APPENDIX G

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APPENDIX G

Section 1

Outfall 001

Del Mar Analytical Laboratory Reports

AMEC Data Validation Reports

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Del Mar Analytical

LABORATORY REPORT

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

Project: Quarterly Outfall 001

Sampled: 04/02/05
Received: 04/02/05
Issued: 05/23/05 10:05

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	CLIENT ID	MATRIX
IOD0114-01	Outfall 001	Water
IOD0114-02	Trip Blank	Water

Reviewed By:

Michele Harper

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

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: IOD0114-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5D09002	1.2	5.0	ND	1	04/09/05	04/09/05	C
Carbon tetrachloride	EPA 624	5D09002	0.28	5.0	ND	1	04/09/05	04/09/05	
Chloroform	EPA 624	5D09002	0.33	2.0	ND	1	04/09/05	04/09/05	
1,1-Dichloroethane	EPA 624	5D09002	0.27	2.0	ND	1	04/09/05	04/09/05	
1,2-Dichloroethane	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05	
1,1-Dichloroethene	EPA 624	5D09002	0.32	3.0	ND	1	04/09/05	04/09/05	
Ethylbenzene	EPA 624	5D09002	0.25	2.0	ND	1	04/09/05	04/09/05	
Tetrachloroethene	EPA 624	5D09002	0.32	2.0	ND	1	04/09/05	04/09/05	
Toluene	EPA 624	5D09002	0.36	2.0	ND	1	04/09/05	04/09/05	
1,1,1-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05	
1,1,2-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05	
Trichloroethene	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05	
Trichlorofluoromethane	EPA 624	5D09002	0.34	5.0	ND	1	04/09/05	04/09/05	
Vinyl chloride	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05	
Xylenes, Total	EPA 624	5D09002	0.52	4.0	ND	1	04/09/05	04/09/05	
Surrogate: Dibromofluoromethane (80-120%)					*116 %*				
Surrogate: Toluene-d8 (80-120%)					*109 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*102 %*				
Sample ID: IOD0114-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5D09002	1.2	5.0	ND	1	04/09/05	04/09/05	C
Carbon tetrachloride	EPA 624	5D09002	0.28	5.0	ND	1	04/09/05	04/09/05	
Chloroform	EPA 624	5D09002	0.33	2.0	ND	1	04/09/05	04/09/05	
1,1-Dichloroethane	EPA 624	5D09002	0.27	2.0	ND	1	04/09/05	04/09/05	
1,2-Dichloroethane	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05	
1,1-Dichloroethene	EPA 624	5D09002	0.32	3.0	ND	1	04/09/05	04/09/05	
Ethylbenzene	EPA 624	5D09002	0.25	2.0	ND	1	04/09/05	04/09/05	
Tetrachloroethene	EPA 624	5D09002	0.32	2.0	ND	1	04/09/05	04/09/05	
Toluene	EPA 624	5D09002	0.36	2.0	ND	1	04/09/05	04/09/05	
1,1,1-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05	
1,1,2-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05	
Trichloroethene	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05	
Trichlorofluoromethane	EPA 624	5D09002	0.34	5.0	ND	1	04/09/05	04/09/05	
Vinyl chloride	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05	
Xylenes, Total	EPA 624	5D09002	0.52	4.0	ND	1	04/09/05	04/09/05	
Surrogate: Dibromofluoromethane (80-120%)					*109 %*				
Surrogate: Toluene-d8 (80-120%)					*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*104 %*				

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

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: IOD0114-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5D03010	1.1	5.0	**1.1**	0.957	04/03/05	04/11/05	B, J
2,4-Dinitrotoluene	EPA 625	5D03010	0.23	9.0	ND	0.957	04/03/05	04/11/05	
N-Nitrosodimethylamine	EPA 625	5D03010	0.22	8.0	ND	0.957	04/03/05	04/11/05	
Pentachlorophenol	EPA 625	5D03010	0.78	8.0	ND	0.957	04/03/05	04/11/05	
2,4,6-Trichlorophenol	EPA 625	5D03010	0.10	6.0	ND	0.957	04/03/05	04/11/05	
Surrogate: 2-Fluorophenol (30-120%)					*66 %*				
Surrogate: Phenol-d6 (35-120%)					*68 %*				
Surrogate: 2,4,6-Tribromophenol (45-120%)					*87 %*				
Surrogate: Nitrobenzene-d5 (45-120%)					*70 %*				
Surrogate: 2-Fluorobiphenyl (45-120%)					*73 %*				
Surrogate: Terphenyl-d14 (45-120%)					*78 %*				

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Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD0114-01 (Outfall 001 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	5D05047	0.0010	0.010	ND	0.943	04/05/05	04/05/05	C-1
Surrogate: Decachlorobiphenyl (45-120%)					*127 %*				*Z2*
Surrogate: Tetrachloro-m-xylene (35-115%)					*91 %*				

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Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD0114-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Iron	EPA 200.7	5D18104	0.0088	0.040	**0.062**	1	04/18/05	04/19/05	
Sample ID: IOD0114-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Copper	EPA 200.8	5D02040	0.49	2.0	**1.4**	1	04/02/05	04/03/05	J
Lead	EPA 200.8	5D02040	0.13	1.0	ND	1	04/02/05	04/03/05	
Mercury	EPA 245.1	5D05050	0.063	0.20	**0.13**	1	04/05/05	04/05/05	J

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Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD0114-01 (Outfall 001 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5D05076	0.30	0.50	ND	1	04/05/05	04/05/05	
Biochemical Oxygen Demand	EPA 405.1	5D02036	0.59	2.0	**1.0**	1	04/02/05	04/07/05	J
Chloride	EPA 300.0	5D02028	0.26	0.50	**26**	1	04/02/05	04/02/05	
Nitrate/Nitrite-N	EPA 300.0	5D02028	0.072	0.26	ND	1	04/02/05	04/02/05	
Oil & Grease	EPA 413.1	5D03014	0.94	5.0	ND	1	04/03/05	04/03/05	
Sulfate	EPA 300.0	5D02028	0.90	2.5	**99**	5	04/02/05	04/02/05	
Surfactants (MBAS)	SM5540-C	5D02042	0.044	0.10	**0.064**	1	04/02/05	04/02/05	J
Total Dissolved Solids	SM2540C	5D06089	10	10	**370**	1	04/06/05	04/06/05	
Total Suspended Solids	EPA 160.2	5D05071	10	10	ND	1	04/05/05	04/05/05	
Sample ID: IOD0114-01 (Outfall 001 - Water)									
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	5D02043	0.10	0.10	ND	1	04/02/05	04/02/05	
Sample ID: IOD0114-01 (Outfall 001 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	5D02038	0.040	1.0	**1.4**	1	04/02/05	04/02/05	
Sample ID: IOD0114-01 (Outfall 001 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	5D04106	2.2	5.0	ND	1	04/04/05	04/04/05	
Perchlorate	EPA 314.0	5D04053	0.80	4.0	ND	1	04/04/05	04/05/05	
Sample ID: IOD0114-01 (Outfall 001 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5D06092	1.0	1.0	**540**	1	04/06/05	04/06/05	

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Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

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 (IOD0114-01) - Water					
EPA 160.5	2	04/02/2005 08:46	04/02/2005 12:30	04/02/2005 14:00	04/02/2005 15:00
EPA 180.1	2	04/02/2005 08:46	04/02/2005 12:30	04/02/2005 14:00	04/02/2005 14:30
EPA 300.0	2	04/02/2005 08:46	04/02/2005 12:30	04/02/2005 13:30	04/02/2005 13:46
EPA 405.1	2	04/02/2005 08:46	04/02/2005 12:30	04/02/2005 16:10	04/07/2005 07:30
SM5540-C	2	04/02/2005 08:46	04/02/2005 12:30	04/02/2005 14:00	04/02/2005 14:31

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Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

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: 5D09002 Extracted: 04/09/05											
Blank Analyzed: 04/09/2005 (5D09002-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	*26.4*			*ug/l*	*25.0*		*106*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*26.3*			*ug/l*	*25.0*		*105*	*80-120*			
LCS Analyzed: 04/09/2005 (5D09002-BS1)											
Benzene	28.4	2.0	0.28	ug/l	25.0		114	70-120			
Carbon tetrachloride	26.7	5.0	0.28	ug/l	25.0		107	70-140			
Chloroform	28.0	2.0	0.33	ug/l	25.0		112	75-130			
1,1-Dichloroethane	29.4	2.0	0.27	ug/l	25.0		118	70-135			
1,2-Dichloroethane	25.9	2.0	0.28	ug/l	25.0		104	60-150			
1,1-Dichloroethene	30.7	3.0	0.32	ug/l	25.0		123	75-135			
Ethylbenzene	28.4	2.0	0.25	ug/l	25.0		114	80-120			
Tetrachloroethene	28.3	2.0	0.32	ug/l	25.0		113	75-125			
Toluene	28.3	2.0	0.36	ug/l	25.0		113	75-120			
1,1,1-Trichloroethane	27.5	2.0	0.30	ug/l	25.0		110	75-140			
1,1,2-Trichloroethane	27.8	2.0	0.30	ug/l	25.0		111	70-125			
Trichloroethene	26.1	5.0	0.26	ug/l	25.0		104	80-120			
Trichlorofluoromethane	26.4	5.0	0.34	ug/l	25.0		106	65-145			
Vinyl chloride	26.6	5.0	0.26	ug/l	25.0		106	50-130			
Surrogate: Dibromofluoromethane	*26.7*			*ug/l*	*25.0*		*107*	*80-120*			

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Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

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: 5D09002 Extracted: 04/09/05											
LCS Analyzed: 04/09/2005 (5D09002-BS1)											
Surrogate: Toluene-d8	*27.1*			*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*26.1*			*ug/l*	*25.0*		*104*	*80-120*			
Matrix Spike Analyzed: 04/09/2005 (5D09002-MS1)					**Source: IOD0510-02**						
Benzene	28.3	2.0	0.28	ug/l	25.0	ND	113	70-120			
Carbon tetrachloride	26.1	5.0	0.28	ug/l	25.0	ND	104	70-145			
Chloroform	64.8	2.0	0.33	ug/l	25.0	40	99	70-135			
1,1-Dichloroethane	27.6	2.0	0.27	ug/l	25.0	ND	110	65-135			
1,2-Dichloroethane	27.0	2.0	0.28	ug/l	25.0	ND	108	60-150			
1,1-Dichloroethene	28.3	3.0	0.32	ug/l	25.0	ND	113	65-140			
Ethylbenzene	26.9	2.0	0.25	ug/l	25.0	ND	108	70-130			
Tetrachloroethene	25.5	2.0	0.32	ug/l	25.0	ND	102	70-130			
Toluene	26.4	2.0	0.36	ug/l	25.0	ND	106	70-120			
1,1,1-Trichloroethane	26.0	2.0	0.30	ug/l	25.0	ND	104	75-140			
1,1,2-Trichloroethane	28.6	2.0	0.30	ug/l	25.0	ND	114	60-135			
Trichloroethene	25.1	5.0	0.26	ug/l	25.0	ND	100	70-125			
Trichlorofluoromethane	24.3	5.0	0.34	ug/l	25.0	ND	97	55-145			
Vinyl chloride	23.7	5.0	0.26	ug/l	25.0	ND	95	40-135			
Surrogate: Dibromofluoromethane	*26.7*			*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: Toluene-d8	*27.6*			*ug/l*	*25.0*		*110*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*26.8*			*ug/l*	*25.0*		*107*	*80-120*			
Matrix Spike Dup Analyzed: 04/09/2005 (5D09002-MSD1)					**Source: IOD0510-02**						
Benzene	27.6	2.0	0.28	ug/l	25.0	ND	110	70-120	3	20	
Carbon tetrachloride	25.7	5.0	0.28	ug/l	25.0	ND	103	70-145	2	25	
Chloroform	66.4	2.0	0.33	ug/l	25.0	40	106	70-135	2	20	
1,1-Dichloroethane	28.8	2.0	0.27	ug/l	25.0	ND	115	65-135	4	20	
1,2-Dichloroethane	24.8	2.0	0.28	ug/l	25.0	ND	99	60-150	8	20	
1,1-Dichloroethene	29.6	3.0	0.32	ug/l	25.0	ND	118	65-140	4	20	
Ethylbenzene	27.1	2.0	0.25	ug/l	25.0	ND	108	70-130	1	20	
Tetrachloroethene	26.2	2.0	0.32	ug/l	25.0	ND	105	70-130	3	20	
Toluene	27.8	2.0	0.36	ug/l	25.0	ND	111	70-120	5	20	
1,1,1-Trichloroethane	27.8	2.0	0.30	ug/l	25.0	ND	111	75-140	7	20	
1,1,2-Trichloroethane	25.0	2.0	0.30	ug/l	25.0	ND	100	60-135	13	25	
Trichloroethene	25.4	5.0	0.26	ug/l	25.0	ND	102	70-125	1	20	
Trichlorofluoromethane	25.0	5.0	0.34	ug/l	25.0	ND	100	55-145	3	25	

