results ± 2σ	MDA	3σ	RPD (Tot)	Eval
8294-001	0.904 ± 0.74	1.00	-	-	0 satis.
	3.32 ± 1.2	1.79	13	-	88 satis.
	-41.9 ± 150	254	-	-	0 satis.
	0.901 ± 0.24	0.280	2	-	61 satis.

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-006	GrossAlpha	86.0 ± 5.3	0.881
	Gross Beta	72.1 ± 3.5	1.79
	H3	22300 ± 580	252

<u>ORIGINAL SAMPLE</u>						
Sample ID	Results ± 2σ	MDA	Added	%Recv		
8294-002	1.42 ± 0.93	1.19	71.5	118		
	3.75 ± 1.2	1.78	67.2	102		
	-77.0 ± 140	255	23600	95		

Certified by 

Report Date 03/15/05

Page 2



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL. MFR ANALYTIC City IRVINE State CA

Date/Time received 2/23/05 10:00 CoC No. JOB 1556

Container I.D. No. BASIC LAB Requested TAT (Days) 4week P.O. Received Yes [] No []

INSPECTION

- 1. Custody seals on shipping container intact? Yes [✓] No [] N/A []
- 2. Custody seals on shipping container dated & signed? Yes [✓] No [] N/A []
- 3. Custody seals on sample containers intact? Yes [●] No [] N/A [✓]
- 4. Custody seals on sample containers dated & signed? Yes [] No [] N/A [✓]
- 5. Packing material is: Wet [✓] Dry []
- 6. Number of samples in shipping container: 1 Sample Matrix WATER
- 7. Number of containers per sample: 3 (Or see CoC _____)
- 8. Samples are in correct container Yes [✓] No []
- 9. Paperwork agrees with samples? Yes [✓] No []
- 10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels [✓]
- 11. Samples are: In good condition [✓] Leaking [] Broken Container [] Missing []
- 12. Samples are: Preserved [✓] Not preserved [] pH 2 Preservative HNO3
- 13. Describe any anomalies: (1) IN CoC TO 02/18/05 11:20
On the label TO 2/19/05 11:20
- 14. Was P.M. notified of any anomalies? Yes [✓] No [] Date 2/23/05
- 15. Inspected by MK Date: 2/23/05 Time: 10:00

*convert reference date
per Michael Keiper
DNA, 3/9/05
3175
Mum 317*

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

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

APPENDIX G

Section 19

February Outfall 005

AMEC Data Validation Reports

Del Mar Analytical Laboratory Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711DF30
 Task Order 313150010
 SDG No. Multi
 No. of Analyses 13

Laboratory Alta Analytical Perspective

Reviewer H. Chang

Analysis/Method Dioxin&Furans/1613

Date: March 18, 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.,**
 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

Detects below the calibration range were qualified "J."
 False negative and false positives noted.
 Several transcription errors were noted.

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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 13
No. of Reanalyses/Dilutions: 0
Reviewer: H. Chang
Date of Review: March 18, 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 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 AP)	Matrix	COC Method
Outfall 001	IOB0980-01	P5072_2989_007	water	1613B
Outfall 002	IOB0981-01	P5072_2989_013	water	1613B
Outfall 003	IOB0988-01	P5072_2989_012	water	1613B
Outfall 004	IOB1002-01	P5072_2989_009	water	1613B
Outfall 005	IOB0990-01	P5072_2989_006	water	1613B
Outfall 006	IOB0992-01	P5072_2989_010	water	1613B
Outfall 007	IOB0993-01	P5072_2989_002	water	1613B
Outfall 008	IOB0997-01	P5072_2989_004	water	1613B
Outfall 009	IOB0996-01	P5072_2989_003	water	1613B
Outfall 010	IOB1001-01	P5072_2989_001	water	1613B
Outfall 011 Composite	IOB1004-01	P5072_2989_011	water	1613B
Outfall 011	IOB1014-01	P5072_2989_005	water	1613B
Outfall 018	IOB1008-01	P5072_2989_008	water	1613B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ except sample Outfall 009 which was at 8°C . Due to non-volatile nature of the analytes, no qualifications were necessary for the elevated cooler temperature. The samples were received at Pace Analytical with cooler temperatures of 1.6°C , 2.3°C , and 3°C . The samples were received at Alta Analytical Perspectives with cooler temperatures of 1°C and 3°C . According to the laboratory login sheets, all samples were received intact and in good condition at Del Mar and Alta AP. No sample conditions were available for review for the sample receipt at Pace. No qualifications were required.

2.1.2 Chain of Custody

It appears that the samples were initially sent from Del Mar Analytical to Pace Analytical then subsequently shipped to Alta Analytical Perspectives. The COCs from the field to Del Mar, Del Mar to Pace, and Pace to Alta were available for review. The COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. The custody seals were not present on the coolers upon receipt at either Del Mar or Alta. No custody seal information was available for Pace. 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 Column Performance Check Standard (CPSM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to initial calibration analysis. A separate CPSM was not analyzed for daily analytical sequence; instead, CPSM compounds were added to OPR analysis. 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

There was one initial calibrations, analyzed 08/12/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was acceptable with %RSDs $\leq 20\%$ for the native compounds and $\leq 35\%$ for the labeled compounds. The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

2.4 BLANKS

One method blank (0_2989_MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (0_2989_OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. The laboratory reported total PeCDFs detects in samples Outfall 005, Outfall 006, Outfall 007, and Outfall 011. The reviewer deemed the signals used to be below the signal-to-noise ratio of 2.5 and the results were changed to nondetects. A false negative for total HxCDD was noted in sample Outfall 001 and was changed to a detect. No further qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the lower method calibration level (MCL) were qualified as estimated, "J." The laboratory did not flag OCDD in samples Outfall 002 and Outfall 003 although the reported concentrations were below the lower MCL. OCDD in these samples was qualified as estimated, "J." In addition, Alta analyzed an additional calibration standard at concentrations below the level specified in the method. Not all results below the lower MCLs were flagged as estimated by the laboratory. These results were qualified as estimated, "J," by the reviewer. The laboratory also did not flag detects below the lower MCL for totals as estimated. These totals were qualified as estimated, "J." The "DNQ" qualification code was applied only if all components of the totals were below the lower MCL. Total HpCDF in samples Outfall 001 and Outfall 010 had one of the components below the lower MCL but one within the MCL. Total HpCDF in these samples were qualified as estimated, "J."

The laboratory indicated that one of the non-2,3,7,8 substituted HxCDD detect, present in majority of the samples, was due to recovery standard (13C-1,2,3,4,6,7-HxCDD) contribution. This compound was also present in the method blank. This compound was not included in the total HxCDD concentration. Several total HxCDD results could not be reproduced from the raw data by the reviewer and were hand-corrected on the Form I. No further qualifications were required.

Sample ID: IOB0990-01 *Outfall 005*


Method 1613

Client Data		Sample Data		Laboratory Data	
Name: Pace Inc.	Matrix: Aqueous	Project No.: P5072	Date Received: 01 Mar 05	ES	CS
Date Collected: 11 Feb 05	Weight/Volume: pH	Sample ID: P5072_2989_006	Date Extracted: 01 Mar 05	68.7	73.8
		QC Batch No.: 2989	Date Analyzed: 03 Mar 05	69.4	78.6
				74.5	83.5
				83.2	83.5
				78.1	83.5
				67.8	61.4
				53.6	61.4

Rev Qual
Qual Code

Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries
2,3,7,8-TCDD	ND	2.29			
1,2,3,7,8-PeCDD	ND	3.2			
1,2,3,4,7,8-HxCDD	ND	4.19			
1,2,3,6,7,8-HxCDD	ND	4.11			
1,2,3,7,8,9-HxCDD	ND	4.95			
1,2,3,4,6,7,8-HpCDD	ND	5.34			
OCDD	56.1	19.6			
2,3,7,8-TCDF	ND	1.37			
1,2,3,7,8-PeCDF	ND	3.71			
2,3,4,7,8-PeCDF	ND	3.89			
1,2,3,4,7,8-HxCDF	ND	1.39			
1,2,3,6,7,8-HxCDF	ND	1.3			
2,3,4,6,7,8-HxCDF	ND	1.73			
1,2,3,7,8,9-HxCDF	ND	2.59			
1,2,3,4,6,7,8-HpCDF	ND	3.26			
1,2,3,4,7,8,9-HpCDF	ND	4.59			
OCDF	ND	14.9			

Totals & TEQs	Conc.	DL	EMPC	Qualifier	Recoveries
TCDDs	ND	2.29			
PeCDDs	ND	3.2			
HxCDDs	ND	4.43			
HpCDDs	ND	5.34			
TCDFs	ND	1.37			
PeCDFs	0-256 ND	3.8			
HxCDFs	ND	1.69			
HpCDFs	ND	3.9			
Total PCDD/Fs	56.4-56.1		56.4-56.1		



ALTA ANALYTICAL PERSPECTIVES
 2714 Exchange Drive
 Wilmington
 North Carolina 28405
 USA
 Tel: 910 794-1613
 Fax: 910 794-3919
 e-mail: yf@ultratrace.com
 web: www.ultratrace.com

Checkcode: 5797

AMEC VALIDATED

LEVEL IV

AAP 2005 Rev. B

Reviewer
Date



DATA VALIDATION REPORT

NPDES
Monitoring

ANALYSIS: METALS

SAMPLE DELIVERY GROUPS: IOB0988, IOB0990, & IOB0992

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#: IOB0988, IOB0990, IOB0992
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 3
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 21, 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 6010B for Inductively Coupled Plasma*, *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 003	Outfall 003	IOB0988-01	water	ILM04
Outfall 005	Outfall 005	IOB0990-01	water	ILM04
Outfall 006	Outfall 006	IOB0992-01	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 metals analyte list was changed per a memo from MWH personnel dated 02/17/05. Duplicate samples were submitted for all samples in these SDGs; however, duplicate analyses were not required. 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/MS metals. 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/MS metals. The reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

2.4 BLANKS

Lead was not detected in the method blank or associated CCBs. No 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 interferences sulfur, phosphorus, carbon, and chloride, and antimony, selenium, thallium, and lead were not spiked into the ICSAB solution. The results for sodium and potassium were above the calibration range of the instrument in the ICSA and ICSAB analyses; however, as these analytes were not reported in the site sample, no qualifications were required. The result for aluminum was above the calibration range in the ICSA and was recovered below the control limit in the ICSAB analysis associated with Outfall 003 and Outfall 005; however, as aluminum was not reported for these samples, no qualifications were required. No assessment could be made with respect to possible interference from sulfur, phosphorus, carbon, and chloride. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS sample was identified as 5B17099-BS1. The LCS result on the summary forms and in the raw data were within the laboratory-established ICP/MS control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

MS/MSD analyses were performed on Outfall 005 in association with the samples in these SDGs. The RPD was less than the control limit of 20%. No qualifications were required.

2.8 MATRIX SPIKE

MS/MSD analyses were performed on Outfall 005 in association with the samples in these SDGs. The recoveries were within the AMEC control limits of 75-125%. No qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis 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. Lead detected below the reporting limit in Outfall 003 and Outfall 005 was 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.

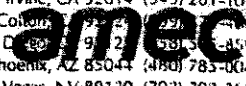
2.13.2 Field Duplicates

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, Corona, CA 92625 (949) 370-1046 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 444-4596 FAX (619) 505-9639
 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 005

Report Number: IOB0990

Sampled: 02/11/05

Received: 02/11/05

DRAFT: METALS

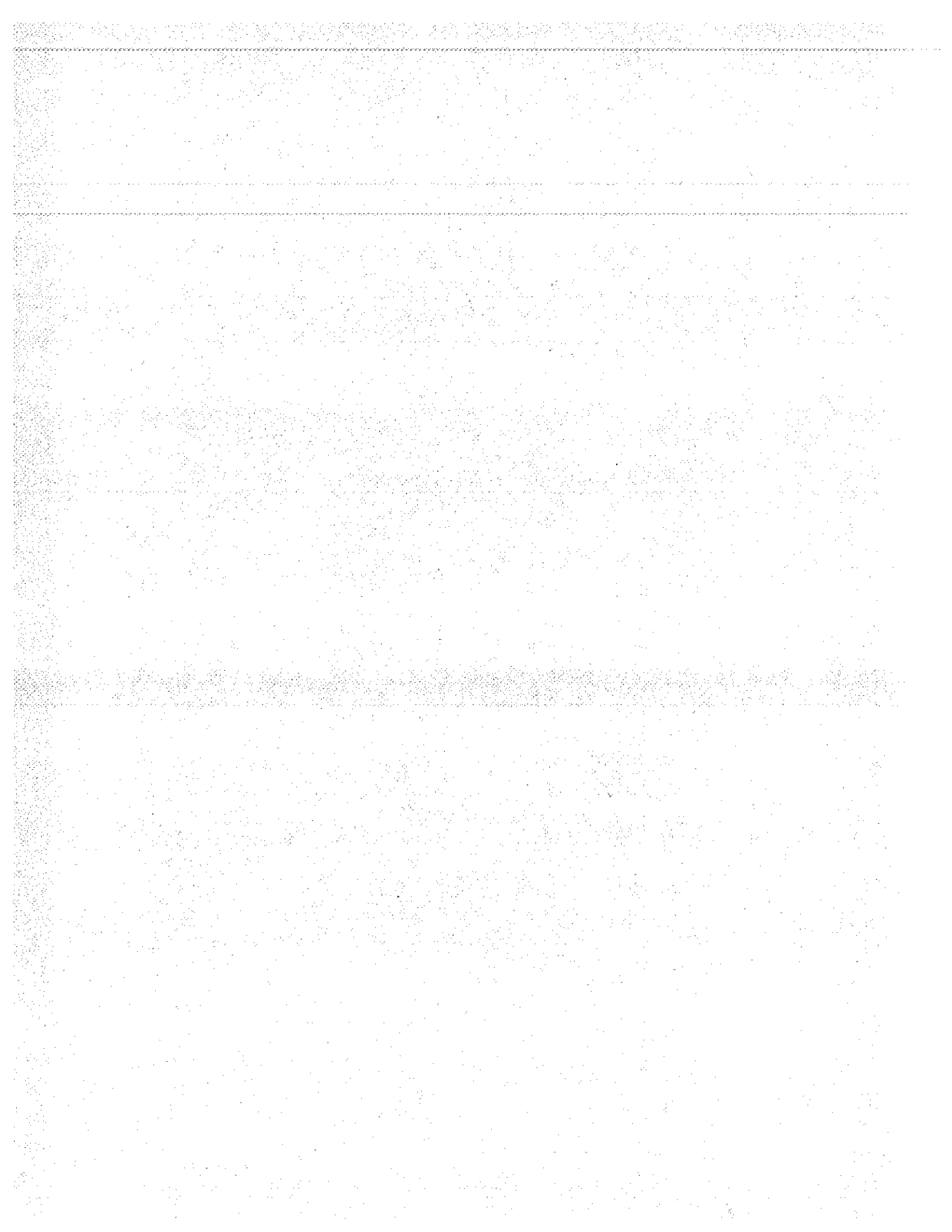
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0990-01 (DRAFT: Outfall 005 - Water)									
Reporting Units: ug/l									
Lead	EPA 200.8	5B17099	0.13	1.0	0.33	1	02/17/05	02/17/05	J J DNQ

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





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 (949) 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

LABORATORY REPORT

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

Project: Routine Outfall 005

Sampled: 02/11/05
Received: 02/11/05
Issued: 03/23/05 18:25

NELAP #01108CA California ELAP#1197 CSDLAC #10117

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 5 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.*

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IOB0990-01

CLIENT ID
Outfall 005

MATRIX
Water

Reviewed By:

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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 (949) 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 005

Report Number: IOB0990

Sampled: 02/11/05
Received: 02/11/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0990-01 (Outfall 005 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	5B17099	0.18	2.0	0.44	1	02/17/05	02/17/05	B, J
Cadmium	EPA 200.8	5B17099	0.015	1.0	0.020	1	02/17/05	02/17/05	J
Copper	EPA 200.8	5B17099	0.49	2.0	0.66	1	02/17/05	02/17/05	J
Lead	EPA 200.8	5B17099	0.13	1.0	0.33	1	02/17/05	02/17/05	J
Mercury	EPA 245.1	5B15070	0.063	0.20	0.082	1	02/15/05	02/15/05	J

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB0990 <Page 2 of 11>



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 (949) 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 005

Report Number: IOB0990

Sampled: 02/11/05

Received: 02/11/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB0990-01 (Outfall 005 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	5B11120	0.26	0.50	ND	1	02/11/05	02/12/05	
Nitrate/Nitrite-N	EPA 300.0	5B11120	0.072	0.26	0.26	1	02/11/05	02/12/05	
Oil & Grease	EPA 413.1	5B16097	0.94	5.0	ND	1	02/16/05	02/16/05	
Sulfate	EPA 300.0	5B11120	0.18	0.50	0.41	1	02/11/05	02/12/05	J
Total Dissolved Solids	SM2540C	5B16118	10	10	82	1	02/16/05	02/16/05	
Total Suspended Solids	EPA 160.2	5B17069	10	10	ND	1	02/17/05	02/17/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Routine Outfall 005

Report Number: IOB0990

Sampled: 02/11/05
Received: 02/11/05

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 005 (IOB0990-01) - Water EPA 300.0	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
	2	02/11/2005 08:55	02/11/2005 18:15	02/11/2005 23:00	02/12/2005 04:35

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 005

Report Number: IOB0990

Sampled: 02/11/05

Received: 02/11/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B15070 Extracted: 02/15/05										
Blank Analyzed: 02/15/2005 (5B15070-BLK1)										
Mercury	ND	0.20	0.063	ug/l						
LCS Analyzed: 02/15/2005 (5B15070-BS1)										
Mercury	8.18	0.20	0.063	ug/l	8.00		102	85-115		
Matrix Spike Analyzed: 02/15/2005 (5B15070-MS1)										
Mercury	8.26	0.20	0.063	ug/l	8.00	ND	103	70-130		
Matrix Spike Dup Analyzed: 02/15/2005 (5B15070-MSD1)										
Mercury	8.26	0.20	0.063	ug/l	8.00	ND	103	70-130	0	20
Batch: 5B17099 Extracted: 02/17/05										
Blank Analyzed: 02/17/2005 (5B17099-BLK1)										
Antimony	0.511	2.0	0.18	ug/l						
Cadmium	ND	1.0	0.015	ug/l						
Copper	ND	2.0	0.49	ug/l						
Lead	ND	1.0	0.13	ug/l						
LCS Analyzed: 02/17/2005 (5B17099-BS1)										
Antimony	87.8	2.0	0.18	ug/l	80.0		110	85-115		
Cadmium	75.9	1.0	0.015	ug/l	80.0		95	85-115		
Copper	78.0	2.0	0.49	ug/l	80.0		98	85-115		
Lead	79.9	1.0	0.13	ug/l	80.0		100	85-115		
Matrix Spike Analyzed: 02/17/2005 (5B17099-MS1)										
Antimony	85.8	2.0	0.18	ug/l	80.0	0.44	107	70-130		
Cadmium	75.3	1.0	0.015	ug/l	80.0	0.020	94	70-130		
Copper	79.3	2.0	0.49	ug/l	80.0	0.66	98	70-130		
Lead	81.6	1.0	0.13	ug/l	80.0	0.33	102	70-130		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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 005

Report Number: IOB0990

Sampled: 02/11/05
 Received: 02/11/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B17099 Extracted: 02/17/05											
Matrix Spike Dup Analyzed: 02/17/2005 (5B17099-MSD1)						Source: IOB0990-01					
Antimony	84.3	2.0	0.18	ug/l	80.0	0.44	105	70-130	2	20	
Cadmium	75.1	1.0	0.015	ug/l	80.0	0.020	94	70-130	0	20	
Copper	79.1	2.0	0.49	ug/l	80.0	0.66	98	70-130	0	20	
Lead	81.1	1.0	0.13	ug/l	80.0	0.33	101	70-130	1	20	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 005 Report Number: IOB0990	Sampled: 02/11/05 Received: 02/11/05
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B11120 Extracted: 02/11/05											
Blank Analyzed: 02/11/2005 (5B11120-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: 02/11/2005 (5B11120-BS1)											
Chloride	4.84	0.50	0.26	mg/l	5.00		97	90-110			
Sulfate	10.0	0.50	0.18	mg/l	10.0		100	90-110			
Matrix Spike Analyzed: 02/12/2005 (5B11120-MS1) Source: IOB0980-01											
Chloride	15.6	0.50	0.26	mg/l	5.00	11	92	80-120			
Sulfate	38.7	0.50	0.18	mg/l	10.0	29	97	80-120			
Matrix Spike Dup Analyzed: 02/12/2005 (5B11120-MSD1) Source: IOB0980-01											
Chloride	15.8	0.50	0.26	mg/l	5.00	11	96	80-120	1	20	
Sulfate	39.3	0.50	0.18	mg/l	10.0	29	103	80-120	2	20	
Batch: 5B16097 Extracted: 02/16/05											
Blank Analyzed: 02/16/2005 (5B16097-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 02/16/2005 (5B16097-BS1) M-NR1											
Oil & Grease	16.2	5.0	0.94	mg/l	20.0		81	65-120			
LCS Dup Analyzed: 02/16/2005 (5B16097-BSD1)											
Oil & Grease	18.3	5.0	0.94	mg/l	20.0		92	65-120	12	20	

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 005

Report Number: IOB0990

Sampled: 02/11/05

Received: 02/11/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 5B16118 Extracted: 02/16/05											
Blank Analyzed: 02/16/2005 (5B16118-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/16/2005 (5B16118-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/16/2005 (5B16118-DUP1)											
Total Dissolved Solids	756	10	10	mg/l		750			1	10	
Batch: 5B17069 Extracted: 02/17/05											
Blank Analyzed: 02/17/2005 (5B17069-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 02/17/2005 (5B17069-BS1)											
Total Suspended Solids	977	10	10	mg/l	1000		98	85-115			
Duplicate Analyzed: 02/17/2005 (5B17069-DUP1)											
Total Suspended Solids	ND	10	10	mg/l		ND				10	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Routine Outfall 005

Report Number: IOB0990

Sampled: 02/11/05
Received: 02/11/05

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
IOB0990-01	413.1 Oil and Grease	Oil & Grease	mg/l	-1	5.0	15
IOB0990-01	Antimony-200.8	Antimony	ug/l	0.44	2.0	6.00
IOB0990-01	Cadmium-200.8	Cadmium	ug/l	0.020	1.0	4.00
IOB0990-01	Chloride - 300.0	Chloride	mg/l	0.24	0.50	150
IOB0990-01	Copper-200.8	Copper	ug/l	0.66	2.0	14
IOB0990-01	Mercury - 245.1	Mercury	ug/l	0.082	0.20	0.20
IOB0990-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.26	0.26	10.00
IOB0990-01	Sulfate-300.0	Sulfate	mg/l	0.41	0.50	250
IOB0990-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	82	10	850

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
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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 005

Report Number: IOB0990

Sampled: 02/11/05

Received: 02/11/05

DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of unknown quality.
- 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

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB0990 <Page 10 of 11>



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 (949) 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 005

Report Number: IOB0990

Sampled: 02/11/05
 Received: 02/11/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
SM2540C	Water	X	X

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

Subcontracted Laboratories

Alta Analytical Perspectives

Analysis Performed: 1613-Dioxin-HR
 Samples: IOB0990-01
 Analysis Performed: EDD + Level 4
 Samples: IOB0990-01

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

1789990 219

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5 B/12/04

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Annual Outfall 005 Stormwater at FSDF-1		ANALYSIS REQUIRED										Field readings: Temp = 54.1 pH = 7.6			
Project Manager: Bronwyn Kelly		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Total Recoverable Metals: Al, + PP Sb, Cd, Cu, Pb, Hg, B, V, X										Comments			
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl-, SO4, NO3+NO2-N, Perchlorate	TDS, TSS	VOCs (624), NPDES + PP	VOCs A+A+2CVE	Pesticides/PCBs - PP	Gross Alpha, Gross Beta, Tritium (906.0°, Sr-90 (905.) Total Combined Radium 226 & 228	SVOCs - PP	Acute Toxicity	Cyanide
Outfall 005	W	1L Poly	1	2-11-05 08:55	HNO3	1A											
Outfall 005-Dup	W	1L Poly	1		HNO3	1B	X										
Outfall 005	W	1L Amber	2		None	2A, 2B											
Outfall 005	W	1L Amber	2		HCl	3A, 3B	X										
Outfall 005	W	Poly-500 ml	2		None	4A, 4B											
Outfall 005	W	Poly-500 ml	2		None	5A, 5B		X									
Outfall 005	W	VOAs	3		HCl	6A, 6B, 6C				X							
Outfall 005	W	VOA	3		None	7A, 7B, 7C											
Outfall 005	W	1L Amber	2		None	8A, 8B											
Outfall 005	W	1 Gal Poly VOAs	1		None	9A											
Outfall 005	W	1 Gal Poly VOAs	2		None	9B, 9C											
Outfall 005	W	500ml Poly	1		NaOH	12											
Trip Blanks	W	VOA	3		None	13A, 13B, 13C						X					
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C					X						
Relinquished By	Date/Time:		Received By		Date/Time:		Turn around Time: (check)										
<i>[Signature]</i>	2-11-05 1420		<i>[Signature]</i>		2/11/05 1420		24 Hours _____ 5 Days _____										
Relinquished By	Date/Time:		Received By		Date/Time:		48 Hours _____ 10 Days _____										
<i>[Signature]</i>	2/11/05 1815		<i>[Signature]</i>		2/11/05 1815		72 Hours _____ Normal _____										
Relinquished By	Date/Time:		Received By		Date/Time:		Perchlorate Only 72 Hours _____										
<i>[Signature]</i>	2-11-05 18:15		<i>[Signature]</i>		2-11-05 18:15		Metals Only 72 Hours _____										
Sample Integrity: (Check) On Ice: <input checked="" type="checkbox"/> 4°C																	

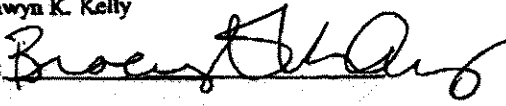
[Signature]

F A X**MWH**

300 N. Lake Ave., Suite 1200
Pasadena, California 91101
Tel: 626-568-6691
Fax: 626-568-6515

Date: 02/17/05

To: Michele Harper / Del Mar Analytical Fax No: 949-260-3297
Patti Meeks / AMEC 303-935-6575
Krisi McIlvanna / MWH 925-975-3412

From: Bronwyn K. Kelly
sig: 

Subject: Chain-of-Custody Form Analytical Request Change No. of Pages: 2
(including cover)

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

Del Mar Work Order #	Sample ID	Date Collected	Change(s) Requested, Not Completed	Change(s) and Method (s) Now Requested
IOB0988	Outfall 003	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity, Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1002	Outfall 004	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity, Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB0990	Outfall 005	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity, Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.

