



Del Mar Analytical

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2012	Sampled: 03/18/06 Received: 03/18/06
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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: IPC2012-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	
Carbon tetrachloride	EPA 624	6C26008	0.28	5.0	ND	1	03/26/06	03/26/06	
Chloroform	EPA 624	6C26008	0.33	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethane	EPA 624	6C26008	0.27	2.0	ND	1	03/26/06	03/26/06	
1,2-Dichloroethane	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethene	EPA 624	6C26008	0.42	3.0	ND	1	03/26/06	03/26/06	
Ethylbenzene	EPA 624	6C26008	0.25	2.0	ND	1	03/26/06	03/26/06	
Tetrachloroethene	EPA 624	6C26008	0.32	2.0	ND	1	03/26/06	03/26/06	
Toluene	EPA 624	6C26008	0.36	2.0	ND	1	03/26/06	03/26/06	
1,1,1-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
1,1,2-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
Trichloroethene	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Trichlorofluoromethane	EPA 624	6C26008	0.34	5.0	ND	1	03/26/06	03/26/06	
Vinyl chloride	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Xylenes, Total	EPA 624	6C26008	0.90	4.0	ND	1	03/26/06	03/26/06	
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					100 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %				
Sample ID: IPC2012-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	
Carbon tetrachloride	EPA 624	6C26008	0.28	5.0	ND	1	03/26/06	03/26/06	
Chloroform	EPA 624	6C26008	0.33	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethane	EPA 624	6C26008	0.27	2.0	ND	1	03/26/06	03/26/06	
1,2-Dichloroethane	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethene	EPA 624	6C26008	0.42	3.0	ND	1	03/26/06	03/26/06	
Ethylbenzene	EPA 624	6C26008	0.25	2.0	ND	1	03/26/06	03/26/06	
Tetrachloroethene	EPA 624	6C26008	0.32	2.0	ND	1	03/26/06	03/26/06	
Toluene	EPA 624	6C26008	0.36	2.0	ND	1	03/26/06	03/26/06	
1,1,1-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
1,1,2-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
Trichloroethene	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Trichlorofluoromethane	EPA 624	6C26008	0.34	5.0	ND	1	03/26/06	03/26/06	
Vinyl chloride	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Xylenes, Total	EPA 624	6C26008	0.90	4.0	ND	1	03/26/06	03/26/06	
Surrogate: Dibromofluoromethane (80-120%)					106 %				
Surrogate: Toluene-d8 (80-120%)					98 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %				

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 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2012-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	6C22052	1.0	4.7	ND	0.943	03/22/06	03/28/06	
2,4-Dinitrotoluene	EPA 625	6C22052	0.22	8.5	ND	0.943	03/22/06	03/28/06	
N-Nitrosodimethylamine	EPA 625	6C22052	0.21	7.5	ND	0.943	03/22/06	03/28/06	
Pentachlorophenol	EPA 625	6C22052	0.74	7.5	ND	0.943	03/22/06	03/28/06	
2,4,6-Trichlorophenol	EPA 625	6C22052	0.094	5.7	ND	0.943	03/22/06	03/28/06	
Surrogate: 2-Fluorophenol (30-120%)					62 %				
Surrogate: Phenol-d6 (35-120%)					69 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					72 %				
Surrogate: Nitrobenzene-d5 (45-120%)					71 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					63 %				
Surrogate: Terphenyl-d14 (45-120%)					72 %				

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ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2012-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	6C20114	0.00095	0.0095	ND	0.952	03/20/06	03/22/06	
Surrogate: Decachlorobiphenyl (45-120%)					80 %				
Surrogate: Tetrachloro-m-xylene (35-115%)					72 %				

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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2012-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Copper	EPA 200.8	6C20085	0.25	2.0	2.6	1	03/20/06	03/20/06	
Lead	EPA 200.8	6C20085	0.040	1.0	ND	1	03/20/06	03/20/06	
Mercury	EPA 245.1	6C20077	0.050	0.20	ND	1	03/20/06	03/20/06	

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Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2012-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C21086	0.30	0.50	0.56	1	03/21/06	03/21/06	
Biochemical Oxygen Demand	EPA 405.1	6C18047	0.59	2.0	ND	1	03/18/06	03/23/06	
Chloride	EPA 300.0	6C18032	0.75	2.5	45	5	03/18/06	03/18/06	
Nitrate/Nitrite-N	EPA 300.0	6C18032	0.080	0.15	ND	1	03/18/06	03/18/06	
Oil & Grease	EPA 413.1	6C21053	0.89	4.7	ND	1	03/21/06	03/21/06	
Sulfate	EPA 300.0	6C18032	2.2	2.5	230	5	03/18/06	03/18/06	
Surfactants (MBAS)	SM5540-C	6C18055	0.044	0.10	0.12	1	03/18/06	03/18/06	
Total Dissolved Solids	SM2540C	6C20060	10	10	590	1	03/20/06	03/20/06	
Total Suspended Solids	EPA 160.2	6C21112	10	10	ND	1	03/21/06	03/21/06	
Sample ID: IPC2012-01 (Outfall 002 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C18054	0.10	0.10	ND	1	03/18/06	03/18/06	
Sample ID: IPC2012-01 (Outfall 002 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C18057	0.040	1.0	0.38	1	03/18/06	03/18/06	J
Sample ID: IPC2012-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C20099	2.2	5.0	2.2	1	03/20/06	03/20/06	J
Perchlorate	EPA 314.0	6C20061	0.80	4.0	ND	1	03/20/06	03/20/06	
Sample ID: IPC2012-01 (Outfall 002 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C20059	1.0	1.0	1000	1	03/20/06	03/20/06	

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Received: 03/18/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 002 (IPC2012-01) - Water					
EPA 160.5	2	03/18/2006 09:00	03/18/2006 14:50	03/18/2006 15:00	03/18/2006 15:18
EPA 180.1	2	03/18/2006 09:00	03/18/2006 14:50	03/18/2006 15:30	03/18/2006 16:00
EPA 300.0	2	03/18/2006 09:00	03/18/2006 14:50	03/18/2006 15:15	03/18/2006 15:28
EPA 405.1	2	03/18/2006 09:00	03/18/2006 14:50	03/18/2006 15:30	03/23/2006 11:00
SM5540-C	2	03/18/2006 09:00	03/18/2006 14:50	03/18/2006 15:30	03/18/2006 15:49

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting			Spike Level	Source Result	%REC		RPD	RPD Limit	Data Qualifiers
		Limit	MDL	Units			%REC	Limits			
Batch: 6C26008 Extracted: 03/26/06											
Blank Analyzed: 03/26/2006 (6C26008-BLK1)											
Benzene	ND	2.0	0.28	ug/l							
Carbon tetrachloride	ND	5.0	0.28	ug/l							
Chloroform	ND	2.0	0.33	ug/l							
1,1-Dichloroethane	ND	2.0	0.27	ug/l							
1,2-Dichloroethane	ND	2.0	0.28	ug/l							
1,1-Dichloroethene	ND	3.0	0.42	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Tetrachloroethene	ND	2.0	0.32	ug/l							
Toluene	ND	2.0	0.36	ug/l							
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
Trichloroethene	ND	5.0	0.26	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Vinyl chloride	ND	5.0	0.26	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Surrogate: Dibromofluoromethane	26.2			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	25.2			ug/l	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	24.6			ug/l	25.0		98	80-120			
LCS Analyzed: 03/26/2006 (6C26008-BS1)											
Benzene	26.2	2.0	0.28	ug/l	25.0		105	65-120			
Carbon tetrachloride	26.6	5.0	0.28	ug/l	25.0		106	65-140			
Chloroform	26.8	2.0	0.33	ug/l	25.0		107	65-130			
1,1-Dichloroethane	26.5	2.0	0.27	ug/l	25.0		106	65-130			
1,2-Dichloroethane	26.1	2.0	0.28	ug/l	25.0		104	60-140			
1,1-Dichloroethene	27.2	3.0	0.42	ug/l	25.0		109	70-130			
Ethylbenzene	28.0	2.0	0.25	ug/l	25.0		112	70-125			
Tetrachloroethene	26.6	2.0	0.32	ug/l	25.0		106	65-125			
Toluene	25.1	2.0	0.36	ug/l	25.0		100	70-125			
1,1,1-Trichloroethane	26.6	2.0	0.30	ug/l	25.0		106	65-135			
1,1,2-Trichloroethane	24.4	2.0	0.30	ug/l	25.0		98	65-125			
Trichloroethene	26.1	5.0	0.26	ug/l	25.0		104	70-125			
Trichlorofluoromethane	26.4	5.0	0.34	ug/l	25.0		106	60-140			
Vinyl chloride	24.7	5.0	0.26	ug/l	25.0		99	50-130			
Surrogate: Dibromofluoromethane	25.2			ug/l	25.0		101	80-120			
Surrogate: Toluene-d8	24.5			ug/l	25.0		98	80-120			

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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: 6C26008 Extracted: 03/26/06											
LCS Analyzed: 03/26/2006 (6C26008-BS1)											
Surrogate: 4-Bromofluorobenzene	26.1			ug/l	25.0		104	80-120			
Matrix Spike Analyzed: 03/26/2006 (6C26008-MS1)											
Source: IPC2169-01											
Benzene	23.6	2.0	0.28	ug/l	25.0	ND	94	60-125			
Carbon tetrachloride	24.6	5.0	0.28	ug/l	25.0	ND	98	65-140			
Chloroform	24.1	2.0	0.33	ug/l	25.0	ND	96	65-135			
1,1-Dichloroethane	23.6	2.0	0.27	ug/l	25.0	ND	94	60-130			
1,2-Dichloroethane	26.2	2.0	0.28	ug/l	25.0	ND	105	60-140			
1,1-Dichloroethene	23.9	3.0	0.42	ug/l	25.0	ND	96	60-135			
Ethylbenzene	25.4	2.0	0.25	ug/l	25.0	ND	102	65-130			
Tetrachloroethene	24.0	2.0	0.32	ug/l	25.0	ND	96	60-130			
Toluene	23.0	2.0	0.36	ug/l	25.0	ND	92	65-125			
1,1,1-Trichloroethane	23.7	2.0	0.30	ug/l	25.0	ND	95	65-140			
1,1,2-Trichloroethane	25.7	2.0	0.30	ug/l	25.0	ND	103	60-130			
Trichloroethene	23.1	5.0	0.26	ug/l	25.0	ND	92	60-125			
Trichlorofluoromethane	23.4	5.0	0.34	ug/l	25.0	ND	94	55-145			
Vinyl chloride	22.1	5.0	0.26	ug/l	25.0	ND	88	40-135			
Surrogate: Dibromofluoromethane	25.8			ug/l	25.0		103	80-120			
Surrogate: Toluene-d8	25.6			ug/l	25.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	27.4			ug/l	25.0		110	80-120			
Matrix Spike Dup Analyzed: 03/26/2006 (6C26008-MSD1)											
Source: IPC2169-01											
Benzene	23.0	2.0	0.28	ug/l	25.0	ND	92	60-125	3	20	
Carbon tetrachloride	23.7	5.0	0.28	ug/l	25.0	ND	95	65-140	4	25	
Chloroform	22.9	2.0	0.33	ug/l	25.0	ND	92	65-135	5	20	
1,1-Dichloroethane	23.2	2.0	0.27	ug/l	25.0	ND	93	60-130	2	20	
1,2-Dichloroethane	19.7	2.0	0.28	ug/l	25.0	ND	79	60-140	28	20	R
1,1-Dichloroethene	23.2	3.0	0.42	ug/l	25.0	ND	93	60-135	3	20	
Ethylbenzene	24.8	2.0	0.25	ug/l	25.0	ND	99	65-130	2	20	
Tetrachloroethene	23.5	2.0	0.32	ug/l	25.0	ND	94	60-130	2	20	
Toluene	22.1	2.0	0.36	ug/l	25.0	ND	88	65-125	4	20	
1,1,1-Trichloroethane	23.2	2.0	0.30	ug/l	25.0	ND	93	65-140	2	20	
1,1,2-Trichloroethane	17.7	2.0	0.30	ug/l	25.0	ND	71	60-130	37	25	R
Trichloroethene	22.4	5.0	0.26	ug/l	25.0	ND	90	60-125	3	20	
Trichlorofluoromethane	22.5	5.0	0.34	ug/l	25.0	ND	90	55-145	4	25	
Vinyl chloride	21.4	5.0	0.26	ug/l	25.0	ND	86	40-135	3	30	

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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: 6C26008 Extracted: 03/26/06											
Matrix Spike Dup Analyzed: 03/26/2006 (6C26008-MSD1)						Source: IPC2169-01					
Surrogate: Dibromofluoromethane	24.7			ug/l	25.0		99	80-120			
Surrogate: Toluene-d8	25.2			ug/l	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0		99	80-120			

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

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C22052 Extracted: 03/22/06										
Blank Analyzed: 03/28/2006 (6C22052-BLK1)										
Bis(2-ethylhexyl)phthalate	ND	5.0	1.1	ug/l						
2,4-Dinitrotoluene	ND	9.0	0.23	ug/l						
N-Nitrosodimethylamine	ND	8.0	0.22	ug/l						
Pentachlorophenol	ND	8.0	0.78	ug/l						
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l						
Surrogate: 2-Fluorophenol	8.14			ug/l	20.0		41	30-120		
Surrogate: Phenol-d6	13.6			ug/l	20.0		68	35-120		
Surrogate: 2,4,6-Tribromophenol	12.0			ug/l	20.0		60	45-120		
Surrogate: Nitrobenzene-d5	7.94			ug/l	10.0		79	45-120		
Surrogate: 2-Fluorobiphenyl	7.06			ug/l	10.0		71	45-120		
Surrogate: Terphenyl-d14	8.28			ug/l	10.0		83	45-120		
LCS Analyzed: 03/28/2006 (6C22052-BS1)										
Bis(2-ethylhexyl)phthalate	9.92	5.0	1.1	ug/l	10.0		99	60-130		M-NR1
2,4-Dinitrotoluene	9.10	9.0	0.23	ug/l	10.0		91	60-120		
N-Nitrosodimethylamine	7.78	8.0	0.22	ug/l	10.0		78	40-120		J
Pentachlorophenol	6.88	8.0	0.78	ug/l	10.0		69	50-120		J
2,4,6-Trichlorophenol	7.40	6.0	0.10	ug/l	10.0		74	60-120		
Surrogate: 2-Fluorophenol	10.8			ug/l	20.0		54	30-120		
Surrogate: Phenol-d6	13.5			ug/l	20.0		68	35-120		
Surrogate: 2,4,6-Tribromophenol	13.8			ug/l	20.0		69	45-120		
Surrogate: Nitrobenzene-d5	7.78			ug/l	10.0		78	45-120		
Surrogate: 2-Fluorobiphenyl	7.34			ug/l	10.0		73	45-120		
Surrogate: Terphenyl-d14	7.50			ug/l	10.0		75	45-120		
LCS Dup Analyzed: 03/28/2006 (6C22052-BSD1)										
Bis(2-ethylhexyl)phthalate	9.66	5.0	1.1	ug/l	10.0		97	60-130	3	20
2,4-Dinitrotoluene	8.62	9.0	0.23	ug/l	10.0		86	60-120	5	20
N-Nitrosodimethylamine	7.14	8.0	0.22	ug/l	10.0		71	40-120	9	20
Pentachlorophenol	7.58	8.0	0.78	ug/l	10.0		76	50-120	10	25
2,4,6-Trichlorophenol	6.78	6.0	0.10	ug/l	10.0		68	60-120	9	20
Surrogate: 2-Fluorophenol	10.3			ug/l	20.0		52	30-120		
Surrogate: Phenol-d6	11.4			ug/l	20.0		57	35-120		
Surrogate: 2,4,6-Tribromophenol	13.1			ug/l	20.0		66	45-120		
Surrogate: Nitrobenzene-d5	7.06			ug/l	10.0		71	45-120		
Surrogate: 2-Fluorobiphenyl	6.72			ug/l	10.0		67	45-120		