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D09002 Extracted: 04/09/05											
Matrix Spike Dup Analyzed: 04/09/2005 (5D09002-MSD1)					**Source: IOD0510-02**						
Vinyl chloride	26.5	5.0	0.26	ug/l	25.0	ND	106	40-135	11	30	
Surrogate: Dibromofluoromethane	*27.9*			*ug/l*	*25.0*		*112*	*80-120*			
Surrogate: Toluene-d8	*27.4*			*ug/l*	*25.0*		*110*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*25.4*			*ug/l*	*25.0*		*102*	*80-120*			

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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: 5D03010 Extracted: 04/03/05											
Blank Analyzed: 04/11/2005 (5D03010-BLK1)											
Bis(2-ethylhexyl)phthalate	1.12	5.0	1.1	ug/l							J
2,4-Dinitrotoluene	ND	9.0	0.23	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.22	ug/l							
Pentachlorophenol	ND	8.0	0.78	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l							
Surrogate: 2-Fluorophenol	*12.2*			*ug/l*	*20.0*		*61*	*30-120*			
Surrogate: Phenol-d6	*13.1*			*ug/l*	*20.0*		*66*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*14.8*			*ug/l*	*20.0*		*74*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.44*			*ug/l*	*10.0*		*64*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*6.76*			*ug/l*	*10.0*		*68*	*45-120*			
Surrogate: Terphenyl-d14	*7.58*			*ug/l*	*10.0*		*76*	*45-120*			
LCS Analyzed: 04/11/2005 (5D03010-BS1)											**M-NR1**
Bis(2-ethylhexyl)phthalate	8.04	5.0	1.1	ug/l	10.0		80	60-130			
2,4-Dinitrotoluene	6.48	9.0	0.23	ug/l	10.0		65	60-120			J
N-Nitrosodimethylamine	6.24	8.0	0.22	ug/l	10.0		62	40-120			J
Pentachlorophenol	7.66	8.0	0.78	ug/l	10.0		77	50-120			J
2,4,6-Trichlorophenol	7.56	6.0	0.10	ug/l	10.0		76	60-120			
Surrogate: 2-Fluorophenol	*11.3*			*ug/l*	*20.0*		*56*	*30-120*			
Surrogate: Phenol-d6	*12.4*			*ug/l*	*20.0*		*62*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*15.8*			*ug/l*	*20.0*		*79*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.44*			*ug/l*	*10.0*		*64*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*6.92*			*ug/l*	*10.0*		*69*	*45-120*			
Surrogate: Terphenyl-d14	*7.84*			*ug/l*	*10.0*		*78*	*45-120*			
LCS Dup Analyzed: 04/11/2005 (5D03010-BSD1)											
Bis(2-ethylhexyl)phthalate	8.70	5.0	1.1	ug/l	10.0		87	60-130	8	20	
2,4-Dinitrotoluene	6.36	9.0	0.23	ug/l	10.0		64	60-120	2	20	J
N-Nitrosodimethylamine	6.34	8.0	0.22	ug/l	10.0		63	40-120	2	20	J
Pentachlorophenol	7.82	8.0	0.78	ug/l	10.0		78	50-120	2	25	J
2,4,6-Trichlorophenol	7.42	6.0	0.10	ug/l	10.0		74	60-120	2	20	
Surrogate: 2-Fluorophenol	*11.5*			*ug/l*	*20.0*		*58*	*30-120*			
Surrogate: Phenol-d6	*11.8*			*ug/l*	*20.0*		*59*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*16.1*			*ug/l*	*20.0*		*80*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.00*			*ug/l*	*10.0*		*60*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*6.50*			*ug/l*	*10.0*		*65*	*45-120*			

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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: 5D03010 Extracted: 04/03/05											
LCS Dup Analyzed: 04/11/2005 (5D03010-BSD1)											
Surrogate: Terphenyl-d14	*7.92*			*ug/l*	*10.0*		*79*	*45-120*			

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D05047 Extracted: 04/05/05											
Blank Analyzed: 04/05/2005 (5D05047-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	*0.488*			*ug/l*	*0.500*		*98*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.380*			*ug/l*	*0.500*		*76*	*35-115*			
LCS Analyzed: 04/05/2005 (5D05047-BS1)											
alpha-BHC	0.468	0.010	0.0010	ug/l	0.500		94	45-115			
Surrogate: Decachlorobiphenyl	*0.534*			*ug/l*	*0.500*		*107*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.353*			*ug/l*	*0.500*		*71*	*35-115*			
LCS Dup Analyzed: 04/05/2005 (5D05047-BSD1)											
alpha-BHC	0.489	0.010	0.0010	ug/l	0.500		98	45-115	4	30	
Surrogate: Decachlorobiphenyl	*0.532*			*ug/l*	*0.500*		*106*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.387*			*ug/l*	*0.500*		*77*	*35-115*			

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D02040 Extracted: 04/02/05											
Blank Analyzed: 04/03/2005 (5D02040-BLK1)											
Copper	ND	2.0	0.49	ug/l							
Lead	ND	1.0	0.13	ug/l							
LCS Analyzed: 04/03/2005 (5D02040-BS1)											
Copper	79.5	2.0	0.49	ug/l	80.0		99	85-115			
Lead	82.9	1.0	0.13	ug/l	80.0		104	85-115			
Matrix Spike Analyzed: 04/03/2005 (5D02040-MS1)					**Source: IOD0114-01**						
Copper	78.5	2.0	0.49	ug/l	80.0	1.4	96	70-130			
Lead	80.2	1.0	0.13	ug/l	80.0	ND	100	70-130			
Matrix Spike Dup Analyzed: 04/03/2005 (5D02040-MSD1)					**Source: IOD0114-01**						
Copper	80.1	2.0	0.49	ug/l	80.0	1.4	98	70-130	2	20	
Lead	81.0	1.0	0.13	ug/l	80.0	ND	101	70-130	1	20	
Batch: 5D05050 Extracted: 04/05/05											
Blank Analyzed: 04/05/2005 (5D05050-BLK1)											
Mercury	ND	0.20	0.063	ug/l							
LCS Analyzed: 04/05/2005 (5D05050-BS1)											
Mercury	6.91	0.20	0.063	ug/l	8.00		86	85-115			
Matrix Spike Analyzed: 04/05/2005 (5D05050-MS1)					**Source: IOD0113-01**						
Mercury	2.36	0.20	0.063	ug/l	8.00	ND	30	70-130			*M2*
Matrix Spike Dup Analyzed: 04/05/2005 (5D05050-MSD1)					**Source: IOD0113-01**						
Mercury	2.37	0.20	0.063	ug/l	8.00	ND	30	70-130	0	20	*M2*

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D18104 Extracted: 04/18/05											
Blank Analyzed: 04/19/2005 (5D18104-BLK1)											
Iron	ND	0.040	0.0088	mg/l							
LCS Analyzed: 04/19/2005 (5D18104-BS1)											
Iron	0.521	0.040	0.0088	mg/l	0.500		104	85-115			
Matrix Spike Analyzed: 04/19/2005 (5D18104-MS1)					**Source: IOD0703-01**						
Iron	1.34	0.040	0.0088	mg/l	0.500	0.69	130	70-130			
Matrix Spike Dup Analyzed: 04/19/2005 (5D18104-MSD1)					**Source: IOD0703-01**						
Iron	1.37	0.040	0.0088	mg/l	0.500	0.69	136	70-130	2	20	*M1*

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Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D02028 Extracted: 04/02/05											
Blank Analyzed: 04/02/2005 (5D02028-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 04/02/2005 (5D02028-BS1)											
Chloride	4.77	0.50	0.26	mg/l	5.00		95	90-110			
Sulfate	9.50	0.50	0.18	mg/l	10.0		95	90-110			
Matrix Spike Analyzed: 04/02/2005 (5D02028-MS1)					**Source: IOD0097-01**						
Chloride	19.8	0.50	0.26	mg/l	5.00	15	96	80-120			
Sulfate	51.2	0.50	0.18	mg/l	10.0	42	92	80-120			
Matrix Spike Dup Analyzed: 04/02/2005 (5D02028-MSD1)					**Source: IOD0097-01**						
Chloride	19.8	0.50	0.26	mg/l	5.00	15	96	80-120	0	20	
Sulfate	51.0	0.50	0.18	mg/l	10.0	42	90	80-120	0	20	
Batch: 5D02036 Extracted: 04/02/05											
Blank Analyzed: 04/07/2005 (5D02036-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 04/07/2005 (5D02036-BS1)											
Biochemical Oxygen Demand	210	100	30	mg/l	198		106	85-115			
LCS Dup Analyzed: 04/07/2005 (5D02036-BSD1)											
Biochemical Oxygen Demand	209	100	30	mg/l	198		106	85-115	1	20	

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D02038 Extracted: 04/02/05											
Blank Analyzed: 04/02/2005 (5D02038-BLK1)											
Turbidity	0.0400	1.0	0.040	NTU							J
Duplicate Analyzed: 04/02/2005 (5D02038-DUP1)					**Source: IOD0069-01**						
Turbidity	0.850	1.0	0.040	NTU		0.89			5	20	J
Batch: 5D02042 Extracted: 04/02/05											
Blank Analyzed: 04/02/2005 (5D02042-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 04/02/2005 (5D02042-BS1)											
Surfactants (MBAS)	0.248	0.10	0.044	mg/l	0.250		99	90-110			
Matrix Spike Analyzed: 04/02/2005 (5D02042-MS1)					**Source: IOD0114-01**						
Surfactants (MBAS)	0.313	0.10	0.044	mg/l	0.250	0.064	100	50-125			
Matrix Spike Dup Analyzed: 04/02/2005 (5D02042-MSD1)					**Source: IOD0114-01**						
Surfactants (MBAS)	0.315	0.10	0.044	mg/l	0.250	0.064	100	50-125	1	20	
Batch: 5D03014 Extracted: 04/03/05											
Blank Analyzed: 04/03/2005 (5D03014-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/03/2005 (5D03014-BS1)											
Oil & Grease	19.9	5.0	0.94	mg/l	20.0		100	65-120			