IOB0992	Outfall 006	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N)3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB100K	Outfall 018	02/11/05	Annual Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Al, +PP; TCDD (and all congeners); Oil and Grease (EPA 413.1); Cl-, SO4, N)3+NO2-N, Perchlorate; TDS, TSS VOCs (624); VOCs, A+A+2CVE; NPDES + PP; Pesticides/PCBs-PP; Gross Alpha, Gross Beta, Tritium (906.0), Sr-90, Total Combined Radium 226&228; SVOCs - PP; Acute toxicity; Cyanide.	Routine Constituents per 2004 NPDES Permit - Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg; TCDD (and all congeners); Oil and Grease (EPA 413.1); TDS, TSS.
IOB1014	Outfall 011	02/11/04	Chromium IV	
IOA0131	Outfall 011 -- Composite	01/04/05		Ammonia, BOD, Chloride, Nitrate/Nitrite as N, Oil and Grease, Sulfate, MBAS, TDS, TSS, TOC, Settleable Solids, Turbidity, Cr, Cyanide, perchlorate, Conductivity, Cu, Hg, TCDD
IOA0121	Outfall 011 - Grab	01/04/05		Total Recoverable Hydrocarbons, Extractable Fuel Hydrocarbons, GRO, Fluoride, Residual Chlorine, TOC, Cr VI, 1,4-Dioxane, Monomethyl Hydrazine, Bioassays, SVOC (625)-PP list, Pcs/PCB-PP list (608), Total Recoverable Metals, Cyclohexane & Freon 123a & A+A+2CVE (624), Radchem

The reason for these changes:

Incorrectly marked on COC form

Lack of sample volume

MWH office personnel require this change

Other: Containers mislabeled

 x

 x

This Change Order supersedes all previous change orders submitted.

Thank you

Branigan



2852 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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

March 23, 2005

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

Attention: Bronwyn Kelly
Project: Routine Outfall 005
Sampled: 02/11/05
Del Mar Analytical Number: IOB0990

Dear Ms. Kelly:

Alta Analytical Perspectives performed the EPA Method 1613 Dioxin analysis for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	Del Mar ID	Alta ID
Outfall 005	IOB0990-01	P5072 2989 006

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


ALTA ANALYTICAL PERSPECTIVES

3 March 2005

Scott Unze
 Pace Analytical Services
 1700 Elm Street
 Minneapolis, MN 55414

Ph.: 612-607-1700
 Fax: 612-607-6444

Subject: Certificate of Results

Dear Scott;

Attached to this narrative are the analytical results you requested on the samples submitted for the determination of polychlorinated dibenzo-*p*-dioxins and dibenzofurans. The insert below summarizes the relevant information pertaining to your project. In particular, the QC annotations bring to your attention specific analytical observations and assessments made during the sample handling and data interpretation phases. A brief description of the report's components is provided on the next page.

Project Information Summary	When applicable, see QC Annotations for details
Client Project No.	
AAP Project No.	P5072
Analytical Protocol	Method 1613B
No. Samples Submitted	13
No. Samples Analyzed	13
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
No. Outstanding Samples	0
Date Received	1-Mar-2005
Condition Received	good
Temperature upon Receipt (C)	1-3
Extraction within Holding Time	yes
Analysis within Holding Time	yes
Data meet QA/QC Requirements	yes
Exceptions	none
Analytical Difficulties	none

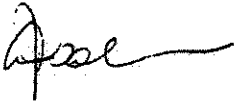
2714 EXCHANGE DRIVE
 WILMINGTON
 NORTH CAROLINA 28405
 TEL: 910-794-1613 FAX 910-794-3919

QC Annotations:

1. A "J" data qualifier is used for analytes with a concentration below the reporting limit.

Alta Analytical Perspectives remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please, do not hesitate to contact us. We wanted to thank you for choosing Alta Analytical Perspectives as part of your analytical support team.




Sincerely,



Amy J. Boehm
Project Manager

Sample ID: IOB0990-01

Method 1613

Client Data		Sample Data		Laboratory Data																																																								
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	01 Mar 05																																																					
Project ID:	General Analytical HRMS	Weight/Volume:	1.02 L	Sample ID:	P5072_2989_006	Date Extracted:	01 Mar 05																																																					
Date Collected:	11 Feb 05	pH	6	QC Batch No.:	2989	Date Analyzed:	03 Mar 05																																																					
Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries																																																							
					ES	CS																																																						
2,3,7,8-TCDD	ND	2.29			88.7	73.8																																																						
1,2,3,7,8-PeCDD	ND	3.2			89.4	78.6																																																						
1,2,3,4,7,8-HxCDD	ND	4.19			74.5	83.6																																																						
1,2,3,6,7,8-HxCDD	ND	4.11			83.2	83.6																																																						
1,2,3,7,8,9-HxCDD	ND	4.95			78.1	83.6																																																						
1,2,3,4,6,7,8-HpCDD	ND	5.34			67.8	61.4																																																						
OCDD	56.1	19.6			53.8	61.4																																																						
2,3,7,8-TCDF	ND	1.37			89.9	73.8																																																						
1,2,3,7,8-PeCDF	ND	3.71			76.6	76.4																																																						
2,3,4,7,8-PeCDF	ND	3.89			67.9	76.4																																																						
1,2,3,4,7,8-HxCDF	ND	1.39			76.1	83.5																																																						
1,2,3,6,7,8-HxCDF	ND	1.3			81.5	83.5																																																						
2,3,4,6,7,8-HxCDF	ND	1.73			71.4	83.5																																																						
1,2,3,7,8,9-HxCDF	ND	2.59			67.5	83.5																																																						
1,2,3,4,6,7,8-HpCDF	ND	3.26			55.4	61.4																																																						
1,2,3,4,7,8,9-HpCDF	ND	4.59			59.7	61.4																																																						
OCDF	ND	14.9			52.2	61.4																																																						
<table border="0"> <tr> <td>Totals & TEQs</td> <td></td> <td></td> <td></td> <td></td> <td colspan="3" rowspan="10">  ALTA ANALYTICAL PERSPECTIVES 2714 Exchange Drive Wilmington North Carolina 28405 USA Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com </td> </tr> <tr> <td>TCDDs</td> <td>ND</td> <td>2.29</td> <td></td> <td></td> </tr> <tr> <td>PeCDDs</td> <td>ND</td> <td>3.2</td> <td></td> <td></td> </tr> <tr> <td>HxCDDs</td> <td>ND</td> <td>4.43</td> <td></td> <td></td> </tr> <tr> <td>HpCDDs</td> <td>ND</td> <td>5.34</td> <td></td> <td></td> </tr> <tr> <td>TCDFs</td> <td>ND</td> <td>1.37</td> <td></td> <td></td> </tr> <tr> <td>PeCDFs</td> <td>0.256</td> <td>3.8</td> <td></td> <td></td> </tr> <tr> <td>HxCDFs</td> <td>ND</td> <td>1.69</td> <td></td> <td></td> </tr> <tr> <td>HpCDFs</td> <td>ND</td> <td>3.9</td> <td></td> <td></td> </tr> <tr> <td>Total PCDD/Fs</td> <td>56.4</td> <td></td> <td>56.4</td> <td></td> </tr> </table>								Totals & TEQs					 ALTA ANALYTICAL PERSPECTIVES 2714 Exchange Drive Wilmington North Carolina 28405 USA Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com			TCDDs	ND	2.29			PeCDDs	ND	3.2			HxCDDs	ND	4.43			HpCDDs	ND	5.34			TCDFs	ND	1.37			PeCDFs	0.256	3.8			HxCDFs	ND	1.69			HpCDFs	ND	3.9			Total PCDD/Fs	56.4		56.4	
Totals & TEQs					 ALTA ANALYTICAL PERSPECTIVES 2714 Exchange Drive Wilmington North Carolina 28405 USA Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com																																																							
TCDDs	ND	2.29																																																										
PeCDDs	ND	3.2																																																										
HxCDDs	ND	4.43																																																										
HpCDDs	ND	5.34																																																										
TCDFs	ND	1.37																																																										
PeCDFs	0.256	3.8																																																										
HxCDFs	ND	1.69																																																										
HpCDFs	ND	3.9																																																										
Total PCDD/Fs	56.4		56.4																																																									

Checkcode: 5797


AAP 2005 Rev. B

Reviewer
Date

[Signature]
03 Mar 05

Sample ID: 0_2989_MB001

Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Pace Inc.	Matrix:	Aqueous	Project No.:	P5072	Date Received:	n/a
Project ID:	General Analytical HRMS	Weight/Volume:	1.00 L	Sample ID:	0_2989_MB001	Date Extracted:	01 Mar 05
Date Collected:	n/a	pH	6	QC Batch No.:	2989	Date Analyzed:	02 Mar 05
Analyte	Conc. pg/L	DL pg/L	EMPC pg/L	Qualifier	Recoveries		
					ES	CS	
2,3,7,8-TCDD	ND	1.65			75.2	80.6	
1,2,3,7,8-PeCDD	ND	1.55			70.5	83.7	
1,2,3,4,7,8-HxCDD	ND	2.57			80	86.4	
1,2,3,6,7,8-HxCDD	ND	2.4			91.5	86.4	
1,2,3,7,8,9-HxCDD	ND	2.8			86	86.4	
1,2,3,4,6,7,8-HpCDD	ND	1.98			74.9	69.8	
OCDD	ND	4.78			87.4	69.8	
2,3,7,8-TCDF	ND	1.04			81.1	80.6	
1,2,3,7,8-PeCDF	ND	1.91			85.1	82.9	
2,3,4,7,8-PeCDF	ND	1.98			76.6	82.9	
1,2,3,4,7,8-HxCDF	ND	0.812			79.4	86.4	
1,2,3,6,7,8-HxCDF	ND	0.764			86.7	86.4	
2,3,4,6,7,8-HxCDF	ND	1.01			77.8	86.4	
1,2,3,7,8,9-HxCDF	ND	1.42			75.8	86.4	
1,2,3,4,6,7,8-HpCDF	ND	1.78			64.7	69.8	
1,2,3,4,7,8,9-HpCDF	ND	2.67			65.1	69.8	
OCDF	ND	11.1			67.2	69.8	
Totals & TEQs							
TCDDs	ND	1.65			 <p>ALTA ANALYTICAL PERSPECTIVES</p> <p>2714 Exchange Drive Wilmington North Carolina 28405 USA</p> <p>Tel: 910 794-1613 Fax: 910 794-3919 e-mail: yt@ultratrace.com web: www.ultratrace.com</p>		
PeCDDs	ND	1.55					
HxCDDs	ND	2.59					
HpCDDs	ND	1.98					
TCDFs	ND	1.04					
PeCDFs	ND	1.94					
HxCDFs	ND	0.974					
HpCDFs	ND	2.19					
Total PCDD/Fs	0		0				

AAP 2005 Rev. B

Checkcode: 3385

Reviewer
Date

[Signature]
25 Mar 05

P5072 - TEQ
 Project ID: General Analytical HRMS

Sample Summary
 Part 1

GENERAL ANALYTICAL LABORATORY

Method 1613

Analyte	0_2888_MB 001	IOB1001-01	IOB0993-01	IOB0996-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0990-01	IOB1006-01	IOB1002-01	IOB0992-01	IOB1004-01	IOB0995-01	IOB0991-01
	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L	pp/L
2,3,7,8-TCDD	(1.85)	(2.29)	(2.06)	(2.02)	(1.34)	(1.71)	(2.29)	(2.55)	(1.81)	(1.44)	(2.87)	(1.79)	(3.24)	(3.01)
1,2,3,7,8-PeCDD	(1.55)	(1.65)	(1.79)	(2.09)	(2.11)	(1.73)	(3.2)	(1.89)	(1.82)	(2.04)	(3.14)	(2.92)	(2.18)	(5.38)
1,2,3,4,7,8-HxCDD	(2.57)	(3.45)	(2.39)	(2.71)	(2.48)	(3.89)	(4.18)	(2.42)	3.57	(2.74)	(5.91)	(12.2)	(4.91)	(4.94)
1,2,3,7,8-HxCDD	(2.4)	(3.21)	(2.57)	(2.7)	(2.34)	(3.8)	(4.11)	(2.41)	8.47	(2.66)	(5.98)	(12)	(4.84)	(4.7)
1,2,3,7,8,9-HxCDD	(2.8)	(3.53)	(3.13)	(3.33)	(2.82)	(4.95)	(2.88)	(2.88)	5.27	(3.13)	(7.12)	(13.8)	(5.54)	(5.81)
1,2,3,4,6,7,8-HpCDD	(1.98)	75.4	31.5	10	(9.38)	12.2	(5.34)	49.8	207	12.1	(10.8)	20.5	(3.19)	(5.5)
OCDD	(4.78)	883	267	134	70.4	157	56.1	471	2120	163	70.2	213	50.3	30
2,3,7,8-TCDF	(1.04)	(1.24)	(1.84)	(1.85)	(0.995)	(2.08)	(1.37)	(1.64)	(1.49)	(1.03)	(2.58)	(2.71)	(2.39)	(2.61)
1,2,3,7,8-PeCDF	(1.91)	(1.79)	(2.75)	(1.44)	(2.33)	(1.84)	(3.71)	(1.98)	(2.35)	(2.11)	(4.02)	(2.52)	(2.98)	(2.45)
1,2,3,4,7,8-HxCDF	(1.98)	(1.88)	(2.8)	(1.48)	(2.42)	(1.89)	(3.89)	(2.03)	(2.31)	(1.99)	(3.87)	(2.53)	(3)	(2.49)
1,2,3,4,7,8,9-HpCDF	(0.812)	(0.857)	(0.5)	(0.785)	(0.943)	(1.38)	(1.39)	(1.47)	(0.97)	(0.819)	(1.55)	(0.85)	(1.82)	(1.13)
1,2,3,4,6,7,8-HpCDF	(0.784)	(0.843)	(0.827)	(0.706)	(0.871)	(1.31)	(1.3)	(1.51)	6.898	(0.75)	(1.42)	(5.24)	(1.53)	(1.15)
2,3,4,6,7,8-HpCDF	(1.01)	(1.12)	(1.04)	(0.933)	(1.12)	(1.55)	(1.73)	(1.9)	(1.1)	(0.99)	(1.91)	(5.23)	(2.03)	(1.46)
1,2,3,7,8,9-HxCDF	(1.42)	(1.67)	(1.58)	(1.47)	(1.73)	(2.41)	(2.99)	(2.85)	(1.7)	(1.51)	(2.81)	(12.4)	(2.74)	(2.05)
1,2,3,4,6,7,8-HpCDF	(1.78)	15.8	(1.39)	(4.87)	(1.9)	4.04	(3.25)	10.5	27.2	(1.59)	(4.35)	(3.42)	(2.05)	(3.26)
1,2,3,4,7,8,9-HpCDF	(2.87)	(3.48)	(2.95)	(7.47)	(3.25)	(2.83)	(4.59)	(2.59)	(4.43)	(2.99)	(7.3)	(5.49)	(3.04)	(4.88)
OCDF	(11.1)	155	(11)	(22.4)	(12.4)	(9.53)	(14.9)	34.9	87.1	(10.1)	(7.59)	(20.5)	(13.1)	(8.89)
Checkcode	3385	4361	4681	4965	5239	5527	5797	0067	0335	0612	3829	4355	4622	4900

() = DL
 () = EMPC

Reviewer: *[Signature]*
 Date: *9/21/05*

P5072 - Totals
Project ID: General Analytical HRMS

Sample Summary Part 2		ALTA ANALYTICAL PERSPECTIVES												Method 1613	
Analyte	0_2488_MB001	IOB1001-01	IOB0983-01	IOB0996-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0989-01	IOB1008-01	IOB1002-01	IOB0982-01	IOB1004-01	IOB0988-01	IOB0981-01	
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	
Totals															
TCDDs	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0	
PeCDDs	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0	
HxCDDs	0	7.38	4.44	0	0	0	0	0	39.8	0	0	0	0	0	
HoCDDs	0	153	65.1	25.2	9.46	29.6	0	101	415	12.1	0	43.1	12.2	0	
OCDD	0	663	267	134	70.4	157	56.1	471	2120	163	70.2	213	50.3	50	
TCDFs	0	0	0	0	0	0	0	0	6.53	0	0	0	0	0	
PeCDFs	0	0	0.858	0	0	0.76	0.256	0	2.57	0	0.456	0	0	0	
HxCDFs	0	2.68	0	0	0	0	0	4.13	32.8	0	0	0	0	0	
HpCDFs	0	92.9	0	0	0	10.2	0	36.5	98.7	5.96	0	0	0	0	
OCDF	0	155	0	0	0	0	0	34.9	67.1	0	0	0	0	0	
Total PCDD/Fs (ND=0; EMPC=0)	0.00	1,290	338	159	79.9	197	56.4	648	2,800	182	70.7	256	62.8	50	
Total PCDD/Fs (ND=0; EMPC=EMPC)	0.00	1,300	342	160	79.9	197	56.4	663	2,830	183	70.7	256	62.8	50	
Total PCDD/Fs (2376-X ND=DL; EMPC=EMPC)	42.2	1,330	381	215	128	238	119	891	2,840	229	144	370	121	114	
Total 2378s (ND=0; EMPC=0)	0.00	1,130	299	144	70.4	173	56.1	567	2,440	178	70.2	234	50.3	50	
Total 2378s (ND=0.5; EMPC=0)	21.1	1,140	319	172	94.6	193	67.5	581	2,490	193	107	291	79.5	82	
Total 2378s (ND=1; EMPC=0)	42.2	1,160	338	200	119	214	119	595	2,450	211	144	348	109	114	
Total 2378s (ND=0; EMPC=1)	0.00	1,130	299	144	70.4	173	56.1	567	2,440	178	70.2	234	50.3	50	
Total 2378s (ND=0.5; EMPC=1)	21.1	1,140	319	172	94.6	193	67.5	581	2,490	193	107	291	79.5	82	
Total 2378s (ND=1; EMPC=1)	42.2	1,160	338	200	119	214	119	595	2,450	211	144	348	109	114	
Checksum	3385	4361	4681	4965	5239	5527	5797	0087	0335	0612	3929	4355	4622	4900	

Total 2378s = Sum of 17 2378-substituted PCDD/PCDF congeners (SARA 313)

() = DL
 [] = EMPC

Reviewer: *AS*
 Date: *OSMAROS*

P5072 - Others
Project ID: General Analytical HRMS

Sample Summary
Part 3

ALTA ANALYTICAL PERSPECTIVES

Method 1613

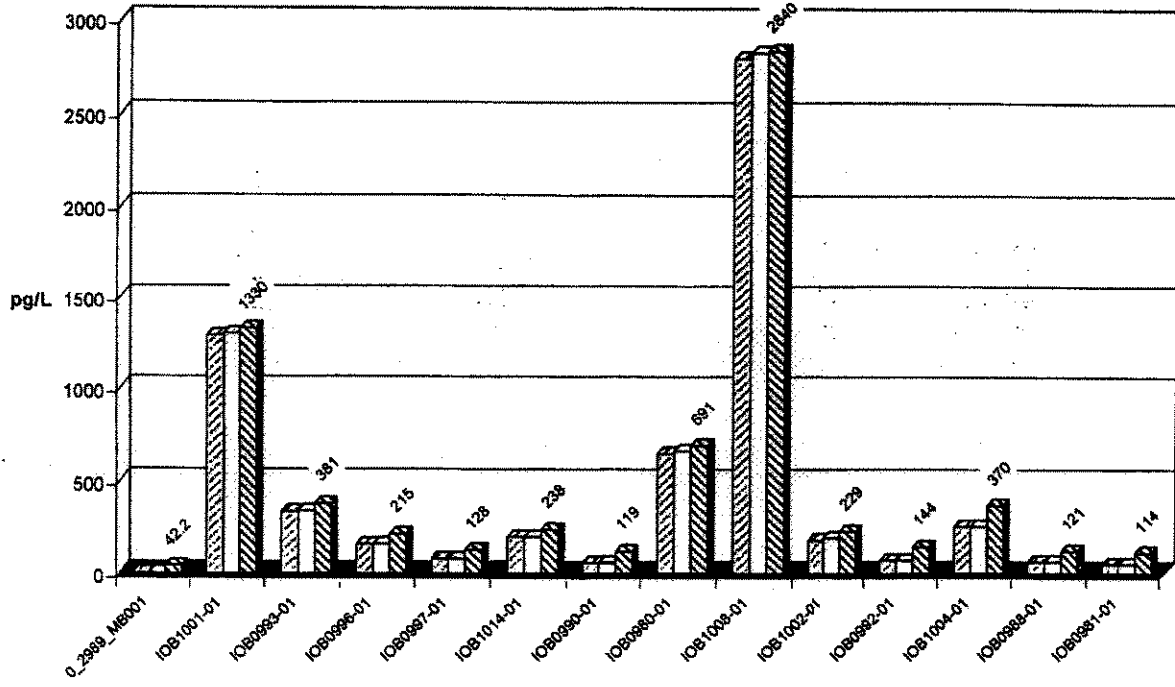
Analyte	0_2889_M8001	IOB1001-01	IOB0993-01	IOB0996-01	IOB0997-01	IOB1014-01	IOB0990-01	IOB0980-01	IOB1008-01	IOB1002-01	IOB0992-01	IOB1004-01	IOB0988-01	IOB0981-01
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
Other PCDD/Fs (ND=0, EMPC=0)														
Other TCDD	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
Other PeCDD	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
Other HxCDD	0	7.38	4.44	0	0	0	0	0	22.5	0	0	0	0	0
Other HpCDD	0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	0	0	22.3	12.2	0
Other TCDF	0	0	0	0	0	0	0	0	6.53	0	0	0	0	0
Other PeCDF	0	0	0.858	0	0	0.78	0.256	0	2.57	0	0.456	0	0	0
Other HxCDF	0	2.68	0	0	0	0	0	4.13	32.8	0	0	0	0	0
Other HpCDF	0	76.1	0	0	0	6.16	0	25.7	71.6	5.96	0	0	0	0
Other PCDD/Fs (ND=0, EMPC=EMPC)														
Other TCDD	0	0	0	0	0	0	0	0	4.77	0	0	0	0	0
Other PeCDD	0	0	0	0	0	0	0	0	15.5	0	0	0	0	0
Other HxCDD	0	7.38	8.57	0	0	0	0	8.86	47.7	0	0	0	0	0
Other HpCDD	0	77.2	33.6	15.2	9.46	17.4	0	51.5	208	11.3	0	22.3	12.2	0
Other TCDF	0	0	0	0	0	0	0	2.21	6.53	0	0	0	0	0
Other PeCDF	0	0	0.858	0.213	0	0.78	0.256	0.368	2.57	0	0.456	0	0	0
Other HxCDF	0	9.88	0	0	0	0	0	7.22	32.8	0	0	0	0	0
Other HpCDF	0	76.1	0	0	0	6.16	0	25.7	71.6	5.96	0	0	0	0
Checkcode	3385	4361	4881	4985	5239	5527	5797	0067	0335	0612	3929	4355	4822	4900

() = DL
 [] = EMPC

Reviewer: *OSM/KD*
 Date: *03/20/03*

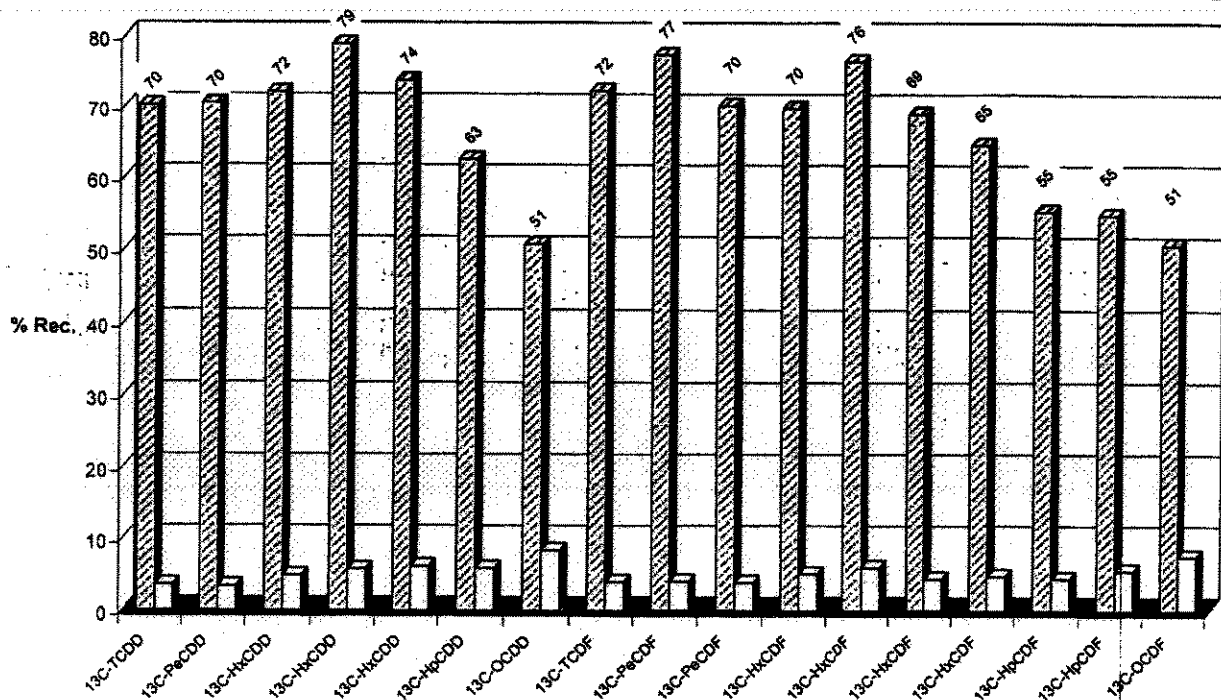
Totals
Project ID: General Analytical HRMS
P5072

□ Total PCDD/Fs (ND=0; EMPC=0)
 □ Total PCDD/Fs (ND=0; EMPC=EMPC)
 ▨ Total PCDD/Fs (2378-X ND=DL; EMPC=EMPC)



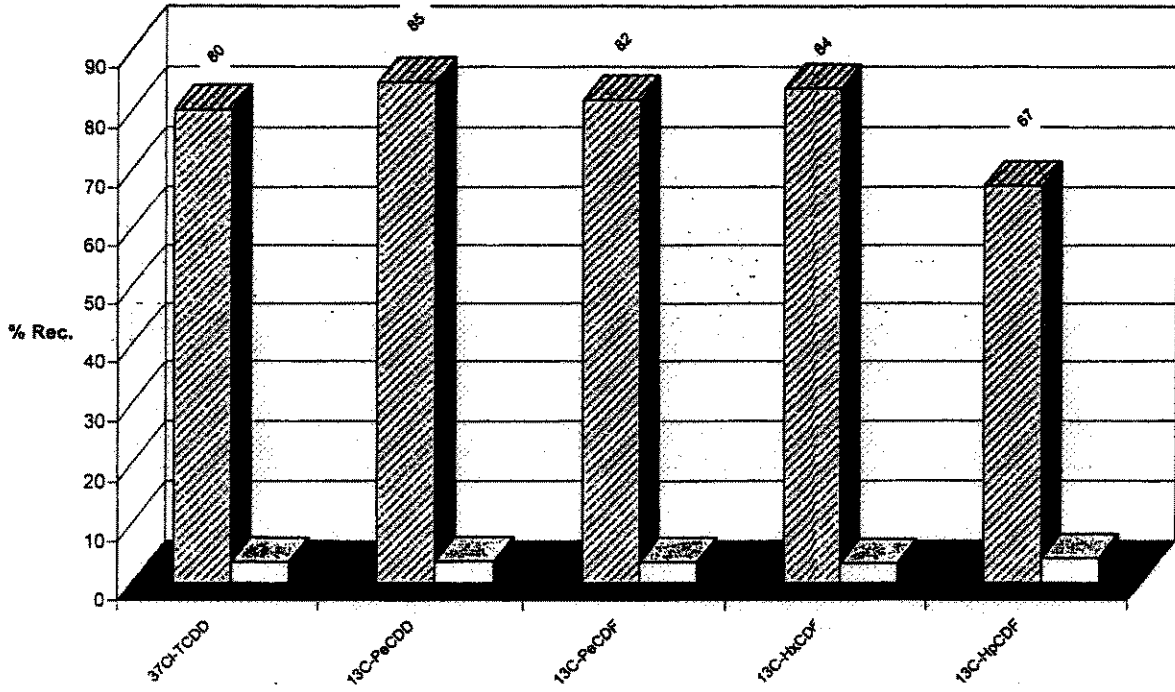
Mean Recoveries of Extraction Standards (N=14)
Project ID: General Analytical HRMS
P5072

▨ Mean □ Std. Dev.