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METHOD BLANK/QC DATA

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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C22052 Extracted: 03/22/06											
LCS Dup Analyzed: 03/28/2006 (6C22052-BSD1)											
Surrogate: Terphenyl-d14	7.20			ug/l	10.0		72	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: 6C20114 Extracted: 03/20/06											
Blank Analyzed: 03/22/2006 (6C20114-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.434			ug/l	0.500		87	45-120			
Surrogate: Tetrachloro-m-xylene	0.368			ug/l	0.500		74	35-115			
LCS Analyzed: 03/22/2006 (6C20114-BS1)											
alpha-BHC	0.376	0.010	0.0010	ug/l	0.500		75	45-120			M-NR1
Surrogate: Decachlorobiphenyl	0.432			ug/l	0.500		86	45-120			
Surrogate: Tetrachloro-m-xylene	0.383			ug/l	0.500		77	35-115			
LCS Dup Analyzed: 03/22/2006 (6C20114-BSD1)											
alpha-BHC	0.366	0.010	0.0010	ug/l	0.500		73	45-120	3	30	
Surrogate: Decachlorobiphenyl	0.422			ug/l	0.500		84	45-120			
Surrogate: Tetrachloro-m-xylene	0.363			ug/l	0.500		73	35-115			

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 Attention: Bronwyn Kelly

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Report Number: IPC2012

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C20077 Extracted: 03/20/06											
Blank Analyzed: 03/20/2006 (6C20077-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/20/2006 (6C20077-BS1)											
Mercury	8.47	0.20	0.050	ug/l	8.00		106	85-115			
Matrix Spike Analyzed: 03/20/2006 (6C20077-MS1)											
						Source: IPC1866-04					
Mercury	8.85	0.20	0.050	ug/l	8.00	ND	111	70-130			
Matrix Spike Dup Analyzed: 03/20/2006 (6C20077-MSD1)											
						Source: IPC1866-04					
Mercury	8.69	0.20	0.050	ug/l	8.00	ND	109	70-130	2	20	
Batch: 6C20085 Extracted: 03/20/06											
Blank Analyzed: 03/20/2006 (6C20085-BLK1)											
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/20/2006 (6C20085-BS1)											
Copper	81.2	2.0	0.25	ug/l	80.0		102	85-115			
Lead	76.8	1.0	0.040	ug/l	80.0		96	85-115			
Matrix Spike Analyzed: 03/20/2006 (6C20085-MS1)											
						Source: IPC1984-01					
Copper	582	2.0	0.25	ug/l	80.0	490	115	70-130			
Lead	81.1	1.0	0.040	ug/l	80.0	6.7	93	70-130			
Matrix Spike Analyzed: 03/20/2006 (6C20085-MS2)											
						Source: IPC1984-02					
Copper	158	2.0	0.25	ug/l	80.0	92	82	70-130			
Lead	73.8	1.0	0.040	ug/l	80.0	0.24	92	70-130			

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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C20085 Extracted: 03/20/06											
Matrix Spike Dup Analyzed: 03/20/2006 (6C20085-MSD1)						Source: IPC1984-01					
Copper	570	2.0	0.25	ug/l	80.0	490	100	70-130	2	20	
Lead	79.9	1.0	0.040	ug/l	80.0	6.7	92	70-130	1	20	

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC2012

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C18032 Extracted: 03/18/06											
Blank Analyzed: 03/18/2006 (6C18032-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/18/2006 (6C18032-BS1)											
Chloride	4.61	0.50	0.15	mg/l	5.00		92	90-110			M-3
Sulfate	9.52	0.50	0.45	mg/l	10.0		95	90-110			
Matrix Spike Analyzed: 03/18/2006 (6C18032-MS1)											
Sulfate	57.0	0.50	0.45	mg/l	10.0	46	110	80-120			
						Source: IPC2009-01					
Matrix Spike Dup Analyzed: 03/18/2006 (6C18032-MSD1)											
Sulfate	56.2	0.50	0.45	mg/l	10.0	46	102	80-120	1	20	
Batch: 6C18047 Extracted: 03/18/06											
Blank Analyzed: 03/23/2006 (6C18047-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/23/2006 (6C18047-BS1)											
Biochemical Oxygen Demand	210	100	30	mg/l	198		106	85-115			
LCS Dup Analyzed: 03/23/2006 (6C18047-BSD1)											
Biochemical Oxygen Demand	209	100	30	mg/l	198		106	85-115	1	20	
Batch: 6C18055 Extracted: 03/18/06											
Blank Analyzed: 03/18/2006 (6C18055-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: 6C18055 Extracted: 03/18/06											
LCS Analyzed: 03/18/2006 (6C18055-BS1)											
Surfactants (MBAS)	0.253	0.10	0.044	mg/l	0.250		101	90-110			
Matrix Spike Analyzed: 03/18/2006 (6C18055-MS1)											
						Source: IPC2012-01					
Surfactants (MBAS)	0.358	0.10	0.044	mg/l	0.250	0.12	95	50-125			
Matrix Spike Dup Analyzed: 03/18/2006 (6C18055-MSD1)											
						Source: IPC2012-01					
Surfactants (MBAS)	0.356	0.10	0.044	mg/l	0.250	0.12	94	50-125	1	20	
Batch: 6C18057 Extracted: 03/18/06											
Blank Analyzed: 03/18/2006 (6C18057-BLK1)											
Turbidity	ND	1.0	0.040	NTU							
Duplicate Analyzed: 03/18/2006 (6C18057-DUP1)											
						Source: IPC2012-01					
Turbidity	0.410	1.0	0.040	NTU		0.38			8	20	J
Batch: 6C20059 Extracted: 03/20/06											
Duplicate Analyzed: 03/20/2006 (6C20059-DUP1)											
						Source: IPC1731-05					
Specific Conductance	2300	1.0	1.0	umhos/cm		2300			0	5	
Batch: 6C20060 Extracted: 03/20/06											
Blank Analyzed: 03/20/2006 (6C20060-BLK1)											
Total Dissolved 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: 6C20060 Extracted: 03/20/06											
LCS Analyzed: 03/20/2006 (6C20060-BS1)											
Total Dissolved Solids	988	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/20/2006 (6C20060-DUP1)											
Total Dissolved Solids	1200	10	10	mg/l		Source: IPC1731-05 1200			0	10	
Batch: 6C20061 Extracted: 03/20/06											
Blank Analyzed: 03/20/2006 (6C20061-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							
LCS Analyzed: 03/20/2006 (6C20061-BS1)											
Perchlorate	53.7	4.0	0.80	ug/l	50.0		107	85-115			
Matrix Spike Analyzed: 03/20/2006 (6C20061-MS1)											
Perchlorate	66.1	4.0	0.80	ug/l	50.0	Source: IPC1960-13 15	102	80-120			
Matrix Spike Dup Analyzed: 03/20/2006 (6C20061-MSD1)											
Perchlorate	66.1	4.0	0.80	ug/l	50.0	Source: IPC1960-13 15	102	80-120	0	20	
Batch: 6C20099 Extracted: 03/20/06											
Blank Analyzed: 03/20/2006 (6C20099-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/20/2006 (6C20099-BS1)											
Total Cyanide	191	5.0	2.2	ug/l	200		96	90-110			

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C20099 Extracted: 03/20/06											
Matrix Spike Analyzed: 03/20/2006 (6C20099-MS1)						Source: IPC1117-02					
Total Cyanide	69.9	5.0	2.2	ug/l	200	3.1	33	70-115			M2
Matrix Spike Analyzed: 03/20/2006 (6C20099-MS2)						Source: IPC1293-02					
Total Cyanide	183	5.0	2.2	ug/l	200	2.2	90	70-115			
Matrix Spike Analyzed: 03/20/2006 (6C20099-MS3)						Source: IPC1294-01					
Total Cyanide	189	5.0	2.2	ug/l	200	2.8	93	70-115			
Matrix Spike Analyzed: 03/20/2006 (6C20099-MS4)						Source: IPC1415-03					
Total Cyanide	110	5.0	2.2	ug/l	200	ND	55	70-115			M2
Matrix Spike Dup Analyzed: 03/20/2006 (6C20099-MSD1)						Source: IPC1117-02					
Total Cyanide	189	5.0	2.2	ug/l	200	3.1	93	70-115	92	15	R-3
Matrix Spike Dup Analyzed: 03/20/2006 (6C20099-MSD2)						Source: IPC1293-02					
Total Cyanide	185	5.0	2.2	ug/l	200	2.2	91	70-115	1	15	
Matrix Spike Dup Analyzed: 03/20/2006 (6C20099-MSD3)						Source: IPC1294-01					
Total Cyanide	187	5.0	2.2	ug/l	200	2.8	92	70-115	1	15	
Matrix Spike Dup Analyzed: 03/20/2006 (6C20099-MSD4)						Source: IPC1415-03					
Total Cyanide	42.0	5.0	2.2	ug/l	200	ND	21	70-115	89	15	M2, R-3
Batch: 6C21053 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21053-BLK1)											
Oil & Grease	ND	5.0	0.94	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: 6C21053 Extracted: 03/21/06											
LCS Analyzed: 03/21/2006 (6C21053-BS1)											
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120			M-NR1
LCS Dup Analyzed: 03/21/2006 (6C21053-BSD1)											
Oil & Grease	17.0	5.0	0.94	mg/l	20.0		85	65-120	1	20	
Batch: 6C21086 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21086-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/21/2006 (6C21086-BS1)											
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0		115	80-115			
Matrix Spike Analyzed: 03/21/2006 (6C21086-MS1)											
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0	0.56	109	70-120			Source: IPC2012-01
Matrix Spike Dup Analyzed: 03/21/2006 (6C21086-MSD1)											
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	0.56	106	70-120	3	15	Source: IPC2012-01
Batch: 6C21112 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21112-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/21/2006 (6C21112-BS1)											
Total Suspended Solids	977	10	10	mg/l	1000		98	85-115			

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 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2012	Sampled: 03/18/06 Received: 03/18/06
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C21112 Extracted: 03/21/06											
Duplicate Analyzed: 03/21/2006 (6C21112-DUP1)						Source: IPC1568-01					
Total Suspended Solids	26.0	10	10	mg/l		25			4	10	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC2012-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.75	4.7	10.00
IPC2012-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0095	0.0100
IPC2012-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2012-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00
IPC2012-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPC2012-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.5	9.10
IPC2012-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	0.26	4.7	4.00
IPC2012-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.5	8.10
IPC2012-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.5	8.20
IPC2012-01	BOD	Biochemical Oxygen Demand	mg/l	0.38	2.0	20
IPC2012-01	Chloride - 300.0	Chloride	mg/l	45	2.5	150
IPC2012-01	Copper-200.8	Copper	ug/l	2.60	2.0	7.10
IPC2012-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	2.20	5.0	5.00
IPC2012-01	Lead-200.8	Lead	ug/l	0	1.0	2.60
IPC2012-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.12	0.10	0.50
IPC2012-01	Mercury - 245.1	Mercury	ug/l	0.033	0.20	0.20
IPC2012-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0	0.15	8.00
IPC2012-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPC2012-01	Sulfate-300.0	Sulfate	mg/l	230	2.5	300
IPC2012-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	590	10	950
IPC2012-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2012-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R** The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.
- R-3** The RPD exceeded the method control limit due to sample matrix effects.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 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.testamericainc.com

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC2012-01

Analysis Performed: EDD + Level 4

Samples: IPC2012-01

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager

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IP (2012)

Del Mar Analytical Version 3/1/06 **CHAIN OF CUSTODY FORM**

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Routine Outfall 002		ANALYSIS REQUIRED														Field readings: Temp = 53.1 pH = 7.5	
Project Manager: Bronwyn Kelly Sampler: <i>Serrano-Rubin</i>		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Total Recoverable Metals: Cu, Pb, Hg														Comments: 24 TAT 24 TAT	
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Settleable Solids	VOCS 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cr, SO4, NO3+NO2-N, Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	Alpha BHC (608)	2,4,6-Trichlorophenol, 2,4-dinitrochlorophenol, Bis(2-ethylhexyl)phthalate, NDMA, pentachlorophenol (EPA 625)	
Outfall 002	W	Poly-1 liter	1	3/18/06 6:50	HNO3	1A	X												
Outfall 002-Dup	W	Poly-1 liter	1		HNO3	1B	X												
Outfall 002	W	Poly-1 liter	1		None	2	X												
Outfall 002	W	VOAs	3		HCl	3A, 3B, 3C		X											
Outfall 002	W	Glass- Amber	2		None	4A, 4B		X											
Outfall 002	W	1L Amber	2		HCl	5A, 5B		X											
Outfall 002	W	Poly-500 ml	1		NaOH	6				X									
Outfall 002	W	Poly-1 liter	1		None	7				X									
Outfall 002	W	Poly-500 ml	2		None	8A, 8B						X							
Outfall 002	W	Poly-500 ml	2		None	9A, 9B							X						
Outfall 002	W	Poly-500 ml	2		None	10A, 10B													
Outfall 002	W	Poly-500 ml	1		H2SO4	11										X			
Outfall 002	W	1L Amber	2		None	12A, 12B											X		
Outfall 002	W	1L Amber	2		None	13A, 13B												X	
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C		X											

Relinquished By: *Robert Brown* **Date/Time:** 3/18/06 12:27
Received By: *M. C. +* **Date/Time:** 3/18/06 12:27
Relinquished By: *M. C. +* **Date/Time:** 3/18/06 14:50
Received By: *[Signature]* **Date/Time:** 3/18/06 14:50

Turn around Time: (check)
 24 Hours 5 Days
 48 Hours 10 Days
 72 Hours Normal
 Perchlorate Only 72 Hours
 Metals Only 72 Hours
 Sample Integrity: (Check) On Ice

NPDES - 3519



March 28, 2006

Alta Project I.D.: 27446

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 21, 2006 under your Project Name "IPC2012". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/21/2006

Alta Lab. ID

Client Sample ID

27446-001

IPC2012-01

SECTION II

EPA Method 1613

Method Blank		Lab Sample: 0-MB001		Date Analyzed DB-5: 28-Mar-06		Date Analyzed DB-225: NA	
Matrix:	Aqueous	QC Batch No.:	7870 <th>Date Analyzed DB-5:</th> <td>28-Mar-06 <th>Date Analyzed DB-225:</th> <td>NA </td></td>	Date Analyzed DB-5:	28-Mar-06 <th>Date Analyzed DB-225:</th> <td>NA </td>	Date Analyzed DB-225:	NA
Sample Size:	1.00 L <th>Date Extracted:</th> <td>26-Mar-06 <th colspan="4"></th> </td>	Date Extracted:	26-Mar-06 <th colspan="4"></th>				
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d	Qualifiers	Qualifiers
2,3,7,8-TCDD	ND	0.000000649		78.6	25 - 164		
1,2,3,7,8-PeCDD	ND	0.000000669		79.1	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.00000135		86.3	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.00000141		73.8	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.00000131		69.1	23 - 140		
1,2,3,4,6,7,8-HpCDD	ND	0.00000168		52.7	17 - 157		
OCDD	0.00000537			80.3	24 - 169		
2,3,7,8-TCDF	ND	0.00000508		77.1	24 - 185		
1,2,3,7,8-PeCDF	ND	0.00000504		76.5	21 - 178		
2,3,4,7,8-PeCDF	ND	0.00000462		74.9	26 - 152		
1,2,3,4,7,8-HxCDF	ND	0.00000340		71.2	26 - 123		
1,2,3,6,7,8-HxCDF	ND	0.00000315		68.3	28 - 136		
2,3,4,6,7,8-HxCDF	ND	0.00000356		72.1	29 - 147		
1,2,3,7,8,9-HxCDF	ND	0.00000516		57.5	28 - 143		
1,2,3,4,6,7,8-HpCDF	ND	0.00000635		64.3	26 - 138		
1,2,3,4,7,8,9-HpCDF	ND	0.00000754		53.7	17 - 157		
OCDF	ND	0.00000185		88.7	35 - 197		
Totals							
Total TCDD	ND	0.000000649					
Total PeCDD	ND	0.000000669					
Total HxCDD	ND	0.00000136					
Total HpCDD	ND	0.00000168					
Total TCDF	ND	0.00000508					
Total PeCDF	ND	0.00000483					
Total HxCDF	ND	0.00000457					
Total HpCDF	ND	0.00000104					