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D03014 Extracted: 04/03/05											
LCS Dup Analyzed: 04/03/2005 (5D03014-BSD1)											
Oil & Grease	20.9	5.0	0.94	mg/l	20.0		104	65-120	5	20	
Batch: 5D04053 Extracted: 04/04/05											
Blank Analyzed: 04/04/2005 (5D04053-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 04/04/2005 (5D04053-BS1)											
Perchlorate	50.3	4.0	0.80	ug/l	50.0		101	85-115			
Matrix Spike Analyzed: 04/04/2005 (5D04053-MS1)					**Source: IOD0095-01**						
Perchlorate	52.3	4.0	0.80	ug/l	50.0	3.0	99	80-120			
Matrix Spike Dup Analyzed: 04/04/2005 (5D04053-MSD1)					**Source: IOD0095-01**						
Perchlorate	52.9	4.0	0.80	ug/l	50.0	3.0	100	80-120	1	20	
Batch: 5D04106 Extracted: 04/04/05											
Blank Analyzed: 04/04/2005 (5D04106-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 04/04/2005 (5D04106-BS1)											
Total Cyanide	192	5.0	2.2	ug/l	200		96	90-110			
Matrix Spike Analyzed: 04/04/2005 (5D04106-MS1)					**Source: IOD0114-01**						
Total Cyanide	200	5.0	2.2	ug/l	200	ND	100	70-115			

Del Mar Analytical, Irvine
Michele Harper
Project Manager

Del Mar Analytical

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D04106 Extracted: 04/04/05											
Matrix Spike Dup Analyzed: 04/04/2005 (5D04106-MSD1)					**Source: IOD0114-01**						
Total Cyanide	190	5.0	2.2	ug/l	200	ND	95	70-115	5	15	
Batch: 5D05071 Extracted: 04/05/05											
Blank Analyzed: 04/05/2005 (5D05071-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 04/05/2005 (5D05071-BS1)											
Total Suspended Solids	965	10	10	mg/l	1000		96	85-115			
Duplicate Analyzed: 04/05/2005 (5D05071-DUP1)					**Source: IOD0140-01**						
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 5D05076 Extracted: 04/05/05											
Blank Analyzed: 04/05/2005 (5D05076-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 04/05/2005 (5D05076-BS1)											
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0		106	80-115			
Matrix Spike Analyzed: 04/05/2005 (5D05076-MS1)					**Source: IOD0069-01**						
Ammonia-N (Distilled)	10.1	0.50	0.30	mg/l	10.0	ND	101	70-120			
Matrix Spike Dup Analyzed: 04/05/2005 (5D05076-MSD1)					**Source: IOD0069-01**						
Ammonia-N (Distilled)	9.80	0.50	0.30	mg/l	10.0	ND	98	70-120	3	15	

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D06089 Extracted: 04/06/05											
Blank Analyzed: 04/06/2005 (5D06089-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/06/2005 (5D06089-BS1)											
Total Dissolved Solids	1030	10	10	mg/l	1000		103	90-110			
Duplicate Analyzed: 04/06/2005 (5D06089-DUP1)					**Source: IOD0157-06**						
Total Dissolved Solids	326	10	10	mg/l		310			5	10	
Batch: 5D06092 Extracted: 04/06/05											
Duplicate Analyzed: 04/06/2005 (5D06092-DUP1)					**Source: IOD0137-01**						
Specific Conductance	743	1.0	1.0	umhos/cm		740			0	5	

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

CALIBRATION CHECK CRITERIA

The % recovery for the following individual compounds fell outside the ± 15% criteria, however the average % recovery of all compounds in the calibration check solution was within ± 15%, thus meeting the overall calibration check criteria.

Compound	Footnote	Calibration Check % Recovery	Lab Number	Batch
alpha-BHC	1	121	IOD0114-01	5D05047

Footnotes:

1 The calibration demonstrated a high bias for this compound. Samples were flagged to indicate a possible high bias in the result for this compound.

2 The calibration demonstrated a low bias for this compound. Samples were flagged to indicate a possible low bias in the result for this compound.

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Del Mar Analytical

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

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
IOD0114-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.19	5.0	10.00
IOD0114-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.010	0.0100
IOD0114-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOD0114-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IOD0114-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOD0114-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	9.0	9.10
IOD0114-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	1.10	5.0	4.00
IOD0114-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOD0114-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOD0114-01	BOD	Biochemical Oxygen Demand	mg/l	1.00	2.0	20
IOD0114-01	Chloride - 300.0	Chloride	mg/l	26	0.50	150
IOD0114-01	Copper-200.8	Copper	ug/l	1.40	2.0	7.10
IOD0114-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	-6	5.0	4.30
IOD0114-01	Iron-200.7	Iron	mg/l	0.062	0.040	0.30
IOD0114-01	Lead-200.8	Lead	ug/l	0.037	1.0	2.60
IOD0114-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.064	0.10	0.50
IOD0114-01	Mercury - 245.1	Mercury	ug/l	0.13	0.20	0.20
IOD0114-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.023	0.26	8.00
IOD0114-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOD0114-01	Sulfate-300.0	Sulfate	mg/l	99	2.5	300
IOD0114-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	370	10	950
IOD0114-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOD0114-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

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DATA QUALIFIERS AND DEFINITIONS

B	Analyte was detected in the associated Method Blank.
C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
C-1	Calibration Verification recovery was above the method control limit for this analyte, however the average % difference for all analytes met method criteria. See Calibration Summary form.
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.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M2	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M-NR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
Z2	Surrogate recovery was above the acceptance limits. Data not impacted.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

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: IOD0114-01

Analysis Performed: EDD + Level 4
Samples: IOD0114-01

Eberline Services - SUB
2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: EDD + Level 4
Samples: IOD0114-01

Analysis Performed: Gross Alpha
Samples: IOD0114-01

Del Mar Analytical, Irvine
Michele Harper
Project Manager

Del Mar Analytical Version 03/31/05 **CHAIN OF CUSTODY FORM** JOD0114 Page 1 of 2

Client Name/Address:

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

Project Manager: Bronwyn Kelly

Sampler:

Project:
Boeing-SSFL NPDES
Quarterly Outfall 001

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Field readings:
Temp = 55.5°
pH= 7.85

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Reoverable Metals: Cu, Pb, Hg,	Settleable Solids	VOCs 624 + xylenes + Freon 113	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cl-, SO4, NO3+NO2-N, Perchlorate	Turbidity,TDS, TSS, Conductivity	Ammonia-N	Alpha BHC (608)	2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Comments
Outfall 001	W	Poly-1L	1	4-2-05 8:46	HNO3	1A	X													24 TAT
Outfall 001-Dup	W	Poly-1L	1		HNO3	1B	X													24 TAT
Outfall 001	W	Poly-1L	1		None	2		X												
Outfall 001	W	VOAs	3		HCl	3A,3B,3C			X											
Outfall 001	W	1L Amber	2		None	4A,4B				X										
Outfall 001	W	1L Amber	2		HCl	5A, 5B					X									24 TAT
Outfall 001	W	Poly-500 ml	1		NaOH	6						X								24 TAT
Outfall 001	W	Poly-1L	1		None	7							X							
Outfall 001	W	Poly-500 ml	2		None	8A,8B								X						
Outfall 001	W	Poly-500 ml	2		None	9A,9B									X					
Outfall 001	W	Poly-500 ml	2		None	10A, 10B										X				
Outfall 001	W	Poly-500 ml	1		H2SO4	11											X			
Outfall 001	W	1L Amber	2		None	12A, 12B												X		
Outfall 001	W	1L Amber	2	4-2-05 8:46	None	13A, 13B													X	
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C			X											

Relinquished By	Date/Time:	Received By	Date/Time:
[signature]	4-2-05 10:00	[signature]	4/2/05 10:00 DMAL
[signature]	4/2/05 12:33		
		[signature]	4/2/05 12:30

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: 6°C

Del Mar Analytical Version 03/31/05

CHAIN OF CUSTODY FORM

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

Del Mar Contact: Michele Harper

Project Manager: Bronwyn Kelly

Sampler:

Project:
Boeing-SSFL NPDES
Quarterly Outfall 001

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle * #	Gross Alpha, Total Combined Radium 226 & Radium 228 *	Comments
Outfall 001	W	1-Gal cube	1	4-2-05 8:46	None		X	***HOLD PENDING FURTHER REVIEW*** ANALYZE FOR TOTAL COMBINED RA-226 & 228 ONLY IF GROSS ALPHA >15pCi/L

Relinquished By	Date/Time:	Received By	Date/Time:
[illegible]	4-2-05 10⁰⁰	[illegible]	4/2/05 10⁰⁰ [illegible]
[illegible]	4/2/05 1230		
		[illegible]	4/2/05 1230

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: 6°C

Del Mar Analytical

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April 27, 2005

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

Attention: Bronwyn Kelly

Project: Quarterly Outfall 001
Sampled: 04/02/05
Del Mar Analytical Number: IOD0114

Dear Ms. Kelly:

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

MWH ID	Del Mar ID	Alta ID
Outfall 001	IOD0114-01	26004-001

Attached is the original report from the subcontracted 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
Michele Harper
Project Manager

Enclosure

ALTA

April 18, 2005

Alta Project I.D.: 26004

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

Dear Ms. Harper,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on April 05, 2005 under your Project Name "IOD0114". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

Martha M. Maier
Director of HRMS Services

nelac nelap

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: **4/5/2005**

Alta Lab. ID	Client Sample ID
26004-001	IOD0114-01

SECTION II

ALTA

Method Blank — **EPA Method 1613**

Matrix: Aqueous	QC Batch No.: 6707	Lab Sample: 0-MB001	
Sample Size: 1.000 L	Date Extracted: 16-Apr-05	Date Analyzed DB-5: 17-Apr-05	Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.00000119		
1,2,3,7,8-PeCDD	ND	0.000000985		
1,2,3,4,7,8-HxCDD	ND	0.00000193		
1,2,3,6,7,8-HxCDD	ND	0.00000188		
1,2,3,7,8,9-HxCDD	ND	0.00000190		
1,2,3,4,6,7,8-HpCDD	ND	0.00000164		
OCDD	ND	0.00000457		
2,3,7,8-TCDF	ND	0.00000111		
1,2,3,7,8-PeCDF	ND	0.00000188		
2,3,4,7,8-PeCDF	ND	0.00000164		
1,2,3,4,7,8-HxCDF	ND	0.000000618		
1,2,3,6,7,8-HxCDF	ND	0.000000620		
2,3,4,6,7,8-HxCDF	ND	0.000000756		
1,2,3,7,8,9-HxCDF	ND	0.00000127		
1,2,3,4,6,7,8-HpCDF	ND	0.00000100		
1,2,3,4,7,8,9-HpCDF	ND	0.00000151		
OCDF	ND	0.00000490		
Totals				
Total TCDD	ND	0.00000119		
Total PeCDD	ND	0.000000985		
Total HxCDD	ND	0.00000190		
Total HpCDD	ND	0.00000164		
Total TCDF	ND	0.00000111		
Total PeCDF	ND	0.00000176		
Total HxCDF	ND	0.000000785		
Total HpCDF	ND	0.00000121		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	68.7	25 - 164	
	13C-1,2,3,7,8-PeCDD	77.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	71.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	77.9	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	65.3	23 - 140	
	13C-OCDD	42.9	17 - 157	
	13C-2,3,7,8-TCDF	72.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	69.4	24 - 185	
	13C-2,3,4,7,8-PeCDF	73.5	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	70.4	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	81.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	75.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	73.0	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	70.1	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	58.9	26 - 138	
	13C-OCDF	49.3	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	83.2	35 - 197	