Mean Recoveries of Clean-Up Standards (N=14)
Project ID: General Analytical HRMS
P5072

▨ Mean □ Std. Dev.





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) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB0990

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:

Pace Analytical, MN- SUB
 1700 Elm Street, Ste 200
 Minneapolis, MN 55414
 Phone : (612) 607-1700
 Fax: (612) 607-6444

107695

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

Analysis	Expiration	Comments
Sample ID: IOB0990-01 Water	Sampled: 02/11/05 08:55	
1613-Dioxin-HR	02/18/05 08:55	J flags, 17 congeners, no TEQ, sub to Pace-MN Excel EDD email to pm, Include Std logs for Lvl IV
EDD + Level 4	03/11/05 08:55	
Containers Supplied:		
1 L Amber (IOB0990-01C)		
1 L Amber (IOB0990-01D)		

001

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): 3

	2-14-05	1700	Bright Flexon	2-15-05	9:00
Released By	Date	Time	Received By	Date	Time
Released By	Date	Time	Received By	Date	Time



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

www.pacelabs.com

Section B

Required Client Information:

Report To: **SCOTT UNZE**
 Copy To: **SCOTT UNZE**
 Invoice To: **↓**
 P.O. **↓**
 Project Name: **Mpls. MN 55414**
 Project Number: **55414**

Page: 1 of 2

814593

Section C

To Be Completed by Face Analytical and Client
 Quota Reference:

Client Information (Check quote/contract):
 Requested Due Date: **3 Day**
 * Turn around times less than 14 days-subject to laboratory and contractual obligations and may result in a flush turnaround shortage.
 Turn Around Time (TAT) in calendar days.

Project Manager: **SCOTT UNZE**
 Project #: **163: PADDLE**
 Profile #: **(15" flat Leds)**

Requested Analysis:

Section D

Required Client Information:

SAMPLE ID

One character per box.
 (A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

ITEM #	MATRIX CODE	DATE COLLECTED	TIME COLLECTED	# Containers	Preservatives						Remarks / Lab ID	
					H ₂ O	H ₂ O ₂	NaOH	Na ₂ S ₂ O ₈	Method	Other		
1	WT	10/10/05	15:30	1	X							
2			10:50									
3			12:15									
4			15:16									
5			12:20									
6			08:55									
7			10:56									
8			13:32									
9			14:25									
10			10:15									
11			16:00									
12			11:44									

RELINQUISHED BY / AFFILIATION: **Scott Unze / Pace** DATE: **10/10/05**

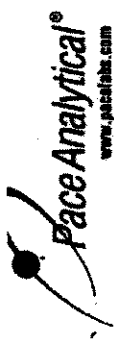
REGULATORY AGENCY: NC SC GA Other NPDES GROUND WATER DRINKING WATER RCRA Other

SAMPLE NOTES: **Email to: Scott.Unze@pacelabs.com**

Additional Comments: **Sample 10B 1003-01 & 10B 0988-01 are both dated 02/10/05**

SAMPLER NAME AND SIGNATURE: **Scott Unze** DATE SIGNED: **10-10-05**

SIGNATURE OF SAMPLER: **Scott Unze** DATE SIGNED: **(MM/DD/YY)**



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: **2** of **2**

Page: **2** of **2**

Section B

Required Client Information:

Report To: **SCOTT UNZE**

Copy To:

Invoice To:

P.O.:

Project Name:

Project Number:

Section A

Required Client Information:

Company: **pace**

Address: **1700 Elm Street**

Suite 200

Mpls., MN 55414

Phone:

Fax:

Section C

To Be Completed by Pace Analytical and Client

Quote Reference: **814592**

Project Manager: **SCOTT UNZE**

Project #:

Profile #:

Requested Analysis:

Section D

Required Client Information:

SAMPLE ID

One character per box.
(A-Z, 0-9, /, -)

Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

DATE COLLECTED: **09/21/05**

TIME COLLECTED: **09:21**

Containers: **1**

Preservatives:

Unpreserved	
H ₂ SO ₄	
HNO ₃	
HCl	
NaOH	
Na ₂ SO ₄	
Methanol	
Other	

Remarks / Lab ID

1613 - P200 / OF

1613 - P200 / OF

ITEM #	DATE COLLECTED	TIME COLLECTED	MATRIX CODE	SAMPLE ID	Remarks / Lab ID
1	09/21/05	09:21	WT	10B0981-01	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

REGULATORY AGENCY: NC SC GA Other

NPDES GROUND WATER DRINKING WATER

UST RCRA Other

SAMPLE CONDITION: **3,1**

Temp in °C: **3,1**

Received on Ice: **Y/N**

Sealed Cooler: **Y/N**

Samples Intact: **Y/N**

Additional Comments:

Email to: Scott.Unze@pace-labs.com

RELINQUISHED BY / AFFILIATION: **Scott Unze / Pace**

DATE: **09/21/05**

TIME: **09:21**

ACCEPTED BY / AFFILIATION: **3-1-11-11**

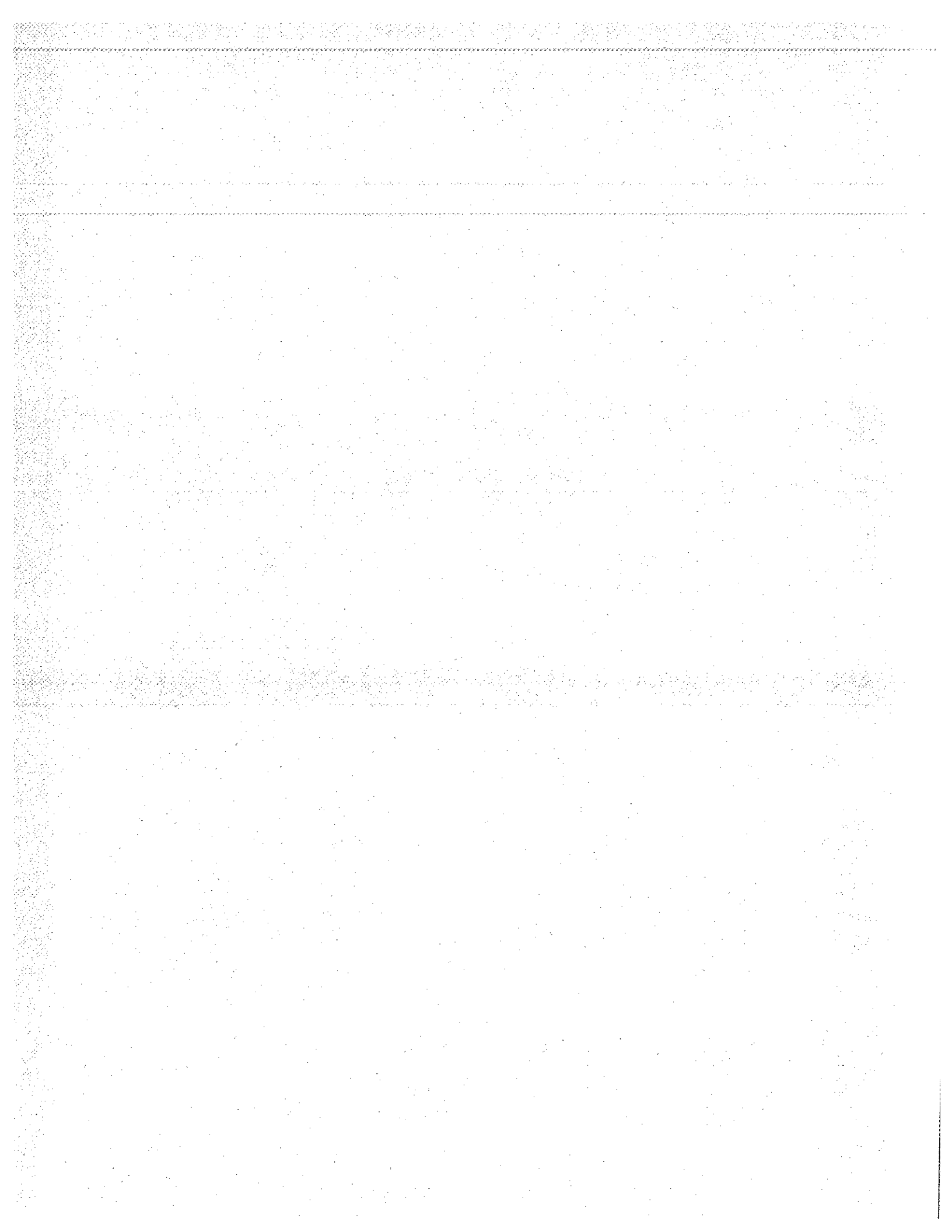
DATE: **09/21/05**

SAMPLER NAME AND SIGNATURE: **SCOTT UNZE**

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed: (MM / DD / YY)



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA


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

Package ID T711DF29
 Task Order 313150010
 SDG No. Multiple
 No. of Analyses 6

Laboratory Alta

Reviewer K. Shadowlight

Analysis/Method Dioxins

Date: March 9, 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.,	Qualifications were assigned for the following:
Holding Times	* EMPCs
GC/MS Tune/Inst. Performance	* Detects below the lower method calibration level
Calibration	* Diphenyl ether interference
Method 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: Multiple SDGs

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 #: Multiple SDGs
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: March 9, 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 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	IOB1560-01	25788-001	water	1613
Outfall 004	IOB1556-01	25786-001	water	1613
Outfall 005	IOB1557-01	25787-001	water	1613
Outfall 006	IOB1559-01	25784-001	water	1613
Outfall 009	IOB1574-01	25789-001	water	1613
Outfall 010	IOB1575-01	25785-001	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

All of the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The samples were shipped to Alta for dioxin/furan analyses and were received below the temperature limits at 0.8°C and 1.6°C ; however, as none of the samples were noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheets, all samples were received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

The COCs and transfer COCs were legible and signed by the appropriate field and laboratory personnel, and accounted for the analyses presented in these SDGs. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The coolers 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 summary report 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

There were two initial calibrations, analyzed 08/30/04 and 10/04/04. The calibrations each consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 15 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER standards 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 (6543-MB001) was extracted and analyzed with the samples in these SDGs. There were no 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 (6543-OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of the 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. Compounds flagged by the laboratory with a "D" qualifier indicated possible diphenylether interference and were qualified as estimated, "J." Any reported EMPC was qualified as an estimated nondetect, "UJ." Any detects below the lower method calibration level (MCL) were qualified as estimated, "J;" however, as Alta analyzed an additional calibration standard, not all results below the method calibration level were appropriately qualified by the laboratory. These results were qualified as estimated, "J," by the reviewer. No further qualifications were required.



Sample ID: **IOB1557-01** *Outfall 005* EPA Method 1613

Client Data
 Name: Del Mar Analytical, Irvine
 Project: IOB1557
 Date Collected: 18-Feb-05
 Time Collected: 1010

Sample Data
 Matrix: Aqueous
 Sample Size: 1.018 L

Laboratory Data
 Lab Sample: 25787-001
 QC Batch No.: 6543
 Date Analyzed DB-5: 1-Mar-05
 Date Received: 24-Feb-05
 Date Extracted: 25-Feb-05
 Date Analyzed DB-225: NA

Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.55			13C-2,3,7,8-TCDD	77.8	25 - 164	
1,2,3,7,8-PeCDD	ND	1.18			13C-1,2,3,7,8-PeCDD	68.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	2.61			13C-1,2,3,4,7,8-HxCDD	76.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	2.54			13C-1,2,3,6,7,8-HxCDD	82.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	2.56			13C-1,2,3,4,6,7,8-HpCDD	74.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	3.83			13C-OCDD	57.3	17 - 157	
OCDD	40.6			J	13C-2,3,7,8-TCDF	78.4	24 - 169	
2,3,7,8-TCDF	ND	1.37			13C-1,2,3,7,8-PeCDF	63.8	24 - 185	
1,2,3,7,8-PeCDF	ND	1.91			13C-2,3,4,7,8-PeCDF	66.5	21 - 178	
2,3,4,7,8-PeCDF	ND	1.69			13C-1,2,3,4,7,8-HxCDF	67.6	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.642			13C-1,2,3,6,7,8-HxCDF	76.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.622			13C-2,3,4,6,7,8-HxCDF	77.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.670			13C-1,2,3,7,8,9-HxCDF	71.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	1.02			13C-1,2,3,4,6,7,8-HpCDF	74.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	1.99			13C-1,2,3,4,7,8,9-HpCDF	74.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	2.23			13C-OCDF	67.1	17 - 157	
OCDF	ND	5.08			CRS 37Cl-2,3,7,8-TCDD	90.7	35 - 197	

Totals

Total TCDD	ND	1.55						
Total PeCDD	ND	1.18						
Total HxCDD	ND	2.57						
Total HpCDD	ND	3.83						
Total TCDF	ND	1.37						
Total PeCDF	ND	1.80						
Total HxCDF	ND	0.720						
Total HpCDF	ND	2.09						

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

Analyst: JMH
 Approved By: William J. Luksemburg 02-Mar-2005 08:38

UNVALIDATED

LEVEL IV



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: METALS

SAMPLE DELIVERY GROUPS: IOB1557, IOB1559, & IOB1565

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#: IOB1557, IOB1559,, IOB1565
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 3
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 31, 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 005	Outfall 005	IOB1557-01	water	ILM04
Outfall 006	Outfall 006	IOB1559-01	water	ILM04
Outfall 011	Outfall 011	IOB1565-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. 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. Duplicate samples were submitted for the samples in these SDGs; however, duplicate analyses were not required. 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/MS metals and 80-120% for mercury. The reporting limit check standards for silver were recovered below the control limit at 51% and 54%; therefore nondetected silver in Outfall 005 (see section 2.4) and Outfall 006 was qualified as estimated, "UJ." The reporting limit check standard for arsenic associated with the analysis of Outfall 005 was recovered below the control limit at 61%; therefore, nondetected arsenic in Outfall 005 was qualified as estimated, "UJ." The reporting limit check standard for selenium associated with the analysis of Outfall 006 was recovered above the control limit at 133%; therefore, selenium detected in

Outfall 006 was qualified as estimated, "J." The remaining reporting limit check standards were recovered within the AMEC control limits of 70-130%. No further sample qualifications were required.

2.4 BLANKS

Silver was detected in a CCB bracketing Outfall 005 at 0.0017 mg/L; therefore, silver detected in Outfall 005 was qualified as estimated, "UJ." Silver was reported in a CCB bracketing Outfall 006 at 3.0 µg/L; therefore, nondetected silver in Outfall 006 was qualified as estimated, "UJ." Zinc was detected in method blank 5B24093-BLK1 at 0.0078 mg/L; therefore, zinc detected in Outfall 005 was qualified as estimated, "UJ."

Antimony was detected in every CCB in the analytical sequence in which Outfall 006 was analyzed. The detects ranged from 0.523 to 1.26 µg/L and antimony was detected in Outfall 006 at a concentration well below these values, 0.31 µg/L. The CCB detects indicated the laboratory could not detect antimony at the reported MDL. The reviewer raised the antimony MDL for Outfall 006 to the highest level of interference reported, 1.3 µg/L and qualified the result as estimated, "UJ." 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 antimony and lead were not spiked into the ICSAB solution. Copper was detected above the reporting limit in the ICSA. The results for sodium and potassium were above the calibration range of the instrument in the ICSA and ICSAB analyses; however, as sodium and potassium were not reported in the site samples, no qualifications were required. Aluminum was recovered below the control limit in the ICSA at 78% and above the calibration range in the ICSAB analyses. As aluminum in the site samples was not reported from the ICP/MS analyses, no qualifications were required. 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, and chloride.

ICSA and ICSAB analyses were included in the raw data for the ICP analyses, but were not run on the days the site samples were analyzed. The recoveries for the interferents and the other spiked analytes were within the control limits of 80-120%. In the ICSA analyses there were negative results for chromium and positive results for arsenic and zinc, the absolute values for which were above the applicable reporting limits. The validator reviewed the raw data for the site sample ICP analyses for the level of reported interferents, Al, Ca, Fe, and Mg, and determined that the level of reported interferents were not high enough to cause matrix affects. No qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS sample was identified as 5B24099-BS1 and the mercury LCS sample was identified as 5B22063-BS1. The ICP LCS samples were identified as 5B28119-BS1 and 5B24093-BS1.

The LCS results on the summary forms and in the raw data were within the laboratory-established ICP, ICP/MS, and mercury control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

MS/MSD analyses were performed on Outfall 005 for the ICP/MS analytes only. The RPDs were within the control limit of 20% and no qualifications were required.

2.8 MATRIX SPIKE

MS/MSD analyses were performed on Outfall 005 for the ICP/MS analytes only. The recoveries were within the AMEC control limits of 75-125% and no qualifications were required. Method accuracy for the remaining analytes was evaluated based on LCS results.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis 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

Scandium was recovered above the control limit in Outfall 006 and Outfall 011; however, as scandium was not the internal standard associated with the reported analytes, no qualifications were required. The remaining 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. Analytes detected below the reporting limit were qualified as estimated, "J." No further qualifications were required.

2.13 FIELD QC SAMPLES

DATA VALIDATION REPORT

Project: NPDES
SDG No.: Multiple
Analysis: MET

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) 261-1021 FAX (949) 260-3291
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1094
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 503-9685
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0857
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (DRAFT: Outfall 005 - Water) - cont.									
Reporting Units: ug/l									
Aluminum	EPA 200.7	5B24093	47	50	120	1	02/24/05	02/26/05	
Lead	EPA 200.8	5B24099	0.13	1.0	0.15	1	02/24/05	02/25/05	PH J DNQ
Vanadium	EPA 200.7	5B24093	1.4	10	1.5	1	02/24/05	02/25/05	PH J DNQ

AMEC VALIDATION

LEVEL 1

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Denan Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-320
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-104
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-908
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-085
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-362

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IOB1557-01 (DRAFT: Outfall 005 - Water) - cont.											
Reporting Units: mg/l											
Arsenic	EPA 200.7	5B24093	0.0038	0.0050	ND	1	02/24/05	02/25/05		UJ	*3
Beryllium	EPA 200.7	5B24093	0.00062	0.0020	ND	1	02/24/05	02/25/05		U	
Chromium	EPA 200.7	5B24093	0.00068	0.0050	0.00070	1	02/24/05	02/25/05		J J	DN
Nickel	EPA 200.7	5B24093	0.0020	0.010	ND	1	02/24/05	02/25/05		U	
Selenium	EPA 200.7	5B24093	0.0046	0.010	ND	1	02/24/05	03/01/05		U	
Silver	EPA 200.7	5B24093	0.0013	0.010	0.0023	1	02/24/05	02/26/05		U J	B,*3
Zinc	EPA 200.7	5B24093	0.0037	0.020	0.013	1	02/24/05	02/25/05		U J	B

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711PP29
 Task Order 313150010
 SDG No. Multiple

No. of Analyses 3

Laboratory Del Mar Analytical

Date April 4, 2005

Reviewer K. Shadowlight

Reviewer's Signature


Analysis/Method Pesticides

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 assigned for %D continuing 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	
Acceptable as reviewed.	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: PESTICIDES/PCBs

SAMPLE DELIVERY GROUP: IOB1557, IOB1559,
IOB1565

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#: IOB1557, IOB1559, IOB1565
Project Manager: B. Mellvaine
Matrix: Water
Analysis: Pesticides/PCBs
QC Level: Level IV
No. of Samples: 3
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 4, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedures (DVP-4, Rev.2)*, *EPA Method 608*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the summary form 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	Method
Outfall 005	Outfall 005	IOB1557-01	water	608
Outfall 006	Outfall 006	IOB1559-01	water	608
Outfall 011	Outfall 011	IOB1565-01	water	608

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 coolers were received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The analysis did not require preservation, and no preservation was noted in the field. The COCs noted that the samples were received intact. 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 water samples were extracted within seven days of sample collection and analyzed within 40 days of extraction. No qualifications were required.

2.2 PESTICIDES INSTRUMENT PERFORMANCE

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

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

2.3 CALIBRATION

2.3.1 Analytical Sequence

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

2.3.2 Initial Calibration

There were two initial calibrations dated 02/12/05 and 02/22/05 associated with the pesticide analyses of the samples in these SDGs, which consisted of six point calibrations for all pesticide target compounds on two analytical columns. The %RSDs were within the EPA Method 608 QC limit of $\leq 10\%$ or the r^2 values were ≥ 0.995 on both analytical columns. There was one initial calibration dated 02/11/05 associated with the PCB analyses of the samples in these SDGs which consisted of five points for Aroclor 1016 and Aroclor 1260. Single point calibrations for Aroclor 1242, Aroclor 1248, and Aroclor 1254 were also analyzed. The average %RSDs for the individual peaks of Aroclor 1016 and Aroclor 1260 were $\leq 10\%$ or the r^2 values were ≥ 0.995 on both analytical columns. An ICV was analyzed immediately following each of the initial calibrations. The %Ds for all target compounds were within the QC limits of 15% on both analytical columns. A representative number of %RSDs and ICV %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.3.3 Continuing Calibration

Of the continuing calibrations associated with the pesticide analyses for the samples in these SDGs there were several %D outliers. The %Ds for heptachlor, endrin, and 4,4'-DDD in the continuing calibration analyzed 02/23/05 (GC54) exceeded 15% on the primary channel; therefore, the aforementioned target compounds were qualified as estimated, "UJ," in samples Outfall 005 and Outfall 006. The remaining applicable %Ds were within the Method QC limit of $\pm 15\%$ for the remaining calibrations. Each of the PCB analyses for the samples in these SDGs were bracketed by two CCVs and the %Ds for Aroclor 1016 and Aroclor 1260 were $\leq 15\%$. A representative number of %Ds were recalculated from the raw data and no transcription or calculation errors were noted.

No further qualifications were required.

2.4 BLANKS

2.4.1 Instrument Blanks

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

2.4.2 Method Blanks

One water method blank (5B22041-BLK1) was extracted and analyzed with these SDGs. There were no pesticide target compounds or Aroclors detected in the method blank. Review of the chromatograms showed no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (5B22041-BS1/BSD1) were extracted and analyzed with these SDGs. The recoveries for all spiked pesticide target compounds and Aroclors were within the laboratory-established QC limits and the RPDs were $\leq 30\%$. A representative number of recoveries were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.6 SURROGATE RECOVERY

The sample and all QC samples were fortified with the surrogate compounds decachlorobiphenyl and tetrachloro-m-xylene. Surrogate recoveries for the pesticide and PCB analyses of the samples were within the laboratory-established. The recoveries were calculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses associated with these SDGs. Method accuracy and precision were assessed based on the blank spike/blank spike duplicate results. No qualifications were required.

2.8 SAMPLE CLEANUP PERFORMANCE

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

2.9 FIELD QC SAMPLES

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

2.9.1 Field Blanks and Equipment Rinsates

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

2.9.2 Field Duplicates

There were no field duplicate samples associated with the sample in these SDGs.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for pesticide target compounds and PCBs by EPA Method 608. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for the samples in these SDGs. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified for these SDGs; however, as there were no detects reported in the samples, quantitation was verified by recalculating a representative number of

DATA VALIDATION REPORT

Project: NPDES
SDG: Multiple
Analysis: Pest/PCB

blank spike and surrogate recoveries. Reporting limits were supported by the low level standard of the initial calibration and the laboratory MDL studies. The water reporting limits were not adjusted for sample amounts on the result summaries; however, the dilution factors listed on the summaries reflected the sample volumes extracted. Results were reported in ug/L (ppb). No qualifications were required.



Del Mar Analytical

17461 Denan Ave., Suite 100, Irvine, CA 92614 (949) 261-1122 FAX (949) 260-3297
 1074 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4637 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8396 FAX (619) 505-9689
 9870 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0831
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (DRAFT: Outfall 005 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	5B22041	0.20	1.0	ND	0.943	02/22/05	02/23/05	u
Aroclor 1221	EPA 608	5B22041	0.10	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1232	EPA 608	5B22041	0.15	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1242	EPA 608	5B22041	0.15	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1248	EPA 608	5B22041	0.25	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1254	EPA 608	5B22041	0.25	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1260	EPA 608	5B22041	0.40	1.0	ND	0.943	02/22/05	02/23/05	
Surrogate: Decachlorobiphenyl (45-120%)					78 %				

Rev
 ucl
 Qual
 ucl

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples listed in the tabulations. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1557 - (Page 4 of 18)



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS:

IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576

Prepared by

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

Table 1. Sample identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 004	IOB1556-01	8289-001	water	900.0, 905.0, 906.0
Outfall 005	IOB1557-01	8290-001	water	900.0, 905.0, 906.0
Outfall 006	IOB1559-01	8291-001	water	900.0, 905.0, 906.0
Outfall 018	IOB1570-01	8292-001	water	900.0, 905.0, 906.0
Outfall 003	IOB1571-01	8293-001	water	900.0, 905.0, 906.0
Outfall 003 Filtered	IOB1576-01	8294-001	water	900.0, 905.0, 906.0
Outfall 003 Unfiltered	IOB1576-02	8294-002	water	900.0, 905.0, 906.0
Outfall 003 Substrate	IOB1576-03	8295-001	solid	901.1

1. INTRODUCTION

Task Order Title: NPDES Monitoring
Contract Task Order #: 313150010
SDG#: IOB1556, IOB1557, IOB1559, IOB1570, IOB1571, IOB1576
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 8
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: March 24, 2005

The samples listed in Table I were validated based on the guidelines outlined in the *EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0*, and validation procedures 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.

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

All the samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4\pm 2^{\circ}\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition. All tritium samples were received unpreserved in glass containers. All gross alpha, gross beta, and strontium samples were preserved, except for the Outfall 003 samples in SDG IOB1556. Outfall 003 Filtered, was filtered by Eberline and then preserved. Outfall 003 Unfiltered was not preserved. According to the Los Angeles Water Quality Control Board (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel. The transfer COCs were signed by personnel from both laboratories, except for the COC listing Outfall 003 in SDG IOB1571, which was not signed as received by Eberline. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and preserved gross alpha, gross beta, and strontium samples were analyzed within 180 days of collection. The Outfall 003 Unfiltered gross alpha and gross beta samples were analyzed beyond the five day holding time for unpreserved samples; therefore, these gross alpha and gross beta results were qualified as estimated, "J." No further qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha and Gross Beta

The initial calibration included with the data was performed in February 2003. The detector efficiencies for Outfall 006, Outfall 018, Outfall 003, Outfall 003 Filtered, and Outfall 003 Unfiltered were less than 20%; therefore, these results were qualified as estimated, "UJ," for nondetects and, "J," for detects. The remaining detector efficiencies were above 20%.

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur.