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

Analyst: RAS
 Approved By: Melanee A. Schuld
 28-Mar-2006 15:31

OPR Results		EPA Method 1613				
Matrix	Aqueous	QC Batch No.:	7870	Lab Sample:	0-OPR001	
Sample Size	1.00 L	Date Extracted:	26-Mar-06	Date Analyzed DB-5:	28-Mar-06	
				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	12.3	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	81.2	25 - 164
1,2,3,7,8-PeCDD	50.0	60.2	35 - 71	13C-1,2,3,7,8-PeCDD	78.1	25 - 181
1,2,3,4,7,8-HxCDD	50.0	58.6	35 - 82	13C-1,2,3,4,7,8-HxCDD	83.7	32 - 141
1,2,3,6,7,8-HxCDD	50.0	61.6	38 - 67	13C-1,2,3,6,7,8-HxCDD	75.9	28 - 130
1,2,3,7,8,9-HxCDD	50.0	58.9	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	70.4	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	63.3	35 - 70	13C-OCDD	49.2	17 - 157
OCDD	100	124	78 - 144	13C-2,3,7,8-TCDF	81.7	24 - 169
2,3,7,8-TCDF	10.0	11.8	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	75.4	24 - 185
1,2,3,7,8-PeCDF	50.0	60.5	40 - 67	13C-2,3,4,7,8-PeCDF	76.4	21 - 178
2,3,4,7,8-PeCDF	50.0	60.6	34 - 80	13C-1,2,3,4,7,8-HxCDF	73.5	26 - 152
1,2,3,4,7,8-HxCDF	50.0	61.9	36 - 67	13C-1,2,3,6,7,8-HxCDF	69.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	62.8	42 - 65	13C-2,3,4,6,7,8-HxCDF	72.4	28 - 136
2,3,4,6,7,8-HxCDF	50.0	61.9	35 - 78	13C-1,2,3,7,8,9-HxCDF	73.6	29 - 147
1,2,3,7,8,9-HxCDF	50.0	61.6	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	58.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	63.8	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	66.2	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	64.3	39 - 69	13C-OCDF	51.2	17 - 157
OCDF	100	123	63 - 170	CRS 37Cl-2,3,7,8-TCDD	91.0	35 - 197

Analyst: RAS

Approved By: Melanee A. Schuld 28-Mar-2006 15:31

Sample ID: IPC2012-01		EPA Method 1613					
Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27446-001		
Project:	IPC2012	Sample Size:	1.01 L	QC Batch No.:	7870		
Date Collected:	18-Mar-06			Date Analyzed DB-5:	28-Mar-06		
Time Collected:	0900			Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000730		13C-2,3,7,8-TCDD	75.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000701		13C-1,2,3,7,8-PeCDD	71.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000160		13C-1,2,3,4,7,8-HxCDD	76.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000174		13C-1,2,3,6,7,8-HxCDD	63.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000159		13C-1,2,3,4,6,7,8-HpCDD	65.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000160		13C-OCDD	50.7	17 - 157	
OCDD	0.00000636			13C-2,3,7,8-TCDF	77.1	24 - 169	
2,3,7,8-TCDF	ND	0.00000564		13C-1,2,3,7,8-PeCDF	69.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000845		13C-2,3,4,7,8-PeCDF	68.8	21 - 178	
2,3,4,7,8-HxCDF	ND	0.00000782		13C-1,2,3,4,7,8-HxCDF	63.1	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.00000445		13C-2,3,4,6,7,8-HxCDF	57.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000497		13C-1,2,3,7,8,9-HxCDF	61.7	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000705		13C-1,2,3,4,6,7,8-HpCDF	53.2	28 - 143	
1,2,3,4,6,7,8,9-HpCDF	ND	0.00000755		13C-1,2,3,4,7,8,9-HpCDF	60.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000907		13C-OCDF	52.5	17 - 157	
OCDF	ND	0.00000178		CRS 37Cl-2,3,7,8-TCDD	88.6	35 - 197	
Totals							
Total TCDD	ND	0.00000730					
Total PeCDD	ND	0.00000701					
Total HxCDD	ND	0.00000165					
Total HpCDD	ND	0.00000160					
Total TCDF	ND	0.00000564					
Total PeCDF	ND	0.00000813					
Total HxCDF	ND	0.00000516					
Total HpCDF	ND	0.00000826					

Footnotes

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

Analyst: RAS

Approved By: Melanee A. Schuld 28-Mar-2006 15:31

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



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 9484 Chesapeake Drive, Suite 803, San Diego, CA 92123 Ph (619) 505-8596 Fax (619) 505-8689
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite 83, Las Vegas, NV 89120 Ph (702) 796-3620 Fax (702) 796-3621

SUBCONTRACT ORDER - PROJECT # IPC2012

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 Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone : (916) 933-1640 Fax: (916) 673-0106 <div style="text-align: right; font-size: 1.2em; font-family: cursive;"> 27446 0.5°C </div>

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

Analysis	Expiration	Comments
Sample ID: IPC2012-01 Water	Sampled: 03/18/06 09:00	Instant Notification
1613-Dioxin-HR-Alta	03/25/06 09:00	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/15/06 09:00	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC2012-01G)		
1 L Amber (IPC2012-01H)		

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

Fed - Ex

Released By	Date	Time	Received By	Date	Time
			Bethina G. Benedict	3/21/06	0900

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27446

Samples Arrival:	Date/Time 3/21/06 0900	Initials: BSB	Location: WR-2
Logged In:	Date/Time 3/21/06 1032	Initials: BSB	Location: WR-2
Delivered By:	<u>FedEx</u>	UPS	Cal
		DHL	Hand Delivered
		Other	
Preservation:	<u>Ice</u>	<u>Blue Ice</u>	Dry Ice
			None
Temp °C	0.5°C	Time: 0915	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7908 5464 6177		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container <u>None</u>
Shipping Container	Alta	<u>Client</u>	Retain <u>Return</u> Dispose

Comments:

Sampler's initials found on sample label

APPENDIX G

Section 76

Outfall 002, March 18, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
 12260 East Vassar Drive
 Suite 500
 Lakewood, CO 80226

Package ID B4VO46
 Task Order 1261.001D.01
 SDG No. IPC2012

No. of Analyses 12

Laboratory Del Mar - Irvine

Reviewer E. Wessling

Analysis/Method Volatiles

Date: April 12, 2006
 Reviewer's Signature 

ACTION ITEMS^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	
COMMENTS^b	Acceptable as reviewed
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Outfall 002

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC2012

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC2012
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 12, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 002	IPC2012-01	Water	624
Trip Blank	IPC2012-02	Water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 GC/MS TUNING

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

2.3 CALIBRATION

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

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

2.4 BLANKS

One method blank (6C26008-BLK1) was analyzed with this SDG. No target compounds were detected above the MDLs in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6C26008-BS1) was analyzed with this SDG. All recoveries were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were performed in association with the site samples in this SDG. Method accuracy information was evaluated based upon the surrogate and blank spike recoveries. No qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 002. No target compounds were detected in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

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

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

DATA VALIDATION REPORT

2.9 INTERNAL STANDARDS PERFORMANCE

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

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

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

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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

2.13 SYSTEM PERFORMANCE

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



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 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-1621

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

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2012-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	Raw Qual Code 4 ↓ ✓
Carbon tetrachloride	EPA 624	6C26008	0.28	5.0	ND	1	03/26/06	03/26/06	
Chloroform	EPA 624	6C26008	0.33	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethane	EPA 624	6C26008	0.27	2.0	ND	1	03/26/06	03/26/06	
1,2-Dichloroethane	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethene	EPA 624	6C26008	0.42	3.0	ND	1	03/26/06	03/26/06	
Ethylbenzene	EPA 624	6C26008	0.25	2.0	ND	1	03/26/06	03/26/06	
Tetrachloroethene	EPA 624	6C26008	0.32	2.0	ND	1	03/26/06	03/26/06	
Toluene	EPA 624	6C26008	0.36	2.0	ND	1	03/26/06	03/26/06	
1,1,1-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
1,1,2-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
Trichloroethene	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Trichlorofluoromethane	EPA 624	6C26008	0.34	5.0	ND	1	03/26/06	03/26/06	
Vinyl chloride	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Xylenes, Total	EPA 624	6C26008	0.90	4.0	ND	1	03/26/06	03/26/06	
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					100 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %				
Sample ID: IPC2012-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	✓ ↓
Carbon tetrachloride	EPA 624	6C26008	0.28	5.0	ND	1	03/26/06	03/26/06	
Chloroform	EPA 624	6C26008	0.33	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethane	EPA 624	6C26008	0.27	2.0	ND	1	03/26/06	03/26/06	
1,2-Dichloroethane	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	
1,1-Dichloroethene	EPA 624	6C26008	0.42	3.0	ND	1	03/26/06	03/26/06	
Ethylbenzene	EPA 624	6C26008	0.25	2.0	ND	1	03/26/06	03/26/06	
Tetrachloroethene	EPA 624	6C26008	0.32	2.0	ND	1	03/26/06	03/26/06	
Toluene	EPA 624	6C26008	0.36	2.0	ND	1	03/26/06	03/26/06	
1,1,1-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
1,1,2-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	
Trichloroethene	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Trichlorofluoromethane	EPA 624	6C26008	0.34	5.0	ND	1	03/26/06	03/26/06	
Vinyl chloride	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	
Xylenes, Total	EPA 624	6C26008	0.90	4.0	ND	1	03/26/06	03/26/06	
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					98 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					100 %				

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

LEVEL IV

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4WC50
 Task Order: 1261.001D.01
 SDG No.: IPC2012

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: General Minerals

Date: <u>April 11, 2006</u>
Reviewer's Signature <i>P. Meeks</i>

ACTION ITEMS^a	
1. Case Narrative Deficiencies	_____
2. Out of Scope Analyses	_____
3. Analyses Not Conducted	_____
4. Missing Hardcopy Deliverables	_____
5. Incorrect Hardcopy Deliverables	_____
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications applied for a CCV outlier and a detect below the reporting limit. _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
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 Sampling
Outfall 002

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC2012

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC2012
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 12, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 002	IPC2012-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 CALIBRATION

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, as the LCS recovery was compared to the CCV control limits and was found to be above the calibration control limit at 115%. Ammonia detected in Outfall 012 was qualified as estimated, "J." No further qualifications were required.

2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

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

2.5 LABORATORY DUPLICATES

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

2.6 MATRIX SPIKES

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

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. Turbidity detected below the reporting limit was qualified as estimated, "J," and annotated with "DNQ" in accordance with the NPDES permit. No further qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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

Project ID: Routine Outfall 002

Report Number: IPC2012

Sampled: 03/18/06
Received: 03/18/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Raw Qual	Qual Code
Sample ID: IPC2012-01 (Outfall 002 - Water) - cont.										
Reporting Units: mg/l										
Ammonia-N (Distilled)	EPA 350.2	6C21086	0.30	0.50	0.56	1	03/21/06	03/21/06	J	R
Biochemical Oxygen Demand	EPA 405.1	6C18047	0.59	2.0	ND	1	03/18/06	03/23/06	*	
Chloride	EPA 300.0	6C18032	0.75	2.5	45	5	03/18/06	03/18/06		
Nitrate/Nitrite-N	EPA 300.0	6C18032	0.080	0.15	ND	1	03/18/06	03/18/06		
Oil & Grease	EPA 413.1	6C21053	0.89	4.7	ND	1	03/21/06	03/21/06		
Sulfate	EPA 300.0	6C18032	2.2	2.5	230	5	03/18/06	03/18/06		
Surfactants (MBAS)	SM5540-C	6C18055	0.044	0.10	0.12	1	03/18/06	03/18/06		
Total Dissolved Solids	SM2540C	6C20060	10	10	590	1	03/20/06	03/20/06		
Total Suspended Solids	EPA 160.2	6C21112	10	10	ND	1	03/21/06	03/21/06		
Sample ID: IPC2012-01 (Outfall 002 - Water)										
Reporting Units: ml/hr										
Total Settleable Solids	EPA 160.5	6C18054	0.10	0.10	ND	1	03/18/06	03/18/06		
Sample ID: IPC2012-01 (Outfall 002 - Water)										
Reporting Units: NTU										
Turbidity	EPA 180.1	6C18057	0.040	1.0	0.38	1	03/18/06	03/18/06	J J	DNQ
Sample ID: IPC2012-01 (Outfall 002 - Water)										
Reporting Units: ug/l										
Total Cyanide	EPA 335.2	6C20099	2.2	5.0	2.2	1	03/20/06	03/20/06	* J	
Perchlorate	EPA 314.0	6C20061	0.80	4.0	ND	1	03/20/06	03/20/06	*	
Sample ID: IPC2012-01 (Outfall 002 - Water)										
Reporting Units: umhos/cm										
Specific Conductance	EPA 120.1	6C20059	1.0	1.0	1000	1	03/20/06	03/20/06		

*Analysis not validated

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

LEVEL IV

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IPC2012 <Page 6 of 24>

APPENDIX G

Section 77

Outfall 002, March 28, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 002

Sampled: 03/28/06
Received: 03/28/06
Issued: 04/04/06 06:57

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IPC2823-01	Outfall 002	Water
IPC2823-02	Trip Blank	Water

Reviewed By:

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



Del Mar Analytical

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

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30026	1.2	5.0	ND	1	03/30/06	03/31/06	
Carbon tetrachloride	EPA 624	6C30026	0.28	5.0	ND	1	03/30/06	03/31/06	
Chloroform	EPA 624	6C30026	0.33	2.0	ND	1	03/30/06	03/31/06	
1,1-Dichloroethane	EPA 624	6C30026	0.27	2.0	ND	1	03/30/06	03/31/06	
1,2-Dichloroethane	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	
1,1-Dichloroethene	EPA 624	6C30026	0.42	3.0	ND	1	03/30/06	03/31/06	
Ethylbenzene	EPA 624	6C30026	0.25	2.0	ND	1	03/30/06	03/31/06	
Tetrachloroethene	EPA 624	6C30026	0.32	2.0	ND	1	03/30/06	03/31/06	
Toluene	EPA 624	6C30026	0.36	2.0	ND	1	03/30/06	03/31/06	
1,1,1-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	
1,1,2-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	
Trichloroethene	EPA 624	6C30026	0.26	5.0	0.29	1	03/30/06	03/31/06	J
Trichlorofluoromethane	EPA 624	6C30026	0.34	5.0	ND	1	03/30/06	03/31/06	
Vinyl chloride	EPA 624	6C30026	0.26	5.0	ND	1	03/30/06	03/31/06	
Xylenes, Total	EPA 624	6C30026	0.90	4.0	ND	1	03/30/06	03/31/06	

Surrogate: Dibromofluoromethane (80-120%)

122 %

A-01, ZX

Surrogate: Toluene-d8 (80-120%)

111 %

Surrogate: 4-Bromofluorobenzene (80-120%)

106 %

Sample ID: IPC2823-02 (Trip Blank - Water)

Reporting Units: ug/l

Benzene	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30002	1.2	5.0	ND	1	03/30/06	03/30/06	
Carbon tetrachloride	EPA 624	6C30002	0.28	5.0	ND	1	03/30/06	03/30/06	
Chloroform	EPA 624	6C30002	0.33	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethane	EPA 624	6C30002	0.27	2.0	ND	1	03/30/06	03/30/06	
1,2-Dichloroethane	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	
1,1-Dichloroethene	EPA 624	6C30002	0.42	3.0	ND	1	03/30/06	03/30/06	
Ethylbenzene	EPA 624	6C30002	0.25	2.0	ND	1	03/30/06	03/30/06	
Tetrachloroethene	EPA 624	6C30002	0.32	2.0	ND	1	03/30/06	03/30/06	
Toluene	EPA 624	6C30002	0.36	2.0	ND	1	03/30/06	03/30/06	
1,1,1-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	
1,1,2-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	
Trichloroethene	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	
Trichlorofluoromethane	EPA 624	6C30002	0.34	5.0	ND	1	03/30/06	03/30/06	
Vinyl chloride	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	
Xylenes, Total	EPA 624	6C30002	0.90	4.0	ND	1	03/30/06	03/30/06	

Surrogate: Dibromofluoromethane (80-120%)

118 %

Surrogate: Toluene-d8 (80-120%)

100 %

Surrogate: 4-Bromofluorobenzene (80-120%)

93 %

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 Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

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

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Bis(2-ethylhexyl)phthalate	EPA 625	6C28053	1.0	4.7	1.0	0.943	03/28/06	03/31/06	J
2,4-Dinitrotoluene	EPA 625	6C28053	0.22	8.5	ND	0.943	03/28/06	03/31/06	
N-Nitrosodimethylamine	EPA 625	6C28053	0.21	7.5	ND	0.943	03/28/06	03/31/06	
Pentachlorophenol	EPA 625	6C28053	0.74	7.5	ND	0.943	03/28/06	03/31/06	
2,4,6-Trichlorophenol	EPA 625	6C28053	0.094	5.7	ND	0.943	03/28/06	03/31/06	
Surrogate: 2-Fluorophenol (30-120%)					74 %				
Surrogate: Phenol-d6 (35-120%)					69 %				
Surrogate: 2,4,6-Tribromophenol (45-120%)					87 %				
Surrogate: Nitrobenzene-d5 (45-120%)					85 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					82 %				
Surrogate: Terphenyl-d14 (45-120%)					85 %				