Footnotes

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

Analyst: JMH

Approved By: Martha M. Maier 18-Apr-2005 16:20

ALTA

OPR Results

EPA Method 1613

Matrix:	Aqueous	QC Batch No.:	6707
Sample Size:	1.000 L	Date Extracted:	16-Apr-05
Lab Sample:	0-OPR001		
Date Analyzed DB-5:	17-Apr-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	9.00	6.7 - 15.8	**IS**	13C-2,3,7,8-TCDD	67.4	25 - 164
1,2,3,7,8-PeCDD	50.0	45.9	35 - 71		13C-1,2,3,7,8-PeCDD	70.6	25 - 181
1,2,3,4,7,8-HxCDD	50.0	46.6	35 - 82		13C-1,2,3,4,7,8-HxCDD	73.8	32 - 141
1,2,3,6,7,8-HxCDD	50.0	46.6	38 - 67		13C-1,2,3,6,7,8-HxCDD	84.1	28 - 130
1,2,3,7,8,9-HxCDD	50.0	43.6	32 - 81		13C-1,2,3,4,6,7,8-HpCDD	63.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	48.9	35 - 70		13C-OCDD	46.9	17 - 157
OCDD	100	98.2	78 - 144		13C-2,3,7,8-TCDF	69.9	24 - 169
2,3,7,8-TCDF	10.0	9.06	7.5 - 15.8		13C-1,2,3,7,8-PeCDF	68.9	24 - 185
1,2,3,7,8-PeCDF	50.0	47.8	40 - 67		13C-2,3,4,7,8-PeCDF	71.3	21 - 178
2,3,4,7,8-PeCDF	50.0	46.9	34 - 80		13C-1,2,3,4,7,8-HxCDF	77.5	26 - 152
1,2,3,4,7,8-HxCDF	50.0	51.7	36 - 67		13C-1,2,3,6,7,8-HxCDF	89.9	26 - 123
1,2,3,6,7,8-HxCDF	50.0	48.8	42 - 65		13C-2,3,4,6,7,8-HxCDF	78.6	28 - 136
2,3,4,6,7,8-HxCDF	50.0	51.4	35 - 78		13C-1,2,3,7,8,9-HxCDF	68.7	29 - 147
1,2,3,7,8,9-HxCDF	50.0	51.5	39 - 65		13C-1,2,3,4,6,7,8-HpCDF	63.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	50.8	41 - 61		13C-1,2,3,4,7,8,9-HpCDF	66.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	53.6	39 - 69		13C-OCDF	55.0	17 - 157
OCDF	100	103	63 - 170	**CRS**	37Cl-2,3,7,8-TCDD	81.7	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 18-Apr-2005 16:20

ALTA

Sample ID: **IOD0114-01** — **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26004-001	Date Received:	5-Apr-05
Project:	IOD0114	Sample Size:	1.018 L	QC Batch No.:	6707	Date Extracted:	16-Apr-05
Date Collected:	2-Apr-05			Date Analyzed DB-5:	18-Apr-05	Date Analyzed DB-225:	NA
Time Collected:	0846						

Analyte	Conc. (Ug/L)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	0.00000141		
1,2,3,7,8-PeCDD	ND	0.00000161		
1,2,3,4,7,8-HxCDD	ND	0.00000284		
1,2,3,6,7,8-HxCDD	ND	0.00000295		
1,2,3,7,8,9-HxCDD	ND	0.00000289		
1,2,3,4,6,7,8-HpCDD	ND	0.00000314		
OCDD	ND	0.0000144		
2,3,7,8-TCDF	ND	0.00000162		
1,2,3,7,8-PeCDF	ND	0.00000244		
2,3,4,7,8-PeCDF	ND	0.00000212		
1,2,3,4,7,8-HxCDF	ND	0.000000598		
1,2,3,6,7,8-HxCDF	ND	0.000000576		
2,3,4,6,7,8-HxCDF	ND	0.000000712		
1,2,3,7,8,9-HxCDF	ND	0.00000142		
1,2,3,4,6,7,8-HpCDF	ND	0.00000212		
1,2,3,4,7,8,9-HpCDF	ND	0.00000267		
OCDF	ND	0.00000576		
Totals				
Total TCDD	ND	0.00000141		
Total PeCDD	ND	0.00000161		
Total HxCDD	ND	0.00000289		
Total HpCDD	ND	0.00000314		
Total TCDF	ND	0.00000162		
Total PeCDF	ND	0.00000227		
Total HxCDF	ND	0.000000760		
Total HpCDF	ND	0.00000236		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	57.0	25 - 164	
	13C-1,2,3,7,8-PeCDD	57.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	58.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	64.7	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	47.8	23 - 140	
	13C-OCDD	39.0	17 - 157	
	13C-2,3,7,8-TCDF	58.1	24 - 169	
	13C-1,2,3,7,8-PeCDF	54.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	55.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	61.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	67.9	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	62.5	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	49.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	47.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	49.2	26 - 138	
	13C-OCDF	44.4	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	83.1	35 - 197	

Footnotes

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

Analyst: JMH

Approved By: Martha M. Maier 18-Apr-2005 16:20

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical Interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
P	Homologue totals include any coplanar PCBs detected at concentrations less than the reporting limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

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

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

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

Department of the Navy

U.S. Army Corps of Engineers

U.S. EPA Region 5

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

Commonwealth of Kentucky — (Certificate No. 90063)

Commonwealth of Virginia — (Certificate No. 00013)

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

State of Arizona — (Certificate No. AZ0639)

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

State of Arkansas, Department of Environmental Quality

State of California — (Certificate No. 1640)

State of Colorado

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

State of Florida — (Certificate No. 87456)

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

State of Louisiana, Department of Environmental Quality

State of Maine

State of Michigan (Certificate No. 81178087)

State of Mississippi — (Approval granted through CA certification)

State of Nevada — (Certificate No. CA413)

State of New Jersey — (Certificate No. CA003)

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

State of North Carolina — (Certification No. 06700)

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

State of New Mexico

State of Oklahoma – (D9919)

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

Del Mar Analytical

SUBCONTRACT ORDER - PROJECT # IOD0114

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 26004 1.0°C

Standard TAT is requested unless specific due date is requested => Due Date: ____________ **Initials:** ________

Analysis	Expiration	Comments
Sample ID: IOD0114-01 Water	**Sampled: 04/02/05 08:46**	**Instant Nofication**
1613-Dioxin-HR	04/09/05 08:46	J flags, 17 congeners, no TEQ, sub to Alta
EDD + Level 4	04/30/05 08:46	Excel EDD email to pm,Include Std logs for Lvl IV

Containers Supplied:
1 L Amber (IOD0114-01G)
1 L Amber (IOD0114-01H)

SAMPLE INTEGRITY:

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

Released By	Date	Time	Received By	Date	Time
[signature]	4-4-05	1700	Bettina L Benedict	4/5/05	0900

Project 26004

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 26004

		YES	NO	NA
1.	Date Samples Arrived: 4/5/05 0900 Initials: BJB Location: WR-2			
2.	Time / Date logged in: 1435 4/5/05 Initials: BJB Location: WR-2			
3.	Samples Arrived By: (circle) FedEx UPS World Courier Other:			
4.	Shipping Preservation: (circle) Ice / Blue Ice / Dry Ice / None Temp °C 1.0°			
5.	Shipping Container(s) Intact"? If not, describe condition in comment section.	✓		
6.	Shipping Container(s) Custody Seals Present?	✓		
	Intact? If not intact, describe condition in comment section.	✓		
7.	Shipping Documentation Present? (circle) Shipping Label Airbill Tracking Number 7928 8825 7623	✓		
8.	Sample Custody Seal(s) Present? No. of Seals ______ or Seal No.		✓	
	Intact? If not intact, describe condition in comment section.			✓
9.	Sample Container Intact? If no, indicate sample condition in comment section.	✓		
10.	Chain of Custody (COC) or other Sample Documentation Present?	✓		
11.	COC/Documentation Acceptable? If no, complete COC Anomaly Form.	✓		
12.	Shipping Container (circle): ALTA Client Retain or Return or Disposed			
13.	Container(s) and/or Bottle(s) Requested?		✓	
14.	Drinking Water Sample? (HRMS Only) If yes, Acceptable Preservation? Y or N Preservation Info From? (circle) COC or Sample Container or None Noted			✓

Comments:

Sampler's initials found on sample 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 T711DF42
Task Order 313150010
SDG No. Multiple
No. of Analyses 3

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

Date: May 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	Detects below the calibration range were qualified "J." EMPCs were qualified "UJ."
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: DIOXINS/FURANS

SAMPLE DELIVERY GROUPS: IOD0069, IOD0114, IOD0649

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
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	Dioxins/Furans
QC Level:	Level IV
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Reviewer:	H. Chang
Date of Review:	May 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 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	IOD0069-01	26003-001	water	1613
Outfall 001	IOD0114-01	26004-001	water	1613
Outfall 001	IOD0649-01	26036-001	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°C ±2°C. The samples were shipped to Alta for dioxin/furan analyses and were received below the temperature limits of 4°C ±2°C at 0.1°C and 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. 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 ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The 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 (6707-MB001) was extracted and analyzed with the samples in these SDGs. There were no target compound detects reported in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One Ongoing Precision Recovery (OPR) sample (6707-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 reported EMPC was qualified as an estimated nondetect, "UJ." Any detects below the lower method calibration level (MCL) were qualified as estimated, "J." The results and reporting limits were reported in ug/L. No further qualifications were required.

ALTA

Sample ID: **IOD0069-01** Outfall 002

EPA Method 1613

Client Data
Name: Del Mar Analytical, Irvine
Project: IOD0069
Date Collected: 1-Apr-05
Time Collected: 0920

Sample Data
Matrix: Aqueous
Sample Size: 1.016 L

Laboratory Data
Lab Sample: 26003-001
QC Batch No.: 6707
Date Analyzed DB-5: 18-Apr-05
Date Received: 5-Apr-05
Date Extracted: 16-Apr-05
Date Analyzed DB-225: NA

Rev Qual	Qual Code	Analyte	Conc. (Ug/L)	DL [a]	EMPC [b]	Qualifiers
u		2,3,7,8-TCDD	ND	0.00000205		
		1,2,3,7,8-PeCDD	ND	0.00000151		
		1,2,3,4,7,8-HxCDD	ND	0.00000293		
		1,2,3,6,7,8-HxCDD	ND	0.00000286		
		1,2,3,7,8,9-HxCDD	ND	0.00000288		
		1,2,3,4,6,7,8-HpCDD	ND	0.00000381		
UJ	*10	OCDD	ND		0.0000130	
u		2,3,7,8-TCDF	ND	0.00000191		
		1,2,3,7,8-PeCDF	ND	0.00000305		
		2,3,4,7,8-PeCDF	ND	0.00000257		
		1,2,3,4,7,8-HxCDF	ND	0.000000884		
		1,2,3,6,7,8-HxCDF	ND	0.000000900		
		2,3,4,6,7,8-HxCDF	ND	0.00000108		
		1,2,3,7,8,9-HxCDF	ND	0.00000199		
		1,2,3,4,6,7,8-HpCDF	ND	0.00000229		
		1,2,3,4,7,8,9-HpCDF	ND	0.00000285		
		OCDF	ND	0.00000608		

Totals

Rev Qual	Analyte	Conc. (Ug/L)	DL
u	Total TCDD	ND	0.00000205
	Total PeCDD	ND	0.00000151
	Total HxCDD	ND	0.00000288
	Total HpCDD	ND	0.00000381
	Total TCDF	ND	0.00000191
	Total PeCDF	ND	0.00000280
	Total HxCDF	ND	0.00000114
	Total HpCDF	ND	0.00000253

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	48.1	25 - 164	
	13C-1,2,3,7,8-PeCDD	46.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	44.2	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	48.6	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	33.8	23 - 140	
	13C-OCDD	29.3	17 - 157	
	13C-2,3,7,8-TCDF	48.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	43.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	45.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	46.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	49.8	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	47.8	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	40.9	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	33.1	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	35.6	26 - 138	
	13C-OCDF	32.7	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	78.8	35 - 197	