DATA VALIDATION REPORT

Project: NPDES
SDG No.: Multiple
Analysis: RAD

Strontium-90

The initial calibrations were performed in June 1995. All strontium chemical yields were at least 80% and were considered acceptable. The strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

Cesium

The reviewer confirmed that the 662 KeV peak was used for quantitation, with a branch efficiency of 85%. No qualifications were necessary.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spikes (8294-002 and 8295-002) were analyzed in association with the samples in these SDGs. All blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analysis on Outfall 003 Filtered and Outfall 003 Substrate. All results were within the 3-sigma limits and all RPDs were $\leq 20\%$. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The laboratory performed matrix spike analyses on Outfall 003 Unfiltered for gross alpha, gross beta, and tritium. The recovery for gross alpha was above 3-sigma; however, as the recovery of 118% was considered acceptable, no qualifications were required. The remaining recoveries were within the 3-sigma limits. No qualifications were necessary.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these data packages. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8290</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502211-01</u>	Contract <u>PROJECT# 1081557</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev	Qual
Sample ID outfall 005 1081557-01 MM 3/24/05		8290-001	02/18/05	03/08/05	Gross Alpha	-0.252 ± 0.33	pci/L	0.862	U	
				03/08/05	Gross Beta	1.75 ± 1.2	pci/L	1.87	U	
				03/12/05	H3	-3.55 ± 150	pci/L	258	U	
				03/12/05	Sr-90	-0.029 ± 0.24	pci/L	0.308	U	

AMEC VALIDATED

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>03/15/05</u>
Page 1

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711SV46
 Task Order 313150010, 313150012
 SDG No. IOB1557, 1559, 1565
 No. of Analyses 3

Laboratory Del Mar

Reviewer M. Pokorny

Analysis/Method Semivolatiles

Date: April 4, 2005
Reviewer's Signature <i>M. Pokorny</i>

ACTION ITEMS*

1. **Case Narrative**
Deficiencies _____

2. **Out of Scope**
Analyses _____

3. **Analyses Not Conducted**

4. **Missing Hardcopy**
Deliverables _____

5. **Incorrect Hardcopy**
Deliverables _____

6. **Deviations from Analysis** **Qualifications were required for calibration, LCS, and internal standard outliers.**
Protocol, e.g.,
 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* _____

* 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: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IOB1557, IOB1559,
IOB1565

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#: IOB1557, IOB1559, IOB1565
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Semivolatiles
QC Level: Level IV
No. of Samples: 3
No. of Reanalyses/Dilutions: 0
Reviewer: M. Pokorny
Date of Review: April 4, 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 Semivolatile Organics (DVP-3, Rev. 2)*, *EPA Method 625*, and the *National Functional Guidelines For Organic Data Review (2/94)*. Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 005	Outfall 005	IOB1557-01	water	625
Outfall 006	Outfall 006	IOB1559-01	water	625
Outfall 011	Outfall 011	IOB1565-01	water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in these SDGs were received at the laboratory within the temperature limits of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The analysis did not require preservation, and no preservation was noted in the field. The COCs noted that the samples were received intact. 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 water samples were extracted within seven days of collection and analyzed within 40 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The DFTPP tunes met the criteria specified in Method 625, and the samples were analyzed within 12 hours of the DFTPP injection time. No qualifications were required.

2.3 CALIBRATION

The initial calibrations associated with this SDG were dated 02/24/05 and 02/25/05. For the initial calibration dated 02/25/05, the average RRFs for were ≥ 0.05 and the %RSDs were $\leq 35\%$ or $r^2 \geq 0.995$ for all target compounds except for the r^2 value for benzoic acid. Benzoic acid was qualified as an estimated nondetect, "UJ," in samples Outfall 005 and Outfall 006. For the initial calibration dated 02/24/05, the average RRFs for were ≥ 0.05 and the %RSDs were $\leq 35\%$ or $r^2 \geq 0.995$ for all target compounds. A representative number of average RRFs and %RSDs were checked from the raw data, and no calculation or transcription errors were noted.

The continuing calibration associated with the sample analyses were analyzed 02/24/05 and 02/25/05. For the continuing calibration dated 02/25/05, the RRFs for all target compounds were ≥ 0.05 , and the %Ds were $\leq 20\%$, except for the %Ds for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol were qualified as estimated nondetects, "UJ," in samples Outfall 005 and Outfall 006. For the continuing calibration dated 02/24/05, the RRFs for all target compounds were ≥ 0.05 , and the %Ds were $\leq 20\%$. A representative number of RRFs and %Ds were checked from the raw data, and no calculation or transcription errors were noted. No further qualifications were required.

2.4 BLANKS

Two method blanks (5B22042-BLK1 and 5B22043-BLK1) were extracted and analyzed with these SDGs. No target compounds were detected in the method blanks. Review of the raw data indicated no reportable false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spike/ blank spike duplicate pairs (5B22042-BS1/BSD1 and 5B22043- BS1/BSD1) were extracted and analyzed with these SDGs. For blank spike/blank spike duplicate pairs, qualifications are applied, if necessary, to the associated samples based on those recoveries consistently outside of the laboratory-established QC limits in both the blank spike and blank spike duplicate. Results for those compounds with recoveries not consistent within the pair, with RPDs above the QC limit, are qualified as estimated, "UJ" for nondetects and "J" for detects, in the associated samples.

For the 5B22042-BS1/BSD1 pair, all percent recoveries and RPDs were within the laboratory QC limits except for the RPD for NDMA. Sample Outfall 011 had NDMA qualified as an estimated nondetect, "UJ."

For the 5B22043-BS1/BSD1 pair, all percent recoveries and RPDs were within the laboratory QC limits except for benzidine which was not recovered in the BSD and the RPD for benzidine. Samples Outfall 005 and Outfall 006 had benzidine qualified as estimated nondetects, "UJ."

A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No further qualifications were required.

2.6 SURROGATE RECOVERY

The sample surrogate recoveries were within the laboratory QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were associated with these SDGs. Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

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

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ± 30 seconds for retention times except for the area counts for perylene-d12 for samples Outfall 005 and Outfall 006. Samples Outfall 005 and Outfall 006 had the target compounds associated with perylene-d12 qualified as estimated nondetects, "UJ." A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No further qualifications were required.

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low level of the initial calibration and the method detection limit study. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for these SDGs. No qualifications were required.

2.13 SYSTEM PERFORMANCE

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



Del Mar Analytical

17461 Denair Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3267
 1014 E. Cosley Dr., Suite A, Colton, CA 92324 (909) 370-4607 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-0689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd., #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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

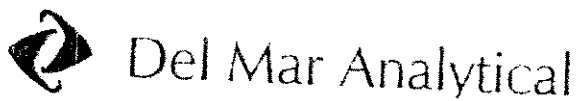
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	REV QUAL	QUA COO
Sample ID: IOB1557-01 (DRAFT: Outfall 005 - Water)											
Reporting Units: ug/l											
Acenaphthene	EPA 625	5B22043	4.3	10	ND	0.943	02/22/05	02/25/05		U	
Acenaphthylene	EPA 625	5B22043	3.2	10	ND	0.943	02/22/05	02/25/05		U	
Aniline	EPA 625	5B22043	2.9	10	ND	0.943	02/22/05	02/25/05		U	
Anthracene	EPA 625	5B22043	3.2	10	ND	0.943	02/22/05	02/25/05		U	
Benzidine	EPA 625	5B22043	5.2	20	ND	0.943	02/22/05	02/25/05		U	
Benzoic acid	EPA 625	5B22043	2.6	20	ND	0.943	02/22/05	02/25/05		U	*5
Benzo(a)anthracene	EPA 625	5B22043	3.7	10	ND	0.943	02/22/05	02/25/05		U	C
Benzo(b)fluoranthene	EPA 625	5B22043	2.7	10	ND	0.943	02/22/05	02/25/05		U	
Benzo(k)fluoranthene	EPA 625	5B22043	3.4	10	ND	0.943	02/22/05	02/25/05		J	I
Benzo(g,h,i)perylene	EPA 625	5B22043	5.3	10	ND	0.943	02/22/05	02/25/05		J	I
Benzo(a)pyrene	EPA 625	5B22043	3.5	10	ND	0.943	02/22/05	02/25/05		J	I
Benzyl alcohol	EPA 625	5B22043	2.5	20	ND	0.943	02/22/05	02/25/05		J	I
Bis(2-chloroethoxy)methane	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05		J	I
Bis(2-chloroethyl)ether	EPA 625	5B22043	4.4	10	ND	0.943	02/22/05	02/25/05		J	I
Bis(2-chloroisopropyl)ether	EPA 625	5B22043	4.6	10	ND	0.943	02/22/05	02/25/05		J	I
Bis(2-ethylhexyl)phthalate	EPA 625	5B22043	5.2	50	ND	0.943	02/22/05	02/25/05		J	I
4-Bromophenyl phenyl ether	EPA 625	5B22043	4.6	10	ND	0.943	02/22/05	02/25/05		J	I
Buryl benzyl phthalate	EPA 625	5B22043	3.5	20	ND	0.943	02/22/05	02/25/05		J	I
4-Chloroaniline	EPA 625	5B22043	6.0	10	ND	0.943	02/22/05	02/25/05		J	I
2-Chloronaphthalene	EPA 625	5B22043	4.0	10	ND	0.943	02/22/05	02/25/05		J	I
4-Chloro-3-methylphenol	EPA 625	5B22043	3.5	20	ND	0.943	02/22/05	02/25/05		J	I
2-Chlorophenol	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05		J	I
4-Chlorophenyl phenyl ether	EPA 625	5B22043	3.0	10	ND	0.943	02/22/05	02/25/05		J	I
Chrysene	EPA 625	5B22043	2.8	10	ND	0.943	02/22/05	02/25/05		J	I
Dibenz(a,h)anthracene	EPA 625	5B22043	4.7	20	ND	0.943	02/22/05	02/25/05		J	I
Dibenzofuran	EPA 625	5B22043	2.6	10	ND	0.943	02/22/05	02/25/05		J	I
Di-n-butyl phthalate	EPA 625	5B22043	2.8	20	ND	0.943	02/22/05	02/25/05		J	I
1,3-Dichlorobenzene	EPA 625	5B22043	4.1	10	ND	0.943	02/22/05	02/25/05		J	I
1,4-Dichlorobenzene	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05		J	I
1,2-Dichlorobenzene	EPA 625	5B22043	4.5	10	ND	0.943	02/22/05	02/25/05		J	I
3,3-Dichlorobenzidine	EPA 625	5B22043	11	20	ND	0.943	02/22/05	02/25/05		J	I
2,4-Dichlorophenol	EPA 625	5B22043	4.1	10	ND	0.943	02/22/05	02/25/05		J	I
Diethyl phthalate	EPA 625	5B22043	3.1	10	ND	0.943	02/22/05	02/25/05		J	I
2,4-Dimethylphenol	EPA 625	5B22043	4.4	20	ND	0.943	02/22/05	02/25/05		J	I
Dimerhyl phthalate	EPA 625	5B22043	3.6	10	ND	0.943	02/22/05	02/25/05		J	I
4,6-Dinitro-2-methylphenol	EPA 625	5B22043	5.1	20	ND	0.943	02/22/05	02/25/05		J	I
2,4-Dinitrophenol	EPA 625	5B22043	5.3	20	ND	0.943	02/22/05	02/25/05		J	I
2,4-Dinitrotoluene	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05		J	I
2,6-Dinitrotoluene	EPA 625	5B22043	3.2	10	ND	0.943	02/22/05	02/25/05		J	I
Di-n-octyl phthalate	EPA 625	5B22043	4.7	20	ND	0.943	02/22/05	02/25/05		J	I
Fluoranthene	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05		J	I

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

AMEC VALIDATED

The results pertain only to the samples listed in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

LEVEL IV
 IOB1557 <Page 6 of 38>



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 (949) 370-1040
 9464 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9089
 9850 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

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

DRAFT: 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	REV QUAL	QUAL CODE
Sample ID: IOB1557-01 (DRAFT: Outfall 005 - Water) - cont.											
Reporting Units: ug/l											
Fluorene	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05			
Hexachlorobenzene	EPA 625	5B22043	4.8	10	ND	0.943	02/22/05	02/25/05			
Hexachlorobutadiene	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05			
Hexachlorocyclopentadiene	EPA 625	5B22043	3.4	20	ND	0.943	02/22/05	02/25/05			
Hexachloroethane	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05			
Indeno(1,2,3-cd)pyrene	EPA 625	5B22043	5.4	20	ND	0.943	02/22/05	02/25/05			
Isophorone	EPA 625	5B22043	3.7	10	ND	0.943	02/22/05	02/25/05			
2-Methylnaphthalene	EPA 625	5B22043	3.0	10	ND	0.943	02/22/05	02/25/05			
2-Methylphenol	EPA 625	5B22043	3.7	10	ND	0.943	02/22/05	02/25/05			
4-Methylphenol	EPA 625	5B22043	3.8	10	ND	0.943	02/22/05	02/25/05			
Naphthalene	EPA 625	5B22043	4.5	10	ND	0.943	02/22/05	02/25/05			
2-Nitroaniline	EPA 625	5B22043	3.9	20	ND	0.943	02/22/05	02/25/05			
3-Nitroaniline	EPA 625	5B22043	4.5	20	ND	0.943	02/22/05	02/25/05			
4-Nitroaniline	EPA 625	5B22043	4.9	20	ND	0.943	02/22/05	02/25/05			
Nitrobenzene	EPA 625	5B22043	4.2	20	ND	0.943	02/22/05	02/25/05			
2-Nitrophenol	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05			
4-Nitrophenol	EPA 625	5B22043	6.6	20	ND	0.943	02/22/05	02/25/05			
N-Nitrosodiphenylamine	EPA 625	5B22043	4.0	10	ND	0.943	02/22/05	02/25/05			
N-Nitroso-di-n-propylamine	EPA 625	5B22043	3.6	10	ND	0.943	02/22/05	02/25/05			
Pentachlorophenol	EPA 625	5B22043	4.0	20	ND	0.943	02/22/05	02/25/05			
Phenanthrene	EPA 625	5B22043	3.3	10	ND	0.943	02/22/05	02/25/05			
Phenol	EPA 625	5B22043	4.0	10	ND	0.943	02/22/05	02/25/05			
Pyrene	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05			
1,2,4-Trichlorobenzene	EPA 625	5B22043	4.4	10	ND	0.943	02/22/05	02/25/05			
2,4,5-Trichlorophenol	EPA 625	5B22043	3.6	20	ND	0.943	02/22/05	02/25/05			
2,4,6-Trichlorophenol	EPA 625	5B22043	4.1	20	ND	0.943	02/22/05	02/25/05			
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B22043	5.0	20	ND	0.943	02/22/05	02/25/05			
N-Nitrosodimethylamine	EPA 625	5B22043	3.7	20	ND	0.943	02/22/05	02/25/05			
Surrogate: 2-Fluorophenol (35-120%)					ND	0.943	02/22/05	02/25/05			
Surrogate: Phenol-d6 (45-120%)					56 %						
Surrogate: 2,4,6-Tribromophenol (50-125%)					60 %						
Surrogate: Nitrobenzene-d5 (45-120%)					76 %						
Surrogate: 2-Fluorobiphenyl (45-120%)					64 %						
Surrogate: Terphenyl-d14 (45-135%)					69 %						
					120 %						

REV QUAL
 QUAL CODE
 U
 J I

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

LEVEL IV

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711VO78
 Task Order 313150010
 SDG No. Multiple

No. of Analyses 3

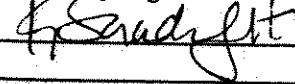
Laboratory Del Mar Analytical

Reviewer K. Shadowlight

Analysis/Method Volatiles by 624

Date April 4, 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	Qualifications were assigned for the following:
GC/MS Tune/Inst. Perform	* RRF values < 0.05
Calibrations	* Continuing calibration %D outliers
Blanks	* Trip blank contamination
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 GROUP: IOC1557, IOC1559, &
IOC1565

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#: IOC1557, IOC1559, IOC1565
Project Manager: B. McIlvaine
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 6
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 2, 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 005	Outfall 005	IOB1557-01	water	624
Trip Blank	Trip Blank	IOB1557-02	water	624
Outfall 006	Outfall 006	IOB1559-01	water	624
Trip Blank	Trip Blank	IOB1559-02	water	624
Outfall 001	Outfall 011	IOB1565-01	water	624
Trip Blank	Trip Blank	IOB1565-02	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$, at 4°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 from the field, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The samples were analyzed within seven 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 times. The Form Vs were verified from the raw data and no discrepancies between the summary forms and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

Three initial calibrations dated 10/14/04 (acrolein and acrylonitrile only), 11/16/04, and 02/07/05 were associated with these SDGs. The average RRF for acrolein was <0.05 in the initial calibration dated 10/14/04; therefore, the nondetect results for acrolein were rejected, "R," in all associated samples. The average RRFs were ≥ 0.05 for all remaining compounds listed on the sample result summaries. The %RSDs were $\leq 35\%$ for all target compounds listed on the sample result summaries. There were three continuing calibrations dated 02/19/05, 02/21/05, and 02/22/05 associated with the sample analyses in these SDGs. The RRF for acrolein was <0.05 in all the continuing calibrations; therefore, the nondetect results for acrolein were rejected, "R," in all associated samples. The remaining RRFs were ≥ 0.05 in the continuing calibrations. The %Ds for acrolein and 1,1,1-trichloroethane exceeded 20% in the continuing calibration analyzed 02/19/05; therefore, the nondetects for acrolein and 1,1,1-trichloroethane were qualified as estimated, "UJ," in samples Outfall 005 and Outfall 006, unless otherwise rejected (see above). No qualifications were required for the Trip blank. The %D for 2-chloroethyl vinyl ether exceeded 20% in the continuing

calibration dated 02/22/05; however, associated sample Trip Blank (IOB1557) was not qualified for %D calibration outliers. The %Ds were $\leq 20\%$ for the remaining target compounds listed on the result summaries. A representative number of %RSDs and average RRFs from the initial calibrations, and %Ds and RRFs from the continuing calibrations 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 (5B19020-BLK1, 5B21001-BLK1, and 5B22027-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 (5B19020-BS1, 5B21001-BS1, and 5B22027-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

There were no MS/MSD analyses associated with these SDGs. Evaluation of method accuracy was based on blank spike results. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Sample Trip Blank (IOB1557), Trip Blank (IOB1559), and Trip Blank (IOB1565) were the trip blanks associated with site samples Outfall 005, Outfall 006, and Outfall 011, respectively. Target compound methylene chloride was detected in Trip Blank (IOB1559) at 1.3ug/L and Outfall 006 at 1.3ug/L; therefore, the result for methylene chloride was qualified as a nondetect, "U," at the reporting limit in sample Outfall 006. It should also be noted that methylene chloride was reported

below the MDL in Trip Blank IOB1557. There were no other target compounds detected above the MDLs in the trip blanks. No further 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 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. Detects reported between the MDL and the reporting limit were qualified as estimated, "J," by the laboratory. No further 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 standards and by the MDL study. Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike and surrogate recoveries from the raw data. Results were reported in $\mu\text{g/L}$ (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.



17465 Dedan Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3197
 1314 E. Cooley Dr., Suite A, Colton, CA 92704 (909) 270-4667 FAX (909) 379-1046
 4184 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9689
 9530 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0343 FAX (480) 785-0851
 1320 E. Sunset Rd., #3, Las Vegas, NV 89120 (702) 708-3620 FAX (702) 798-2621

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1557-01 (DRAFT: Outfall 005 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	Li
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
trans-1,2-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
1,2-Dichloropropane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
cis-1,3-Dichloropropene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
trans-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	
Ethylbenzene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Methylene chloride	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	
1,1,1,2-Tetrachloroethane	EPA 624	5B19020	0.48	5.0	L4	1	02/19/05	02/19/05	J
Tetrachloroethene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	u
Toluene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,1,1-Trichloroethane	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichloroethene	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichlorofluoromethane	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05	
Vinyl chloride	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Xylenes, Total	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)			0.52	4.0	ND	1	02/19/05	02/19/05	
Surrogate: Toluene-d8 (80-120%)									101%
Surrogate: 4-Bromofluorobenzene (80-120%)									104%
									95%

AMEC VALIDATED
LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples received in the laboratory. This report shall not be used, in whole or in part, without analysis performed by Del Mar Analytical.



Del Mar Analytical

17461 Ocean Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3257
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-7046
 9484 Chesapeake Dr., Suite B05, San Diego, CA 92123 (619) 595-8596 FAX (619) 595-0689
 5830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 765-0043 FAX (480) 765-0851
 2520 E. Sunset Rd., #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1557-02 (DRAFT: Trip Blanks - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B21001	0.28	1.0	ND	1	02/21/05	02/21/05	u
Bromodichloromethane	EPA 624	5B21001	0.30	2.0	ND	1	02/21/05	02/21/05	
Bromoform	EPA 624	5B21001	0.32	5.0	ND	1	02/21/05	02/21/05	
Bromomethane	EPA 624	5B21001	0.34	5.0	ND	1	02/21/05	02/21/05	
Carbon tetrachloride	EPA 624	5B21001	0.28	0.50	ND	1	02/21/05	02/21/05	
Chlorobenzene	EPA 624	5B21001	0.36	2.0	ND	1	02/21/05	02/21/05	
Chloroethane	EPA 624	5B21001	0.33	5.0	ND	1	02/21/05	02/21/05	
Chloroform	EPA 624	5B21001	0.33	2.0	ND	1	02/21/05	02/21/05	
Chloromethane	EPA 624	5B21001	0.30	5.0	ND	1	02/21/05	02/21/05	
Dibromochloromethane	EPA 624	5B21001	0.28	2.0	ND	1	02/21/05	02/21/05	
1,2-Dichlorobenzene	EPA 624	5B21001	0.32	2.0	ND	1	02/21/05	02/21/05	
1,3-Dichlorobenzene	EPA 624	5B21001	0.35	2.0	ND	1	02/21/05	02/21/05	
1,4-Dichlorobenzene	EPA 624	5B21001	0.37	2.0	ND	1	02/21/05	02/21/05	
1,1-Dichloroethane	EPA 624	5B21001	0.27	2.0	ND	1	02/21/05	02/21/05	
1,2-Dichloroethane	EPA 624	5B21001	0.28	0.50	ND	1	02/21/05	02/21/05	
1,1-Dichloroethene	EPA 624	5B21001	0.32	5.0	ND	1	02/21/05	02/21/05	
trans-1,2-Dichloroethene	EPA 624	5B21001	0.27	2.0	ND	1	02/21/05	02/21/05	
1,2-Dichloropropane	EPA 624	5B21001	0.35	2.0	ND	1	02/21/05	02/21/05	
cis-1,3-Dichloropropene	EPA 624	5B21001	0.22	2.0	ND	1	02/21/05	02/21/05	
trans-1,3-Dichloropropene	EPA 624	5B21001	0.24	2.0	ND	1	02/21/05	02/21/05	
Ethylbenzene	EPA 624	5B21001	0.25	2.0	ND	1	02/21/05	02/21/05	
Methylene chloride	EPA 624	5B21001	0.48	5.0	ND	1	02/21/05	02/21/05	
1,1,2,2-Tetrachloroethane	EPA 624	5B21001	0.24	2.0	ND	1	02/21/05	02/21/05	
Tetrachloroethene	EPA 624	5B21001	0.32	2.0	ND	1	02/21/05	02/21/05	
Toluene	EPA 624	5B21001	0.36	2.0	ND	1	02/21/05	02/21/05	
1,1,1-Trichloroethane	EPA 624	5B21001	0.30	2.0	ND	1	02/21/05	02/21/05	
1,1,2-Trichloroethane	EPA 624	5B21001	0.30	2.0	ND	1	02/21/05	02/21/05	
Trichloroethene	EPA 624	5B21001	0.26	2.0	ND	1	02/21/05	02/21/05	
Trichlorofluoromethane	EPA 624	5B21001	0.34	5.0	ND	1	02/21/05	02/21/05	
Vinyl chloride	EPA 624	5B21001	0.26	0.50	ND	1	02/21/05	02/21/05	
Xylenes, Total	EPA 624	5B21001	0.52	4.0	ND	1	02/21/05	02/21/05	
Surrogate: Dibromofluoromethane (80-120%)									116 %
Surrogate: Toluene-d8 (80-120%)									110 %
Surrogate: 4-Bromofluorobenzene (80-120%)									102 %

Qual
code

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples submitted to the laboratory. This report shall not be construed, in any way, without written permission from Del Mar Analytical.



Del Mar Analytical

17461 Derlin Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 262-3297
 1014 E. Coolley Dr., Suite A, Colton, CA 92324 (909) 370-4067 FAX (949) 370-1040
 4184 Chesapeake Dr., Suite 805, San Diego, CA 92123 (619) 505-8596 FAX (619) 505-9669
 9510 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0941 FAX (480) 785-0951
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1557-01 (DRAFT: Outfall 005 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	R U
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	R U
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	R U
Surrogate: Dibromofluoromethane (80-120%)					101 %				
Surrogate: Toluene-d8 (80-120%)					104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					96 %				
Sample ID: IOB1557-02 (DRAFT: Trip Blanks - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B21001	4.6	50	ND	1	02/21/05	02/21/05	R U
Acrylonitrile	EPA 624	5B21001	5.1	50	ND	1	02/21/05	02/21/05	R U
2-Chloroethyl vinyl ether	EPA 624	5B21001	1.3	5.0	ND	1	02/21/05	02/21/05	R U
Surrogate: Dibromofluoromethane (80-120%)					116 %				
Surrogate: Toluene-d8 (80-120%)					110 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					102 %				

AMEC VALIDATED

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested by the laboratory. This report shall not be used for any other purpose, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711WC110
Task Order 313150010
SDG No. IOB1557/1559/1565

No. of Analyses 3

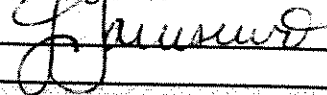
Laboratory Del Mar Analytical

Reviewer L. Jarusewic

Analysis/Method General Minerals

Date: 04/01/05

Reviewer's Signature



ACTION ITEMS^a

1. **Case Narrative Deficiencies**
2. **Out of Scope Analyses**
3. **Analyses Not Conducted**
4. **Missing Hardcopy Deliverables**
5. **Incorrect Hardcopy Deliverables**
6. **Deviations from Analysis Protocol, e.g.,**
 - Holding Times
 - GC/MS Tune/Inst. Performance
 - Calibrations
 - Blanks
 - Surrogates
 - Matrix Spike/Dup LCS
 - Field QC
 - Internal Standard Performance
 - Compound Identification and Quantitation
 - System Performance

Qualifications applied for:

1) Negative method blank result

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: GENERAL MINERALS

SAMPLE DELIVERY GROUPS: IOB1557, IOB1559, & IOB1565

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 #: IOB1557, IOB1559, IOB1565
Project Manager: B. McIlvaine
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 3
Reviewer: L. Jarusewic
Date of Review: April 1, 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 300.0, 405.1, 335.2, 160.2, 350.2, 160.5, 120.1, 413.1, and 180.1. Standard Methods for the Examination of Water and Wastewater Method SM5540-C and 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 005	Outfall 005	IOB1557-01	Water	General Minerals
Outfall 006	Outfall 006	IOB1559-01	Water	General Minerals
Outfall 011	Outfall 011	IOB1565-01	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 $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

The COCs were signed and dated by field and laboratory personnel. The COCs accounted for the analyses and samples presented in these SDGs. No 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, oil and grease, and conductivity, the 14-day holding time for cyanide, the seven-day holding time for total suspended solids and total dissolved solids, the 48-hour holding time for turbidity, total settleable solids, nitrate/nitrite, surfactants, and biological oxygen demand were met. No qualifications were required.