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Project Manager

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Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

ORGANOCHLORINE PESTICIDES (EPA 608)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
alpha-BHC	EPA 608	6C29050	0.00096	0.0096	ND	0.962	03/29/06	03/29/06	
<i>Surrogate: Decachlorobiphenyl (45-120%)</i>					85 %				
<i>Surrogate: Tetrachloro-m-xylene (35-115%)</i>					83 %				

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2823	Sampled: 03/28/06 Received: 03/28/06
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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Water) - cont.									
Reporting Units: ug/l									
Copper	EPA 200.8	6C29080	0.25	2.0	3.2	1	03/29/06	03/29/06	
Lead	EPA 200.8	6C29080	0.040	1.0	0.19	1	03/29/06	03/29/06	J
Mercury	EPA 245.1	6C29072	0.050	0.20	ND	1	03/29/06	03/29/06	

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C30104	0.30	0.50	ND	1	03/30/06	03/30/06	
Biochemical Oxygen Demand	EPA 405.1	6C29064	0.59	2.0	1.6	1	03/29/06	04/03/06	J
Chloride	EPA 300.0	6C28055	1.5	5.0	42	10	03/28/06	03/28/06	
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	ND	1	03/28/06	03/28/06	
Oil & Grease	EPA 413.1	6C29047	0.90	4.8	1.1	1	03/29/06	03/29/06	J
Sulfate	EPA 300.0	6C28055	4.5	5.0	210	10	03/28/06	03/28/06	
Surfactants (MBAS)	SM5540-C	6C29127	0.044	0.10	0.090	1	03/29/06	03/29/06	J
Total Dissolved Solids	SM2540C	6C29077	10	10	490	1	03/29/06	03/29/06	
Total Suspended Solids	EPA 160.2	6C29092	10	10	ND	1	03/29/06	03/29/06	
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: ml/l/hr									
Total Settleable Solids	EPA 160.5	6C28105	0.10	0.10	0.10	1	03/28/06	03/28/06	
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C29118	0.040	1.0	2.9	1	03/29/06	03/29/06	
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C29109	2.2	5.0	ND	1	03/29/06	03/29/06	
Perchlorate	EPA 314.0	6C29086	0.80	4.0	ND	1	03/29/06	03/29/06	
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C29076	1.0	1.0	900	1	03/29/06	03/29/06	

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Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 002 (IPC2823-01) - Water					
EPA 160.5	2	03/28/2006 11:00	03/28/2006 18:15	03/28/2006 19:15	03/28/2006 20:15
EPA 180.1	2	03/28/2006 11:00	03/28/2006 18:15	03/29/2006 14:45	03/29/2006 15:45
EPA 300.0	2	03/28/2006 11:00	03/28/2006 18:15	03/28/2006 20:00	03/28/2006 20:38
EPA 405.1	2	03/28/2006 11:00	03/28/2006 18:15	03/29/2006 18:30	04/03/2006 18:30
SM5540-C	2	03/28/2006 11:00	03/28/2006 18:15	03/29/2006 18:11	03/29/2006 22:12

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting		Spike	Source	%REC		RPD	RPD	Data
		Limit	MDL			Units	Level			
Batch: 6C30002 Extracted: 03/30/06										
Blank Analyzed: 03/30/2006 (6C30002-BLK1)										
Benzene	ND	2.0	0.28	ug/l						
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l						
Carbon tetrachloride	ND	5.0	0.28	ug/l						
Chloroform	ND	2.0	0.33	ug/l						
1,1-Dichloroethane	ND	2.0	0.27	ug/l						
1,2-Dichloroethane	ND	2.0	0.28	ug/l						
1,1-Dichloroethene	ND	3.0	0.42	ug/l						
Ethylbenzene	ND	2.0	0.25	ug/l						
Tetrachloroethene	ND	2.0	0.32	ug/l						
Toluene	ND	2.0	0.36	ug/l						
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l						
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l						
Trichloroethene	ND	5.0	0.26	ug/l						
Trichlorofluoromethane	ND	5.0	0.34	ug/l						
Vinyl chloride	ND	5.0	0.26	ug/l						
Xylenes, Total	ND	4.0	0.90	ug/l						
Surrogate: Dibromofluoromethane	25.5			ug/l	25.0		102		80-120	
Surrogate: Toluene-d8	25.9			ug/l	25.0		104		80-120	
Surrogate: 4-Bromofluorobenzene	23.7			ug/l	25.0		95		80-120	

LCS Analyzed: 03/30/2006 (6C30002-BS1)

Benzene	23.0	2.0	0.28	ug/l	25.0		92		65-120	
Carbon tetrachloride	24.1	5.0	0.28	ug/l	25.0		96		65-140	
Chloroform	23.8	2.0	0.33	ug/l	25.0		95		65-130	
1,1-Dichloroethane	23.7	2.0	0.27	ug/l	25.0		95		65-130	
1,2-Dichloroethane	24.5	2.0	0.28	ug/l	25.0		98		60-140	
1,1-Dichloroethene	23.6	3.0	0.42	ug/l	25.0		94		70-130	
Ethylbenzene	25.1	2.0	0.25	ug/l	25.0		100		70-125	
Tetrachloroethene	22.9	2.0	0.32	ug/l	25.0		92		65-125	
Toluene	23.7	2.0	0.36	ug/l	25.0		95		70-125	
1,1,1-Trichloroethane	23.7	2.0	0.30	ug/l	25.0		95		65-135	
1,1,2-Trichloroethane	25.0	2.0	0.30	ug/l	25.0		100		65-125	
Trichloroethene	23.6	5.0	0.26	ug/l	25.0		94		70-125	
Trichlorofluoromethane	23.2	5.0	0.34	ug/l	25.0		93		60-140	
Vinyl chloride	20.0	5.0	0.26	ug/l	25.0		80		50-130	
Surrogate: Dibromofluoromethane	27.0			ug/l	25.0		108		80-120	

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 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2823	Sampled: 03/28/06 Received: 03/28/06
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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: 6C30002 Extracted: 03/30/06											
LCS Analyzed: 03/30/2006 (6C30002-BS1)											
Surrogate: Toluene-d8	26.5			ug/l	25.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	26.4			ug/l	25.0		106	80-120			
Matrix Spike Analyzed: 03/30/2006 (6C30002-MS1) Source: IPC2321-02											
Benzene	26.6	2.0	0.28	ug/l	25.0	ND	106	60-125			
Carbon tetrachloride	26.9	5.0	0.28	ug/l	25.0	ND	108	65-140			
Chloroform	30.7	2.0	0.33	ug/l	25.0	ND	123	65-135			
1,1-Dichloroethane	31.0	2.0	0.27	ug/l	25.0	ND	124	60-130			
1,2-Dichloroethane	28.8	2.0	0.28	ug/l	25.0	ND	115	60-140			
1,1-Dichloroethene	28.9	3.0	0.42	ug/l	25.0	0.43	114	60-135			
Ethylbenzene	28.0	2.0	0.25	ug/l	25.0	ND	112	65-130			
Tetrachloroethene	24.2	2.0	0.32	ug/l	25.0	ND	97	60-130			
Toluene	27.0	2.0	0.36	ug/l	25.0	ND	108	65-125			
1,1,1-Trichloroethane	30.0	2.0	0.30	ug/l	25.0	ND	120	65-140			
1,1,2-Trichloroethane	29.3	2.0	0.30	ug/l	25.0	ND	117	60-130			
Trichloroethene	26.8	5.0	0.26	ug/l	25.0	ND	107	60-125			
Trichlorofluoromethane	28.6	5.0	0.34	ug/l	25.0	ND	114	55-145			
Vinyl chloride	25.2	5.0	0.26	ug/l	25.0	ND	101	40-135			
Surrogate: Dibromofluoromethane	30.9			ug/l	25.0		124	80-120			ZX
Surrogate: Toluene-d8	26.9			ug/l	25.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	26.6			ug/l	25.0		106	80-120			
Matrix Spike Dup Analyzed: 03/30/2006 (6C30002-MSD1) Source: IPC2321-02											
Benzene	26.5	2.0	0.28	ug/l	25.0	ND	106	60-125	0	20	
Carbon tetrachloride	26.7	5.0	0.28	ug/l	25.0	ND	107	65-140	1	25	
Chloroform	30.4	2.0	0.33	ug/l	25.0	ND	122	65-135	1	20	
1,1-Dichloroethane	30.9	2.0	0.27	ug/l	25.0	ND	124	60-130	0	20	
1,2-Dichloroethane	28.6	2.0	0.28	ug/l	25.0	ND	114	60-140	1	20	
1,1-Dichloroethene	29.1	3.0	0.42	ug/l	25.0	0.43	115	60-135	1	20	
Ethylbenzene	27.6	2.0	0.25	ug/l	25.0	ND	110	65-130	1	20	
Tetrachloroethene	23.9	2.0	0.32	ug/l	25.0	ND	96	60-130	1	20	
Toluene	26.7	2.0	0.36	ug/l	25.0	ND	107	65-125	1	20	
1,1,1-Trichloroethane	29.5	2.0	0.30	ug/l	25.0	ND	118	65-140	2	20	
1,1,2-Trichloroethane	28.8	2.0	0.30	ug/l	25.0	ND	115	60-130	2	25	
Trichloroethene	26.0	5.0	0.26	ug/l	25.0	ND	104	60-125	3	20	
Trichlorofluoromethane	28.7	5.0	0.34	ug/l	25.0	ND	115	55-145	0	25	

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 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2823

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

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30002 Extracted: 03/30/06											
Matrix Spike Dup Analyzed: 03/30/2006 (6C30002-MSD1)						Source: IPC2321-02					
Vinyl chloride	26.0	5.0	0.26	ug/l	25.0	ND	104	40-135	3	30	
Surrogate: Dibromofluoromethane	31.0			ug/l	25.0		124	80-120			ZX
Surrogate: Toluene-d8	26.8			ug/l	25.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	25.9			ug/l	25.0		104	80-120			
Batch: 6C30026 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30026-BLK1)											
Benzene	ND	2.0	0.28	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	1.2	ug/l							
Carbon tetrachloride	ND	5.0	0.28	ug/l							
Chloroform	ND	2.0	0.33	ug/l							
1,1-Dichloroethane	ND	2.0	0.27	ug/l							
1,2-Dichloroethane	ND	2.0	0.28	ug/l							
1,1-Dichloroethene	ND	3.0	0.42	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Tetrachloroethene	ND	2.0	0.32	ug/l							
Toluene	ND	2.0	0.36	ug/l							
1,1,1-Trichloroethane	ND	2.0	0.30	ug/l							
1,1,2-Trichloroethane	ND	2.0	0.30	ug/l							
Trichloroethene	ND	5.0	0.26	ug/l							
Trichlorofluoromethane	ND	5.0	0.34	ug/l							
Vinyl chloride	ND	5.0	0.26	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Surrogate: Dibromofluoromethane	29.2			ug/l	25.0		117	80-120			
Surrogate: Toluene-d8	28.0			ug/l	25.0		112	80-120			
Surrogate: 4-Bromofluorobenzene	26.5			ug/l	25.0		106	80-120			

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Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30026 Extracted: 03/30/06											
LCS Analyzed: 03/30/2006 (6C30026-BS1)											
Benzene	21.4	2.0	0.28	ug/l	25.0		86	65-120			
Carbon tetrachloride	26.6	5.0	0.28	ug/l	25.0		106	65-140			
Chloroform	23.1	2.0	0.33	ug/l	25.0		92	65-130			
1,1-Dichloroethane	22.7	2.0	0.27	ug/l	25.0		91	65-130			
1,2-Dichloroethane	23.6	2.0	0.28	ug/l	25.0		94	60-140			
1,1-Dichloroethene	22.7	3.0	0.42	ug/l	25.0		91	70-130			
Ethylbenzene	22.7	2.0	0.25	ug/l	25.0		91	70-125			
Tetrachloroethene	22.4	2.0	0.32	ug/l	25.0		90	65-125			
Toluene	22.2	2.0	0.36	ug/l	25.0		89	70-125			
1,1,1-Trichloroethane	23.9	2.0	0.30	ug/l	25.0		96	65-135			
1,1,2-Trichloroethane	24.0	2.0	0.30	ug/l	25.0		96	65-125			
Trichloroethene	20.1	5.0	0.26	ug/l	25.0		80	70-125			
Trichlorofluoromethane	21.9	5.0	0.34	ug/l	25.0		88	60-140			
Vinyl chloride	20.0	5.0	0.26	ug/l	25.0		80	50-130			
Surrogate: Dibromofluoromethane	28.9			ug/l	25.0		116	80-120			
Surrogate: Toluene-d8	27.4			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	27.6			ug/l	25.0		110	80-120			

Matrix Spike Analyzed: 03/30/2006 (6C30026-MS1)

Source: IPC2562-02

Benzene	21.6	2.0	0.28	ug/l	25.0	ND	86	60-125			
Carbon tetrachloride	27.0	5.0	0.28	ug/l	25.0	ND	108	65-140			
Chloroform	23.9	2.0	0.33	ug/l	25.0	0.59	93	65-135			
1,1-Dichloroethane	23.3	2.0	0.27	ug/l	25.0	ND	93	60-130			
1,2-Dichloroethane	23.8	2.0	0.28	ug/l	25.0	ND	95	60-140			
1,1-Dichloroethene	27.1	3.0	0.42	ug/l	25.0	4.7	90	60-135			
Ethylbenzene	23.6	2.0	0.25	ug/l	25.0	ND	94	65-130			
Tetrachloroethene	23.1	2.0	0.32	ug/l	25.0	ND	92	60-130			
Toluene	22.6	2.0	0.36	ug/l	25.0	ND	90	65-125			
1,1,1-Trichloroethane	24.4	2.0	0.30	ug/l	25.0	ND	98	65-140			
1,1,2-Trichloroethane	23.3	2.0	0.30	ug/l	25.0	ND	93	60-130			
Trichloroethene	20.9	5.0	0.26	ug/l	25.0	1.1	79	60-125			
Trichlorofluoromethane	46.9	5.0	0.34	ug/l	25.0	29	72	55-145			
Vinyl chloride	20.9	5.0	0.26	ug/l	25.0	ND	84	40-135			
Surrogate: Dibromofluoromethane	28.7			ug/l	25.0		115	80-120			
Surrogate: Toluene-d8	27.2			ug/l	25.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	27.5			ug/l	25.0		110	80-120			

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30026 Extracted: 03/30/06											
Matrix Spike Dup Analyzed: 03/30/2006 (6C30026-MSD1)						Source: IPC2562-02					
Benzene	22.1	2.0	0.28	ug/l	25.0	ND	88	60-125	2	20	
Carbon tetrachloride	27.4	5.0	0.28	ug/l	25.0	ND	110	65-140	1	25	
Chloroform	23.8	2.0	0.33	ug/l	25.0	0.59	93	65-135	0	20	
1,1-Dichloroethane	23.8	2.0	0.27	ug/l	25.0	ND	95	60-130	2	20	
1,2-Dichloroethane	24.5	2.0	0.28	ug/l	25.0	ND	98	60-140	3	20	
1,1-Dichloroethene	27.7	3.0	0.42	ug/l	25.0	4.7	92	60-135	2	20	
Ethylbenzene	24.5	2.0	0.25	ug/l	25.0	ND	98	65-130	4	20	
Tetrachloroethene	24.1	2.0	0.32	ug/l	25.0	ND	96	60-130	4	20	
Toluene	22.8	2.0	0.36	ug/l	25.0	ND	91	65-125	1	20	
1,1,1-Trichloroethane	24.3	2.0	0.30	ug/l	25.0	ND	97	65-140	0	20	
1,1,2-Trichloroethane	24.2	2.0	0.30	ug/l	25.0	ND	97	60-130	4	25	
Trichloroethene	21.1	5.0	0.26	ug/l	25.0	1.1	80	60-125	1	20	
Trichlorofluoromethane	46.0	5.0	0.34	ug/l	25.0	29	68	55-145	2	25	
Vinyl chloride	21.5	5.0	0.26	ug/l	25.0	ND	86	40-135	3	30	
Surrogate: Dibromofluoromethane	28.4			ug/l	25.0		114	80-120			
Surrogate: Toluene-d8	27.6			ug/l	25.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	27.9			ug/l	25.0		112	80-120			