Footnotes

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

Analyst: JMH

Approved By: Martha M. Maier 18-Apr-2005 16:14

AMEC VALIDATED

LEVEL IV

ALTA

Sample ID: IOD0114-01 Outfall 001

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	26004-001	Date Received:	5-Apr-05
Project:	IOD0114	Sample Size:	1.018 L	QC Batch No.:	6707	Date Extracted:	16-Apr-05
Date Collected:	2-Apr-05			Date Analyzed DB-5:	18-Apr-05	Date Analyzed DB-225:	NA
Time Collected:	0846						

Rev Qual	Qual Code	Analyte	Conc. (Ug/L)	DL [a]	EMPC[b]	Qualifiers
u		2,3,7,8-TCDD	ND	0.00000141		
		1,2,3,7,8-PeCDD	ND	0.00000161		
		1,2,3,4,7,8-HxCDD	ND	0.00000284		
		1,2,3,6,7,8-HxCDD	ND	0.00000295		
		1,2,3,7,8,9-HxCDD	ND	0.00000289		
		1,2,3,4,6,7,8-HpCDD	ND	0.00000314		
		OCDD	ND	0.0000144		
		2,3,7,8-TCDF	ND	0.00000162		
		1,2,3,7,8-PeCDF	ND	0.00000244		
		2,3,4,7,8-PeCDF	ND	0.00000212		
		1,2,3,4,7,8-HxCDF	ND	0.000000598		
		1,2,3,6,7,8-HxCDF	ND	0.000000576		
		2,3,4,6,7,8-HxCDF	ND	0.000000712		
		1,2,3,7,8,9-HxCDF	ND	0.00000142		
		1,2,3,4,6,7,8-HpCDF	ND	0.00000212		
		1,2,3,4,7,8,9-HpCDF	ND	0.00000267		
		OCDF	ND	0.00000576		
		Totals				
		Total TCDD	ND	0.00000141		
		Total PeCDD	ND	0.00000161		
		Total HxCDD	ND	0.00000289		
		Total HpCDD	ND	0.00000314		
		Total TCDF	ND	0.00000162		
		Total PeCDF	ND	0.00000227		
		Total HxCDF	ND	0.000000760		
		Total HpCDF	ND	0.00000236		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	57.0	25 - 164	
	13C-1,2,3,7,8-PeCDD	57.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	58.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	64.7	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	47.8	23 - 140	
	13C-OCDD	39.0	17 - 157	
	13C-2,3,7,8-TCDF	58.1	24 - 169	
	13C-1,2,3,7,8-PeCDF	54.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	55.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	61.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	67.9	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	62.5	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	49.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	47.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	49.2	26 - 138	
	13C-OCDF	44.4	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	83.1	35 - 197	

Footnotes

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

Analyst: JMH

Approved By: Martha M. Maier 18-Apr-2005 16:20

AMEC VALIDATED LEVEL IV

ALTA

Sample ID: IOD0649-01 Outfall 001

EPA Method 1613

Client Data
Name: Del Mar Analytical, Irvine
Project: IOD0649
Date Collected: 9-Apr-05
Time Collected: 0945

Sample Data
Matrix: Aqueous
Sample Size: 1.008 L

Laboratory Data
Lab Sample: 26036-001
QC Batch No.: 6707
Date Analyzed DB-5: 18-Apr-05
Date Received: 12-Apr-05
Date Extracted: 16-Apr-05
Date Analyzed DB-225: NA

Rev Qual	Qual Code	Analyte	Conc. (Ug/L)	DL [a]	EMPC[b]	Qualifiers
U		2,3,7,8-TCDD	ND	0.00000179		
		1,2,3,7,8-PeCDD	ND	0.00000171		
		1,2,3,4,7,8-HxCDD	ND	0.00000326		
		1,2,3,6,7,8-HxCDD	ND	0.00000333		
		1,2,3,7,8,9-HxCDD	ND	0.00000328		
		1,2,3,4,6,7,8-HpCDD	ND	0.00000581		
J	DNQ	OCDD	0.0000263			J
U		2,3,7,8-TCDF	ND	0.00000134		
		1,2,3,7,8-PeCDF	ND	0.00000338		
		2,3,4,7,8-PeCDF	ND	0.00000303		
		1,2,3,4,7,8-HxCDF	ND	0.000000966		
		1,2,3,6,7,8-HxCDF	ND	0.000000932		
		2,3,4,6,7,8-HxCDF	ND	0.00000113		
		1,2,3,7,8,9-HxCDF	ND	0.00000234		
		1,2,3,4,6,7,8-HpCDF	ND	0.00000260		
		1,2,3,4,7,8,9-HpCDF	ND	0.00000309		
		OCDF	ND	0.00000526		
		Totals				
		Total TCDD	ND	0.00000179		
		Total PeCDD	ND	0.00000171		
		Total HxCDD	ND	0.00000329		
		Total HpCDD	ND	0.00000581		
		Total TCDF	ND	0.00000134		
		Total PeCDF	ND	0.00000320		
		Total HxCDF	ND	0.00000123		
		Total HpCDF	ND	0.00000282		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	49.4	25 - 164	
	13C-1,2,3,7,8-PeCDD	46.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	46.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	52.3	28 - 130	
	13C-1,2,3,4,6,7,8-HpCDD	35.9	23 - 140	
	13C-OCDD	28.5	17 - 157	
	13C-2,3,7,8-TCDF	52.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	45.3	24 - 185	
	13C-2,3,4,7,8-PeCDF	46.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	48.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	54.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	50.4	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	39.4	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	36.0	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	37.8	26 - 138	
	13C-OCDF	32.7	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	78.5	35 - 197	

Footnotes

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

Analyst: JMH

Approved By: Martha M. Maier 19-Apr-2005 13:04

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 T711VO95
Task Order 313150010
SDG No. IOD0114
No. of Analyses 2

Laboratory Del Mar
Reviewer M. Pokorny
Analysis/Method Volatiles

Date: May 2, 2005
Reviewer's Signature M. Pokorny

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,** 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	Qualification required for calibration outlier.
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: IOD0114

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#:	IOD0114
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:	May 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, 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 001	Outfall 001	IOD0114-01	water	624
Trip Blank	Trip Blank	IOD0114-02	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 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 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 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 03/31/05 (one for trichlorotrifluoroethane only) 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. Two continuing calibration s associated with the sample analyses were analyzed 04/09/05 (08:57 and 09:26). The RRFs were ≥0.05 in the continuing calibrations. The %Ds for the continuing calibrations associated with the site sample were all ≤20% except for the %D for trichlorotrifluoroethane. Trichlorotrifluoroethane was qualified as an estimated nondetect, "UJ," in the site sample of this SDG. The trip blank was not qualified for the %D outlier. 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 (5D09002-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 (5D09002-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

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

Sample Trip Blank (IOD0114-02) was the trip blank associated with this SDG. No target compounds were reported 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: +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 µg/L (ppb). No calculation or transcription errors were noted. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

The laboratory did not provide TICs for 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 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Sample ID: IOD0114-01 (DRAFT: Outfall 001 - Water)
Reporting Units: ug/l

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	REV QUAL	QUAL CODE
Benzene	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05		U	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5D09002	1.2	5.0	ND	1	04/09/05	04/09/05		UJ	C
Carbon tetrachloride	EPA 624	5D09002	0.28	5.0	ND	1	04/09/05	04/09/05		U	
Chloroform	EPA 624	5D09002	0.33	2.0	ND	1	04/09/05	04/09/05			
1,1-Dichloroethane	EPA 624	5D09002	0.27	2.0	ND	1	04/09/05	04/09/05			
1,2-Dichloroethane	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05			
1,1-Dichloroethene	EPA 624	5D09002	0.32	3.0	ND	1	04/09/05	04/09/05			
Ethylbenzene	EPA 624	5D09002	0.25	2.0	ND	1	04/09/05	04/09/05			
Tetrachloroethene	EPA 624	5D09002	0.32	2.0	ND	1	04/09/05	04/09/05			
Toluene	EPA 624	5D09002	0.36	2.0	ND	1	04/09/05	04/09/05			
1,1,1-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05			
1,1,2-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05			
Trichloroethene	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05			
Trichlorofluoromethane	EPA 624	5D09002	0.34	5.0	ND	1	04/09/05	04/09/05			
Vinyl chloride	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05			
Xylenes, Total	EPA 624	5D09002	0.52	4.0	ND	1	04/09/05	04/09/05			
Surrogate: Dibromofluoromethane (80-120%)					*116 %*						
Surrogate: Toluene-d8 (80-120%)					*109 %*						
Surrogate: 4-Bromofluorobenzene (80-120%)					*102 %*						

Sample ID: IOD0114-02 (DRAFT: Trip Blank - Water)
Reporting Units: ug/l

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	REV QUAL	QUAL CODE
Benzene	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05		U	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5D09002	1.2	5.0	ND	1	04/09/05	04/09/05			
Carbon tetrachloride	EPA 624	5D09002	0.28	5.0	ND	1	04/09/05	04/09/05			
Chloroform	EPA 624	5D09002	0.33	2.0	ND	1	04/09/05	04/09/05			
1,1-Dichloroethane	EPA 624	5D09002	0.27	2.0	ND	1	04/09/05	04/09/05			
1,2-Dichloroethane	EPA 624	5D09002	0.28	2.0	ND	1	04/09/05	04/09/05			
1,1-Dichloroethene	EPA 624	5D09002	0.32	3.0	ND	1	04/09/05	04/09/05			
Ethylbenzene	EPA 624	5D09002	0.25	2.0	ND	1	04/09/05	04/09/05			
Tetrachloroethene	EPA 624	5D09002	0.32	2.0	ND	1	04/09/05	04/09/05			
Toluene	EPA 624	5D09002	0.36	2.0	ND	1	04/09/05	04/09/05			
1,1,1-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05			
1,1,2-Trichloroethane	EPA 624	5D09002	0.30	2.0	ND	1	04/09/05	04/09/05			
Trichloroethene	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05			
Trichlorofluoromethane	EPA 624	5D09002	0.34	5.0	ND	1	04/09/05	04/09/05			
Vinyl chloride	EPA 624	5D09002	0.26	5.0	ND	1	04/09/05	04/09/05			
Xylenes, Total	EPA 624	5D09002	0.52	4.0	ND	1	04/09/05	04/09/05			
Surrogate: Dibromofluoromethane (80-120%)					*109 %*						
Surrogate: Toluene-d8 (80-120%)					*108 %*						
Surrogate: 4-Bromofluorobenzene (80-120%)					*104 %*						

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

AMEC VALIDATED

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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

Package ID T711WC136
Task Order 313150010
SDG No. IOD0114
No. of Analyses 1

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

Date: 05/02/05
Reviewer's Signature L Jarusewic

ACTION ITEMS[a]	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., 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 Qualifier Reference Table

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

Qualification Code Reference Table

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

*#	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).	Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IOD0114

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 #:	IOD0114
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	General Minerals
QC Level:	Level IV
No. of Samples:	1
Reviewer:	L. Jarusewic
Date of Review:	May 2, 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	IOD0114-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 CALIBRATION

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

2.3 BLANKS

Turbidity was detected in the method blank (5D02038-BLK1) for Outfall 001 at 0.040 NTU; however, the turbidity method blank result was insufficient to qualify the Outfall 001 result. The remaining method blank and CCB results reported on the summary forms and in the raw data for blank analyses associated with the 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

A laboratory duplicate analysis was performed on Outfall 001 for turbidity. The RPD was within the control limit of ≤20% and no qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.8 FURNACE ATOMIC ABSORPTION QC

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

2.9 ICP SERIAL DILUTION

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

2.10 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form I were verified against the raw data. No transcription errors or calculation errors were noted. 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 sample. The following are findings associated with field QC samples:

2.11.1 Field Blanks and Equipment Rinsates

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

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.