2.2 CALIBRATION

For the applicable analyses, the initial calibration correlation coefficients were ≥ 0.995 . The initial and continuing calibration verification information was acceptable with recoveries within the control limits of 90-110%. For BOD, no information regarding the calibration of the oxygen meter was provided; however, as the LCS recovery was within the CCV control limits, no qualifications were required. 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. The cyanide, chloride, nitrate/nitrite, and sulfate reporting limit check standards were recovered within the control limits of 70-130%. Calibration is not applicable to total suspended solids, total dissolved solids, total settleable solids, or oil and grease. No qualifications were required.

2.3 BLANKS

Cyanide was reported in method blank 5B22061-BLK1 at -0.0039 mg/L; therefore, nondetected cyanide in sample Outfall 005 was qualified as estimated, "UJ." Turbidity was detected in method blank 5B19043-BLK1 at 0.050 NTU; however, the method blank result was insufficient to qualify the sample Outfall 011 result. Sulfate was detected in a bracketing CCB associated with Outfall 011 at 0.33 mg/L; however, the CCB result was insufficient to qualify the sample Outfall 011 result. 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 further qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory control sample and laboratory control sample duplicate (BOD and oil and grease only) recoveries were within the laboratory-established control limits. The LCS is not applicable to turbidity, conductivity, or total settleable solids. 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 performed on sample Outfall 005 for cyanide with an RPD within the control limits of $\leq 15\%$. No qualifications were required.

Laboratory duplicates were performed on samples Outfall 005 for total suspended solids and Outfall 011 for total dissolved solids and conductivity. RPDs were within method control limits and no qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were performed on sample Outfall 005 for cyanide with recoveries within the laboratory-established control limits. 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 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. No 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.



Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-320
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-104
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-968
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-085
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-362

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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05

Received: 02/18/05

DRAFT: INORGANICS

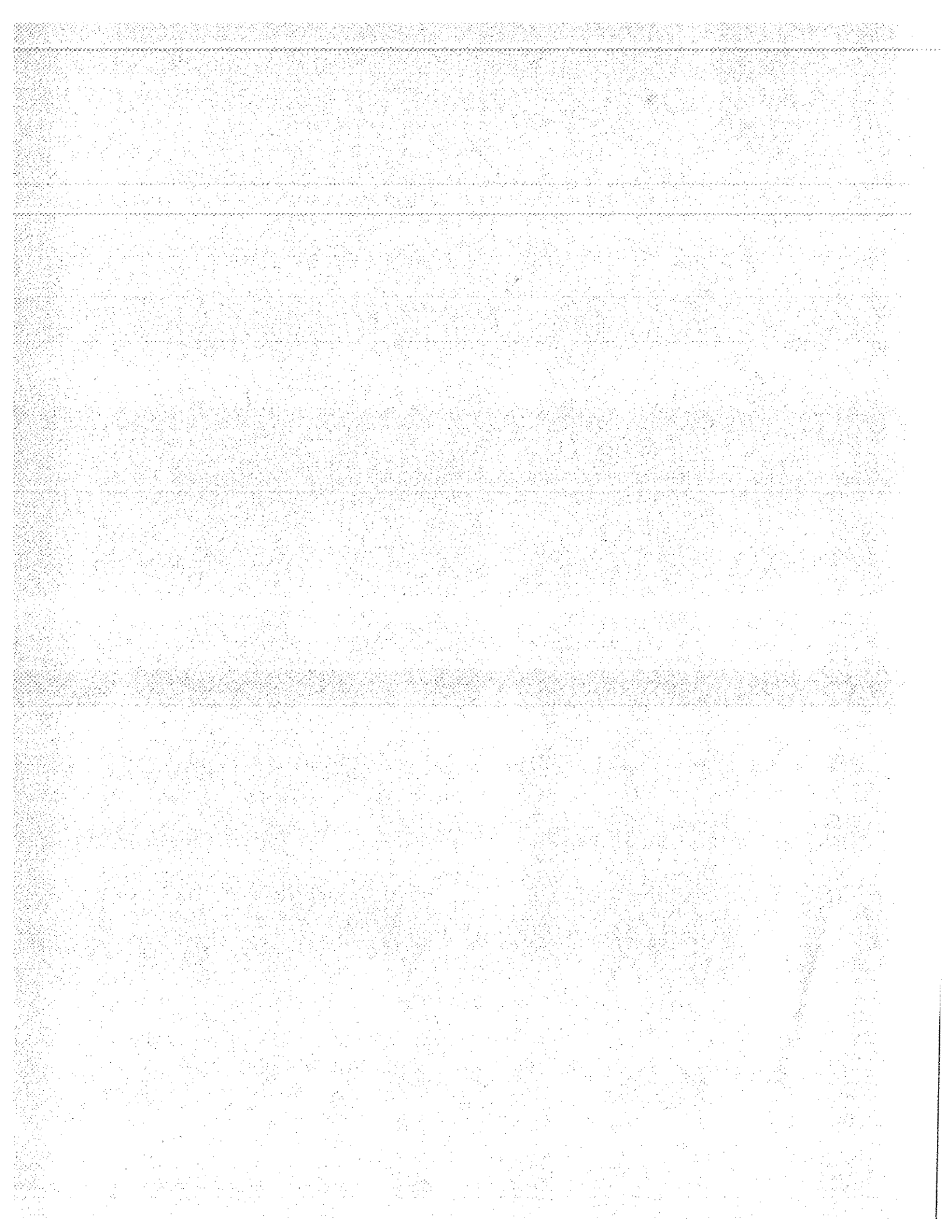
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (DRAFT: Outfall 005 - Water) - cont.									
Reporting Units: mg/l									
Total Cyanide	EPA 335.2	5B22061	0.0022	0.0050	ND	1	02/22/05	02/22/05	WT B
Total Suspended Solids	EPA 160.2	5B23109	10	10	ND	1	02/23/05	02/23/05	U

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
 DRAFT REPORT
 DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.





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 (949) 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

LABORATORY REPORT

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

Project: Annual Outfall 005

Sampled: 02/18/05
Received: 02/18/05
Issued: 04/06/05 09:31

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 11 pages, are included and are an integral part of this report. This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IOB1557-01	Outfall 005	Water
IOB1557-02	Trip Blanks	Water

Reviewed By:

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

CORRECTIVE ACTION REPORT

Department: Extractions

Date: 02/28/2005

Method: EPA 625

Matrix: Water

QC Batch: 5B22043

Identification and Definition of Problem:

The percent recovery for benzidine in the BSD was below method acceptance limits.

Determination of the Cause of the Problem:

Benzidine is known to be a problematic compound. According to the EPA, it can be subject to oxidative losses during solvent extraction and its chromatographic behavior is poor.

Corrective Action Taken:

The percent recovery in the BS was within the acceptance limits. All results reported for benzidine are potentially biased low and can be considered estimates only.

Quality Assurance Approval:

Rima Angkasa

Date: 03/02/2005 08:43 AM

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1557-01 (Outfall 005 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B19020	0.28	1.0	ND	1	02/19/05	02/19/05	
Bromodichloromethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Bromoform	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
Bromomethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Carbon tetrachloride	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
Chlorobenzene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
Chloroethane	EPA 624	5B19020	0.33	5.0	ND	1	02/19/05	02/19/05	
Chloroform	EPA 624	5B19020	0.33	2.0	ND	1	02/19/05	02/19/05	
Chloromethane	EPA 624	5B19020	0.30	5.0	ND	1	02/19/05	02/19/05	
Dibromochloromethane	EPA 624	5B19020	0.28	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichlorobenzene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
1,3-Dichlorobenzene	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
1,4-Dichlorobenzene	EPA 624	5B19020	0.37	2.0	ND	1	02/19/05	02/19/05	
1,1-Dichloroethane	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloroethane	EPA 624	5B19020	0.28	0.50	ND	1	02/19/05	02/19/05	
1,1-Dichloroethene	EPA 624	5B19020	0.32	5.0	ND	1	02/19/05	02/19/05	
trans-1,2-Dichloroethene	EPA 624	5B19020	0.27	2.0	ND	1	02/19/05	02/19/05	
1,2-Dichloropropane	EPA 624	5B19020	0.35	2.0	ND	1	02/19/05	02/19/05	
cis-1,3-Dichloropropene	EPA 624	5B19020	0.22	2.0	ND	1	02/19/05	02/19/05	
trans-1,3-Dichloropropene	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Ethylbenzene	EPA 624	5B19020	0.25	2.0	ND	1	02/19/05	02/19/05	
Methylene chloride	EPA 624	5B19020	0.48	5.0	1.4	1	02/19/05	02/19/05	J
1,1,2,2-Tetrachloroethane	EPA 624	5B19020	0.24	2.0	ND	1	02/19/05	02/19/05	
Tetrachloroethene	EPA 624	5B19020	0.32	2.0	ND	1	02/19/05	02/19/05	
Toluene	EPA 624	5B19020	0.36	2.0	ND	1	02/19/05	02/19/05	
1,1,1-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
1,1,2-Trichloroethane	EPA 624	5B19020	0.30	2.0	ND	1	02/19/05	02/19/05	
Trichloroethene	EPA 624	5B19020	0.26	2.0	ND	1	02/19/05	02/19/05	
Trichlorofluoromethane	EPA 624	5B19020	0.34	5.0	ND	1	02/19/05	02/19/05	
Vinyl chloride	EPA 624	5B19020	0.26	0.50	ND	1	02/19/05	02/19/05	
Xylenes, Total	EPA 624	5B19020	0.52	4.0	ND	1	02/19/05	02/19/05	
Surrogate: Dibromofluoromethane (80-120%)									101 %
Surrogate: Toluene-d8 (80-120%)									104 %
Surrogate: 4-Bromofluorobenzene (80-120%)									96 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1557-02 (Trip Blanks - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5B21001	0.28	1.0	ND	1	02/21/05	02/21/05	
Bromodichloromethane	EPA 624	5B21001	0.30	2.0	ND	1	02/21/05	02/21/05	
Bromoform	EPA 624	5B21001	0.32	5.0	ND	1	02/21/05	02/21/05	
Bromomethane	EPA 624	5B21001	0.34	5.0	ND	1	02/21/05	02/21/05	
Carbon tetrachloride	EPA 624	5B21001	0.28	0.50	ND	1	02/21/05	02/21/05	
Chlorobenzene	EPA 624	5B21001	0.36	2.0	ND	1	02/21/05	02/21/05	
Chloroethane	EPA 624	5B21001	0.33	5.0	ND	1	02/21/05	02/21/05	
Chloroform	EPA 624	5B21001	0.33	2.0	ND	1	02/21/05	02/21/05	
Chloromethane	EPA 624	5B21001	0.30	5.0	ND	1	02/21/05	02/21/05	
Dibromochloromethane	EPA 624	5B21001	0.28	2.0	ND	1	02/21/05	02/21/05	
1,2-Dichlorobenzene	EPA 624	5B21001	0.32	2.0	ND	1	02/21/05	02/21/05	
1,3-Dichlorobenzene	EPA 624	5B21001	0.35	2.0	ND	1	02/21/05	02/21/05	
1,4-Dichlorobenzene	EPA 624	5B21001	0.37	2.0	ND	1	02/21/05	02/21/05	
1,1-Dichloroethane	EPA 624	5B21001	0.27	2.0	ND	1	02/21/05	02/21/05	
1,2-Dichloroethane	EPA 624	5B21001	0.28	0.50	ND	1	02/21/05	02/21/05	
1,1-Dichloroethene	EPA 624	5B21001	0.32	5.0	ND	1	02/21/05	02/21/05	
trans-1,2-Dichloroethene	EPA 624	5B21001	0.27	2.0	ND	1	02/21/05	02/21/05	
1,2-Dichloropropane	EPA 624	5B21001	0.35	2.0	ND	1	02/21/05	02/21/05	
cis-1,3-Dichloropropene	EPA 624	5B21001	0.22	2.0	ND	1	02/21/05	02/21/05	
trans-1,3-Dichloropropene	EPA 624	5B21001	0.24	2.0	ND	1	02/21/05	02/21/05	
Ethylbenzene	EPA 624	5B21001	0.25	2.0	ND	1	02/21/05	02/21/05	
Methylene chloride	EPA 624	5B21001	0.48	5.0	ND	1	02/21/05	02/21/05	
1,1,2,2-Tetrachloroethane	EPA 624	5B21001	0.24	2.0	ND	1	02/21/05	02/21/05	
Tetrachloroethene	EPA 624	5B21001	0.32	2.0	ND	1	02/21/05	02/21/05	
Toluene	EPA 624	5B21001	0.36	2.0	ND	1	02/21/05	02/21/05	
1,1,1-Trichloroethane	EPA 624	5B21001	0.30	2.0	ND	1	02/21/05	02/21/05	
1,1,2-Trichloroethane	EPA 624	5B21001	0.30	2.0	ND	1	02/21/05	02/21/05	
Trichloroethene	EPA 624	5B21001	0.26	2.0	ND	1	02/21/05	02/21/05	
Trichlorofluoromethane	EPA 624	5B21001	0.34	5.0	ND	1	02/21/05	02/21/05	
Vinyl chloride	EPA 624	5B21001	0.26	0.50	ND	1	02/21/05	02/21/05	
Xylenes, Total	EPA 624	5B21001	0.52	4.0	ND	1	02/21/05	02/21/05	
Surrogate: Dibromofluoromethane (80-120%)					116 %				
Surrogate: Toluene-d8 (80-120%)					110 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					102 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

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: IOB1557-01 (Outfall 005 - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B19020	4.6	50	ND	1	02/19/05	02/19/05	
Acrylonitrile	EPA 624	5B19020	5.1	50	ND	1	02/19/05	02/19/05	
2-Chloroethyl vinyl ether	EPA 624	5B19020	1.3	5.0	ND	1	02/19/05	02/19/05	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					101 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					104 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					96 %				
Sample ID: IOB1557-02 (Trip Blanks - Water)									
Reporting Units: ug/l									
Acrolein	EPA 624	5B21001	4.6	50	ND	1	02/21/05	02/21/05	
Acrylonitrile	EPA 624	5B21001	5.1	50	ND	1	02/21/05	02/21/05	
2-Chloroethyl vinyl ether	EPA 624	5B21001	1.3	5.0	ND	1	02/21/05	02/21/05	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>					116 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					110 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					102 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

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: IOB1557-01 (Outfall 005 - Water)									
Reporting Units: ug/l									
Acenaphthene	EPA 625	5B22043	4.3	10	ND	0.943	02/22/05	02/25/05	
Acenaphthylene	EPA 625	5B22043	3.2	10	ND	0.943	02/22/05	02/25/05	
Aniline	EPA 625	5B22043	2.9	10	ND	0.943	02/22/05	02/25/05	
Anthracene	EPA 625	5B22043	3.2	10	ND	0.943	02/22/05	02/25/05	
Benzidine	EPA 625	5B22043	5.2	20	ND	0.943	02/22/05	02/25/05	L2
Benzoic acid	EPA 625	5B22043	2.6	20	ND	0.943	02/22/05	02/25/05	
Benzo(a)anthracene	EPA 625	5B22043	3.7	10	ND	0.943	02/22/05	02/25/05	
Benzo(b)fluoranthene	EPA 625	5B22043	2.7	10	ND	0.943	02/22/05	02/25/05	
Benzo(k)fluoranthene	EPA 625	5B22043	3.4	10	ND	0.943	02/22/05	02/25/05	
Benzo(g,h,i)perylene	EPA 625	5B22043	5.3	10	ND	0.943	02/22/05	02/25/05	
Benzo(a)pyrene	EPA 625	5B22043	3.5	10	ND	0.943	02/22/05	02/25/05	
Benzyl alcohol	EPA 625	5B22043	2.5	20	ND	0.943	02/22/05	02/25/05	
Bis(2-chloroethoxy)methane	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05	
Bis(2-chloroethyl)ether	EPA 625	5B22043	4.4	10	ND	0.943	02/22/05	02/25/05	
Bis(2-chloroisopropyl)ether	EPA 625	5B22043	4.6	10	ND	0.943	02/22/05	02/25/05	
Bis(2-ethylhexyl)phthalate	EPA 625	5B22043	5.2	50	ND	0.943	02/22/05	02/25/05	
4-Bromophenyl phenyl ether	EPA 625	5B22043	4.6	10	ND	0.943	02/22/05	02/25/05	
Butyl benzyl phthalate	EPA 625	5B22043	3.5	20	ND	0.943	02/22/05	02/25/05	
4-Chloroaniline	EPA 625	5B22043	6.0	10	ND	0.943	02/22/05	02/25/05	
2-Chloronaphthalene	EPA 625	5B22043	4.0	10	ND	0.943	02/22/05	02/25/05	
4-Chloro-3-methylphenol	EPA 625	5B22043	3.5	20	ND	0.943	02/22/05	02/25/05	
2-Chlorophenol	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05	
4-Chlorophenyl phenyl ether	EPA 625	5B22043	3.0	10	ND	0.943	02/22/05	02/25/05	
Chrysene	EPA 625	5B22043	2.8	10	ND	0.943	02/22/05	02/25/05	
Dibenz(a,h)anthracene	EPA 625	5B22043	4.7	20	ND	0.943	02/22/05	02/25/05	
Dibenzofuran	EPA 625	5B22043	2.6	10	ND	0.943	02/22/05	02/25/05	
Di-n-butyl phthalate	EPA 625	5B22043	2.8	20	ND	0.943	02/22/05	02/25/05	
1,3-Dichlorobenzene	EPA 625	5B22043	4.1	10	ND	0.943	02/22/05	02/25/05	
1,4-Dichlorobenzene	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05	
1,2-Dichlorobenzene	EPA 625	5B22043	4.5	10	ND	0.943	02/22/05	02/25/05	
3,3-Dichlorobenzidine	EPA 625	5B22043	11	20	ND	0.943	02/22/05	02/25/05	
2,4-Dichlorophenol	EPA 625	5B22043	4.1	10	ND	0.943	02/22/05	02/25/05	
Diethyl phthalate	EPA 625	5B22043	3.1	10	ND	0.943	02/22/05	02/25/05	
2,4-Dimethylphenol	EPA 625	5B22043	4.4	20	ND	0.943	02/22/05	02/25/05	
Dimethyl phthalate	EPA 625	5B22043	3.6	10	ND	0.943	02/22/05	02/25/05	
4,6-Dinitro-2-methylphenol	EPA 625	5B22043	5.1	20	ND	0.943	02/22/05	02/25/05	
2,4-Dinitrophenol	EPA 625	5B22043	5.3	20	ND	0.943	02/22/05	02/25/05	
2,4-Dinitrotoluene	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05	
2,6-Dinitrotoluene	EPA 625	5B22043	3.2	10	ND	0.943	02/22/05	02/25/05	
Di-n-octyl phthalate	EPA 625	5B22043	4.7	20	ND	0.943	02/22/05	02/25/05	
Fluoranthene	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: IOB1557-01 (Outfall 005 - Water) - cont.									
Reporting Units: ug/l									
Fluorene	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05	
Hexachlorobenzene	EPA 625	5B22043	4.8	10	ND	0.943	02/22/05	02/25/05	
Hexachlorobutadiene	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05	
Hexachlorocyclopentadiene	EPA 625	5B22043	3.4	20	ND	0.943	02/22/05	02/25/05	
Hexachloroethane	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05	
Indeno(1,2,3-cd)pyrene	EPA 625	5B22043	5.4	20	ND	0.943	02/22/05	02/25/05	
Isophorone	EPA 625	5B22043	3.7	10	ND	0.943	02/22/05	02/25/05	
2-Methylnaphthalene	EPA 625	5B22043	3.0	10	ND	0.943	02/22/05	02/25/05	
2-Methylphenol	EPA 625	5B22043	3.7	10	ND	0.943	02/22/05	02/25/05	
4-Methylphenol	EPA 625	5B22043	3.8	10	ND	0.943	02/22/05	02/25/05	
Naphthalene	EPA 625	5B22043	4.5	10	ND	0.943	02/22/05	02/25/05	
2-Nitroaniline	EPA 625	5B22043	3.9	20	ND	0.943	02/22/05	02/25/05	
3-Nitroaniline	EPA 625	5B22043	4.5	20	ND	0.943	02/22/05	02/25/05	
4-Nitroaniline	EPA 625	5B22043	4.9	20	ND	0.943	02/22/05	02/25/05	
Nitrobenzene	EPA 625	5B22043	4.2	20	ND	0.943	02/22/05	02/25/05	
2-Nitrophenol	EPA 625	5B22043	4.2	10	ND	0.943	02/22/05	02/25/05	
4-Nitrophenol	EPA 625	5B22043	6.6	20	ND	0.943	02/22/05	02/25/05	
N-Nitrosodiphenylamine	EPA 625	5B22043	4.0	10	ND	0.943	02/22/05	02/25/05	
N-Nitroso-di-n-propylamine	EPA 625	5B22043	3.6	10	ND	0.943	02/22/05	02/25/05	
Pentachlorophenol	EPA 625	5B22043	4.0	20	ND	0.943	02/22/05	02/25/05	
Phenanthrene	EPA 625	5B22043	3.3	10	ND	0.943	02/22/05	02/25/05	
Phenol	EPA 625	5B22043	4.0	10	ND	0.943	02/22/05	02/25/05	
Pyrene	EPA 625	5B22043	3.9	10	ND	0.943	02/22/05	02/25/05	
1,2,4-Trichlorobenzene	EPA 625	5B22043	4.4	10	ND	0.943	02/22/05	02/25/05	
2,4,5-Trichlorophenol	EPA 625	5B22043	3.6	20	ND	0.943	02/22/05	02/25/05	
2,4,6-Trichlorophenol	EPA 625	5B22043	4.1	20	ND	0.943	02/22/05	02/25/05	
1,2-Diphenylhydrazine/Azobenzene	EPA 625	5B22043	5.0	20	ND	0.943	02/22/05	02/25/05	
N-Nitrosodimethylamine	EPA 625	5B22043	3.7	20	ND	0.943	02/22/05	02/25/05	
Surrogate: 2-Fluorophenol (35-120%)									56 %
Surrogate: Phenol-d6 (45-120%)									60 %
Surrogate: 2,4,6-Tribromophenol (50-125%)									76 %
Surrogate: Nitrobenzene-d5 (45-120%)									64 %
Surrogate: 2-Fluorobiphenyl (45-120%)									69 %
Surrogate: Terphenyl-d14 (45-135%)									120 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (Outfall 005 - Water) - cont.									
Reporting Units: ug/l									
Aldrin	EPA 608	5B22041	0.030	0.10	ND	0.943	02/22/05	02/23/05	
alpha-BHC	EPA 608	5B22041	0.015	0.10	ND	0.943	02/22/05	02/23/05	
beta-BHC	EPA 608	5B22041	0.015	0.10	ND	0.943	02/22/05	02/23/05	
delta-BHC	EPA 608	5B22041	0.020	0.20	ND	0.943	02/22/05	02/23/05	
gamma-BHC (Lindane)	EPA 608	5B22041	0.015	0.10	ND	0.943	02/22/05	02/23/05	
Chlordane	EPA 608	5B22041	0.20	1.0	ND	0.943	02/22/05	02/23/05	
4,4'-DDD	EPA 608	5B22041	0.015	0.10	ND	0.943	02/22/05	02/23/05	
4,4'-DDE	EPA 608	5B22041	0.020	0.10	ND	0.943	02/22/05	02/23/05	
4,4'-DDT	EPA 608	5B22041	0.030	0.10	ND	0.943	02/22/05	02/23/05	
Dieldrin	EPA 608	5B22041	0.015	0.10	ND	0.943	02/22/05	02/23/05	
Endosulfan I	EPA 608	5B22041	0.015	0.10	ND	0.943	02/22/05	02/23/05	
Endosulfan II	EPA 608	5B22041	0.040	0.10	ND	0.943	02/22/05	02/23/05	
Endosulfan sulfate	EPA 608	5B22041	0.015	0.20	ND	0.943	02/22/05	02/23/05	
Endrin	EPA 608	5B22041	0.015	0.10	ND	0.943	02/22/05	02/23/05	
Endrin aldehyde	EPA 608	5B22041	0.045	0.10	ND	0.943	02/22/05	02/23/05	
Endrin ketone	EPA 608	5B22041	0.020	0.10	ND	0.943	02/22/05	02/23/05	
Heptachlor	EPA 608	5B22041	0.030	0.10	ND	0.943	02/22/05	02/23/05	
Heptachlor epoxide	EPA 608	5B22041	0.020	0.10	ND	0.943	02/22/05	02/23/05	
Methoxychlor	EPA 608	5B22041	0.035	0.10	ND	0.943	02/22/05	02/23/05	
Toxaphene	EPA 608	5B22041	1.5	5.0	ND	0.943	02/22/05	02/23/05	
Surrogate: Tetrachloro-m-xylene (35-120%)									72 %
Surrogate: Decachlorobiphenyl (45-120%)									87 %

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

TOTAL PCBS (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (Outfall 005 - Water) - cont.									
Reporting Units: ug/l									
Aroclor 1016	EPA 608	5B22041	0.20	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1221	EPA 608	5B22041	0.10	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1232	EPA 608	5B22041	0.15	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1242	EPA 608	5B22041	0.15	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1248	EPA 608	5B22041	0.25	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1254	EPA 608	5B22041	0.25	1.0	ND	0.943	02/22/05	02/23/05	
Aroclor 1260	EPA 608	5B22041	0.40	1.0	ND	0.943	02/22/05	02/23/05	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					78 %				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (Outfall 005 - Water) - cont.									
Reporting Units: mg/l									
Boron	EPA 200.7	5B24093	0.0074	0.050	ND	1	02/24/05	02/25/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05

Received: 02/18/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (Outfall 005 - Water) - cont.									
Reporting Units: ug/l									
Aluminum	EPA 200.7	5B24093	47	50	120	1	02/24/05	02/26/05	
Antimony	EPA 200.8	5B24099	0.18	2.0	0.20	1	02/24/05	02/25/05	J
Arsenic	EPA 200.7	5B24093	3.8	5.0	ND	1	02/24/05	02/25/05	
Beryllium	EPA 200.7	5B24093	0.62	2.0	ND	1	02/24/05	02/25/05	
Cadmium	EPA 200.8	5B24099	0.015	1.0	ND	1	02/24/05	02/25/05	
Chromium	EPA 200.7	5B24093	0.68	5.0	0.70	1	02/24/05	02/25/05	J
Copper	EPA 200.8	5B24099	0.49	2.0	ND	1	02/24/05	02/25/05	
Lead	EPA 200.8	5B24099	0.13	1.0	0.15	1	02/24/05	02/25/05	J
Mercury	EPA 245.1	5B22063	0.063	0.20	ND	1	02/22/05	02/22/05	
Nickel	EPA 200.7	5B24093	2.0	10	ND	1	02/24/05	02/25/05	
Selenium	EPA 200.7	5B24093	4.6	10	ND	1	02/24/05	03/01/05	
Silver	EPA 200.7	5B24093	1.3	10	2.3	1	02/24/05	02/26/05	J
Thallium	EPA 200.8	5B24099	0.075	1.0	0.19	1	02/24/05	02/25/05	J
Vanadium	EPA 200.7	5B24093	1.4	10	1.5	1	02/24/05	02/25/05	J
Zinc	EPA 200.7	5B24093	3.7	20	13	1	02/24/05	02/25/05	J