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2823	Sampled: 03/28/06 Received: 03/28/06
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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	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C28053 Extracted: 03/28/06											
Blank Analyzed: 03/30/2006 (6C28053-BLK1)											
Bis(2-ethylhexyl)phthalate	ND	5.0	1.7	ug/l							
2,4-Dinitrotoluene	ND	9.0	0.20	ug/l							
N-Nitrosodimethylamine	ND	8.0	0.10	ug/l							
Pentachlorophenol	ND	8.0	0.10	ug/l							
2,4,6-Trichlorophenol	ND	6.0	0.10	ug/l							
Surrogate: 2-Fluorophenol	11.5			ug/l	20.0		58	30-120			
Surrogate: Phenol-d6	13.6			ug/l	20.0		68	35-120			
Surrogate: 2,4,6-Tribromophenol	14.5			ug/l	20.0		72	45-120			
Surrogate: Nitrobenzene-d5	6.94			ug/l	10.0		69	45-120			
Surrogate: 2-Fluorobiphenyl	6.96			ug/l	10.0		70	45-120			
Surrogate: Terphenyl-d14	8.24			ug/l	10.0		82	45-120			
LCS Analyzed: 03/30/2006 (6C28053-BS1)											
Bis(2-ethylhexyl)phthalate	10.6	5.0	1.7	ug/l	10.0		106	60-130			M-NRI
2,4-Dinitrotoluene	9.94	9.0	0.20	ug/l	10.0		99	60-120			J
N-Nitrosodimethylamine	7.86	8.0	0.10	ug/l	10.0		79	40-120			
Pentachlorophenol	11.4	8.0	0.10	ug/l	10.0		114	50-120			
2,4,6-Trichlorophenol	9.10	6.0	0.10	ug/l	10.0		91	60-120			
Surrogate: 2-Fluorophenol	12.9			ug/l	20.0		64	30-120			
Surrogate: Phenol-d6	14.1			ug/l	20.0		70	35-120			
Surrogate: 2,4,6-Tribromophenol	17.4			ug/l	20.0		87	45-120			
Surrogate: Nitrobenzene-d5	7.12			ug/l	10.0		71	45-120			
Surrogate: 2-Fluorobiphenyl	7.26			ug/l	10.0		73	45-120			
Surrogate: Terphenyl-d14	7.88			ug/l	10.0		79	45-120			
LCS Dup Analyzed: 03/30/2006 (6C28053-BSD1)											
Bis(2-ethylhexyl)phthalate	11.4	5.0	1.7	ug/l	10.0		114	60-130	7	20	
2,4-Dinitrotoluene	10.7	9.0	0.20	ug/l	10.0		107	60-120	7	20	
N-Nitrosodimethylamine	9.28	8.0	0.10	ug/l	10.0		93	40-120	17	20	
Pentachlorophenol	10.9	8.0	0.10	ug/l	10.0		109	50-120	4	25	
2,4,6-Trichlorophenol	8.42	6.0	0.10	ug/l	10.0		84	60-120	8	20	
Surrogate: 2-Fluorophenol	12.4			ug/l	20.0		62	30-120			
Surrogate: Phenol-d6	15.3			ug/l	20.0		76	35-120			
Surrogate: 2,4,6-Tribromophenol	17.3			ug/l	20.0		86	45-120			
Surrogate: Nitrobenzene-d5	8.30			ug/l	10.0		83	45-120			
Surrogate: 2-Fluorobiphenyl	8.38			ug/l	10.0		84	45-120			

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2823	Sampled: 03/28/06 Received: 03/28/06
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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: 6C28053 Extracted: 03/28/06											
LCS Dup Analyzed: 03/30/2006 (6C28053-BSD1)											
Surrogate: Terphenyl-d14	8.66			ug/l	10.0		87	45-120			

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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: 6C29050 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29050-BLK1)											
alpha-BHC	ND	0.010	0.0010	ug/l							
Surrogate: Decachlorobiphenyl	0.466			ug/l	0.500		93	45-120			
Surrogate: Tetrachloro-m-xylene	0.388			ug/l	0.500		78	35-115			
LCS Analyzed: 03/29/2006 (6C29050-BS1)											
alpha-BHC	0.425	0.010	0.0010	ug/l	0.500		85	45-120			
Surrogate: Decachlorobiphenyl	0.473			ug/l	0.500		95	45-120			
Surrogate: Tetrachloro-m-xylene	0.413			ug/l	0.500		83	35-115			
Matrix Spike Analyzed: 03/29/2006 (6C29050-MS1) Source: IPC2322-01											
alpha-BHC	0.389	0.0094	0.00094	ug/l	0.472	ND	82	45-120			
Surrogate: Decachlorobiphenyl	0.435			ug/l	0.472		92	45-120			
Surrogate: Tetrachloro-m-xylene	0.385			ug/l	0.472		82	35-115			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29050-MSD1) Source: IPC2322-01											
alpha-BHC	0.339	0.0094	0.00094	ug/l	0.472	ND	72	45-120	14	30	
Surrogate: Decachlorobiphenyl	0.356			ug/l	0.472		75	45-120			
Surrogate: Tetrachloro-m-xylene	0.347			ug/l	0.472		74	35-115			

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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29072 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29072-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/29/2006 (6C29072-BS1)											
Mercury	7.90	0.20	0.050	ug/l	8.00		99	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C29072-MS1)											
						Source: IPC2718-01					
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29072-MSD1)											
						Source: IPC2718-01					
Mercury	7.82	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C29080 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29080-BLK1)											
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/29/2006 (6C29080-BS1)											
Copper	79.3	2.0	0.25	ug/l	80.0		99	85-115			
Lead	81.8	1.0	0.040	ug/l	80.0		102	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C29080-MS1)											
						Source: IPC2585-01					
Copper	82.8	2.0	0.25	ug/l	80.0	8.6	93	70-130			
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	70-130			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29080-MSD1)											
						Source: IPC2585-01					
Copper	82.7	2.0	0.25	ug/l	80.0	8.6	93	70-130	0	20	
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	70-130	0	20	

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MWH-Pasadena/Boeing
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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C28055 Extracted: 03/28/06											
Blank Analyzed: 03/28/2006 (6C28055-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/28/2006 (6C28055-BS1)											
Chloride	4.81	0.50	0.15	mg/l	5.00		96	90-110			M-3
Sulfate	9.76	0.50	0.45	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 03/28/2006 (6C28055-MS1)											
						Source: IPC2694-01					
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120			
Matrix Spike Dup Analyzed: 03/28/2006 (6C28055-MSD1)											
						Source: IPC2694-01					
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20	
Batch: 6C29047 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29047-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/29/2006 (6C29047-BS1)											
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120			M-NR1
LCS Dup Analyzed: 03/29/2006 (6C29047-BSD1)											
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120	2	20	
Batch: 6C29064 Extracted: 03/29/06											
Blank Analyzed: 04/03/2006 (6C29064-BLK1)											
Biochemical Oxygen Demand	ND	2.0	0.59	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: 6C29064 Extracted: 03/29/06											
LCS Analyzed: 04/03/2006 (6C29064-BS1)											
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115			M-NR1
LCS Dup Analyzed: 04/03/2006 (6C29064-BSD1)											
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115	0	20	
Batch: 6C29076 Extracted: 03/29/06											
Duplicate Analyzed: 03/29/2006 (6C29076-DUP1)											
Specific Conductance	195	1.0	1.0	umhos/cm		Source: IPC2034-01 200			3	5	
Batch: 6C29077 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29077-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/29/2006 (6C29077-BS1)											
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/29/2006 (6C29077-DUP1)											
Total Dissolved Solids	240	10	10	mg/l		Source: IPC2817-01 240			0	10	
Batch: 6C29086 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29086-BLK1)											
Perchlorate	ND	4.0	0.80	ug/l							

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Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29086 Extracted: 03/29/06											
LCS Analyzed: 03/29/2006 (6C29086-BS1)											
Perchlorate	50.4	4.0	0.80	ug/l	50.0		101	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C29086-MS1)											
Perchlorate	57.1	4.0	0.80	ug/l	50.0	6.2	102	80-120			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29086-MSD1)											
Perchlorate	56.3	4.0	0.80	ug/l	50.0	6.2	100	80-120	1	20	
Batch: 6C29092 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29092-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/29/2006 (6C29092-BS1)											
Total Suspended Solids	953	10	10	mg/l	1000		95	85-115			
Duplicate Analyzed: 03/29/2006 (6C29092-DUP1)											
Total Suspended Solids	22.0	10	10	mg/l		21			5	10	
Batch: 6C29109 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29109-BLK1)											
Total Cyanide	ND	5.0	2.2	ug/l							
LCS Analyzed: 03/29/2006 (6C29109-BS1)											
Total Cyanide	207	5.0	2.2	ug/l	200		104	90-110			

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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Del Mar Analytical

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2823	Sampled: 03/28/06 Received: 03/28/06
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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: 6C29109 Extracted: 03/29/06											
Matrix Spike Analyzed: 03/29/2006 (6C29109-MS1)						Source: IPC2823-01					
Total Cyanide	194	5.0	2.2	ug/l	200	ND	97	70-115			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29109-MSD1)						Source: IPC2823-01					
Total Cyanide	196	5.0	2.2	ug/l	200	ND	98	70-115	1	15	
Batch: 6C29118 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29118-BLK1)											
Turbidity	0.0500	1.0	0.040	NTU							J
Duplicate Analyzed: 03/29/2006 (6C29118-DUP1)						Source: IPC2867-01					
Turbidity	0.110	1.0	0.040	NTU		0.10			10	20	J
Batch: 6C29127 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29127-BLK1)											
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 03/29/2006 (6C29127-BS1)											
Surfactants (MBAS)	0.269	0.10	0.044	mg/l	0.250		108	90-110			
Matrix Spike Analyzed: 03/29/2006 (6C29127-MS1)						Source: IPC2820-01					
Surfactants (MBAS)	0.345	0.10	0.044	mg/l	0.250	0.090	102	50-125			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29127-MSD1)						Source: IPC2820-01					
Surfactants (MBAS)	0.347	0.10	0.044	mg/l	0.250	0.090	103	50-125	1	20	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 002 Report Number: IPC2823	Sampled: 03/28/06 Received: 03/28/06
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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: 6C30104 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30104-BLK1)											
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/30/2006 (6C30104-BS1)											
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0		109	80-115			
Matrix Spike Analyzed: 03/30/2006 (6C30104-MS1)											
Ammonia-N (Distilled)	10.6	0.50	0.30	mg/l	10.0	ND	106	70-120			
Matrix Spike Dup Analyzed: 03/30/2006 (6C30104-MSD1)											
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	

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 Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC2823-01	413.1 Oil and Grease	Oil & Grease	mg/l	1.10	4.8	10.00
IPC2823-01	608-Pest Boeing 001/002 Q (LL)	alpha-BHC	ug/l	0	0.0096	0.0100
IPC2823-01	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2823-01	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0.29	5.0	5.00
IPC2823-01	625-Boeing 001/002 Q-LL	2,4,6-Trichlorophenol	ug/l	0	5.7	6.50
IPC2823-01	625-Boeing 001/002 Q-LL	2,4-Dinitrotoluene	ug/l	0	8.5	9.10
IPC2823-01	625-Boeing 001/002 Q-LL	Bis(2-ethylhexyl)phthalate	ug/l	1.00	4.7	4.00
IPC2823-01	625-Boeing 001/002 Q-LL	N-Nitrosodimethylamine	ug/l	0	7.5	8.10
IPC2823-01	625-Boeing 001/002 Q-LL	Pentachlorophenol	ug/l	0	7.5	8.20
IPC2823-01	BOD	Biochemical Oxygen Demand	mg/l	1.60	2.0	20
IPC2823-01	Chloride - 300.0	Chloride	mg/l	42	5.0	150
IPC2823-01	Copper-200.8	Copper	ug/l	3.20	2.0	7.10
IPC2823-01	Cyanide-335.2 5ppb	Total Cyanide	ug/l	1.30	5.0	5.00
IPC2823-01	Lead-200.8	Lead	ug/l	0.19	1.0	2.60
IPC2823-01	MBAS - SM5540-C	Surfactants (MBAS)	mg/l	0.090	0.10	0.50
IPC2823-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPC2823-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.076	0.15	8.00
IPC2823-01	Perchlorate 314.0	Perchlorate	ug/l	0	4.0	6.00
IPC2823-01	Sulfate-300.0	Sulfate	mg/l	210	5.0	300
IPC2823-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	490	10	950
IPC2823-02	624-Boeing 001/002 Q (Fr113+X)	1,1-Dichloroethene	ug/l	0	3.0	3.20
IPC2823-02	624-Boeing 001/002 Q (Fr113+X)	Trichloroethene	ug/l	0	5.0	5.00

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 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2823

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

DATA QUALIFIERS AND DEFINITIONS

- A-01** Matrix interference confirmed GCMS #1 3/30/2006.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ZX** Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 002

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 120.1	Water	X	X
EPA 160.2	Water	X	X
EPA 160.5	Water	X	X
EPA 180.1	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	N/A	X
EPA 335.2	Water	X	X
EPA 350.2	Water		X
EPA 405.1	Water	X	X
EPA 413.1	Water	X	X
EPA 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.testamericainc.com

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC2823-01

Analysis Performed: EDD + Level 4

Samples: IPC2823-01

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager

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IPC 2023

Del Mar Analytical Version 3/1/06 CHAIN OF CUSTODY FORM

Client Name/Address:		Project:		ANALYSIS REQUIRED															Turn around Time: (check)						
MMH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Project Manager: Bronwyn Kelly Sampler: <i>L. Berne</i>		Boeing-SSFL NPDES Routine Outfall 002 Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Cu, Pb, Hg.	Settleable Solids	VOCS 624 + xylenes	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cyanide (total recoverable)	BOD5(20 degrees C)	Surfactants (MBAS)	Cr, SO4, NO3+NO2-N	Perchlorate	Turbidity, TDS, TSS, Conductivity	Ammonia-N	2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, Pentachlorophenol (EPA 625)	Field readings: Temp = 55.7, pH = 7.6	Comments
Outfall 002	W	Poly-1 liter	1	3/28/06 9:00	HNO3	1A	X																	24 TAT	
Outfall 002-Dup	W	Poly-1 liter	1		HNO3	1B	X																	24 TAT	
Outfall 002	W	Poly-1 liter	1		None	2		X																	
Outfall 002	W	VOAs	3		HCl	3A, 3B, 3C					X														
Outfall 002	W	Glass-Amber	2		None	4A, 4B					X														
Outfall 002	W	1L Amber	2		HCl	5A, 5B					X													24 TAT	
Outfall 002	W	Poly-500 ml	1		NaOH	6					X													24 TAT	
Outfall 002	W	Poly-1 liter	1		None	7					X														
Outfall 002	W	Poly-500 ml	2		None	8A, 8B										X									
Outfall 002	W	Poly-500 ml	2		None	9A, 9B										X									
Outfall 002	W	Poly-500 ml	2		None	10A, 10B											X								
Outfall 002	W	Poly-500 ml	1		H2SO4	11																			
Outfall 002	W	1L Amber	2		None	12A, 12B																			
Outfall 002	W	1L Amber	2		None	13A, 13B																			
Trip Blank	W	VOAs	3		HCl	14A, 14B, 14C																			
Relinquished By	Date/Time:		Received By		Date/Time:		Date/Time:		Date/Time:		Date/Time:		Date/Time:		Date/Time:		Date/Time:		Date/Time:		Date/Time:		Date/Time:		
<i>L. Berne</i>	3/28/06 1500		<i>B. Berne</i>		3/28/06 1800		3/28/06 1800		3/28/06 1800		3/28/06 1800		3/28/06 1800		3/28/06 1800		3/28/06 1800		3/28/06 1800		3/28/06 1800		3/28/06 1800		
<i>B. Berne</i>	3/28/06 1815		<i>Amy Ann</i>		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		
<i>B. Berne</i>	3/28/06 1815		<i>Amy Ann</i>		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		3/28/06 1815		



April 03, 2006

Alta Project I.D.: 27498

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 30, 2006 under your Project Name "IPC2823". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