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

Project ID: Quarterly Outfall 001

Report Number: IOD0114

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

DRAFT: INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	REV QUAL	QUAL CODE
Sample ID: IOD0114-01 (DRAFT: Outfall 001 - Water) Reporting Units: mg/l											
Ammonia-N (Distilled)	EPA 350.2	5D05076	0.30	0.50	ND	1	04/05/05	04/05/05		U	
Sample ID: IOD0114-01 (DRAFT: Outfall 001 - Water) Reporting Units: NTU											
Turbidity	EPA 180.1	5D02038	0.040	1.0	**1.4**	1	04/02/05	04/02/05			
Sample ID: IOD0114-01 (DRAFT: Outfall 001 - Water) Reporting Units: umhos/cm											
Specific Conductance	EPA 120.1	5D06092	1.0	1.0	**540**	1	04/06/05	04/06/05			

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

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LABORATORY REPORT

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

Project: Routine Outfall 001

Sampled: 04/09/05
Received: 04/09/05
Issued: 05/18/05 11:48

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	CLIENT ID	MATRIX
IOD0649-01	Outfall 001	Water
IOD0649-02	Trip Blank	Water

Reviewed By:

Michele Harper

Del Mar Analytical, Irvine
Michele Harper
Project Manager

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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: IOD0649

Sampled: 04/09/05
Received: 04/09/05

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: IOD0649-01 (Outfall 001 - Water)					**Sampled: 04/09/05**				
Reporting Units: ug/l									
Benzene	EPA 624	5D16003	0.28	2.0	ND	1	04/16/05	04/16/05	
Carbon tetrachloride	EPA 624	5D16003	0.28	5.0	ND	1	04/16/05	04/16/05	
Chloroform	EPA 624	5D16003	0.33	2.0	ND	1	04/16/05	04/16/05	
1,1-Dichloroethane	EPA 624	5D16003	0.27	2.0	ND	1	04/16/05	04/16/05	
1,2-Dichloroethane	EPA 624	5D16003	0.28	2.0	ND	1	04/16/05	04/16/05	
1,1-Dichloroethene	EPA 624	5D16003	0.32	3.0	ND	1	04/16/05	04/16/05	
Ethylbenzene	EPA 624	5D16003	0.25	2.0	ND	1	04/16/05	04/16/05	
Tetrachloroethene	EPA 624	5D16003	0.32	2.0	ND	1	04/16/05	04/16/05	
Toluene	EPA 624	5D16003	0.36	2.0	ND	1	04/16/05	04/16/05	
1,1,1-Trichloroethane	EPA 624	5D16003	0.30	2.0	ND	1	04/16/05	04/16/05	
1,1,2-Trichloroethane	EPA 624	5D16003	0.30	2.0	ND	1	04/16/05	04/16/05	
Trichloroethene	EPA 624	5D16003	0.26	5.0	ND	1	04/16/05	04/16/05	
Trichlorofluoromethane	EPA 624	5D16003	0.34	5.0	ND	1	04/16/05	04/16/05	
Vinyl chloride	EPA 624	5D16003	0.26	5.0	ND	1	04/16/05	04/16/05	
Xylenes, Total	EPA 624	5D16003	0.52	4.0	ND	1	04/16/05	04/16/05	
Surrogate: Dibromofluoromethane (80-120%)					*108 %*				
Surrogate: Toluene-d8 (80-120%)					*99 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*108 %*				
Sample ID: IOD0649-02 (Trip Blank - Water)					**Sampled: 04/09/05**				
Reporting Units: ug/l									
Benzene	EPA 624	5D16003	0.28	2.0	ND	1	04/16/05	04/16/05	
Carbon tetrachloride	EPA 624	5D16003	0.28	5.0	ND	1	04/16/05	04/16/05	
Chloroform	EPA 624	5D16003	0.33	2.0	ND	1	04/16/05	04/16/05	
1,1-Dichloroethane	EPA 624	5D16003	0.27	2.0	ND	1	04/16/05	04/16/05	
1,2-Dichloroethane	EPA 624	5D16003	0.28	2.0	ND	1	04/16/05	04/16/05	
1,1-Dichloroethene	EPA 624	5D16003	0.32	3.0	ND	1	04/16/05	04/16/05	
Ethylbenzene	EPA 624	5D16003	0.25	2.0	ND	1	04/16/05	04/16/05	
Tetrachloroethene	EPA 624	5D16003	0.32	2.0	ND	1	04/16/05	04/16/05	
Toluene	EPA 624	5D16003	0.36	2.0	ND	1	04/16/05	04/16/05	
1,1,1-Trichloroethane	EPA 624	5D16003	0.30	2.0	ND	1	04/16/05	04/16/05	
1,1,2-Trichloroethane	EPA 624	5D16003	0.30	2.0	ND	1	04/16/05	04/16/05	
Trichloroethene	EPA 624	5D16003	0.26	5.0	ND	1	04/16/05	04/16/05	
Trichlorofluoromethane	EPA 624	5D16003	0.34	5.0	ND	1	04/16/05	04/16/05	
Vinyl chloride	EPA 624	5D16003	0.26	5.0	ND	1	04/16/05	04/16/05	
Xylenes, Total	EPA 624	5D16003	0.52	4.0	ND	1	04/16/05	04/16/05	
Surrogate: Dibromofluoromethane (80-120%)					*107 %*				
Surrogate: Toluene-d8 (80-120%)					*101 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*105 %*				

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

Project ID: Routine Outfall 001

Report Number: IOD0649

Sampled: 04/09/05
Received: 04/09/05

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: IOD0649-01 (Outfall 001 - Water)					**Sampled: 04/09/05**				
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	5D12052	1.1	5.0	**1.6**	0.962	04/12/05	04/18/05	J
2,4-Dinitrotoluene	EPA 625	5D12052	0.23	9.0	ND	0.962	04/12/05	04/18/05	
N-Nitrosodimethylamine	EPA 625	5D12052	0.22	8.0	ND	0.962	04/12/05	04/18/05	
Pentachlorophenol	EPA 625	5D12052	0.78	8.0	ND	0.962	04/12/05	04/18/05	
2,4,6-Trichlorophenol	EPA 625	5D12052	0.10	6.0	ND	0.962	04/12/05	04/18/05	
Surrogate: 2-Fluorophenol (30-120%)					*66 %*				
Surrogate: Phenol-d6 (35-120%)					*73 %*				
Surrogate: 2,4,6-Tribromophenol (45-120%)					*86 %*				
Surrogate: Nitrobenzene-d5 (45-120%)					*74 %*				
Surrogate: 2-Fluorobiphenyl (45-120%)					*72 %*				
Surrogate: Terphenyl-d14 (45-120%)					*78 %*				

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Project ID: Routine Outfall 001

Report Number: IOD0649

Sampled: 04/09/05
Received: 04/09/05

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD0649-01 (Outfall 001 - Water) - cont.					**Sampled: 04/09/05**				
Reporting Units: ug/l									
alpha-BHC	EPA 608	5D11052	0.0010	0.010	ND	0.971	04/11/05	04/11/05	
Surrogate: Decachlorobiphenyl (45-120%)					*91 %*				
Surrogate: Tetrachloro-m-xylene (35-115%)					*83 %*				

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IOD0649

Sampled: 04/09/05
Received: 04/09/05

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD0649-01 (Outfall 001 - Water) - cont.					**Sampled: 04/09/05**				
Reporting Units: mg/l									
Iron	EPA 200.7	5D18104	0.0088	0.040	**0.21**	1	04/18/05	04/19/05	
Sample ID: IOD0649-01 (Outfall 001 - Water)					**Sampled: 04/09/05**				
Reporting Units: ug/l									
Copper	EPA 200.8	5D11064	0.49	2.0	**1.8**	1	04/11/05	04/12/05	J
Lead	EPA 200.8	5D11064	0.13	1.0	**0.20**	1	04/11/05	04/12/05	B, J
Mercury	EPA 245.1	5D11070	0.063	0.20	ND	1	04/11/05	04/11/05	

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Del Mar Analytical

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300 North Lake Avenue, Suite 1200
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Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IOD0649

Sampled: 04/09/05
Received: 04/09/05

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD0649-01 (Outfall 001 - Water) - cont.					**Sampled: 04/09/05**				
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	5D12076	0.30	0.50	**0.84**	1	04/12/05	04/12/05	
Biochemical Oxygen Demand	EPA 405.1	5D09035	0.59	2.0	ND	1	04/09/05	04/14/05	
Chloride	EPA 300.0	5D11060	2.6	5.0	**30**	10	04/11/05	04/11/05	
Nitrate/Nitrite-N	EPA 300.0	5D09040	0.072	0.26	**0.32**	1	04/09/05	04/09/05	
Oil & Grease	EPA 413.1	5D11073	0.94	5.0	**1.7**	1	04/11/05	04/11/05	J
Sulfate	EPA 300.0	5D11060	1.8	5.0	**120**	10	04/11/05	04/11/05	
Surfactants (MBAS)	SM5540-C	5D10024	0.044	0.10	ND	1	04/10/05	04/10/05	
Total Dissolved Solids	SM2540C	5D14117	10	10	**420**	1	04/14/05	04/14/05	
Total Suspended Solids	EPA 160.2	5D13110	10	10	ND	1	04/13/05	04/13/05	
Sample ID: IOD0649-01 (Outfall 001 - Water)					**Sampled: 04/09/05**				
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	5D09036	0.10	0.10	ND	1	04/09/05	04/09/05	
Sample ID: IOD0649-01 (Outfall 001 - Water)					**Sampled: 04/09/05**				
Reporting Units: NTU									
Turbidity	EPA 180.1	5D09037	0.040	1.0	**2.8**	1	04/09/05	04/09/05	
Sample ID: IOD0649-01 (Outfall 001 - Water)					**Sampled: 04/09/05**				
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	5D12102	2.2	5.0	ND	1	04/12/05	04/12/05	
Perchlorate	EPA 314.0	5D13058	0.80	4.0	ND	1	04/13/05	04/14/05	
Sample ID: IOD0649-01 (Outfall 001 - Water)					**Sampled: 04/09/05**				
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	5D14115	1.0	1.0	**660**	1	04/14/05	04/14/05	

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

Project ID: Routine Outfall 001

Report Number: IOD0649

Sampled: 04/09/05
Received: 04/09/05

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 (IOD0649-01) - Water					
EPA 160.5	2	04/09/2005 09:45	04/09/2005 12:45	04/09/2005 15:30	04/09/2005 16:30
EPA 180.1	2	04/09/2005 09:45	04/09/2005 12:45	04/09/2005 15:00	04/09/2005 16:00
EPA 300.0	2	04/09/2005 09:45	04/09/2005 12:45	04/09/2005 17:00	04/09/2005 17:23
EPA 405.1	2	04/09/2005 09:45	04/09/2005 12:45	04/09/2005 19:00	04/14/2005 15:00
SM5540-C	2	04/09/2005 09:45	04/09/2005 12:45	04/10/2005 15:00	04/10/2005 16:36