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05

Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (Outfall 005 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	5B18129	0.26	0.50	1.1	1	02/18/05	02/18/05	
Total Cyanide	EPA 335.2	5B22061	0.0022	0.0050	ND	1	02/22/05	02/22/05	
Nitrate/Nitrite-N	EPA 300.0	5B18129	0.072	0.11	0.14	1	02/18/05	02/18/05	
Oil & Grease	EPA 413.1	5B23082	0.94	5.0	ND	1	02/23/05	02/23/05	
Sulfate	EPA 300.0	5B18129	0.18	0.50	1.3	1	02/18/05	02/18/05	
Total Dissolved Solids	SM2540C	5B23077	10	10	21	1	02/23/05	02/23/05	
Total Suspended Solids	EPA 160.2	5B23109	10	10	ND	1	02/23/05	02/23/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOB1557-01 (Outfall 005 - Water) - cont.									
Reporting Units: ug/l									
Perchlorate	EPA 314.0	5B27023	0.80	4.0	ND	1	02/27/05	02/27/05	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 005 (IOB1557-01) - Water					
EPA 300.0	2	02/18/2005 10:10	02/18/2005 18:30	02/18/2005 21:30	02/18/2005 23:47
EPA 624	3	02/18/2005 10:10	02/18/2005 18:30	02/19/2005 00:00	02/19/2005 17:28
Sample ID: Trip Blanks (IOB1557-02) - Water					
EPA 624	3	02/18/2005 14:50	02/18/2005 18:30	02/21/2005 00:00	02/21/2005 11:56

Del Mar Analytical, Irvine
Michele Harper
Project Manager



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B19020 Extracted: 02/19/05										
Blank Analyzed: 02/19/2005 (5B19020-BLK1)										
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.34	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.24	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	ND	5.0	0.48	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	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	2.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	0.50	0.26	ug/l						
Xylenes, Total	ND	4.0	0.52	ug/l						
Surrogate: Dibromofluoromethane	24.9			ug/l	25.0		100	80-120		
Surrogate: Toluene-d8	26.8			ug/l	25.0		107	80-120		
Surrogate: 4-Bromofluorobenzene	25.2			ug/l	25.0		101	80-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B19020 Extracted: 02/19/05										
LCS Analyzed: 02/19/2005 (5B19020-BS1)										
Benzene	25.3	1.0	0.28	ug/l	25.0	101	70-120			
Bromodichloromethane	22.8	2.0	0.30	ug/l	25.0	91	70-140			
Bromoform	24.9	5.0	0.32	ug/l	25.0	100	55-135			
Bromomethane	26.0	5.0	0.34	ug/l	25.0	104	60-140			
Carbon tetrachloride	22.7	0.50	0.28	ug/l	25.0	91	70-140			
Chlorobenzene	24.2	2.0	0.36	ug/l	25.0	97	80-125			
Chloroethane	25.4	5.0	0.33	ug/l	25.0	102	60-145			
Chloroform	23.2	2.0	0.33	ug/l	25.0	93	75-130			
Chloromethane	25.1	5.0	0.30	ug/l	25.0	100	40-145			
Dibromochloromethane	24.2	2.0	0.28	ug/l	25.0	97	65-145			
1,2-Dichlorobenzene	24.5	2.0	0.32	ug/l	25.0	98	80-120			
1,3-Dichlorobenzene	23.7	2.0	0.35	ug/l	25.0	95	80-120			
1,4-Dichlorobenzene	23.9	2.0	0.37	ug/l	25.0	96	80-120			
1,1-Dichloroethane	23.4	2.0	0.27	ug/l	25.0	94	70-135			
1,2-Dichloroethane	22.7	0.50	0.28	ug/l	25.0	91	60-150			
1,1-Dichloroethene	25.6	5.0	0.32	ug/l	25.0	102	75-135			
trans-1,2-Dichloroethene	24.9	2.0	0.27	ug/l	25.0	100	70-130			
1,2-Dichloropropane	25.2	2.0	0.35	ug/l	25.0	101	70-120			
cis-1,3-Dichloropropene	25.2	2.0	0.22	ug/l	25.0	101	75-130			
trans-1,3-Dichloropropene	25.6	2.0	0.24	ug/l	25.0	102	75-135			
Ethylbenzene	25.2	2.0	0.25	ug/l	25.0	101	80-120			
Methylene chloride	24.7	5.0	0.48	ug/l	25.0	99	60-135			
1,1,2,2-Tetrachloroethane	27.6	2.0	0.24	ug/l	25.0	110	60-135			
Tetrachloroethene	23.8	2.0	0.32	ug/l	25.0	95	75-125			
Toluene	25.0	2.0	0.36	ug/l	25.0	100	75-120			
1,1,1-Trichloroethane	21.8	2.0	0.30	ug/l	25.0	87	75-140			
1,1,2-Trichloroethane	25.2	2.0	0.30	ug/l	25.0	101	70-125			
Trichloroethene	24.4	2.0	0.26	ug/l	25.0	98	80-120			
Trichlorofluoromethane	21.9	5.0	0.34	ug/l	25.0	88	65-145			
Vinyl chloride	24.1	0.50	0.26	ug/l	25.0	96	50-130			
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0	101	80-120			
Surrogate: Toluene-d8	27.1			ug/l	25.0	108	80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0	104	80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05

Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
Matrix Spike Analyzed: 02/19/2005 (5B19020-MS1)						Source: IOB1556-01					
Benzene	22.7	1.0	0.28	ug/l	25.0	ND	91	70-120			
Bromodichloromethane	20.2	2.0	0.30	ug/l	25.0	ND	81	70-140			
Bromoform	20.2	5.0	0.32	ug/l	25.0	ND	81	55-140			
Bromomethane	23.0	5.0	0.34	ug/l	25.0	ND	92	50-145			
Carbon tetrachloride	20.8	0.50	0.28	ug/l	25.0	ND	83	70-145			
Chlorobenzene	21.9	2.0	0.36	ug/l	25.0	ND	88	80-125			
Chloroethane	22.3	5.0	0.33	ug/l	25.0	ND	89	50-145			
Chloroform	21.0	2.0	0.33	ug/l	25.0	ND	84	70-135			
Chloromethane	21.8	5.0	0.30	ug/l	25.0	ND	87	35-145			
Dibromochloromethane	21.0	2.0	0.28	ug/l	25.0	ND	84	65-145			
1,2-Dichlorobenzene	22.2	2.0	0.32	ug/l	25.0	ND	89	75-130			
1,3-Dichlorobenzene	22.0	2.0	0.35	ug/l	25.0	ND	88	75-130			
1,4-Dichlorobenzene	22.0	2.0	0.37	ug/l	25.0	ND	88	80-120			
1,1-Dichloroethane	21.3	2.0	0.27	ug/l	25.0	ND	85	65-135			
1,2-Dichloroethane	19.6	0.50	0.28	ug/l	25.0	ND	78	60-150			
1,1-Dichloroethene	22.6	5.0	0.32	ug/l	25.0	ND	90	65-140			
trans-1,2-Dichloroethene	22.5	2.0	0.27	ug/l	25.0	ND	90	65-135			
1,2-Dichloropropane	22.1	2.0	0.35	ug/l	25.0	ND	88	65-130			
cis-1,3-Dichloropropene	22.2	2.0	0.22	ug/l	25.0	ND	89	70-140			
trans-1,3-Dichloropropene	21.7	2.0	0.24	ug/l	25.0	ND	87	70-140			
Ethylbenzene	23.3	2.0	0.25	ug/l	25.0	ND	93	70-130			
Methylene chloride	22.7	5.0	0.48	ug/l	25.0	0.95	87	60-135			
1,1,1,2-Tetrachloroethane	22.8	2.0	0.24	ug/l	25.0	ND	91	60-145			
Tetrachloroethene	21.3	2.0	0.32	ug/l	25.0	ND	85	70-130			
Toluene	22.5	2.0	0.36	ug/l	25.0	ND	90	70-120			
1,1,1-Trichloroethane	20.3	2.0	0.30	ug/l	25.0	0.76	78	75-140			
1,1,2-Trichloroethane	20.9	2.0	0.30	ug/l	25.0	ND	84	60-135			
Trichloroethene	22.1	2.0	0.26	ug/l	25.0	0.66	86	70-125			
Trichlorofluoromethane	19.6	5.0	0.34	ug/l	25.0	ND	78	55-145			
Vinyl chloride	21.6	0.50	0.26	ug/l	25.0	ND	86	40-135			
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

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: 5B19020 Extracted: 02/19/05											
Matrix Spike Dup Analyzed: 02/19/2005 (5B19020-MSD1)						Source: IOB1556-01					
Benzene	24.4	1.0	0.28	ug/l	25.0	ND	98	70-120	7	20	
Bromodichloromethane	21.5	2.0	0.30	ug/l	25.0	ND	86	70-140	6	20	
Bromoform	22.7	5.0	0.32	ug/l	25.0	ND	91	55-140	12	25	
Bromomethane	24.8	5.0	0.34	ug/l	25.0	ND	99	50-145	8	25	
Carbon tetrachloride	22.1	0.50	0.28	ug/l	25.0	ND	88	70-145	6	25	
Chlorobenzene	23.4	2.0	0.36	ug/l	25.0	ND	94	80-125	7	20	
Chloroethane	23.8	5.0	0.33	ug/l	25.0	ND	95	50-145	7	25	
Chloroform	22.2	2.0	0.33	ug/l	25.0	ND	89	70-135	6	20	
Chloromethane	23.2	5.0	0.30	ug/l	25.0	ND	93	35-145	6	25	
Dibromochloromethane	22.8	2.0	0.28	ug/l	25.0	ND	91	65-145	8	25	
1,2-Dichlorobenzene	23.3	2.0	0.32	ug/l	25.0	ND	93	75-130	5	20	
1,3-Dichlorobenzene	22.9	2.0	0.35	ug/l	25.0	ND	92	75-130	4	20	
1,4-Dichlorobenzene	23.0	2.0	0.37	ug/l	25.0	ND	92	80-120	4	20	
1,1-Dichloroethane	22.5	2.0	0.27	ug/l	25.0	ND	90	65-135	5	20	
1,2-Dichloroethane	23.3	0.50	0.28	ug/l	25.0	ND	93	60-150	17	20	
1,1-Dichloroethene	24.3	5.0	0.32	ug/l	25.0	ND	97	65-140	7	20	
trans-1,2-Dichloroethene	24.0	2.0	0.27	ug/l	25.0	ND	96	65-135	6	20	
1,2-Dichloropropane	23.7	2.0	0.35	ug/l	25.0	ND	95	65-130	7	20	
cis-1,3-Dichloropropene	23.9	2.0	0.22	ug/l	25.0	ND	96	70-140	7	20	
trans-1,3-Dichloropropene	23.7	2.0	0.24	ug/l	25.0	ND	95	70-140	9	25	
Ethylbenzene	24.8	2.0	0.25	ug/l	25.0	ND	99	70-130	6	20	
Methylene chloride	24.2	5.0	0.48	ug/l	25.0	0.95	93	60-135	6	20	
1,1,2,2-Tetrachloroethane	25.3	2.0	0.24	ug/l	25.0	ND	101	60-145	10	30	
Tetrachloroethene	23.0	2.0	0.32	ug/l	25.0	ND	92	70-130	8	20	
Toluene	24.0	2.0	0.36	ug/l	25.0	ND	96	70-120	6	20	
1,1,1-Trichloroethane	21.7	2.0	0.30	ug/l	25.0	0.76	84	75-140	7	20	
1,1,2-Trichloroethane	23.3	2.0	0.30	ug/l	25.0	ND	93	60-135	11	25	
Trichloroethene	23.0	2.0	0.26	ug/l	25.0	0.66	89	70-125	4	20	
Trichlorofluoromethane	20.7	5.0	0.34	ug/l	25.0	ND	83	55-145	5	25	
Vinyl chloride	22.8	0.50	0.26	ug/l	25.0	ND	91	40-135	5	30	
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120			
Surrogate: Toluene-d8	25.8			ug/l	25.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	24.9			ug/l	25.0		100	80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B21001 Extracted: 02/21/05										
Blank Analyzed: 02/21/2005 (5B21001-BLK1)										
Benzene	ND	1.0	0.28	ug/l						
Bromodichloromethane	ND	2.0	0.30	ug/l						
Bromoform	ND	5.0	0.32	ug/l						
Bromomethane	ND	5.0	0.34	ug/l						
Carbon tetrachloride	ND	0.50	0.28	ug/l						
Chlorobenzene	ND	2.0	0.36	ug/l						
Chloroethane	ND	5.0	0.33	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
Chloromethane	ND	5.0	0.30	ug/l						
Dibromochloromethane	ND	2.0	0.28	ug/l						
1,2-Dichlorobenzene	ND	2.0	0.32	ug/l						
1,3-Dichlorobenzene	ND	2.0	0.35	ug/l						
1,4-Dichlorobenzene	ND	2.0	0.37	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	0.50	0.28	ug/l						
1,1-Dichloroethene	ND	5.0	0.32	ug/l						
trans-1,2-Dichloroethene	ND	2.0	0.27	ug/l						
1,2-Dichloropropane	ND	2.0	0.35	ug/l						
cis-1,3-Dichloropropene	ND	2.0	0.22	ug/l						
trans-1,3-Dichloropropene	ND	2.0	0.24	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Methylene chloride	ND	5.0	0.48	ug/l						
1,1,2,2-Tetrachloroethane	ND	2.0	0.24	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	2.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	0.50	0.26	ug/l						
Xylenes, Total	ND	4.0	0.52	ug/l						
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120		
Surrogate: Toluene-d8	25.6			ug/l	25.0		102	80-120		
Surrogate: 4-Bromofluorobenzene	24.0			ug/l	25.0		96	80-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B21001 Extracted: 02/21/05										
LCS Analyzed: 02/21/2005 (5B21001-BS1)										
Benzene	26.9	1.0	0.28	ug/l	25.0		108 70-120			
Bromodichloromethane	22.8	2.0	0.30	ug/l	25.0		91 70-140			
Bromoform	22.4	5.0	0.32	ug/l	25.0		90 55-135			
Bromomethane	25.0	5.0	0.34	ug/l	25.0		100 60-140			
Carbon tetrachloride	22.2	0.50	0.28	ug/l	25.0		89 70-140			
Chlorobenzene	24.3	2.0	0.36	ug/l	25.0		97 80-125			
Chloroethane	24.7	5.0	0.33	ug/l	25.0		99 60-145			
Chloroform	23.8	2.0	0.33	ug/l	25.0		95 75-130			
Chloromethane	24.6	5.0	0.30	ug/l	25.0		98 40-145			
Dibromochloromethane	23.3	2.0	0.28	ug/l	25.0		93 65-145			
1,2-Dichlorobenzene	24.1	2.0	0.32	ug/l	25.0		96 80-120			
1,3-Dichlorobenzene	23.9	2.0	0.35	ug/l	25.0		96 80-120			
1,4-Dichlorobenzene	24.0	2.0	0.37	ug/l	25.0		96 80-120			
1,1-Dichloroethane	24.1	2.0	0.27	ug/l	25.0		96 70-135			
1,2-Dichloroethane	24.1	0.50	0.28	ug/l	25.0		96 60-150			
1,1-Dichloroethene	26.8	5.0	0.32	ug/l	25.0		107 75-135			
trans-1,2-Dichloroethene	25.5	2.0	0.27	ug/l	25.0		102 70-130			
1,2-Dichloropropane	25.4	2.0	0.35	ug/l	25.0		102 70-120			
cis-1,3-Dichloropropene	25.0	2.0	0.22	ug/l	25.0		100 75-130			
trans-1,3-Dichloropropene	24.5	2.0	0.24	ug/l	25.0		98 75-135			
Ethylbenzene	25.8	2.0	0.25	ug/l	25.0		103 80-120			
Methylene chloride	25.0	5.0	0.48	ug/l	25.0		100 60-135			
1,1,1,2-Tetrachloroethane	23.4	2.0	0.24	ug/l	25.0		94 60-135			
Tetrachloroethene	23.9	2.0	0.32	ug/l	25.0		96 75-125			
Toluene	25.1	2.0	0.36	ug/l	25.0		100 75-120			
1,1,1-Trichloroethane	22.1	2.0	0.30	ug/l	25.0		88 75-140			
1,1,2-Trichloroethane	24.1	2.0	0.30	ug/l	25.0		96 70-125			
Trichloroethene	25.8	2.0	0.26	ug/l	25.0		103 80-120			
Trichlorofluoromethane	22.0	5.0	0.34	ug/l	25.0		88 65-145			
Vinyl chloride	24.2	0.50	0.26	ug/l	25.0		97 50-130			
Surrogate: Dibromofluoromethane	24.3			ug/l	25.0		97 80-120			
Surrogate: Toluene-d8	26.1			ug/l	25.0		104 80-120			
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0		99 80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: 5B21001 Extracted: 02/21/05											
Matrix Spike Analyzed: 02/21/2005 (5B21001-MS1)						Source: IOB1350-04					
Benzene	25.7	1.0	0.28	ug/l	25.0	ND	103	70-120			
Bromodichloromethane	23.8	2.0	0.30	ug/l	25.0	ND	95	70-140			
Bromoform	25.1	5.0	0.32	ug/l	25.0	ND	100	55-140			
Bromomethane	26.3	5.0	0.34	ug/l	25.0	ND	105	50-145			
Carbon tetrachloride	22.6	0.50	0.28	ug/l	25.0	ND	90	70-145			
Chlorobenzene	25.1	2.0	0.36	ug/l	25.0	ND	100	80-125			
Chloroethane	25.9	5.0	0.33	ug/l	25.0	ND	104	50-145			
Chloroform	25.5	2.0	0.33	ug/l	25.0	ND	102	70-135			
Chloromethane	25.9	5.0	0.30	ug/l	25.0	ND	104	35-145			
Dibromochloromethane	25.2	2.0	0.28	ug/l	25.0	ND	101	65-145			
1,2-Dichlorobenzene	24.6	2.0	0.32	ug/l	25.0	ND	98	75-130			
1,3-Dichlorobenzene	23.8	2.0	0.35	ug/l	25.0	ND	95	75-130			
1,4-Dichlorobenzene	24.0	2.0	0.37	ug/l	25.0	ND	96	80-120			
1,1-Dichloroethane	25.2	2.0	0.27	ug/l	25.0	ND	101	65-135			
1,2-Dichloroethane	23.7	0.50	0.28	ug/l	25.0	ND	95	60-150			
1,1-Dichloroethene	27.6	5.0	0.32	ug/l	25.0	ND	110	65-140			
trans-1,2-Dichloroethene	26.5	2.0	0.27	ug/l	25.0	ND	106	65-135			
1,2-Dichloropropane	25.4	2.0	0.35	ug/l	25.0	ND	102	65-130			
cis-1,3-Dichloropropene	25.5	2.0	0.22	ug/l	25.0	ND	102	70-140			
trans-1,3-Dichloropropene	25.8	2.0	0.24	ug/l	25.0	ND	103	70-140			
Ethylbenzene	26.5	2.0	0.25	ug/l	25.0	ND	106	70-130			
Methylene chloride	26.6	5.0	0.48	ug/l	25.0	ND	106	60-135			
1,1,2,2-Tetrachloroethane	28.0	2.0	0.24	ug/l	25.0	ND	112	60-145			
Tetrachloroethene	23.6	2.0	0.32	ug/l	25.0	ND	94	70-130			
Toluene	25.6	2.0	0.36	ug/l	25.0	ND	102	70-120			
1,1,1-Trichloroethane	22.8	2.0	0.30	ug/l	25.0	ND	91	75-140			
1,1,2-Trichloroethane	25.9	2.0	0.30	ug/l	25.0	ND	104	60-135			
Trichloroethene	24.4	2.0	0.26	ug/l	25.0	ND	98	70-125			
Trichlorofluoromethane	23.3	5.0	0.34	ug/l	25.0	ND	93	55-145			
Vinyl chloride	24.8	0.50	0.26	ug/l	25.0	ND	99	40-135			
Surrogate: Dibromofluoromethane	25.7			ug/l	25.0		103	80-120			
Surrogate: Toluene-d8	26.1			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	25.8			ug/l	25.0		103	80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: 5B21001 Extracted: 02/21/05											
Matrix Spike Dup Analyzed: 02/21/2005 (5B21001-MSD1)						Source: IOB1350-04					
Benzene	27.0	1.0	0.28	ug/l	25.0	ND	108	70-120	5	20	
Bromodichloromethane	24.7	2.0	0.30	ug/l	25.0	ND	99	70-140	4	20	
Bromoform	27.5	5.0	0.32	ug/l	25.0	ND	110	55-140	9	25	
Bromomethane	27.8	5.0	0.34	ug/l	25.0	ND	111	50-145	6	25	
Carbon tetrachloride	22.9	0.50	0.28	ug/l	25.0	ND	92	70-145	1	25	
Chlorobenzene	25.9	2.0	0.36	ug/l	25.0	ND	104	80-125	3	20	
Chloroethane	27.5	5.0	0.33	ug/l	25.0	ND	110	50-145	6	25	
Chloroform	25.9	2.0	0.33	ug/l	25.0	ND	104	70-135	2	20	
Chloromethane	27.4	5.0	0.30	ug/l	25.0	ND	110	35-145	6	25	
Dibromochloromethane	26.5	2.0	0.28	ug/l	25.0	ND	106	65-145	5	25	
1,2-Dichlorobenzene	25.8	2.0	0.32	ug/l	25.0	ND	103	75-130	5	20	
1,3-Dichlorobenzene	24.6	2.0	0.35	ug/l	25.0	ND	98	75-130	3	20	
1,4-Dichlorobenzene	24.8	2.0	0.37	ug/l	25.0	ND	99	80-120	3	20	
1,1-Dichloroethane	26.0	2.0	0.27	ug/l	25.0	ND	104	65-135	3	20	
1,2-Dichloroethane	27.0	0.50	0.28	ug/l	25.0	ND	108	60-150	13	20	
1,1-Dichloroethene	29.3	5.0	0.32	ug/l	25.0	ND	117	65-140	6	20	
trans-1,2-Dichloroethene	27.6	2.0	0.27	ug/l	25.0	ND	110	65-135	4	20	
1,2-Dichloropropane	26.7	2.0	0.35	ug/l	25.0	ND	107	65-130	5	20	
cis-1,3-Dichloropropene	26.6	2.0	0.22	ug/l	25.0	ND	106	70-140	4	20	
trans-1,3-Dichloropropene	27.4	2.0	0.24	ug/l	25.0	ND	110	70-140	6	25	
Ethylbenzene	26.9	2.0	0.25	ug/l	25.0	ND	108	70-130	1	20	
Methylene chloride	27.8	5.0	0.48	ug/l	25.0	ND	111	60-135	4	20	
1,1,2,2-Tetrachloroethane	30.9	2.0	0.24	ug/l	25.0	ND	124	60-145	10	30	
Tetrachloroethene	24.4	2.0	0.32	ug/l	25.0	ND	98	70-130	3	20	
Toluene	26.4	2.0	0.36	ug/l	25.0	ND	106	70-120	3	20	
1,1,1-Trichloroethane	22.9	2.0	0.30	ug/l	25.0	ND	92	75-140	0	20	
1,1,2-Trichloroethane	27.9	2.0	0.30	ug/l	25.0	ND	112	60-135	7	25	
Trichloroethene	25.3	2.0	0.26	ug/l	25.0	ND	101	70-125	4	20	
Trichlorofluoromethane	24.0	5.0	0.34	ug/l	25.0	ND	96	55-145	3	25	
Vinyl chloride	26.2	0.50	0.26	ug/l	25.0	ND	105	40-135	5	30	
Surrogate: Dibromofluoromethane	25.7			ug/l	25.0		103	80-120			
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	25.6			ug/l	25.0		102	80-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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: 5B19020 Extracted: 02/19/05

Blank Analyzed: 02/19/2005 (5B19020-BLK1)

Acrolein	ND	50	4.6	ug/l						
Acrylonitrile	ND	50	5.1	ug/l						
2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l						
Surrogate: Dibromofluoromethane	24.9			ug/l	25.0		100	80-120		
Surrogate: Toluene-d8	26.8			ug/l	25.0		107	80-120		
Surrogate: 4-Bromofluorobenzene	25.2			ug/l	25.0		101	80-120		

LCS Analyzed: 02/19/2005 (5B19020-BS1)

2-Chloroethyl vinyl ether	28.8	5.0	1.3	ug/l	25.0		115	20-175		
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101	80-120		
Surrogate: Toluene-d8	27.1			ug/l	25.0		108	80-120		
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104	80-120		

Matrix Spike Analyzed: 02/19/2005 (5B19020-MS1)

Source: IOB1556-01

2-Chloroethyl vinyl ether	21.2	5.0	1.3	ug/l	25.0	ND	85	20-175		
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120		
Surrogate: Toluene-d8	25.9			ug/l	25.0		104	80-120		
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120		

Matrix Spike Dup Analyzed: 02/19/2005 (5B19020-MSD1)

Source: IOB1556-01

2-Chloroethyl vinyl ether	24.9	5.0	1.3	ug/l	25.0	ND	100	20-175	16	25
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120		
Surrogate: Toluene-d8	25.8			ug/l	25.0		103	80-120		
Surrogate: 4-Bromofluorobenzene	24.9			ug/l	25.0		100	80-120		

Batch: 5B21001 Extracted: 02/21/05

Blank Analyzed: 02/21/2005 (5B21001-BLK1)

Acrolein	ND	50	4.6	ug/l						
Acrylonitrile	ND	50	5.1	ug/l						
2-Chloroethyl vinyl ether	ND	5.0	1.3	ug/l						
Surrogate: Dibromofluoromethane	24.1			ug/l	25.0		96	80-120		
Surrogate: Toluene-d8	25.6			ug/l	25.0		102	80-120		
Surrogate: 4-Bromofluorobenzene	24.0			ug/l	25.0		96	80-120		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Data Qualifiers
Batch: 5B21001 Extracted: 02/21/05									
LCS Analyzed: 02/21/2005 (5B21001-BS1)									
2-Chloroethyl vinyl ether	28.6	5.0	1.3	ug/l	25.0	114	20-175		
Surrogate: Dibromofluoromethane	24.3			ug/l	25.0	97	80-120		
Surrogate: Toluene-d8	26.1			ug/l	25.0	104	80-120		
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0	99	80-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Del Mar Analytical

17461Derian 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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
Blank Analyzed: 02/25/2005 (5B22043-BLK1)										
Acenaphthene	ND	10	4.3	ug/l						
Acenaphthylene	ND	10	3.2	ug/l						
Aniline	ND	10	2.9	ug/l						
Anthracene	ND	10	3.2	ug/l						
Benzidine	ND	20	5.2	ug/l						
Benzoic acid	ND	20	2.6	ug/l						
Benzo(a)anthracene	ND	10	3.7	ug/l						
Benzo(b)fluoranthene	ND	10	2.7	ug/l						
Benzo(k)fluoranthene	ND	10	3.4	ug/l						
Benzo(g,h,i)perylene	ND	10	5.3	ug/l						
Benzo(a)pyrene	ND	10	3.5	ug/l						
Benzyl alcohol	ND	20	2.5	ug/l						
Bis(2-chloroethoxy)methane	ND	10	3.9	ug/l						
Bis(2-chloroethyl)ether	ND	10	4.4	ug/l						
Bis(2-chloroisopropyl)ether	ND	10	4.6	ug/l						
Bis(2-ethylhexyl)phthalate	ND	50	5.2	ug/l						
4-Bromophenyl phenyl ether	ND	10	4.6	ug/l						
Butyl benzyl phthalate	ND	20	3.5	ug/l						
4-Chloroaniline	ND	10	6.0	ug/l						
2-Chloronaphthalene	ND	10	4.0	ug/l						
4-Chloro-3-methylphenol	ND	20	3.5	ug/l						
2-Chlorophenol	ND	10	4.2	ug/l						
4-Chlorophenyl phenyl ether	ND	10	3.0	ug/l						
Chrysene	ND	10	2.8	ug/l						
Dibenz(a,h)anthracene	ND	20	4.7	ug/l						
Dibenzofuran	ND	10	2.6	ug/l						
Di-n-butyl phthalate	ND	20	2.8	ug/l						
1,3-Dichlorobenzene	ND	10	4.1	ug/l						
1,4-Dichlorobenzene	ND	10	3.9	ug/l						
1,2-Dichlorobenzene	ND	10	4.5	ug/l						
3,3-Dichlorobenzidine	ND	20	11	ug/l						
2,4-Dichlorophenol	ND	10	4.1	ug/l						
Diethyl phthalate	ND	10	3.1	ug/l						
2,4-Dimethylphenol	ND	20	4.4	ug/l						
Dimethyl phthalate	ND	10	3.6	ug/l						

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

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	Data Limit	Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
Blank Analyzed: 02/25/2005 (5B22043-BLK1)										
4,6-Dinitro-2-methylphenol	ND	20	5.1	ug/l						
2,4-Dinitrophenol	ND	20	5.3	ug/l						
2,4-Dinitrotoluene	ND	10	4.2	ug/l						
2,6-Dinitrotoluene	ND	10	3.2	ug/l						
Di-n-octyl phthalate	ND	20	4.7	ug/l						
Fluoranthene	ND	10	4.2	ug/l						
Fluorene	ND	10	3.9	ug/l						
Hexachlorobenzene	ND	10	4.8	ug/l						
Hexachlorobutadiene	ND	10	4.2	ug/l						
Hexachlorocyclopentadiene	ND	20	3.4	ug/l						
Hexachloroethane	ND	10	4.2	ug/l						
Indeno(1,2,3-cd)pyrene	ND	20	5.4	ug/l						
Isophorone	ND	10	3.7	ug/l						
2-Methylnaphthalene	ND	10	3.0	ug/l						
2-Methylphenol	ND	10	3.7	ug/l						
4-Methylphenol	ND	10	3.8	ug/l						
Naphthalene	ND	10	4.5	ug/l						
2-Nitroaniline	ND	20	3.9	ug/l						
3-Nitroaniline	ND	20	4.5	ug/l						
4-Nitroaniline	ND	20	4.9	ug/l						
Nitrobenzene	ND	20	4.2	ug/l						
2-Nitrophenol	ND	10	4.2	ug/l						
4-Nitrophenol	ND	20	6.6	ug/l						
N-Nitrosodiphenylamine	ND	10	4.0	ug/l						
N-Nitroso-di-n-propylamine	ND	10	3.6	ug/l						
Pentachlorophenol	ND	20	4.0	ug/l						
Phenanthrene	ND	10	3.3	ug/l						
Phenol	ND	10	4.0	ug/l						
Pyrene	ND	10	3.9	ug/l						
1,2,4-Trichlorobenzene	ND	10	4.4	ug/l						
2,4,5-Trichlorophenol	ND	20	3.6	ug/l						
2,4,6-Trichlorophenol	ND	20	4.1	ug/l						
1,2-Diphenylhydrazine/Azobenzene	ND	20	5.0	ug/l						
N-Nitrosodimethylamine	ND	20	3.7	ug/l						
Surrogate: 2-Fluorophenol	138			ug/l	200		69	35-120		

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

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

Table with columns: Analyte, Result, Reporting Limit, MDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Data Qualifiers. Includes sections for Batch: 5B22043, Blank Analyzed: 02/25/2005, and LCS Analyzed: 02/25/2005.