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



Section I: Sample Inventory Report

Date Received: 3/30/2006

Alta Lab. ID

Client Sample ID

27498-001

IPC2823-01

SECTION II

EPA Method 1613

Method Blank		EPA Method 1613						
Matrix:	Aqueous	QC Batch No.:	7886	Lab Sample:	0-MB001			
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-06			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000977			13C-2,3,7,8-TCDD	74.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000135			13C-1,2,3,7,8-PeCDD	74.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.000000919			13C-1,2,3,4,7,8-HxCDD	75.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.000000964			13C-1,2,3,6,7,8-HxCDD	75.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.000000913			13C-1,2,3,4,6,7,8-HpCDD	76.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.000000944			13C-OCDD	43.6	17 - 157	
OCDD	ND	0.00000222			13C-2,3,7,8-TCDF	79.1	24 - 169	
2,3,7,8-TCDF	ND	0.000000845			13C-1,2,3,7,8-PeCDF	81.7	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000110			13C-2,3,4,7,8-PeCDF	83.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000101			13C-1,2,3,4,7,8-HxCDF	75.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000457			13C-1,2,3,6,7,8-HxCDF	76.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000415			13C-2,3,4,6,7,8-HxCDF	76.4	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000487			13C-1,2,3,7,8,9-HxCDF	76.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000630			13C-1,2,3,4,6,7,8-HpCDF	69.4	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000489			13C-1,2,3,4,7,8,9-HpCDF	79.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000435			13C-OCDF	50.1	17 - 157	
OCDF	ND	0.00000220			CRS 37Cl-2,3,7,8-TCDD	81.3	35 - 197	
Totals								
Total TCDD	ND	0.000000977						
Total PeCDD	ND	0.00000135						
Total HxCDD	ND	0.000000932						
Total HpCDD	ND	0.000000944						
Total TCDF	ND	0.000000845						
Total PeCDF	ND	0.00000106						
Total HxCDF	ND	0.000000491						
Total HpCDF	ND	0.000000463						

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 03-Apr-2006 11:23

OPR Results		EPA Method 1613				
Matrix:	Aqueous	OC Batch No.:	7886	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-06	
				Date Analyzed DB-225:	NA	
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	11.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	63.0	25 - 164
1,2,3,7,8-PeCDD	50.0	59.5	35 - 71	13C-1,2,3,7,8-PeCDD	63.9	25 - 181
1,2,3,4,7,8-HxCDD	50.0	56.2	35 - 82	13C-1,2,3,4,7,8-HxCDD	63.7	32 - 141
1,2,3,6,7,8-HxCDD	50.0	56.1	38 - 67	13C-1,2,3,6,7,8-HxCDD	63.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	54.5	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	52.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	56.0	35 - 70	13C-OCDD	31.1	17 - 157
OCDD	100	113	78 - 144	13C-2,3,7,8-TCDF	63.0	24 - 169
2,3,7,8-TCDF	10.0	11.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	67.1	24 - 185
1,2,3,7,8-PeCDF	50.0	53.9	40 - 67	13C-2,3,4,7,8-PeCDF	68.4	21 - 178
2,3,4,7,8-PeCDF	50.0	54.9	34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4	26 - 152
1,2,3,4,7,8-HxCDF	50.0	55.7	36 - 67	13C-1,2,3,6,7,8-HxCDF	64.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	57.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	65.5	28 - 136
2,3,4,6,7,8-HxCDF	50.0	55.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	63.2	29 - 147
1,2,3,7,8,9-HxCDF	50.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.3	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	54.8	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	56.4	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.6	39 - 69	13C-OCDF	37.9	17 - 157
OCDF	100	106	63 - 170	CRS 37Cl-2,3,7,8-TCDD	78.6	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 03-Apr-2006 11:23

Sample ID: IPC2823-01		EPA Method 1613					
Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27498-001		
Project:	IPC2823	Sample Size:	0.966 L	QC Batch No:	7886		
Date Collected:	28-Mar-06			Date Analyzed DB-5:	1-Apr-06		
Time Collected:	1100			Date Analyzed DB-225:	N/A		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000703		IS 13C-2,3,7,8-TCDD	72.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000163		13C-1,2,3,7,8-PeCDD	70.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000120		13C-1,2,3,4,7,8-HxCDD	70.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000124		13C-1,2,3,6,7,8-HxCDD	70.2	28 - 130	
1,2,3,7,8,9-HpCDD	ND	0.00000118		13C-1,2,3,4,6,7,8-HpCDD	72.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000158		J	13C-OCDD	41.8	17 - 157	
OCDD	0.00000130		J	13C-2,3,7,8-TCDF	71.8	24 - 169	
2,3,7,8-TCDF	ND	0.000000925		13C-1,2,3,7,8-PeCDF	77.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000131		13C-2,3,4,7,8-PeCDF	76.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000131		13C-1,2,3,4,7,8-HxCDF	71.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000412		13C-1,2,3,6,7,8-HxCDF	74.4	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000359		13C-2,3,4,6,7,8-HxCDF	73.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000411		13C-1,2,3,7,8,9-HxCDF	73.1	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000535		13C-1,2,3,4,6,7,8-HpCDF	65.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000546		13C-1,2,3,4,7,8,9-HpCDF	74.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000516		13C-OCDF	50.2	17 - 157	
OCDF	ND	0.00000181		CRS 37Cl-2,3,7,8-TCDD	86.1	35 - 197	
Totals							
Total TCDD	ND	0.000000703					
Total PeCDD	ND	0.00000163					
Total HxCDD	ND	0.00000121					
Total HpCDD	0.00000158		0.00000285				
Total TCDF	ND	0.000000925					
Total PeCDF	ND	0.00000131					
Total HxCDF	ND	0.000000424					
Total HpCDF	ND	0.000000532					

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 03-Apr-2006 11:23

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



17461 Darian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cockey Dr., Suite A, Colton, CA 92324 Ph (909) 370-4867 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9396 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 25, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPC2823

SENDING LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical - Irvine 17461 Darian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 <i>274 98</i> <i>0.3°C</i>

Standard TAT is requested unless specific due date is requested => Due Date: 4/5/06 Initials: _____

Analysis	Expiration	Comments
Sample ID: IPC2823-01 Water 1613-Dioxin-HR-Alta EDD + Level 4	Sampled: 03/28/06 11:00 04/04/06 11:00 04/25/06 11:00	Instant Notification J flags, 17 congeners, no TEQ, ng/L, sub=Alta Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IPC2823-01G) 1 L Amber (IPC2823-01H)		

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 Property: Yes No Samples Received at (temp): _____

~~Released By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____~~
3/24/06 *Bettina Benedict 3/30/06 0900*

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

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27498

Samples Arrival:	Date/Time 3/30/06 0900	Initials: BSB	Location: WR-2
Logged In:	Date/Time 3/30/06 1116	Initials: BSB	Location: WR-2
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> Cal
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C	0.3°C	Time: 1023	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7914 2591 2912		
Sample Container Intact?			✓
Sample Custody Seals Intact?			
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?			None
Shipping Container	Alta	<input checked="" type="radio"/> Client	Retain
		<input checked="" type="radio"/> Return	Dispose

Comments:

APPENDIX G

Section 78

Outfall 002, March 28, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
 12260 East Vassar Drive
 Suite 500
 Lakewood, CO 80226

Package ID B4DF58
 Task Order 1261.001D.01
 SDG No. IPC2823
 No. of Analyses 1

Laboratory Alta Analytical

Date: April 10, 2006 ~~February 17, 2006~~

Reviewer E. Wessling

Reviewer's Signature 

Analysis/Method Dioxins/ Furans by Method 1613

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications were assigned for the following: - results between the RL and the MDL were estimated and annotated "DNQ"
COMMENTS ^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Annual Outfall 002

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC2823

Prepared by

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

1. INTRODUCTION

Task Order Title:	NPDES
Contract Task Order:	1261.001D.01
Sample Delivery Group:	IPC2823
Project Manager:	P. Costa
Matrix:	Water
Analysis:	Dioxins/Furans
QC Level:	Level IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Reviewer:	E. Wessling
Date of Review:	April 10, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 002	IPC2823-01	27498-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7886-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7886-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualification of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.



Sample ID: IPC2823-01		Outfall 002		EPA Method 1613			
Client Data		Sample Data		Laboratory Data			
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 27498-001	Date Received: 30-Mar-06				
Project: IPC2823	Sample Size: 0.966 L	QC Batch No.: 7886	Date Extracted: 31-Mar-06				
Date Collected: 28-Mar-06		Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225: NA				
Time Collected: 1100							
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000703		13C-2,3,7,8-TCDD	72.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000163		13C-1,2,3,7,8-PeCDD	70.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000120		13C-1,2,3,4,7,8-HxCDD	70.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000124		13C-1,2,3,6,7,8-HxCDD	70.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000118		13C-1,2,3,4,6,7,8-HpCDD	72.5	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000158		J	13C-OCDD	41.8	17 - 157	
OCDD	0.0000130		J	13C-2,3,7,8-TCDF	71.8	24 - 169	
2,3,7,8-TCDF	ND	0.00000925		13C-1,2,3,7,8-PeCDF	77.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000131		13C-2,3,4,7,8-PeCDF	76.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000131		13C-1,2,3,4,7,8-HxCDF	71.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000412		13C-1,2,3,6,7,8-HxCDF	74.4	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000359		13C-2,3,4,6,7,8-HxCDF	73.6	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000411		13C-1,2,3,7,8,9-HxCDF	73.1	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000535		13C-1,2,3,4,6,7,8-HpCDF	65.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000546		13C-1,2,3,4,7,8,9-HpCDF	74.5	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000516		13C-OCDF	50.2	17 - 157	
OCDF	ND	0.00000181		CRS 37Cl-2,3,7,8-TCDD	86.1	35 - 197	
Totals							
Total TCDD	ND	0.000000703					
Total PeCDD	ND	0.00000163					
Total HxCDD	ND	0.00000121					
Total HpCDD	0.00000158		0.00000285				
Total TCDF	ND	0.00000925					
Total PeCDF	ND	0.00000131					
Total HxCDF	ND	0.00000424					
Total HpCDF	ND	0.00000532					

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
 Date: 03-Apr-2006 11:23

LEVEL IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4VO53
 Task Order 1261.001D.01
 SDG No. IPC2823

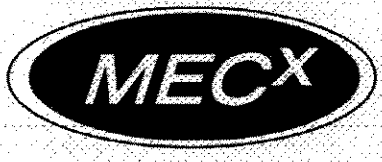
No. of Analyses 2

Laboratory Del Mar Analytical-Irvine
 Reviewer K. Shadowlight
 Analysis/Method Volatiles by Method 624

Date: April 11, 2006
 Reviewer's Signature


ACTION ITEMS^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications were assigned for the following : - a continuing calibration %D outlier - a surrogate outlier The detect between the MDL and the reporting limit was qualified as estimated.
COMMENTS^b	

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



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 002

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC2823

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC2823
Project Manager: P. Costa
Matrix: Water
Analysis: Volatiles
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 11, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 002	IPC2823-01	Water	624
Trip Blank	IPC2823-02	Water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 GC/MS TUNING

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

2.3 CALIBRATION

Four initial calibrations were associated with the sample analyses, dated 03/16/06 (trichlorotrifluoroethane only on instruments GC/MS #1 and GC/MS #36) and 03/28/06 (all remaining target compounds on GC/MS #1 and GC/MS #36). The average RRFs were \geq 0.05 and the %RSDs were \leq 35% for all target compounds listed on the sample result summary forms. Two continuing calibrations were associated with the sample analyses, dated 03/30/06 (instruments GC/MS #1 and GC/MS #36). The RRFs were \geq 0.05 and all %Ds were within the QC limit of \leq 20%, with the exception of the %D for carbon tetrachloride (instrument GC/MS#36). The nondetect result for carbon tetrachloride was qualified as estimated, "UJ," in sample Outfall 002.

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

2.4 BLANKS

Two method blanks (6C30002-BLK1 and 6C30026-BLK1) were analyzed with this SDG. No target compounds were detected above the MDLs in either of the method blanks. Review of the method blank raw data indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spikes (6C30002-BS1 and 6C30026-BS1) were analyzed with this SDG. All recoveries were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate dibromofluoromethane was recovered marginally above the laboratory QC limits. The sample was reanalyzed with similar results; therefore, the detect for trichloroethene was qualified as estimated, "J," in site sample Outfall 002. The remaining surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No further qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.8 FIELD QC SAMPLES

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

2.8.1 Trip Blanks

Sample Trip Blank was the trip blank associated with site sample Outfall 018. No target compounds were detected in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

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

2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

2.9 INTERNAL STANDARDS PERFORMANCE

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

2.10 COMPOUND IDENTIFICATION

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

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any detects reported between the MDL and the reporting limit were qualified as estimated, "J," and annotated with the "DNQ" qualifier code in accordance with the NPDES permit. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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

2.13 SYSTEM PERFORMANCE

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



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

Project ID: Routine Outfall 002

Report Number: IPC2823

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

PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	u
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30026	1.2	5.0	ND	1	03/30/06	03/31/06	u
Carbon tetrachloride	EPA 624	6C30026	0.28	5.0	ND	1	03/30/06	03/31/06	u
Chloroform	EPA 624	6C30026	0.33	2.0	ND	1	03/30/06	03/31/06	u
1,1-Dichloroethane	EPA 624	6C30026	0.27	2.0	ND	1	03/30/06	03/31/06	u
2-Dichloroethane	EPA 624	6C30026	0.28	2.0	ND	1	03/30/06	03/31/06	u
1,1-Dichloroethene	EPA 624	6C30026	0.42	3.0	ND	1	03/30/06	03/31/06	u
Ethylbenzene	EPA 624	6C30026	0.25	2.0	ND	1	03/30/06	03/31/06	u
Tetrachloroethene	EPA 624	6C30026	0.32	2.0	ND	1	03/30/06	03/31/06	u
Toluene	EPA 624	6C30026	0.36	2.0	ND	1	03/30/06	03/31/06	u
1,1,1-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	u
1,1,2-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	u
Trichloroethene	EPA 624	6C30026	0.26	5.0	0.29	1	03/30/06	03/31/06	J, J
Trichlorofluoromethane	EPA 624	6C30026	0.34	5.0	ND	1	03/30/06	03/31/06	u
Vinyl chloride	EPA 624	6C30026	0.26	5.0	ND	1	03/30/06	03/31/06	u
Xylenes, Total	EPA 624	6C30026	0.90	4.0	ND	1	03/30/06	03/31/06	u
Surrogate: Dibromofluoromethane (80-120%)					122%				A-01, ZX
Surrogate: Toluene-d8 (80-120%)					111%				
Surrogate: 4-Bromofluorobenzene (80-120%)					106%				
Sample ID: IPC2823-02 (Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	u
Trichlorotrifluoroethane (Freon 113)	EPA 624	6C30002	1.2	5.0	ND	1	03/30/06	03/30/06	u
Carbon tetrachloride	EPA 624	6C30002	0.28	5.0	ND	1	03/30/06	03/30/06	u
Chloroform	EPA 624	6C30002	0.33	2.0	ND	1	03/30/06	03/30/06	u
1,1-Dichloroethane	EPA 624	6C30002	0.27	2.0	ND	1	03/30/06	03/30/06	u
2-Dichloroethane	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06	u
1,1-Dichloroethene	EPA 624	6C30002	0.42	3.0	ND	1	03/30/06	03/30/06	u
Ethylbenzene	EPA 624	6C30002	0.25	2.0	ND	1	03/30/06	03/30/06	u
Tetrachloroethene	EPA 624	6C30002	0.32	2.0	ND	1	03/30/06	03/30/06	u
Toluene	EPA 624	6C30002	0.36	2.0	ND	1	03/30/06	03/30/06	u
1,1,1-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	u
1,1,2-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND	1	03/30/06	03/30/06	u
Trichloroethene	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	u
Trichlorofluoromethane	EPA 624	6C30002	0.34	5.0	ND	1	03/30/06	03/30/06	u
Vinyl chloride	EPA 624	6C30002	0.26	5.0	ND	1	03/30/06	03/30/06	u
Xylenes, Total	EPA 624	6C30002	0.90	4.0	ND	1	03/30/06	03/30/06	u
Surrogate: Dibromofluoromethane (80-120%)					118%				
Surrogate: Toluene-d8 (80-120%)					100%				
Surrogate: 4-Bromofluorobenzene (80-120%)					93%				

Handwritten notes in the first table: 'u' in Qualifiers, 'C' in Code, 'DNQ, S' in Code, 'A-01, ZX' in Code.

Handwritten notes in the second table: 'u' in Qualifiers.