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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D16003 Extracted: 04/16/05											
Blank Analyzed: 04/16/2005 (5D16003-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	*26.2*			*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Toluene-d8	*24.7*			*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*25.3*			*ug/l*	*25.0*		*101*	*80-120*			
LCS Analyzed: 04/16/2005 (5D16003-BS1)											
Benzene	24.1	2.0	0.28	ug/l	25.0		96	70-120			
Carbon tetrachloride	32.8	5.0	0.28	ug/l	25.0		131	70-140			
Chloroform	27.7	2.0	0.33	ug/l	25.0		111	75-130			
1,1-Dichloroethane	26.4	2.0	0.27	ug/l	25.0		106	70-135			
1,2-Dichloroethane	31.5	2.0	0.28	ug/l	25.0		126	60-150			
1,1-Dichloroethene	22.8	3.0	0.32	ug/l	25.0		91	75-135			
Ethylbenzene	27.2	2.0	0.25	ug/l	25.0		109	80-120			
Tetrachloroethene	28.1	2.0	0.32	ug/l	25.0		112	75-125			
Toluene	24.6	2.0	0.36	ug/l	25.0		98	75-120			
1,1,1-Trichloroethane	30.5	2.0	0.30	ug/l	25.0		122	75-140			
1,1,2-Trichloroethane	21.6	2.0	0.30	ug/l	25.0		86	70-125			
Trichloroethene	26.0	5.0	0.26	ug/l	25.0		104	80-120			
Trichlorofluoromethane	31.6	5.0	0.34	ug/l	25.0		126	65-145			
Vinyl chloride	28.1	5.0	0.26	ug/l	25.0		112	50-130			
Surrogate: Dibromofluoromethane	*26.4*			*ug/l*	*25.0*		*106*	*80-120*			

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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: IOD0649

Sampled: 04/09/05
Received: 04/09/05

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: 5D16003 Extracted: 04/16/05											
LCS Analyzed: 04/16/2005 (5D16003-BS1)											
Surrogate: Toluene-d8	*25.0*			*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*28.4*			*ug/l*	*25.0*		*114*	*80-120*			
Matrix Spike Analyzed: 04/16/2005 (5D16003-MS1)					**Source: IOD0840-07**						
Benzene	23.5	2.0	0.28	ug/l	25.0	ND	94	70-120			
Carbon tetrachloride	32.2	5.0	0.28	ug/l	25.0	ND	129	70-145			
Chloroform	27.6	2.0	0.33	ug/l	25.0	ND	110	70-135			
1,1-Dichloroethane	25.8	2.0	0.27	ug/l	25.0	ND	103	65-135			
1,2-Dichloroethane	31.8	2.0	0.28	ug/l	25.0	ND	127	60-150			
1,1-Dichloroethene	22.5	3.0	0.32	ug/l	25.0	ND	90	65-140			
Ethylbenzene	26.0	2.0	0.25	ug/l	25.0	ND	104	70-130			
Tetrachloroethene	25.4	2.0	0.32	ug/l	25.0	ND	102	70-130			
Toluene	24.2	2.0	0.36	ug/l	25.0	ND	97	70-120			
1,1,1-Trichloroethane	30.1	2.0	0.30	ug/l	25.0	ND	120	75-140			
1,1,2-Trichloroethane	20.9	2.0	0.30	ug/l	25.0	ND	84	60-135			
Trichloroethene	24.6	5.0	0.26	ug/l	25.0	ND	98	70-125			
Trichlorofluoromethane	31.5	5.0	0.34	ug/l	25.0	ND	126	55-145			
Vinyl chloride	26.5	5.0	0.26	ug/l	25.0	ND	106	40-135			
Surrogate: Dibromofluoromethane	*27.0*			*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: Toluene-d8	*25.2*			*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*28.1*			*ug/l*	*25.0*		*112*	*80-120*			
Matrix Spike Dup Analyzed: 04/16/2005 (5D16003-MSD1)					**Source: IOD0840-07**						
Benzene	23.5	2.0	0.28	ug/l	25.0	ND	94	70-120	0	20	
Carbon tetrachloride	30.7	5.0	0.28	ug/l	25.0	ND	123	70-145	5	25	
Chloroform	27.5	2.0	0.33	ug/l	25.0	ND	110	70-135	0	20	
1,1-Dichloroethane	26.3	2.0	0.27	ug/l	25.0	ND	105	65-135	2	20	
1,2-Dichloroethane	30.9	2.0	0.28	ug/l	25.0	ND	124	60-150	3	20	
1,1-Dichloroethene	23.1	3.0	0.32	ug/l	25.0	ND	92	65-140	3	20	
Ethylbenzene	26.1	2.0	0.25	ug/l	25.0	ND	104	70-130	0	20	
Tetrachloroethene	25.4	2.0	0.32	ug/l	25.0	ND	102	70-130	0	20	
Toluene	24.2	2.0	0.36	ug/l	25.0	ND	97	70-120	0	20	
1,1,1-Trichloroethane	29.3	2.0	0.30	ug/l	25.0	ND	117	75-140	3	20	
1,1,2-Trichloroethane	21.4	2.0	0.30	ug/l	25.0	ND	86	60-135	2	25	
Trichloroethene	24.0	5.0	0.26	ug/l	25.0	ND	96	70-125	2	20	
Trichlorofluoromethane	30.7	5.0	0.34	ug/l	25.0	ND	123	55-145	3	25	

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IOD0649

Sampled: 04/09/05
Received: 04/09/05

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: 5D16003 Extracted: 04/16/05											
Matrix Spike Dup Analyzed: 04/16/2005 (5D16003-MSD1)					**Source: IOD0840-07**						
Vinyl chloride	29.1	5.0	0.26	ug/l	25.0	ND	116	40-135	9	30	
Surrogate: Dibromofluoromethane	*26.7*			*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: Toluene-d8	*25.0*			*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*27.6*			*ug/l*	*25.0*		*110*	*80-120*			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D12052 Extracted: 04/12/05											
Blank Analyzed: 04/18/2005 (5D12052-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	*14.0*			*ug/l*	*20.0*		*70*	*30-120*			
Surrogate: Phenol-d6	*15.4*			*ug/l*	*20.0*		*77*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*15.8*			*ug/l*	*20.0*		*79*	*45-120*			
Surrogate: Nitrobenzene-d5	*7.72*			*ug/l*	*10.0*		*77*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*8.10*			*ug/l*	*10.0*		*81*	*45-120*			
Surrogate: Terphenyl-d14	*8.16*			*ug/l*	*10.0*		*82*	*45-120*			
LCS Analyzed: 04/18/2005 (5D12052-BS1)											**M-NR1**
Bis(2-ethylhexyl)phthalate	8.16	5.0	1.1	ug/l	10.0		82	60-130			
2,4-Dinitrotoluene	7.00	9.0	0.23	ug/l	10.0		70	60-120			J
N-Nitrosodimethylamine	6.86	8.0	0.22	ug/l	10.0		69	40-120			J
Pentachlorophenol	6.98	8.0	0.78	ug/l	10.0		70	50-120			J
2,4,6-Trichlorophenol	7.48	6.0	0.10	ug/l	10.0		75	60-120			
Surrogate: 2-Fluorophenol	*12.3*			*ug/l*	*20.0*		*62*	*30-120*			
Surrogate: Phenol-d6	*13.5*			*ug/l*	*20.0*		*68*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*16.6*			*ug/l*	*20.0*		*83*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.74*			*ug/l*	*10.0*		*67*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*6.94*			*ug/l*	*10.0*		*69*	*45-120*			
Surrogate: Terphenyl-d14	*7.94*			*ug/l*	*10.0*		*79*	*45-120*			
LCS Dup Analyzed: 04/18/2005 (5D12052-BSD1)											
Bis(2-ethylhexyl)phthalate	7.78	5.0	1.1	ug/l	10.0		78	60-130	5	20	
2,4-Dinitrotoluene	6.96	9.0	0.23	ug/l	10.0		70	60-120	1	20	J
N-Nitrosodimethylamine	6.50	8.0	0.22	ug/l	10.0		65	40-120	5	20	J
Pentachlorophenol	6.36	8.0	0.78	ug/l	10.0		64	50-120	9	25	J
2,4,6-Trichlorophenol	7.28	6.0	0.10	ug/l	10.0		73	60-120	3	20	
Surrogate: 2-Fluorophenol	*11.7*			*ug/l*	*20.0*		*58*	*30-120*			
Surrogate: Phenol-d6	*13.0*			*ug/l*	*20.0*		*65*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	*15.4*			*ug/l*	*20.0*		*77*	*45-120*			
Surrogate: Nitrobenzene-d5	*6.62*			*ug/l*	*10.0*		*66*	*45-120*			
Surrogate: 2-Fluorobiphenyl	*7.08*			*ug/l*	*10.0*		*71*	*45-120*			

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D12052 Extracted: 04/12/05											
LCS Dup Analyzed: 04/18/2005 (5D12052-BSD1)											
Surrogate: Terphenyl-d14	*7.40*			*ug/l*	*10.0*		*74*	*45-120*			

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METHOD BLANK/QC DATA

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D11052 Extracted: 04/11/05											
Blank Analyzed: 04/11/2005 (5D11052-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	*0.509*			*ug/l*	*0.500*		*102*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.370*			*ug/l*	*0.500*		*74*	*35-115*			
LCS Analyzed: 04/11/2005 (5D11052-BS1)											**M-NR1**
alpha-BHC	0.511	0.010	0.0010	ug/l	0.500		102	45-115			
Surrogate: Decachlorobiphenyl	*0.499*			*ug/l*	*0.500*		*100*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.479*			*ug/l*	*0.500*		*96*	*35-115*			
LCS Dup Analyzed: 04/11/2005 (5D11052-BSD1)											
alpha-BHC	0.408	0.010	0.0010	ug/l	0.500		82	45-115	22	30	
Surrogate: Decachlorobiphenyl	*0.457*			*ug/l*	*0.500*		*91*	*45-120*			
Surrogate: Tetrachloro-m-xylene	*0.364*			*ug/l*	*0.500*		*73*	*35-115*			

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METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D11064 Extracted: 04/11/05											
Blank Analyzed: 04/12/2005 (5D11064-BLK1)											
Copper	ND	2.0	0.49	ug/l							
Lead	0.151	1.0	0.13	ug/l							J
LCS Analyzed: 04/12/2005 (5D11064-BS1)											
Copper	83.4	2.0	0.49	ug/l	80.0		104	85-115			
Lead	82.7	1.0	0.13	ug/l	80.0		103	85-115			
Matrix Spike Analyzed: 04/12/2005 (5D11064-MS1)					**Source: IOD0649-01**						
Copper	79.5	2.0	0.49	ug/l	80.0	1.8	97	70-130			
Lead	80.9	1.0	0.13	ug/l	80.0	0.20	101	70-130			
Matrix Spike Dup Analyzed: 04/12/2005 (5D11064-MSD1)					**Source: IOD0649-01**						
Copper	80.3	2.0	0.49	ug/l	80.0	1.8	98	70-130	1	20	
Lead	81.8	1.0	0.13	ug/l	80.0	0.20	102	70-130	1	20	
Batch: 5D11070 Extracted: 04/11/05											
Blank Analyzed: 04/11/2005 (5D11070-BLK1)											
Mercury	ND	0.20	0.063	ug/l							
LCS Analyzed: 04/11/2005 (5D11070-BS1)											
Mercury	8.12	0.20	0.063	ug/l	8.00		102	85-115			
Matrix Spike Analyzed: 04/11/2005 (5D11070-MS1)					**Source: IOD0309-01**						
Mercury	8.53	0.20	0.063	ug/l	8.00	ND	107	70-130			
Matrix Spike Dup Analyzed: 04/11/2005 (5D11070-MSD1)					**Source: IOD0309-01**						
Mercury	8.58	0.20	0.063	ug/l	8.00	ND	107	70-130	1	20	

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

Project ID: Routine Outfall 001

Report Number: IOD0649

Sampled: 04/09/05
Received: 04/09/05

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D18104 Extracted: 04/18/05											
Blank Analyzed: 04/19/2005 (5D18104-BLK1)											
Iron	ND	0.040	0.0088	mg/l							
LCS Analyzed: 04/19/2005 (5D18104-BS1)											
Iron	0.521	0.040	0.0088	mg/l	0.500		104	85-115			
Matrix Spike Analyzed: 04/19/2005 (5D18104-MS1)					**Source: IOD0703-01**						
Iron	1.34	0.040	0.0088	mg/l	0.500	0.69	130	70-130			
Matrix Spike Dup Analyzed: 04/19/2005 (5D18104-MSD1)					**Source: IOD0703-01**						
Iron	1.37	0.040	0.0088	mg/l	0.500	0.69	136	70-130	2	20	*M1*