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

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	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05										
LCS Analyzed: 02/25/2005 (5B22043-BS1)										
1,2-Dichlorobenzene	66.6	10	4.5	ug/l	100	67	40-120			M-NRI
3,3-Dichlorobenzidine	85.5	20	11	ug/l	100	86	50-170			
2,4-Dichlorophenol	80.7	10	4.1	ug/l	100	81	55-120			
Diethyl phthalate	78.4	10	3.1	ug/l	100	78	60-120			
2,4-Dimethylphenol	71.1	20	4.4	ug/l	100	71	35-120			
Dimethyl phthalate	78.0	10	3.6	ug/l	100	78	60-120			
4,6-Dinitro-2-methylphenol	77.3	20	5.1	ug/l	100	77	55-120			
2,4-Dinitrophenol	75.1	20	5.3	ug/l	100	75	40-140			
2,4-Dinitrotoluene	81.1	10	4.2	ug/l	100	81	60-140			
2,6-Dinitrotoluene	77.9	10	3.2	ug/l	100	78	65-125			
Di-n-octyl phthalate	68.3	20	4.7	ug/l	100	68	60-130			
Fluoranthene	86.3	10	4.2	ug/l	100	86	55-125			
Fluorene	83.9	10	3.9	ug/l	100	84	60-120			
Hexachlorobenzene	84.1	10	4.8	ug/l	100	84	50-120			
Hexachlorobutadiene	70.9	10	4.2	ug/l	100	71	45-120			
Hexachlorocyclopentadiene	69.3	20	3.4	ug/l	100	69	10-130			
Hexachloroethane	64.4	10	4.2	ug/l	100	64	40-120			
Indeno(1,2,3-cd)pyrene	71.9	20	5.4	ug/l	100	72	35-150			
Isophorone	75.7	10	3.7	ug/l	100	76	55-120			
2-Methylnaphthalene	80.5	10	3.0	ug/l	100	80	50-120			
2-Methylphenol	72.7	10	3.7	ug/l	100	73	45-120			
4-Methylphenol	75.3	10	3.8	ug/l	100	75	45-120			
Naphthalene	78.3	10	4.5	ug/l	100	78	50-120			
2-Nitroaniline	84.0	20	3.9	ug/l	100	84	60-130			
3-Nitroaniline	87.2	20	4.5	ug/l	100	87	50-140			
4-Nitroaniline	89.5	20	4.9	ug/l	100	90	45-160			
Nitrobenzene	72.3	20	4.2	ug/l	100	72	50-120			
2-Nitrophenol	79.1	10	4.2	ug/l	100	79	55-120			
4-Nitrophenol	74.9	20	6.6	ug/l	100	75	50-135			
N-Nitrosodiphenylamine	77.6	10	4.0	ug/l	100	78	60-120			
N-Nitroso-di-n-propylamine	73.9	10	3.6	ug/l	100	74	50-120			
Pentachlorophenol	88.3	20	4.0	ug/l	100	88	50-125			
Phenanthrene	84.1	10	3.3	ug/l	100	84	55-120			
Phenol	72.3	10	4.0	ug/l	100	72	45-120			
Pyrene	81.6	10	3.9	ug/l	100	82	50-120			

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

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

Table with columns: Analyte, Result, Reporting Limit, MDL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Data Qualifiers. Includes sections for Batch: 5B22043, LCS Analyzed: 02/25/2005, and LCS Dup Analyzed: 02/25/2005.

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)											
Chrysene	81.6	10	2.8	ug/l	100	82	65-120	2	20		
Dibenz(a,h)anthracene	86.3	20	4.7	ug/l	100	86	40-160	13	25		
Dibenzofuran	77.5	10	2.6	ug/l	100	78	60-120	5	20		
Di-n-butyl phthalate	80.8	20	2.8	ug/l	100	81	65-125	3	20		
1,3-Dichlorobenzene	64.4	10	4.1	ug/l	100	64	40-120	2	25		
1,4-Dichlorobenzene	63.4	10	3.9	ug/l	100	63	40-120	2	25		
1,2-Dichlorobenzene	65.7	10	4.5	ug/l	100	66	40-120	1	25		
3,3-Dichlorobenzidine	76.3	20	11	ug/l	100	76	50-170	11	25		
2,4-Dichlorophenol	75.1	10	4.1	ug/l	100	75	55-120	7	20		
Diethyl phthalate	76.4	10	3.1	ug/l	100	76	60-120	3	20		
2,4-Dimethylphenol	67.0	20	4.4	ug/l	100	67	35-120	6	25		
Dimethyl phthalate	75.1	10	3.6	ug/l	100	75	60-120	4	20		
4,6-Dinitro-2-methylphenol	76.9	20	5.1	ug/l	100	77	55-120	1	25		
2,4-Dinitrophenol	70.5	20	5.3	ug/l	100	70	40-140	6	25		
2,4-Dinitrotoluene	77.8	10	4.2	ug/l	100	78	60-140	4	20		
2,6-Dinitrotoluene	75.3	10	3.2	ug/l	100	75	65-125	3	20		
Di-n-octyl phthalate	64.0	20	4.7	ug/l	100	64	60-130	7	20		
Fluoranthene	80.3	10	4.2	ug/l	100	80	55-125	7	20		
Fluorene	80.1	10	3.9	ug/l	100	80	60-120	5	20		
Hexachlorobenzene	79.9	10	4.8	ug/l	100	80	50-120	5	20		
Hexachlorobutadiene	67.7	10	4.2	ug/l	100	68	45-120	5	25		
Hexachlorocyclopentadiene	66.0	20	3.4	ug/l	100	66	10-130	5	30		
Hexachloroethane	63.8	10	4.2	ug/l	100	64	40-120	1	25		
Indeno(1,2,3-cd)pyrene	81.8	20	5.4	ug/l	100	82	35-150	13	25		
Isophorone	71.9	10	3.7	ug/l	100	72	55-120	5	20		
2-Methylnaphthalene	74.5	10	3.0	ug/l	100	74	50-120	8	20		
2-Methylphenol	71.4	10	3.7	ug/l	100	71	45-120	2	20		
4-Methylphenol	73.1	10	3.8	ug/l	100	73	45-120	3	20		
Naphthalene	75.6	10	4.5	ug/l	100	76	50-120	4	20		
2-Nitroaniline	80.5	20	3.9	ug/l	100	80	60-130	4	20		
3-Nitroaniline	81.1	20	4.5	ug/l	100	81	50-140	7	25		
4-Nitroaniline	79.5	20	4.9	ug/l	100	80	45-160	12	20		
Nitrobenzene	70.4	20	4.2	ug/l	100	70	50-120	3	25		
2-Nitrophenol	75.4	10	4.2	ug/l	100	75	55-120	5	25		
4-Nitrophenol	65.8	20	6.6	ug/l	100	66	50-135	13	25		

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22043 Extracted: 02/22/05											
LCS Dup Analyzed: 02/25/2005 (5B22043-BSD1)											
N-Nitrosodiphenylamine	76.4	10	4.0	ug/l	100	76	60-120	2	20		
N-Nitroso-di-n-propylamine	70.3	10	3.6	ug/l	100	70	50-120	5	20		
Pentachlorophenol	83.9	20	4.0	ug/l	100	84	50-125	5	25		
Phenanthrene	80.8	10	3.3	ug/l	100	81	55-120	4	20		
Phenol	70.0	10	4.0	ug/l	100	70	45-120	3	25		
Pyrene	98.6	10	3.9	ug/l	100	99	50-120	19	25		
1,2,4-Trichlorobenzene	66.9	10	4.4	ug/l	100	67	50-120	5	20		
2,4,5-Trichlorophenol	76.7	20	3.6	ug/l	100	77	60-120	8	20		
2,4,6-Trichlorophenol	77.8	20	4.1	ug/l	100	78	60-120	5	20		
1,2-Diphenylhydrazine/Azobenzene	81.0	20	5.0	ug/l	100	81	60-120	4	25		
N-Nitrosodimethylamine	70.7	20	3.7	ug/l	100	71	40-120	3	20		
Surrogate: 2-Fluorophenol	126			ug/l	200	63	35-120				
Surrogate: Phenol-d6	137			ug/l	200	68	45-120				
Surrogate: 2,4,6-Tribromophenol	162			ug/l	200	81	50-125				
Surrogate: Nitrobenzene-d5	71.8			ug/l	100	72	45-120				
Surrogate: 2-Fluorobiphenyl	75.7			ug/l	100	76	45-120				
Surrogate: Terphenyl-d14	87.9			ug/l	100	88	45-135				

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05

Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------------------	---------	-----------	-----------------

Batch: 5B22041 Extracted: 02/22/05

Blank Analyzed: 02/23/2005 (5B22041-BLK1)

Aldrin	ND	0.10	0.030	ug/l						
alpha-BHC	ND	0.10	0.015	ug/l						
beta-BHC	ND	0.10	0.015	ug/l						
delta-BHC	ND	0.20	0.020	ug/l						
gamma-BHC (Lindane)	ND	0.10	0.015	ug/l						
Chlordane	ND	1.0	0.20	ug/l						
4,4'-DDD	ND	0.10	0.015	ug/l						
4,4'-DDE	ND	0.10	0.020	ug/l						
4,4'-DDT	ND	0.10	0.030	ug/l						
Dieldrin	ND	0.10	0.015	ug/l						
Endosulfan I	ND	0.10	0.015	ug/l						
Endosulfan II	ND	0.10	0.040	ug/l						
Endosulfan sulfate	ND	0.20	0.015	ug/l						
Endrin	ND	0.10	0.015	ug/l						
Endrin aldehyde	ND	0.10	0.045	ug/l						
Endrin ketone	ND	0.10	0.020	ug/l						
Heptachlor	ND	0.10	0.030	ug/l						
Heptachlor epoxide	ND	0.10	0.020	ug/l						
Methoxychlor	ND	0.10	0.035	ug/l						
Toxaphene	ND	5.0	1.5	ug/l						
Surrogate: Tetrachloro-m-xylene	0.389			ug/l	0.500		78		35-120	
Surrogate: Decachlorobiphenyl	0.441			ug/l	0.500		88		45-120	

LCS Analyzed: 02/23/2005 (5B22041-BS1)

M-NR1

Aldrin	0.415	0.10	0.030	ug/l	0.500		83		45-115	
alpha-BHC	0.450	0.10	0.015	ug/l	0.500		90		45-115	
beta-BHC	0.420	0.10	0.015	ug/l	0.500		84		50-115	
delta-BHC	0.435	0.20	0.020	ug/l	0.500		87		55-120	
gamma-BHC (Lindane)	0.453	0.10	0.015	ug/l	0.500		91		45-115	
4,4'-DDD	0.505	0.10	0.015	ug/l	0.500		101		60-120	
4,4'-DDE	0.478	0.10	0.020	ug/l	0.500		96		55-120	
4,4'-DDT	0.481	0.10	0.030	ug/l	0.500		96		60-130	
Dieldrin	0.466	0.10	0.015	ug/l	0.500		93		55-120	
Endosulfan I	0.437	0.10	0.015	ug/l	0.500		87		50-115	
Endosulfan II	0.459	0.10	0.040	ug/l	0.500		92		60-125	
Endosulfan sulfate	0.466	0.20	0.015	ug/l	0.500		93		60-120	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22041 Extracted: 02/22/05										
LCS Analyzed: 02/23/2005 (5B22041-BS1)										
Endrin	0.518	0.10	0.015	ug/l	0.500		104 55-125			M-NRI
Endrin aldehyde	0.444	0.10	0.045	ug/l	0.500		89 55-115			
Endrin ketone	0.457	0.10	0.020	ug/l	0.500		91 60-120			
Heptachlor	0.443	0.10	0.030	ug/l	0.500		89 45-115			
Heptachlor epoxide	0.425	0.10	0.020	ug/l	0.500		85 50-120			
Methoxychlor	0.525	0.10	0.035	ug/l	0.500		105 60-135			
Surrogate: Tetrachloro-m-xylene	0.381			ug/l	0.500		76 35-120			
Surrogate: Decachlorobiphenyl	0.440			ug/l	0.500		88 45-120			
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD1)										
Aldrin	0.371	0.10	0.030	ug/l	0.500		74 45-115	11	30	
alpha-BHC	0.449	0.10	0.015	ug/l	0.500		90 45-115	0	30	
beta-BHC	0.419	0.10	0.015	ug/l	0.500		84 50-115	0	30	
delta-BHC	0.432	0.20	0.020	ug/l	0.500		86 55-120	1	30	
gamma-BHC (Lindane)	0.452	0.10	0.015	ug/l	0.500		90 45-115	0	30	
4,4'-DDD	0.496	0.10	0.015	ug/l	0.500		99 60-120	2	30	
4,4'-DDE	0.472	0.10	0.020	ug/l	0.500		94 55-120	1	30	
4,4'-DDT	0.481	0.10	0.030	ug/l	0.500		96 60-130	0	30	
Dieldrin	0.459	0.10	0.015	ug/l	0.500		92 55-120	2	30	
Endosulfan I	0.436	0.10	0.015	ug/l	0.500		87 50-115	0	30	
Endosulfan II	0.443	0.10	0.040	ug/l	0.500		89 60-125	4	30	
Endosulfan sulfate	0.461	0.20	0.015	ug/l	0.500		92 60-120	1	30	
Endrin	0.509	0.10	0.015	ug/l	0.500		102 55-125	2	30	
Endrin aldehyde	0.440	0.10	0.045	ug/l	0.500		88 55-115	1	30	
Endrin ketone	0.450	0.10	0.020	ug/l	0.500		90 60-120	2	30	
Heptachlor	0.446	0.10	0.030	ug/l	0.500		89 45-115	1	30	
Heptachlor epoxide	0.431	0.10	0.020	ug/l	0.500		86 50-120	1	30	
Methoxychlor	0.533	0.10	0.035	ug/l	0.500		107 60-135	2	30	
Surrogate: Tetrachloro-m-xylene	0.384			ug/l	0.500		77 35-120			
Surrogate: Decachlorobiphenyl	0.442			ug/l	0.500		88 45-120			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

TOTAL PCBS (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD Limit	Data Qualifiers
Batch: 5B22041 Extracted: 02/22/05										
Blank Analyzed: 02/23/2005 (5B22041-BLK1)										
Aroclor 1016	ND	1.0	0.20	ug/l						
Aroclor 1221	ND	1.0	0.10	ug/l						
Aroclor 1232	ND	1.0	0.15	ug/l						
Aroclor 1242	ND	1.0	0.15	ug/l						
Aroclor 1248	ND	1.0	0.25	ug/l						
Aroclor 1254	ND	1.0	0.25	ug/l						
Aroclor 1260	ND	1.0	0.40	ug/l						
Surrogate: Decachlorobiphenyl	0.340			ug/l	0.500		68	45-120		
LCS Analyzed: 02/23/2005 (5B22041-BS2)										
Aroclor 1016	2.62	1.0	0.20	ug/l	4.00		66	50-115		M-NRI
Aroclor 1260	2.49	1.0	0.40	ug/l	4.00		62	60-115		
Surrogate: Decachlorobiphenyl	0.312			ug/l	0.500		62	45-120		
LCS Dup Analyzed: 02/23/2005 (5B22041-BSD2)										
Aroclor 1016	2.91	1.0	0.20	ug/l	4.00		73	50-115	10	30
Aroclor 1260	2.67	1.0	0.40	ug/l	4.00		67	60-115	7	25
Surrogate: Decachlorobiphenyl	0.418			ug/l	0.500		84	45-120		

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



17461Derian 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 (949) 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: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Limit	Qualifiers
Batch: 5B22063 Extracted: 02/22/05											
Blank Analyzed: 02/22/2005 (5B22063-BLK1)											
Mercury	ND	0.20	0.063	ug/l							
LCS Analyzed: 02/22/2005 (5B22063-BS1)											
Mercury	8.32	0.20	0.063	ug/l	8.00		104	85-115			
Matrix Spike Analyzed: 02/22/2005 (5B22063-MS1) Source: IOB1443-01											
Mercury	8.36	0.20	0.063	ug/l	8.00	0.074	104	70-130			
Matrix Spike Dup Analyzed: 02/22/2005 (5B22063-MSD1) Source: IOB1443-01											
Mercury	8.38	0.20	0.063	ug/l	8.00	0.074	104	70-130	0	20	
Batch: 5B24093 Extracted: 02/24/05											
Blank Analyzed: 02/25/2005-02/26/2005 (5B24093-BLK1)											
Aluminum	ND	50	47	ug/l							
Arsenic	ND	5.0	3.8	ug/l							
Beryllium	ND	2.0	0.62	ug/l							
Boron	ND	0.050	0.0074	mg/l							
Chromium	ND	5.0	0.68	ug/l							
Nickel	ND	10	2.0	ug/l							
Selenium	ND	5.0	4.6	ug/l							
Silver	ND	10	1.3	ug/l							
Vanadium	ND	10	1.4	ug/l							
Zinc	7.80	20	3.7	ug/l							J
LCS Analyzed: 02/25/2005-02/26/2005 (5B24093-BS1)											
Aluminum	461	50	47	ug/l	500		92	85-115			
Arsenic	497	5.0	3.8	ug/l	500		99	85-115			
Beryllium	504	2.0	0.62	ug/l	500		101	85-115			
Boron	0.468	0.050	0.0074	mg/l	0.500		94	85-115			
Chromium	492	5.0	0.68	ug/l	500		98	85-115			
Nickel	488	10	2.0	ug/l	500		98	85-115			
Selenium	481	5.0	4.6	ug/l	500		96	85-115			
Silver	251	10	1.3	ug/l	250		100	85-115			
Vanadium	504	10	1.4	ug/l	500		101	85-115			
Zinc	490	20	3.7	ug/l	500		98	85-115			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	-----------	-------------	-----	-----------	-----------------

Batch: 5B24093 Extracted: 02/24/05

Matrix Spike Analyzed: 02/25/2005-02/26/2005 (5B24093-MS1)

Source: IOB1547-01

Aluminum	1250	50	47	ug/l	500	410	168	70-130			MI
Arsenic	515	5.0	3.8	ug/l	500	5.4	102	70-130			
Beryllium	520	2.0	0.62	ug/l	500	ND	104	70-130			
Boron	0.562	0.050	0.0074	mg/l	0.500	0.053	102	70-130			
Chromium	506	5.0	0.68	ug/l	500	ND	101	70-130			
Nickel	512	10	2.0	ug/l	500	ND	102	70-130			
Selenium	493	5.0	4.6	ug/l	500	ND	99	70-130			
Silver	250	10	1.3	ug/l	250	ND	100	70-130			
Vanadium	520	10	1.4	ug/l	500	3.1	103	70-130			
Zinc	521	20	3.7	ug/l	500	ND	104	70-130			

Matrix Spike Dup Analyzed: 02/25/2005-02/26/2005 (5B24093-MSD1)

Source: IOB1547-01

Aluminum	1300	50	47	ug/l	500	410	178	70-130	4	20	MI
Arsenic	527	5.0	3.8	ug/l	500	5.4	104	70-130	2	20	
Beryllium	525	2.0	0.62	ug/l	500	ND	105	70-130	1	20	
Boron	0.571	0.050	0.0074	mg/l	0.500	0.053	104	70-130	2	20	
Chromium	509	5.0	0.68	ug/l	500	ND	102	70-130	1	20	
Nickel	513	10	2.0	ug/l	500	ND	103	70-130	0	20	
Selenium	495	5.0	4.6	ug/l	500	ND	99	70-130	0	20	
Silver	251	10	1.3	ug/l	250	ND	100	70-130	0	20	
Vanadium	525	10	1.4	ug/l	500	3.1	104	70-130	1	20	
Zinc	523	20	3.7	ug/l	500	ND	105	70-130	0	20	

Batch: 5B24099 Extracted: 02/24/05

Blank Analyzed: 02/25/2005-02/26/2005 (5B24099-BLK1)

Antimony	ND	2.0	0.18	ug/l							
Cadmium	ND	1.0	0.015	ug/l							
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							
Thallium	ND	1.0	0.075	ug/l							

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B24099 Extracted: 02/24/05											
LCS Analyzed: 02/25/2005 (5B24099-BS1)											
Antimony	85.6	2.0	0.18	ug/l	80.0		107	85-115			
Cadmium	76.4	1.0	0.015	ug/l	80.0		96	85-115			
Copper	84.0	2.0	0.49	ug/l	80.0		105	85-115			
Lead	80.3	1.0	0.13	ug/l	80.0		100	85-115			
Thallium	78.5	1.0	0.075	ug/l	80.0		98	85-115			
Matrix Spike Analyzed: 02/25/2005 (5B24099-MS1) Source: IOB1490-01											
Antimony	85.7	2.0	0.18	ug/l	80.0	0.50	106	70-130			
Cadmium	75.1	1.0	0.015	ug/l	80.0	0.016	94	70-130			
Copper	82.5	2.0	0.49	ug/l	80.0	1.0	102	70-130			
Lead	77.6	1.0	0.13	ug/l	80.0	ND	97	70-130			
Thallium	76.5	1.0	0.075	ug/l	80.0	0.17	95	70-130			
Matrix Spike Analyzed: 02/25/2005 (5B24099-MS2) Source: IOB1557-01											
Antimony	83.8	2.0	0.18	ug/l	80.0	0.20	104	70-130			
Cadmium	74.6	1.0	0.015	ug/l	80.0	ND	93	70-130			
Copper	83.9	2.0	0.49	ug/l	80.0	ND	105	70-130			
Lead	77.7	1.0	0.13	ug/l	80.0	0.15	97	70-130			
Thallium	76.7	1.0	0.075	ug/l	80.0	0.19	96	70-130			
Matrix Spike Dup Analyzed: 02/25/2005 (5B24099-MSD1) Source: IOB1490-01											
Antimony	85.0	2.0	0.18	ug/l	80.0	0.50	106	70-130	1	20	
Cadmium	75.2	1.0	0.015	ug/l	80.0	0.016	94	70-130	0	20	
Copper	81.2	2.0	0.49	ug/l	80.0	1.0	100	70-130	2	20	
Lead	76.3	1.0	0.13	ug/l	80.0	ND	95	70-130	2	20	
Thallium	75.2	1.0	0.075	ug/l	80.0	0.17	94	70-130	2	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B18129 Extracted: 02/18/05											
Blank Analyzed: 02/18/2005 (5B18129-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Nitrate/Nitrite-N	ND	0.11	0.072	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 02/18/2005 (5B18129-BS1)											
Chloride	5.11	0.50	0.26	mg/l	5.00		102	90-110			
Sulfate	10.6	0.50	0.18	mg/l	10.0		106	90-110			
Matrix Spike Analyzed: 02/18/2005 (5B18129-MS1) Source: IOB1556-01											
Chloride	7.47	0.50	0.26	mg/l	5.00	2.1	107	80-120			
Sulfate	15.3	0.50	0.18	mg/l	10.0	4.7	106	80-120			
Matrix Spike Dup Analyzed: 02/18/2005 (5B18129-MSD1) Source: IOB1556-01											
Chloride	7.43	0.50	0.26	mg/l	5.00	2.1	107	80-120	1	20	
Sulfate	14.3	0.50	0.18	mg/l	10.0	4.7	96	80-120	7	20	
Batch: 5B22061 Extracted: 02/22/05											
Blank Analyzed: 02/22/2005 (5B22061-BLK1)											
Total Cyanide	ND	0.0050	0.0022	mg/l							
LCS Analyzed: 02/22/2005 (5B22061-BS1)											
Total Cyanide	0.194	0.0050	0.0022	mg/l	0.200		97	90-110			
Matrix Spike Analyzed: 02/22/2005 (5B22061-MS1) Source: IOB1557-01											
Total Cyanide	0.190	0.0050	0.0022	mg/l	0.200	ND	95	70-115			

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B22061 Extracted: 02/22/05											
Matrix Spike Dup Analyzed: 02/22/2005 (5B22061-MSD1)						Source: IOB1557-01					
Total Cyanide	0.187	0.0050	0.0022	mg/l	0.200	ND	94	70-115	2	15	
Batch: 5B23077 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23077-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 02/23/2005 (5B23077-BS1)											
Total Dissolved Solids	1050	10	10	mg/l	1000		105	90-110			
Duplicate Analyzed: 02/23/2005 (5B23077-DUP1)						Source: IOB1667-06					
Total Dissolved Solids	880	10	10	mg/l		880			0	10	
Batch: 5B23082 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23082-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 02/23/2005 (5B23082-BS1)											
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			M-NR1
LCS Dup Analyzed: 02/23/2005 (5B23082-BSD1)											
Oil & Grease	16.5	5.0	0.94	mg/l	20.0		82	65-120	4	20	
Batch: 5B23109 Extracted: 02/23/05											
Blank Analyzed: 02/23/2005 (5B23109-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							

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
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005 Report Number: IOB1557	Sampled: 02/18/05 Received: 02/18/05
--	--	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5B23109 Extracted: 02/23/05											
LCS Analyzed: 02/23/2005 (5B23109-BS1)											
Total Suspended Solids	991	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 02/23/2005 (5B23109-DUP1)											
Total Suspended Solids	ND	10	10	mg/l		Source: IOB1557-01 ND				10	
Batch: 5B27023 Extracted: 02/27/05											
Blank Analyzed: 02/27/2005 (5B27023-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 02/27/2005 (5B27023-BS1)											
Perchlorate	52.8	4.0	0.80	ug/l	50.0		106	85-115			
Matrix Spike Analyzed: 02/27/2005 (5B27023-MS1)											
Perchlorate	58.0	4.0	0.80	ug/l	50.0	Source: IOB1676-02 4.8	106	80-120			
Matrix Spike Dup Analyzed: 02/27/2005 (5B27023-MSD1)											
Perchlorate	57.7	4.0	0.80	ug/l	50.0	Source: IOB1676-02 4.8	106	80-120	1	20	

Del Mar Analytical, Irvine
 Michele Harper
 Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

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
IOB1557-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.49	5.0	15
IOB1557-01	Antimony-200.8	Antimony	ug/l	0.20	2.0	6.00
IOB1557-01	Boron-200.7	Boron	mg/l	0	0.050	1.00
IOB1557-01	Cadmium-200.8	Cadmium	ug/l	0.0080	1.0	4.00
IOB1557-01	Chloride - 300.0	Chloride	mg/l	1.10	0.50	150
IOB1557-01	Copper-200.8	Copper	ug/l	0.33	2.0	14
IOB1557-01	Mercury - 245.1	Mercury	ug/l	0.031	0.20	0.20
IOB1557-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.14	0.11	10.00
IOB1557-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOB1557-01	Sulfate-300.0	Sulfate	mg/l	1.30	0.50	250
IOB1557-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	21	10	850
IOB1557-01	Thallium-200.8	Thallium	ug/l	0.19	1.0	2.00

Del Mar Analytical, Irvine
Michele Harper
Project Manager



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

Project ID: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

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 unknown quality.
- L2** Laboratory Control Sample recovery was below method control limits.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- 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

ADDITIONAL COMMENTS

For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.