Level II

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

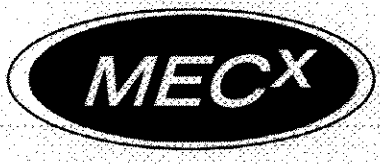
Package ID: B4WC54
 Task Order: 1261.001D.01
 SDG No.: IPC2823

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: General Minerals

Date: April 11, 2006
 Reviewer's Signature


ACTION ITEMS^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	
COMMENTS^b	Acceptable as reviewed.
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Sampling
Outfall 002

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC2823

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC2823
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 12, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 002	IPC2823-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 CALIBRATION

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; however, as the ammonia LCS recovery was within the CCV control limits, no qualifications were required.

2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

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

2.5 LABORATORY DUPLICATES

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

2.6 MATRIX SPIKES

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

2.7 SAMPLE RESULT VERIFICATION

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

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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

Project ID: Routine Outfall 002

Report Number: IPC2823

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

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Water) - cont.									
Reporting Units: mg/l									
Ammonia-N (Distilled)	EPA 350.2	6C30104	0.30	0.50	ND	1	03/30/06	03/30/06	U
Biochemical Oxygen Demand	EPA 405.1	6C29064	0.59	2.0	1.6	1	03/29/06	04/03/06	* J
Chloride	EPA 300.0	6C28055	1.5	5.0	42	10	03/28/06	03/28/06	J
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	ND	1	03/28/06	03/28/06	J
Oil & Grease	EPA 413.1	6C29047	0.90	4.8	1.1	1	03/29/06	03/29/06	J
Sulfate	EPA 300.0	6C28055	4.5	5.0	210	10	03/28/06	03/28/06	J
Surfactants (MBAS)	SM5540-C	6C29127	0.044	0.10	0.090	1	03/29/06	03/29/06	J
Total Dissolved Solids	SM2540C	6C29077	10	10	490	1	03/29/06	03/29/06	J
Total Suspended Solids	EPA 160.2	6C29092	10	10	ND	1	03/29/06	03/29/06	J
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: ml/hr									
Total Settleable Solids	EPA 160.5	6C28105	0.10	0.10	0.10	1	03/28/06	03/28/06	J
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: NTU									
Turbidity	EPA 180.1	6C29118	0.040	1.0	2.9	1	03/29/06	03/29/06	J
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: ug/l									
Total Cyanide	EPA 335.2	6C29109	2.2	5.0	ND	1	03/29/06	03/29/06	* J
Perchlorate	EPA 314.0	6C29086	0.80	4.0	ND	1	03/29/06	03/29/06	* J
Sample ID: IPC2823-01 (Outfall 002 - Water)									
Reporting Units: umhos/cm									
Specific Conductance	EPA 120.1	6C29076	1.0	1.0	900	1	03/29/06	03/29/06	J

* Analysis not validated

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 Michele Chamberlin
 Project Manager

LEVEL IV

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IPC2823 <Page 6 of 24>

APPENDIX G

Section 79

Outfall 003, March 1, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 003

Sampled: 03/01/06
Received: 03/01/06
Revised: 03/20/06 16:52

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

ADDITIONAL INFORMATION: Report reissued with Project Number only.

LABORATORY ID	CLIENT ID	MATRIX
IPC0164-01	Outfall 003	Water

Reviewed By:

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager



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

Project ID: Routine Outfall 003
 Report Number: IPC0164

Sampled: 03/01/06
 Received: 03/01/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0164-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C04030	0.050	2.0	0.53	1	03/04/06	03/07/06	J
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.10	1	03/04/06	03/07/06	J
Copper	EPA 200.8	6C04030	0.25	2.0	4.9	1	03/04/06	03/07/06	
Lead	EPA 200.8	6C04030	0.040	1.0	0.53	1	03/04/06	03/07/06	J
Mercury	EPA 245.1	6C02097	0.050	0.20	ND	1	03/02/06	03/02/06	

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 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0164-01 (Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C02051	0.15	0.50	25	1	03/02/06	03/02/06	
Nitrate/Nitrite-N	EPA 300.0	6C02051	0.080	0.15	1.6	1	03/02/06	03/02/06	
Oil & Grease	EPA 413.1	6C13044	0.90	4.8	ND	1	03/13/06	03/13/06	
Sulfate	EPA 300.0	6C02051	0.90	1.0	63	2	03/02/06	03/03/06	
Total Dissolved Solids	SM2540C	6C06069	10	10	270	1	03/06/06	03/06/06	
Total Suspended Solids	EPA 160.2	6C07078	10	10	ND	1	03/07/06	03/07/06	

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing
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 Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 003 (IPC0164-01) - Water EPA 300.0	2	03/01/2006 08:05	03/01/2006 19:00	03/02/2006 08:00	03/02/2006 11:30

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 Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C02097 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02097-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/02/2006 (6C02097-BS1)											
Mercury	7.88	0.20	0.050	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/02/2006 (6C02097-MS1)											
						Source: IPB2608-01					
Mercury	7.84	0.20	0.050	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02097-MSD1)											
						Source: IPB2608-01					
Mercury	7.88	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C04030 Extracted: 03/04/06											
Blank Analyzed: 03/07/2006 (6C04030-BLK1)											
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/07/2006 (6C04030-BS1)											
Antimony	80.4	2.0	0.050	ug/l	80.0		100	85-115			
Cadmium	82.2	1.0	0.025	ug/l	80.0		103	85-115			
Copper	82.2	2.0	0.25	ug/l	80.0		103	85-115			
Lead	78.1	1.0	0.040	ug/l	80.0		98	85-115			
Matrix Spike Analyzed: 03/07/2006 (6C04030-MS1)											
						Source: IPC0303-01					
Antimony	80.9	2.0	0.050	ug/l	80.0	ND	101	70-130			
Cadmium	80.4	1.0	0.025	ug/l	80.0	ND	100	70-130			
Copper	80.2	2.0	0.25	ug/l	80.0	0.45	100	70-130			
Lead	77.8	1.0	0.040	ug/l	80.0	0.044	97	70-130			

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 003
 Report Number: IPC0164

Sampled: 03/01/06
 Received: 03/01/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C04030 Extracted: 03/04/06											
Matrix Spike Analyzed: 03/07/2006 (6C04030-MS2)						Source: IPC0303-02					
Antimony	80.8	2.0	0.050	ug/l	80.0	0.087	101	70-130			
Cadmium	79.7	1.0	0.025	ug/l	80.0	0.13	99	70-130			
Copper	81.0	2.0	0.25	ug/l	80.0	1.2	100	70-130			
Lead	77.6	1.0	0.040	ug/l	80.0	0.15	97	70-130			
Matrix Spike Dup Analyzed: 03/07/2006 (6C04030-MSD1)						Source: IPC0303-01					
Antimony	81.0	2.0	0.050	ug/l	80.0	ND	101	70-130	0	20	
Cadmium	80.1	1.0	0.025	ug/l	80.0	ND	100	70-130	0	20	
Copper	79.7	2.0	0.25	ug/l	80.0	0.45	99	70-130	1	20	
Lead	77.8	1.0	0.040	ug/l	80.0	0.044	97	70-130	0	20	

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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

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

Project ID: Routine Outfall 003

Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C02051 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02051-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/02/2006 (6C02051-BS1)											
Chloride	4.75	0.50	0.15	mg/l	5.00		95	90-110			
Sulfate	9.68	0.50	0.45	mg/l	10.0		97	90-110			
Matrix Spike Analyzed: 03/02/2006 (6C02051-MS1) Source: IPC0165-01											
Chloride	27.1	0.50	0.15	mg/l	5.00	22	102	80-120			
Sulfate	17.0	0.50	0.45	mg/l	10.0	6.7	103	80-120			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02051-MSD1) Source: IPC0165-01											
Chloride	26.2	0.50	0.15	mg/l	5.00	22	84	80-120	3	20	
Sulfate	16.5	0.50	0.45	mg/l	10.0	6.7	98	80-120	3	20	
Batch: 6C06069 Extracted: 03/06/06											
Blank Analyzed: 03/06/2006 (6C06069-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/06/2006 (6C06069-BS1)											
Total Dissolved Solids	992	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/06/2006 (6C06069-DUP1) Source: IPC0087-01											
Total Dissolved Solids	865	10	10	mg/l		860			1	10	

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 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 003 Report Number: IPC0164	Sampled: 03/01/06 Received: 03/01/06
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
Batch: 6C07078 Extracted: 03/07/06											
Blank Analyzed: 03/07/2006 (6C07078-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/07/2006 (6C07078-BS1)											
Total Suspended Solids	966	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 03/07/2006 (6C07078-DUP1)											
						Source: IPC0093-01					
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C13044 Extracted: 03/13/06											
Blank Analyzed: 03/13/2006 (6C13044-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/13/2006 (6C13044-BS1)											
Oil & Grease	19.6	5.0	0.94	mg/l	20.0		98	65-120			M-NRI
LCS Dup Analyzed: 03/13/2006 (6C13044-BSD1)											
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120	2	20	

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 003 Report Number: IPC0164	Sampled: 03/01/06 Received: 03/01/06
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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
IPC0164-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.48	4.8	15
IPC0164-01	Antimony-200.8	Antimony	ug/l	0.53	2.0	6.00
IPC0164-01	Cadmium-200.8	Cadmium	ug/l	0.100	1.0	4.00
IPC0164-01	Chloride - 300.0	Chloride	mg/l	25	0.50	150
IPC0164-01	Copper-200.8	Copper	ug/l	4.90	2.0	14
IPC0164-01	Lead-200.8	Lead	ug/l	0.53	1.0	5.20
IPC0164-01	Mercury - 245.1	Mercury	ug/l	0.020	0.20	0.20
IPC0164-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	1.60	0.15	10.00
IPC0164-01	Sulfate-300.0	Sulfate	mg/l	63	1.0	250
IPC0164-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	270	10	850

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC0164

Sampled: 03/01/06
Received: 03/01/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-NRI** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
EPA 905.0	Water		
SM2540C	Water	X	X

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPC0164-01

Analysis Performed: EDD + Level 4
Samples: IPC0164-01

Eberline Services

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Level 4 + EDD
Samples: IPC0164-01

Analysis Performed: Strontium 90
Samples: IPC0164-01

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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Del Mar Analytical Version 10/21/05 **CHAIN OF CUSTODY FORM**

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Project Manager: Bronwyn Kelly Sampler: <i>S. J. ...</i>		Project: Boeing-SSFL NPDES Routine Outfall 003 Stormwater at RMHF Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		ANALYSIS REQUIRED Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg TCDD (and all congeners) Oil & Grease (EPA 413.1) Cl ₂ , SO ₄ , NO ₃ +NO ₂ -N TDS, TSS Sr-90 (90S.0)		Field readings: Temp = 54° pH = 7.2 Comments									
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	1A	1B	2A, 2B	3A, 3B	4A, 4B	5A, 5B	6A, 6B	Turn around Time: (check)	Sample Integrity: (Check)
Outfall 003	W	1L Poly	1	3/1/06 6:25	HNO3	1A	X							24 Hours	Intact
Outfall 003-Dup	W	1L Poly	1		HNO3	1B	X							48 Hours	
Outfall 003	W	1L Amber	2		None	2A, 2B			X					72 Hours	
Outfall 003	W	1L Amber	2		HCl	3A, 3B				X				Percarbonate Only 72 Hours	
Outfall 003	W	Poly-500 ml	2		None	4A, 4B					X			Metals Only 72 Hours	
Outfall 003	W	Poly-500 ml	2		None	5A, 5B						X		Sample Integrity: (Check)	
Outfall 003	W	Poly-1 gal	1		None	6A, 6B							X	On Ice:	4
Relinquished By				Date/Time: 3/1/06 1545	Received By									Date/Time: 3/1/06 1545	
Relinquished By				Date/Time: 3/1/06 1900	Received By									Date/Time: 3/1/06 1900	
Relinquished By				Date/Time:	Received By									Date/Time:	



March 08, 2006

Alta Project I.D.: 27367

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 03, 2006 under your Project Name "IPC0164". 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,

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

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/3/2006

Alta Lab. ID

Client Sample ID

27367-001

IPC0164-01

SECTION II

Method Blank		EPA Method 1613					
Matrix:	Aqueous	QC Batch No.:	7807 <th>Lab Sample:</th> <td>0-MB001 </td>	Lab Sample:	0-MB001		
Sample Size:	1.00 L	Date Extracted:	5-Mar-06 <th>Date Analyzed DB-5:</th> <td>7-Mar-06 </td>	Date Analyzed DB-5:	7-Mar-06		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Date Analyzed DB-225:	NA	
				Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000119		IS 13C-2,3,7,8-TCDD	82.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000130		13C-1,2,3,7,8-PeCDD	84.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000161		13C-1,2,3,4,7,8-HxCDD	82.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000170		13C-1,2,3,6,7,8-HxCDD	81.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000161		13C-1,2,3,4,6,7,8-HpCDD	79.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000167		13C-OCDD	54.4	17 - 157	
OCDD	ND	0.00000485		13C-2,3,7,8-TCDF	85.8	24 - 169	
2,3,7,8-TCDF	ND	0.00000138		13C-1,2,3,7,8-PeCDF	89.7	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000126		13C-2,3,4,7,8-PeCDF	92.9	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000115		13C-1,2,3,4,7,8-HxCDF	82.7	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000677		13C-1,2,3,6,7,8-HxCDF	82.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000623		13C-2,3,4,6,7,8-HxCDF	83.9	28 - 136	
1,2,3,6,7,8-HxCDF	ND	0.00000697		13C-1,2,3,7,8,9-HxCDF	77.1	29 - 147	
2,3,4,6,7,8-HxCDF	ND	0.00000951		13C-1,2,3,4,6,7,8-HpCDF	71.7	28 - 143	
1,2,3,7,8,9-HxCDF	ND	0.00000890		13C-1,2,3,4,7,8,9-HpCDF	80.8	26 - 138	
1,2,3,4,6,7,8-HpCDF	ND	0.00000780		13C-OCDF	59.4	17 - 157	
1,2,3,4,7,8,9-HpCDF	ND	0.00000335		CRS 37Cl-2,3,7,8-TCDD	90.3	35 - 197	
OCDF	ND						
Totals							
Total TCDD	ND	0.00000119					
Total PeCDD	ND	0.00000130					
Total HxCDD	ND	0.00000164					
Total HpCDD	ND	0.00000167					
Total TCDF	ND	0.00000138					
Total PeCDF	ND	0.00000120					
Total HxCDF	ND	0.00000725					
Total HpCDF	ND	0.00000836					

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
08-Mar-2006 14:55

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	7807	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	5-Mar-06	Date Analyzed DB-5:	7-Mar-06	
				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	11.1	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	77.8	25 - 164
1,2,3,7,8-PeCDD	50.0	56.7	35 - 71	13C-1,2,3,7,8-PeCDD	81.0	25 - 181
1,2,3,4,7,8-HxCDD	50.0	54.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	74.4	32 - 141
1,2,3,6,7,8-HxCDD	50.0	53.3	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.6	28 - 130
1,2,3,7,8,9-HxCDD	50.0	52.4	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	74.2	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	55.2	35 - 70	13C-OCDD	52.1	17 - 157
OCDD	100	109	78 - 144	13C-2,3,7,8-TCDF	78.6	24 - 169
2,3,7,8-TCDF	10.0	11.2	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	84.3	24 - 185
1,2,3,7,8-PeCDF	50.0	55.2	40 - 67	13C-2,3,4,7,8-PeCDF	87.3	21 - 178
2,3,4,7,8-PeCDF	50.0	56.1	34 - 80	13C-1,2,3,4,7,8-HxCDF	76.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	55.2	36 - 67	13C-1,2,3,6,7,8-HxCDF	76.9	26 - 123
1,2,3,6,7,8-HxCDF	50.0	56.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0	56.4	35 - 78	13C-1,2,3,7,8,9-HxCDF	69.6	29 - 147
1,2,3,7,8,9-HxCDF	50.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	70.6	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	55.1	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	74.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.0	39 - 69	13C-OCDF	57.0	17 - 157
OCDF	100	105	63 - 170	CRS 37Cl-2,3,7,8-TCDD	94.1	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 08-Mar-2006 14:55