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D09035 Extracted: 04/09/05											
Blank Analyzed: 04/14/2005 (5D09035-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 04/14/2005 (5D09035-BS1)											
Biochemical Oxygen Demand	216	100	30	mg/l	198		109	85-115			
LCS Dup Analyzed: 04/14/2005 (5D09035-BSD1)											
Biochemical Oxygen Demand	208	100	30	mg/l	198		105	85-115	4	20	
Batch: 5D09037 Extracted: 04/09/05											
Blank Analyzed: 04/09/2005 (5D09037-BLK1)											
Turbidity	ND	1.0	0.040	NTU							
Duplicate Analyzed: 04/09/2005 (5D09037-DUP1)					**Source: IOD0609-01**						
Turbidity	2.49	1.0	0.040	NTU		2.5			0	20	
Batch: 5D09040 Extracted: 04/09/05											
Blank Analyzed: 04/09/2005 (5D09040-BLK1)											
Nitrate/Nitrite-N	ND	0.26	0.072	mg/l							
Batch: 5D10024 Extracted: 04/10/05											
Blank Analyzed: 04/10/2005 (5D10024-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D10024 Extracted: 04/10/05											
LCS Analyzed: 04/10/2005 (5D10024-BS1)											
Surfactants (MBAS)	0.238	0.10	0.044	mg/l	0.250		95	90-110			
Matrix Spike Analyzed: 04/10/2005 (5D10024-MS1)					**Source: IOD0649-01**						
Surfactants (MBAS)	0.252	0.10	0.044	mg/l	0.250	ND	101	50-125			
Matrix Spike Dup Analyzed: 04/10/2005 (5D10024-MSD1)					**Source: IOD0649-01**						
Surfactants (MBAS)	0.241	0.10	0.044	mg/l	0.250	ND	96	50-125	4	20	
Batch: 5D11060 Extracted: 04/11/05											
Blank Analyzed: 04/11/2005 (5D11060-BLK1)											
Chloride	ND	0.50	0.26	mg/l							
Sulfate	ND	0.50	0.18	mg/l							
LCS Analyzed: 04/11/2005 (5D11060-BS1)											
Chloride	4.78	0.50	0.26	mg/l	5.00		96	90-110			
Sulfate	9.68	0.50	0.18	mg/l	10.0		97	90-110			
Matrix Spike Analyzed: 04/11/2005 (5D11060-MS1)					**Source: IOD0663-01**						
Chloride	98.3	2.5	1.3	mg/l	5.00	90	166	80-120			*M-HA*
Sulfate	76.1	2.5	0.90	mg/l	10.0	65	111	80-120			
Matrix Spike Dup Analyzed: 04/11/2005 (5D11060-MSD1)					**Source: IOD0663-01**						
Chloride	96.4	2.5	1.3	mg/l	5.00	90	128	80-120	2	20	*M-HA*
Sulfate	75.0	2.5	0.90	mg/l	10.0	65	100	80-120	1	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D11073 Extracted: 04/11/05											
Blank Analyzed: 04/11/2005 (5D11073-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 04/11/2005 (5D11073-BS1)											M-NR1
Oil & Grease	15.9	5.0	0.94	mg/l	20.0		80	65-120			
LCS Dup Analyzed: 04/11/2005 (5D11073-BSD1)											
Oil & Grease	18.9	5.0	0.94	mg/l	20.0		94	65-120	17	20	
Batch: 5D12076 Extracted: 04/12/05											
Blank Analyzed: 04/12/2005 (5D12076-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 04/12/2005 (5D12076-BS1)											
Ammonia-N (Distilled)	9.80	0.50	0.30	mg/l	10.0		98	80-115			
Matrix Spike Analyzed: 04/12/2005 (5D12076-MS1)					**Source: IOD0649-01**						
Ammonia-N (Distilled)	10.1	0.50	0.30	mg/l	10.0	0.84	93	70-120			
Matrix Spike Dup Analyzed: 04/12/2005 (5D12076-MSD1)					**Source: IOD0649-01**						
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0	0.84	98	70-120	5	15	
Batch: 5D12102 Extracted: 04/12/05											
Blank Analyzed: 04/12/2005 (5D12102-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							

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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D12102 Extracted: 04/12/05											
LCS Analyzed: 04/12/2005 (5D12102-BS1)											
Total Cyanide	201	5.0	2.2	ug/l	200		100	90-110			
Matrix Spike Analyzed: 04/12/2005 (5D12102-MS1)					**Source: IOD0649-01**						
Total Cyanide	191	5.0	2.2	ug/l	200	ND	96	70-115			
Matrix Spike Dup Analyzed: 04/12/2005 (5D12102-MSD1)					**Source: IOD0649-01**						
Total Cyanide	181	5.0	2.2	ug/l	200	ND	90	70-115	5	15	
Batch: 5D13058 Extracted: 04/13/05											
Blank Analyzed: 04/13/2005 (5D13058-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 04/13/2005 (5D13058-BS1)											
Perchlorate	48.9	4.0	0.80	ug/l	50.0		98	85-115			
Matrix Spike Analyzed: 04/13/2005 (5D13058-MS1)					**Source: IOD0696-01**						
Perchlorate	62.4	4.0	0.80	ug/l	50.0	12	101	80-120			
Matrix Spike Dup Analyzed: 04/13/2005 (5D13058-MSD1)					**Source: IOD0696-01**						
Perchlorate	61.0	4.0	0.80	ug/l	50.0	12	98	80-120	2	20	
Batch: 5D13110 Extracted: 04/13/05											
Blank Analyzed: 04/13/2005 (5D13110-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5D13110 Extracted: 04/13/05											
LCS Analyzed: 04/13/2005 (5D13110-BS1)											
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 04/13/2005 (5D13110-DUP1)					**Source: IOD0650-07**						
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 5D14115 Extracted: 04/14/05											
Duplicate Analyzed: 04/14/2005 (5D14115-DUP1)					**Source: IOD0674-01**						
Specific Conductance	102	1.0	1.0	umhos/cm		100			2	5	
Batch: 5D14117 Extracted: 04/14/05											
Blank Analyzed: 04/14/2005 (5D14117-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 04/14/2005 (5D14117-BS1)											
Total Dissolved Solids	1030	10	10	mg/l	1000		103	90-110			
Duplicate Analyzed: 04/14/2005 (5D14117-DUP1)					**Source: IOD0649-01**						
Total Dissolved Solids	429	10	10	mg/l		420			2	10	

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Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IOD0649-01	413.1 Oil and Grease	Oil & Grease	mg/l	1.70	5.0	10.00
IOD0649-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.010	0.0100
IOD0649-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOD0649-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IOD0649-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	6.0	6.50
IOD0649-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	9.0	9.10
IOD0649-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	1.60	5.0	4.00
IOD0649-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	8.0	8.10
IOD0649-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	8.0	8.20
IOD0649-01	BOD	Biochemical Oxygen Demand	mg/l	0.46	2.0	20
IOD0649-01	Chloride - 300.0	Chloride	mg/l	30	5.0	150
IOD0649-01	Copper-200.8	Copper	ug/l	1.80	2.0	7.10
IOD0649-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	-4	5.0	4.30
IOD0649-01	Iron-200.7	Iron	mg/l	0.21	0.040	0.30
IOD0649-01	Lead-200.8	Lead	ug/l	0.20	1.0	2.60
IOD0649-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.030	0.10	0.50
IOD0649-01	Mercury - 245.1	Mercury	ug/l	0.015	0.20	0.20
IOD0649-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.32	0.26	8.00
IOD0649-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IOD0649-01	Sulfate-300.0	Sulfate	mg/l	120	5.0	300
IOD0649-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	420	10	950
IOD0649-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IOD0649-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

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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: IOD0649	Sampled: 04/09/05 Received: 04/09/05

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.

M1 The MS and/or MSD were above 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.

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

RPD Relative Percent Difference

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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: IOD0649-01

Analysis Performed: EDD + Level 4
Samples: IOD0649-01

Del Mar Analytical, Irvine
Michele Harper
Project Manager

IOD0649

Del Mar Analytical Version 04/08/05 CHAIN OF CUSTODY FORM

Client Name/Address:

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

Project Manager: Bronwyn Kelly

Sampler: [illegible]

Project:
Boeing-SSFL NPDES
Routine Outfall 001

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

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	Alpha BHC (608)	2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	Comments
Outfall 001	W	Poly-1L	1	4-9-05, 09:45	HNO3	1A	X													24 TAT
Outfall 001-Dup	W	Poly-1L	1		HNO3	1B	X													24 TAT
Outfall 001	W	Poly-1L	1		None	2		X												
Outfall 001	W	VOAs	3		HCl	3A, 3B, 3C			X											
Outfall 001	W	1L Amber	2		None	4A, 4B				X										
Outfall 001	W	1L Amber	2		HCl	5A, 5B					X									24 TAT
Outfall 001	W	Poly-500 ml	1		NaOH	6						X								24 TAT
Outfall 001	W	Poly-1L	1		None	7							X							
Outfall 001	W	Poly-500 ml	2		None	8A, 8B								X						
Outfall 001	W	Poly-500 ml	2		None	9A, 9B									X					
Outfall 001	W	Poly-500 ml	2		None	10A, 10B										X				
Outfall 001	W	Poly-500 ml	1		H2SO4	11											X			DCP
Outfall 001	W	1L Amber	2		None	12A, 12B												X		
Outfall 001	W	1L Amber	2		None	13A, 13B													X	
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C			X											

Relinquished By	Date/Time:	Received By	Date/Time:
[illegible]	4-9-05 10:00	[illegible]	4/9/05 10:00
[illegible]	4/9/05 12:45	[illegible]	4/9/05 12:45

Turn around Time: (check)
24 Hours _______ 5 Days _______
48 Hours _______ 10 Days _______
72 Hours _______ Normal _______
Perchlorate Only 72 Hours_______
Metals Only 72 Hours_______
Sample Integrity: (Check)
Intact X On Ice: X 6°C

Field readings:
Temp = 53.2 F
pH= 7.6

Del Mar Analytical Version 03/31/05 **CHAIN OF CUSTODY FORM**

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

Del Mar Contact: Michele Harper

Project:
Boeing-SSFL NPDES
Routine Outfall 001

Project Manager: Bronwyn Kelly

Sampler: Pollock

Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

ANALYSIS REQUIRED

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle * #	Gross Alpha, Total Combined Radium 226 & Radium 228 *	Comments
Outfall 001	W	1-Gal cube	1	4-9-05 09:35	None		X	***HOLD PENDING FURTHER REVIEW*** ANALYZE FOR TOTAL COMBINED RA-226 & 228 ONLY IF GROSS ALPHA >15pCi/L

Relinquished By	Date/Time	Received By	Date/Time
[signature]	4-9-05	[signature]	4/9/05 10:00
[signature]	4/9/05 12:48	[signature]	4/9/05 12:48

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: ✓ 6°C

Del Mar Analytical

17461 Derian 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

April 27, 2005

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

Attention: Bronwyn Kelly

Project: Routine Outfall 001
Sampled: 04/09/05
Del Mar Analytical Number: IOD0649

Dear Ms. Kelly:

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

MWH ID	Del Mar ID	Alta ID
Outfall 001	IOD0649-01	26036-001

Attached is the original report from the subcontracted 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

Michele Harper
Project Manager

Enclosure

April 18, 2005

Alta Project I.D.: 26036

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

Dear Ms. Harper,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on April 12, 2005 under your Project Name "IOD0649". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier

Martha M. Maier
Director of HRMS Services