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 (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
 Received: 02/18/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 160.2	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 335.2	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

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR
 Samples: IOB1557-01

Analysis Performed: EDD + Level 4
 Samples: IOB1557-01

Aquatic Testing Laboratories-SUB California Cert #1775

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-Acute 96hr
 Samples: IOB1557-01

Eberline Services - SUB

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4
 Samples: IOB1557-01

Analysis Performed: Gross Alpha
 Samples: IOB1557-01

Analysis Performed: Gross Beta
 Samples: IOB1557-01

Analysis Performed: Strontium 90
 Samples: IOB1557-01

Analysis Performed: Tritium
 Samples: IOB1557-01

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
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 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: Annual Outfall 005

Report Number: IOB1557

Sampled: 02/18/05
Received: 02/18/05

Del Mar Analytical, Irvine
Michele Harper
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IOB1557 <Page 44 of 44>

IOB 1557

CHAIN OF CUSTODY FORM

Del Mar Analytical Version 5.8/12/04

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Annual Outfall 005 Stormwater at FSDF-1		ANALYSIS REQUIRED										Field readings: Temp = 7.5 pH = 5.3.6 Comments				
Project Manager: Bronwyn Kelly Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Sampler: Powell		Total Recoverable Metals: As, Pb, Cu, Cd, Hg, B, V,										Cyanide				
Sample Description		Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	TCD (and all congeners)	Oil & Grease (EPA 413.1)	Cl-, SO4, NO3+NO2-N, Perchlorate	TDS, TSS	VOCs (624), NPDES + PP	VOCs A+A+2C+VE	Pesticides/PCBs - PP	Gross Alpha, Gross Beta, Tritium (906.0*, Sr-90 (905), Total Combined Radium 226 & 228	SVOCs - PP	Acute Toxicity	Turn around Time: (check)
Outfall 005		W	1L Poly	1	2-18-05 7:10	HNO3	1A	X	X	X	X	X	X	X	X	X	X	24 Hours
Outfall 005-Dup		W	1L Poly	1	2-18-05 7:10	HNO3	1B	X	X	X	X	X	X	X	X	X	X	48 Hours
Outfall 005		W	1L Amber	2	2-18-05 7:10	None	2A, 2B	X	X	X	X	X	X	X	X	X	X	72 Hours
Outfall 005		W	1L Amber	2	2-18-05 7:10	HCl	3A, 3B	X	X	X	X	X	X	X	X	X	X	Perchlorate Only 72 Hours
Outfall 005		W	Poly-500 ml	2	2-18-05 7:10	None	4A, 4B	X	X	X	X	X	X	X	X	X	X	Metals Only 72 Hours
Outfall 005		W	Poly-500 ml	2	2-18-05 7:10	None	5A, 5B	X	X	X	X	X	X	X	X	X	X	Analyze for Total Combined RA-226 & RA-228 only if Gross Alpha/Beta > 15pCi/L
Outfall 005		W	VOAs	3	2-18-05 7:10	HCl	6A, 6B, 6C	X	X	X	X	X	X	X	X	X	X	Sample Integrity: (Check)
Outfall 005		W	VOA	3	2-18-05 7:10	None	7A, 7B, 7C	X	X	X	X	X	X	X	X	X	X	On Ice
Outfall 005		W	1L Amber	2	2-18-05 7:10	None	8A, 8B	X	X	X	X	X	X	X	X	X	X	43°C
Outfall 005		W	1 Gal Poly VOAs	2	2-18-05 1450	None	9A, 9B, 9C	X	X	X	X	X	X	X	X	X	X	Date/Time: 2/18/05 1450
Outfall 005		W	1L Amber	2	2-18-05 1450	None	10A, 10B	X	X	X	X	X	X	X	X	X	X	Date/Time: 2/18/05 1450
Outfall 005		W	1 Gal Poly	1	2-18-05 1450	None	11A	X	X	X	X	X	X	X	X	X	X	Date/Time: 2/18/05 1450
Outfall 005		W	500ml Poly	1	2-18-05 1450	NaOH	12	X	X	X	X	X	X	X	X	X	X	Date/Time: 2/18/05 1450
Trip Blanks		W	VOA	3	2-18-05 1830	None	13A, 13B, 13C	X	X	X	X	X	X	X	X	X	X	Date/Time: 2/18/05 1830
Trip Blank		W	VOAs	3	2-18-05 1830	HCl	14A, 14B, 14C	X	X	X	X	X	X	X	X	X	X	Date/Time: 2/18/05 1830
Relinquished By: [Signature]		Date/Time: 2-18-05 1450	Received By: [Signature]	Date/Time: 2/18/05 1450	Relinquished By: [Signature]	Date/Time: 2/18/05 1830	Received By: [Signature]	Date/Time: 2/18/05 1830	Relinquished By: [Signature]	Date/Time: 2/18/05 1830	Received By: [Signature]	Date/Time: 2/18/05 1830	Relinquished By: [Signature]	Date/Time: 2/18/05 1830	Received By: [Signature]	Date/Time: 2/18/05 1830	Relinquished By: [Signature]	Date/Time: 2/18/05 1830



2352 Alton Ave., Irvine CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
9484 Chesapeake Dr., Suite B05, 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

March 31, 2005

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

Attention: Bronwyn Kelly

Project: Annual Outfall 005
Sampled: 02/18/05
Del Mar Analytical Number: IOB1557

Dear Ms. Kelly:

Aquatic Testing Laboratories performed the Fathead Minnow 96 hr Percent Survival Bioassay (EPA Method 2000.0), Eberline Services performed the gross alpha/beta analyses (EPA 900.0), the tritium analysis (H-3, EPA 906.0), and the strontium analysis (SR -90 EPA 905.0), and Alta Analytical performed Method 1613 Dioxin for the project referenced above. Please use the following cross-reference table when reviewing your results.

MWH ID	DEL MAR ID	ATL ID	Eberline ID	Alta ID
Outfall 005	IOB1557-01	A-05021905-001	R502211-8290	25787-001

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

Sincerely yours,
DEL MAR ANALYTICAL

Michele Harper
Project Manager

LABORATORY REPORT

**Aquatic
Testing**



Laboratories

"dedicated to providing quality aquatic toxicity testing"

4350 Transport Street, Unit 107
Ventura, CA 93003

(805) 650-0546 FAX (805) 650-0756

CA DOHS ELAP Cert. No.: 1775

Date: February 23, 2005

Client: Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614
Attn: Michele Harper

Laboratory No.: A-05021905-001
Sample ID.: IOB1557-01

Sample Control: The samples were received by ATL in a chilled state, with the chain of custody record attached.

Date Sampled: 02/18/05
Date Received: 02/19/05
Date Tested: 02/19/05 to 02/23/05

Sample Analysis: The following analyses were performed on your sample:

Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).

Attached are the test data generated from the analysis of your sample.

Result Summary:

<u>Sample ID.</u>	<u>Results</u>
IOB1557-01	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST



Lab No.: A-05021905-001
 Client/ID: Del Mar IOB1557-01

Start Date: 02/19/2005

TEST SUMMARY

Species: *Pimephales promelas*.
 Age: 12 (1-14) days.
 Regulations: NPDES.
 Test solution volume: 250 ml.
 Feeding: prior to renewal at 48 hrs.
 Number of replicates: 2.
 Dilution water: Moderately hard reconstituted water.
 Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.
 Test type: Static-Renewal.
 Test Protocol: EPA-821-R-02-012.
 Endpoints: Percent Survival at 96 hrs.
 Test chamber: 600 ml beakers.
 Temperature: 20 +/- 1°C.
 Number of fish per chamber: 10.
 QA/QC Batch No.: RT-050208.

TEST DATA

		°C	DO	pH	# Dead		Analyst & Time of Readings
					A	B	
INITIAL	Control	20.0	8.8	7.9	0	0	Rv 1330
	100%	20.0	9.7	6.8	0	0	
24 Hr	Control	19.3	7.0	7.9	0	0	R 1330
	100%	19.3	6.8	7.4	0	0	
48 Hr	Control	19.6	6.8	7.7	0	0	R 1300
	100%	19.3	6.2	7.2	0	0	
Renewal	Control	19.1	7.7	8.0	0	0	R 1300
	100%	19.4	8.4	7.6	0	0	
72 Hr	Control	19.1	6.8	7.6	0	0	R 1200
	100%	19.1	7.6	7.5	0	0	
96 Hr	Control	19.2	7.5	7.5	0	0	R 1200
	100%	19.1	8.0	7.1	0	0	

Comments:

Sample as received: Chlorine: 0 mg/l; pH: 6.8; Conductivity: 18 umho; Temp: 4°C;
 DO: 9.7 mg/l; Alkalinity: 7 mg/l; Hardness: 9 mg/l; NH₃-N: 0.2 mg/l.
 Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? Yes / No
 Control: Alkalinity: 54 mg/l; Hardness: 92 mg/l; Conductivity: 280 umho.
 Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / No.
 Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.

RESULTS

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



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 # IOB1557

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Harper	Aquatic Testing Laboratories-SUB 4350 Transport Street, Unit 107 Ventura, CA 93003 Phone: (805) 650-0546 Fax: (805) 650-0756

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

Analysis	Expiration	Comments
Sample ID: IOB1557-01 Water	Sampled: 02/18/05 10:10	
Bioassay-Acute 96hr	02/19/05 22:10	FH minnow, EPA/821-R02-012, Sub to AqTox Labs
Containers Supplied:		
1 gal Poly (IOB1557-01X)		

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): 4°C

<i>Vu Bank</i> Released By	2/19 Date	0830 Time	 Received By	2/19 Date	0830 Time
 Released By	2/19/05 Date	1100 Time	 Received By	2-19-05 Date	1100 Time



EBERLINE SERVICES

March 15, 2005

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

Reference: Del Mar Analytical Project No. IOB1557
Eberline Services NELAP Cert #01120CA (exp. 01/31/06)
Eberline Services Report R502211-8290

Dear Ms. Harper:

Enclosed are results from the analyses of one water sample received at Eberline Services on February 23, 2005. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analyses were gross alpha/gross beta (EPA900.0), tritium (H-3, EPA906.0), and strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analyses, sample duplicates, and matrix spike results for the analyses were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require matrix spike analyses to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MC/Mnjv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

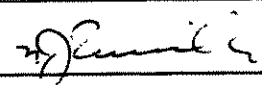
Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

Eberline Services

ANALYSIS RESULTS

SDG <u>8290</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R502211-01</u>	Contract <u>PROJECT# 1081557</u>
Received Date <u>02/23/05</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
1081557-01	8290-001	02/18/05	03/08/05	GrossAlpha	-0.252 ± 0.33	pCi/L	0.862
			03/08/05	Gross Beta	1.75 ± 1.2	pCi/L	1.87
			03/12/05	H3	-3.55 ± 150	pCi/L	258
			03/12/05	Sr90	-0.029 ± 0.24	pCi/L	0.308

Certified by <u></u>
Report Date <u>03/15/05</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8290</u> Work Order <u>R502211-01</u> Received Date <u>02/23/05</u>	Client <u>DEL MAR ANAL</u> Contract <u>PROJECT# IOB1557</u> Matrix <u>WATER</u>
--	---

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>							
	8294-003	GrossAlpha	10.9 ± 1.2	pCi/Smpl	10.2	0.313	107% recovery
		Gross Beta	9.49 ± 0.74	pCi/Smpl	10.1	0.546	94% recovery
		H3	214 ± 23	pCi/Smpl	235	25.4	91% recovery
		Sr90	9.75 ± 0.32	pCi/Smpl	10.1	0.145	97% recovery
<u>BLANK</u>							
	8294-004	GrossAlpha	-0.034 ± 0.23	pCi/Smpl	NA	0.415	<MDA
		Gross Beta	-0.236 ± 0.29	pCi/Smpl	NA	0.551	<MDA
		H3	9.66 ± 15	pCi/Smpl	NA	25.1	<MDA
		Sr90	-0.064 ± 0.098	pCi/Smpl	NA	0.140	<MDA

<u>DUPLICATES</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-005	GrossAlpha	0.399 ± 0.53	0.874
	Gross Beta	2.91 ± 1.2	1.78
	H3	76.8 ± 150	254
	Sr90	0.884 ± 0.24	0.281

<u>ORIGINALS</u>						
Sample ID	Results ± 2σ	MDA	3σ			
			RPD (Tot)	Eval		
8294-001	0.904 ± 0.74	1.00	-	0 satis.		
	3.32 ± 1.2	1.79	13	88 satis.		
	-41.9 ± 150	254	-	0 satis.		
	0.901 ± 0.24	0.280	2	61 satis.		

<u>SPIKED SAMPLE</u>			
Sample ID	Nuclide	Results ± 2σ	MDA
8294-006	GrossAlpha	86.0 ± 5.3	0.881
	Gross Beta	72.1 ± 3.5	1.79
	H3	22300 ± 580	252

<u>ORIGINAL SAMPLE</u>					
Sample ID	Results ± 2σ	MDA	Added	%Recv	
8294-002	1.42 ± 0.93	1.19	71.5	118	
	3.75 ± 1.2	1.78	67.2	102	
	-77.0 ± 140	255	23600	95	

Certified by <u><i>[Signature]</i></u> Report Date <u>03/15/05</u> Page 2



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 # IOB1557

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

Standard TAT is requested unless specific due date is requested => Due Date: 4 weeks Initials: _____

Analysis	Expiration	Comments
Sample ID: IOB1557-01 Water	Sampled: 02/18/05 10:10	
EDD + Level 4	03/18/05 10:10	
Gross Alpha-O	02/18/06 10:10	900.0, IF RESULT > 15 pCi/L, run Radium 226 & 228
Gross Beta-O	02/18/06 10:10	900.0, IF RESULT > 50 pCi/L, run Radium 226 & 228
Radium, Combined-O	02/18/06 10:10	HOLD for Gross A&B results; EPA 903.1 & 904.0
Strontium 90-O	02/18/06 10:10	EPA 905.0
Tritium-O	02/18/06 10:10	EPA 906.0

Containers Supplied:
 1 gal Poly (IOB1557-01S) w/HNO₃
 40 ml Voa Vial (IOB1557-01T)
 40 ml Voa Vial (IOB1557-01U)

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: Via Bank Date: 2-22-05 Time: 1700 Received By: [Signature] Date: 2/23/05 Time: 10:00

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



EBERLINE
SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL MAR ANALYT. City IRVINE State CA

Date/Time received 2/23/05 10:00 CoC No. 10B1557

Container I.D. No. FABIC LAB Requested TAT (Days) 4week P.D. Received Yes [] No []

INSPECTION

- 1. Custody seals on shipping container intact? Yes [] No [] N/A []
- 2. Custody seals on shipping container dated & signed? Yes [] No [] N/A []
- 3. Custody seals on sample containers intact? Yes [] No [] N/A []
- 4. Custody seals on sample containers dated & signed? Yes [] No [] N/A []
- 5. Packing material is: Wet [] Dry []
- 6. Number of samples in shipping container: 1 Sample Matrix WATER
- 7. Number of containers per sample: 3 (Or see CoC _____)
- 8. Samples are in correct container Yes [] No []
- 9. Paperwork agrees with samples? Yes [] No []
- 10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels []
- 11. Samples are: In good condition [] Leaking [] Broken Container [] Missing []
- 12. Samples are: Preserved [] Not preserved [] pH 2 Preservative HNO3
- 13. Describe any anomalies: _____

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____

15. Inspected by AK Date: 2/23/05 Time: 11

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

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. _____ Calibration date _____



March 02, 2005

Alta Project I.D.: 25787

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 February 24, 2005 under your Project Name "IOB1557". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,


Martha M. Maier
HRMS Services Director



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762
FAX (916) 673-0106
(916) 933-1640

Section I: Sample Inventory Report

Date Received: 2/24/2005

Alta Lab. ID

Client Sample ID

25787-001

IOB1557-01

SECTION II



Method Blank		EPA Method 1613						
Matrix:	Aqueous	QC Batch No.:	6543	Lab Sample:	0-MB001			
Sample Size:	1.000 L	Date Extracted:	25-Feb-05	Date Analyzed DB-5:	28-Feb-05			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.866			IS 13C-2,3,7,8-TCDD	75.9	25 - 164	
1,2,3,7,8-PeCDD	ND	1.15			13C-1,2,3,7,8-PeCDD	73.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.88			13C-1,2,3,4,7,8-HxCDD	70.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.86			13C-1,2,3,6,7,8-HxCDD	73.4	28 - 130	
1,2,3,7,8,9-HpCDD	ND	1.84			13C-1,2,3,4,6,7,8-HpCDD	67.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	3.38			13C-OCDD	56.3	17 - 157	
OCDD	ND	8.88			13C-2,3,7,8-TCDF	78.7	24 - 169	
2,3,7,8-TCDF	ND	0.545			13C-1,2,3,7,8-PeCDF	68.1	24 - 185	
1,2,3,7,8-PeCDF	ND	1.62			13C-2,3,4,7,8-PeCDF	73.3	21 - 178	
2,3,4,7,8-PeCDF	ND	1.45			13C-1,2,3,4,7,8-HxCDF	60.2	26 - 152	
1,2,3,4,7,8-HxCDF	ND	1.24			13C-1,2,3,6,7,8-HxCDF	64.3	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.869			13C-2,3,4,6,7,8-HxCDF	63.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.958			13C-1,2,3,7,8,9-HxCDF	65.2	29 - 147	
1,2,3,7,8,9-HxCDF	ND	1.55			13C-1,2,3,4,6,7,8-HpCDF	54.3	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	2.22			13C-1,2,3,4,7,8,9-HpCDF	59.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	1.68			13C-OCDF	54.9	17 - 157	
OCDF	ND	4.49			CRS 37Cl-2,3,7,8-TCDD	77.4	35 - 197	
Totals								
Total TCDD	ND	0.866						
Total PeCDD	ND	1.15						
Total HxCDD	ND	1.86						
Total HpCDD	ND	3.38						
Total TCDF	ND	0.545						
Total PeCDF	ND	1.54						
Total HxCDF	ND	1.37						
Total HpCDF	ND	2.38						
Footnotes								
a. Sample specific estimated detection limit.								
b. Estimated maximum possible concentration.								
c. Method detection limit.								
d. Lower control limit - upper control limit.								

Analyst: MAS

Approved By:

William J. Luksemburg 02-Mar-2005 08:38



EPA Method 1613

OPR Results		Lab Sample: 0-OPR001		Date Analyzed DB-5: 28-Feb-05		Date Analyzed DB-225: NA	
Matrix:	Aqueous	QC Batch No.:	6543 <th>Date Analyzed DB-5:</th> <td>28-Feb-05 <th>Date Analyzed DB-225:</th> <td>NA </td></td>	Date Analyzed DB-5:	28-Feb-05 <th>Date Analyzed DB-225:</th> <td>NA </td>	Date Analyzed DB-225:	NA
Sample Size:	1.000 L <th>Date Extracted:</th> <td>25-Feb-05 <th colspan="4"></th> </td>	Date Extracted:	25-Feb-05 <th colspan="4"></th>				
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	
2,3,7,8-TCDD	10.0	8.67	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	67.4	25 - 164	
1,2,3,7,8-PeCDD	50.0	43.8	35 - 71	13C-1,2,3,7,8-PeCDD	64.0	25 - 181	
1,2,3,4,7,8-HxCDD	50.0	42.5	35 - 82	13C-1,2,3,4,7,8-HxCDD	58.2	32 - 141	
1,2,3,6,7,8-HxCDD	50.0	43.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	62.5	28 - 130	
1,2,3,7,8,9-HxCDD	50.0	43.7	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	50.0	42.5	35 - 70	13C-OCDD	51.4	17 - 157	
OCDD	100	87.0	78 - 144	13C-2,3,7,8-TCDF	72.5	24 - 169	
2,3,7,8-TCDF	10.0	7.98	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	59.4	24 - 185	
1,2,3,7,8-PeCDF	50.0	41.4	40 - 67	13C-2,3,4,7,8-PeCDF	64.8	21 - 178	
2,3,4,7,8-PeCDF	50.0	42.3	34 - 80	13C-1,2,3,4,7,8-HxCDF	49.4	26 - 152	
1,2,3,4,7,8-HxCDF	50.0	42.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	52.7	26 - 123	
1,2,3,6,7,8-HxCDF	50.0	43.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	55.2	28 - 136	
2,3,4,6,7,8-HxCDF	50.0	42.3	35 - 78	13C-1,2,3,7,8,9-HxCDF	53.4	29 - 147	
1,2,3,7,8,9-HxCDF	50.0	43.5	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	45.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	50.0	41.8	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	49.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	50.0	42.7	39 - 69	13C-OCDF	49.0	17 - 157	
OCDF	100	88.8	63 - 170	CRS 37Cl-2,3,7,8-TCDD	76.2	35 - 197	

Analyst: MAS
 Approved By: William J. Luksemburg 02-Mar-2005 08:38



Sample ID: IOB1557-01		EPA Method 1613				
Client Data		Sample Data		Laboratory Data		
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 25787-001	Date Received: 24-Feb-05			
Project: IOB1557	Sample Size: 1.018 L	QC Batch No.: 6543	Date Extracted: 25-Feb-05			
Date Collected: 18-Feb-05		Date Analyzed DB-5: 1-Mar-05	Date Analyzed DB-225: NA			
Time Collected: 1010						
Analyte	Conc. (pg/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.55		77.8	25 - 164	
1,2,3,7,8-PeCDD	ND	1.18		68.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	2.61		76.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	2.54		82.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	2.56		74.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	3.83		57.3	17 - 157	
OCDD	40.6			78.4	24 - 169	
2,3,7,8-TCDF	ND	1.37	J	63.8	24 - 185	
1,2,3,7,8-PeCDF	ND	1.91		66.5	21 - 178	
2,3,4,7,8-PeCDF	ND	1.69		67.6	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.642		76.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.622		77.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.670		71.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	1.02		74.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	1.99		74.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	2.23		67.1	17 - 157	
OCDF	ND	5.08		90.7	35 - 197	
Totals						
Total TCDD	ND	1.55				
Total PeCDD	ND	1.18				
Total HxCDD	ND	2.57				
Total HpCDD	ND	3.83				
Total TCDF	ND	1.37				
Total PeCDF	ND	1.80				
Total HxCDF	ND	0.720				
Total HpCDF	ND	2.09				
Footnotes						
a. Sample specific estimated detection limit.						
b. Estimated maximum possible concentration.						
c. Method detection limit.						
d. Lower control limit - upper control limit.						

Analyst: JMH

Approved By: William J. Luksemburg 02-Mar-2005 08:38

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

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



CURRENT CERTIFICATIONS

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)



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) 370-4857 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 806, San Diego, CA 92123 Ph (619) 535-8588 Fax (619) 535-8888
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0861
 2820 E. Sunset Pl., Suite 83, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IOB1557

<p>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</p>	<p>RECEIVING LABORATORY: Alta Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone : (916) 933-1640 Fax: (916) 933-0940</p> <p style="text-align: right; font-size: 2em;"><i>25787</i> <i>1.6C</i></p>
--	---

Standard TAT is requested unless specific due date is requested => Due Date: 2 weeks Initials: VB

Analysis	Expiration	Comments
Sample ID: IOB1557-01 Water	Sampled: 02/18/05 10:10	
1613-Dioxin-HR	02/25/05 10:10	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4-OUT	03/18/05 10:10	
Containers Supplied:		
1 L Amber (IOB1557-01C)		
1 L Amber (IOB1557-01D)		

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: Vu Bank Date: 2-23-05 Time: 1700 Received By: Bettina G. Benedict Date: 2/24/05 Time: 0905

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

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 25787

1. Date Samples Arrived: <u>2/24/05 0905</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
2. Time / Date logged in: <u>1345 2/24/05</u> Initials: <u>BBB</u> Location: <u>WR-2</u>			
3. Samples Arrived By: (circle) <u>FedEx</u> UPS World Courier Other:			
4. Shipping Preservation: (circle) <u>Ice</u> <u>Blue Ice</u> / Dry Ice / None Temp °C <u>1.6°C</u>			
	YES	NO	NA
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 <u>Airbill</u> Tracking Number <u>79043642 7350</u>	✓		
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 <u>Client</u> Retain or <u>Return</u> 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:

Sample initials found on sample label.

ALTA Analytical Laboratory
El Dorado Hills, CA 95762