Sample ID: IPC0164-01		EPA Method 1613					
Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27367-001		
Project:	IPC0164	Sample Size:	0.997 L	QC Batch No.:	7807		
Date Collected:	1-Mar-06			Date Analyzed:	3-Mar-06		
Time Collected:	0805			Date Analyzed DB-25:	5-Mar-06		
				Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000114		IS 13C-2,3,7,8-TCDD	69.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000878		13C-1,2,3,7,8-PeCDD	68.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000224		13C-1,2,3,4,7,8-HxCDD	60.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000229		13C-1,2,3,6,7,8-HxCDD	61.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000220		13C-1,2,3,4,6,7,8-HpCDD	60.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000515			13C-OCDD	40.7	17 - 157	
OCDD	0.0000476		J	13C-2,3,7,8-TCDF	69.9	24 - 169	
2,3,7,8-TCDF	ND	0.00000147		13C-1,2,3,7,8-PeCDF	76.0	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000143		13C-2,3,4,7,8-PeCDF	73.3	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000136		13C-1,2,3,4,7,8-HxCDF	56.5	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000886		13C-1,2,3,6,7,8-HxCDF	56.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000826		13C-2,3,4,6,7,8-HxCDF	56.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000895		13C-1,2,3,7,8,9-HxCDF	61.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000117		13C-1,2,3,4,6,7,8-HpCDF	56.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000151		13C-1,2,3,4,7,8,9-HpCDF	60.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000141		13C-OCDF	45.2	17 - 157	
OCDF	ND	0.00000380		CRS 37Cl-2,3,7,8-TCDD	86.2	35 - 197	
Totals							
Total TCDD	ND	0.00000114					
Total PeCDD	ND	0.000000878					
Total HxCDD	ND	0.00000224					
Total HpCDD	0.0000113						
Total TCDF	ND	0.00000147					
Total PeCDF	ND	0.00000140					
Total HxCDF	ND	0.000000937					
Total HpCDF	ND	0.00000146					
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 08-Mar-2006 14:55

Project 27367

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1914 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) 505-9396 Fax (619) 505-8689
 9636 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0051
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 796-3620 Fax (702) 796-3621

SUBCONTRACT ORDER - PROJECT # IPC0164

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 Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 <div style="text-align: right; font-size: 1.5em; margin-top: 10px;">27367</div> <div style="text-align: right; font-size: 1.5em; margin-top: 10px;">0.4°C</div>

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

Analysis	Expiration	Comments
Sample ID: IPC0164-01 Water	Sampled: 03/01/06 08:05	Instant Notification
1613-Dioxin-HR-Alta	03/08/06 08:05	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	03/29/06 08:05	Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC0164-01C)		
1 L Amber (IPC0164-01D)		

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

Fed - EX 3-2-06

Released By	Date	Time	Received By	Date	Time
			<i>Bettina Q. Benedict</i>	3/3/06	0855
Released By	Date	Time	Received By	Date	Time

Project 27367

Page 01 of 19

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27367

Samples Arrival:	Date/Time 3/3/06 0855	Initials: BAB	Location: WR-2
Logged In:	Date/Time 3/3/06 1313	Initials: BAB	Location: WR-2
Delivered By:	<u>FedEx</u> UPS	Cal	DHL
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
Temp °C	0.4	Time: 1000	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # 7920 3239 5438			
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			<u>None</u>
Shipping Container	Alta	<u>Client</u>	Retain
			<u>Return</u>
			Dispose

Comments:



EBERLINE
SERVICES

April 6, 2006

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

Reference: Del Mar Analytical Project No. IPC0164
Eberline Services NELAP Cert #01120CA (exp. 01/31/07)
Eberline Services Report R603040-8668

Dear Ms. Chamberlin:

Enclosed are results from the analyses of one water sample received at Eberline Services on March 3, 2006. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analysis was strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analysis, and duplicate analysis results for the analysis were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require a matrix spike analysis to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

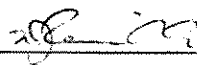
Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

Eberline Services

ANALYSIS RESULTS

SDG <u>8668</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603040-01</u>	Contract <u>PROJECT# IPC0164</u>
Received Date <u>03/03/06</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
IPC0164-01	8668-001	03/01/06	03/17/06	Sr-90	1.28 ± 0.40	pCi/L	0.511

Certified by <u></u>
Report Date <u>04/05/06</u>
Page 1

Eberline Services

QC RESULTS

SDG <u>8668</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603040-01</u>	Contract <u>PROJECT# IPC0164</u>
Received Date <u>03/03/06</u>	Matrix <u>WATER</u>

Lab	Sample ID	Nuclide	Results	Units	Amount Added	MDA	Evaluation
<u>LCS</u>	8668-002	Sr-90	9.44 ± 0.66	pCi/Smpl	9.83	0.253	96% recovery
<u>BLANK</u>	8668-003	Sr-90	-0.002 ± 0.10	pCi/Smpl	NA	0.243	<MDA

<u>DUPLICATES</u>				<u>ORIGINALS</u>				
<u>Sample ID</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>MDA</u>	<u>Sample ID</u>	<u>Results ± 2σ</u>	<u>MDA</u>	<u>RPD (Tot)</u>	<u>Eval</u>
8668-004	Sr-90	0.859 ± 0.35	0.500	8668-001	1.28 ± 0.40	0.511	39	78 satis.

Certified by *[Signature]*
 Report Date 04/05/06
 Page 2



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228

1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689

9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851

2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IPC0164

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 Chamberlin	Eberline Services 2030 Wright Avenue Richmond, CA 94804 Phone: (510) 235-2633 Fax: (510) 235-0438 <i>2668</i>

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

Analysis	Expiration	Comments
Sample ID: IPC0164-01 Water	Sampled: 03/01/06 08:05	Instant Notification
Level 4 + EDD-OUT	03/29/06 08:05	**LEVEL IV QC, ACCESS 7 EDD**
Strontium 90-O	03/01/07 08:05	905.0, sub to Eberline

Containers Supplied:
1 gal Poly (IPC0164-01K)

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

Released By: *[Signature]* Date: _____ Time: _____ Received By: *[Signature]* Date: *03/03/06* Time: *9:30*

Released By: *Fed Ex* Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____

8668



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL MAR City IRVINE State CA
 Date/Time received 03/03/06 9:30 CoC No. IPC0164
 Container I.D. No. BOX/S17120 Requested TAT (Days) STD P.O. Received Yes [] No []

INSPECTION

- Custody seals on shipping container intact? Yes [] No [] N/A [X]
- Custody seals on shipping container dated & signed? Yes [] No [] N/A [X]
- Custody seals on sample containers intact? Yes [] No [] N/A [X]
- Custody seals on sample containers dated & signed? Yes [] No [] N/A [X]
- Packing material is: 1 Wet [] Dry [X]
- Number of samples in shipping container: 1 Sample Matrix W
- Number of containers per sample: 1 (Or see CoC)
- Samples are in correct container Yes [X] No []
- Paperwork agrees with samples? Yes [X] No []
- Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels [X]
- Samples are: In good condition [X] Leaking [] Broken Container [] Missing []
- Samples are: Preserved [] Not preserved [X] pH Preservative
- Describe any anomalies:
- Was P.M. notified of any anomalies? Yes [] No [] Date
- Inspected by [Signature] Date: 03/03/06 Time:

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

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

APPENDIX G

Section 80

Outfall 003, March 1, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4DF44
 Task Order 1261.001D.01
 SDG No. IPC0164

No. of Analyses 1

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxin/Furan by Method 1613

Date: April 2, 2006
 Reviewer's Signature
K. Shadowlight

ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Detects below the laboratory lower calibration level were qualified as estimated.
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 003

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC0164

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001.01
Sample Delivery Group: IPC0164
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 2, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 003	IPC0164-01	27367-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7807-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7807-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

EPA Method 1613

Sample ID: **IPC0164-01** Outfall 003

Client Data
 Name: Del Mar Analytical, Irvine
 Project: IPC0164
 Date Collected: 1-Mar-06
 Time Collected: 0805

Laboratory Data
 Lab Sample: 27367-001
 QC Batch No.: 7807
 Date Analyzed DB-5: 8-Mar-06

Sample Data
 Matrix: Aqueous
 Sample Size: 0.997 L

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000114			13C-2,3,7,8-TCDD	69.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.000000878			13C-1,2,3,7,8-PeCDD	68.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000224			13C-1,2,3,4,7,8-HxCDD	60.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000229			13C-1,2,3,6,7,8-HxCDD	61.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000220			13C-1,2,3,4,6,7,8-HpCDD	60.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000515			J	13C-OCDD	40.7	17 - 157	
OCDD	0.0000476			J	13C-2,3,7,8-TCDF	69.9	24 - 169	
2,3,7,8-TCDF	ND	0.00000147			13C-1,2,3,7,8-PeCDF	76.0	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000143			13C-2,3,4,7,8-PeCDF	73.3	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000136			13C-1,2,3,4,7,8-HxCDF	56.5	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000886			13C-1,2,3,6,7,8-HxCDF	56.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000826			13C-2,3,4,6,7,8-HxCDF	56.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000895			13C-1,2,3,7,8,9-HxCDF	61.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000117			13C-1,2,3,4,6,7,8-HpCDF	56.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000151			13C-1,2,3,4,7,8,9-HpCDF	60.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000141			13C-OCDF	45.2	17 - 157	
OCDF	ND	0.00000380			CRS 37Cl-2,3,7,8-TCDD	86.2	35 - 197	

Totals

Total TCDD	ND	0.00000114						
Total PeCDD	ND	0.000000878						
Total HxCDD	ND	0.00000224						
Total HpCDD	0.00000113							
Total TCDF	ND	0.00000147						
Total PeCDF	ND	0.00000140						
Total HxCDF	ND	0.000000937						
Total HpCDF	ND	0.00000146						

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
 Date: 08-Mar-2006 14:55

Level IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4MT43
 Task Order: 1261.001D.01
 SDG No.: IPC0164

No. of Analyses: 1

Laboratory: <u>Del Mar Analytical</u> Reviewer: <u>P. Meeks</u> Analysis/Method: <u>Metals</u>	Date: <u>April 10, 2006</u> Reviewer's Signature
--	---

ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications applied for a blank detect and a detect below the reporting limit.
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^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 Sampling
Outfall 003

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPC0164

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC0164
Project Manager: P. Costa
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 10, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 003	IPC0164-01	Water	200.8

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

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

2.3 CALIBRATION

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

2.4 BLANKS

Cadmium was detected in a bracketing CCB at 0.027 µg/L; therefore, cadmium detected in Outfall 003 was qualified as an estimated nondetect, "UJ." No further qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

No ICSA and ICSAB analyses were performed in association with the sample in this SDG for the ICP-MS metals; therefore, no assessment was made with respect to this criterion.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

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

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKES

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

2.9 ICP/MS AND ICP SERIAL DILUTION

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

2.10 INTERNAL STANDARDS PERFORMANCE

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

2.11 SAMPLE RESULT VERIFICATION

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

2.12 FIELD QC SAMPLES

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

2.12.1 Field Blanks and Equipment Rinsates

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

2.12.2 Field Duplicates

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



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

Project ID: Routine Outfall 003

Report Number: IPC0164

Sampled: 03/01/06
 Received: 03/01/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data	
									Qualifiers	
Sample ID: IPC0164-01 (Outfall 003 - Water)										
Reporting Units: ug/l										
Antimony	EPA 200.8	6C04030	0.050	2.0	0.53	1	03/04/06	03/07/06	J J	DNQ
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.10	1	03/04/06	03/07/06	U J J	B
Copper	EPA 200.8	6C04030	0.25	2.0	4.9	1	03/04/06	03/07/06		
Lead	EPA 200.8	6C04030	0.040	1.0	0.53	1	03/04/06	03/07/06	J J	DNQ
Mercury	EPA 245.1	6C02097	0.050	0.20	ND	1	03/02/06	03/02/06	*	

* Analysis not validated

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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LEVEL IV

IPC0164 <Page 2 of 11>

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
12269 East Vassar Drive
Aurora, CO 80014

Package ID: B4RA4
Task Order: 1261.001D.01
SDG No.: IPC0164, IPC1333

No. of Analyses: 2

Laboratory: Eberline
Reviewer: P. Meeks
Analysis/Method: Radionuclides

Date: April 13, 2006
Reviewer's Signature
P. Meeks

ACTION ITEMS^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	<u>Acceptable as reviewed.</u>
^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 Sampling
Multiple Outfalls**

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS: IPC0164 & IPC1333

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC0164, IPC1333
Project Manager: P. Costa
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 13, 2006

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

Table 1. Sample Identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 003	IPC0164-01	8668-001	water	905.0
Outfall 003	IPC1333-01	8669-001	water	905.0

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

Both samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4\pm 2^{\circ}\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition.

According to the Los Angeles Regional Water Quality Control Board's (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved and filtered aliquots should be preserved after filtration. The samples in these SDGs were not preserved or filtered. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel and the transfer COCs were signed by personnel from both laboratories. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

Both samples were analyzed beyond the five day holding time for unpreserved samples; therefore, strontium detected in the samples was qualified as estimated, "J." No further qualifications were required.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability. All strontium chemical yields were at least 75% and were considered acceptable. No further qualifications were required.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Aqueous blank spikes were analyzed in association with the samples in these SDGs. The blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analyses on both samples in these SDGs. Both results were within the 3-sigma limit limits. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Analyses that involve the yielding of an analytical tracer do not require matrix spike analyses; therefore, no strontium matrix spike was performed. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these SDGs. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8668</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>8601040-01</u>	Contract <u>PROJECT# IPC0164</u>
Received Date <u>03/03/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Rev Qual	Qual Code
IPC0164-01		<i>Outfall 003</i> 8668-001	03/01/06	03/17/06	Sr-90	1.28 ± 0.40	pCi/L	0.511	J	H

LEVEL IV

Certified by <i>[Signature]</i>
Report Date <u>04/05/06</u>
Page 1

Eberline Services

ANALYSIS RESULTS

SDG <u>8669</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>8603083-01</u>	Contract <u>PROJECT# IPC1333</u>
Received Date <u>03/14/06</u>	Matrix <u>WATER</u>

Client	Lab	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Raw Data	Qual Code
Sample ID <i>Outfall 003</i>	Sample ID								
IPC1333-01	8669-001	03/11/06	03/23/06	Sr-90	1.64 ± 0.47	pCi/L	0.580	J	H

LEVEL IV

Certified by <u><i>[Signature]</i></u>
Report Date <u>04/06/06</u>
Page 1

APPENDIX G

Section 81

Outfall 003, March 11, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 003

Sampled: 03/11/06
Received: 03/11/06
Issued: 03/24/06 17:26

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID

IPC1333-01

CLIENT ID

Outfall 003

MATRIX

Water

Reviewed By:

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



Del Mar Analytical

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

Project ID: Routine Outfall 003

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC1333-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C14081	0.050	2.0	0.88	1	03/14/06	03/15/06	J
Cadmium	EPA 200.8	6C14081	0.025	1.0	0.058	1	03/14/06	03/15/06	J
Copper	EPA 200.8	6C14081	0.25	2.0	2.6	1	03/14/06	03/15/06	
Lead	EPA 200.8	6C14081	0.040	1.0	0.66	1	03/14/06	03/15/06	J
Mercury	EPA 245.1	6C14077	0.050	0.20	ND	1	03/14/06	03/14/06	
Thallium	EPA 200.8	6C14081	0.15	1.0	ND	1	03/14/06	03/15/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC1333-01 (Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C11028	0.30	1.0	40	2	03/11/06	03/11/06	
Nitrate/Nitrite-N	EPA 300.0	6C11028	0.080	0.15	0.71	1	03/11/06	03/11/06	
Oil & Grease	EPA 413.1	6C21053	0.89	4.7	1.3	1	03/21/06	03/21/06	J
Sulfate	EPA 300.0	6C11028	0.45	0.50	43	1	03/11/06	03/11/06	
Total Dissolved Solids	SM2540C	6C16069	10	10	310	1	03/16/06	03/16/06	
Total Suspended Solids	EPA 160.2	6C16125	10	10	ND	1	03/16/06	03/16/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 003 (IPC1333-01) - Water EPA 300.0	2	03/11/2006 10:15	03/11/2006 15:30	03/11/2006 16:15	03/11/2006 16:25

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Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 003 Report Number: IPC1333	Sampled: 03/11/06 Received: 03/11/06
--	---	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C14077 Extracted: 03/14/06											
Blank Analyzed: 03/14/2006 (6C14077-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/14/2006 (6C14077-BS1)											
Mercury	8.30	0.20	0.050	ug/l	8.00		104	85-115			
Matrix Spike Analyzed: 03/14/2006 (6C14077-MS1) Source: IPC1217-01											
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 03/14/2006 (6C14077-MSD1) Source: IPC1217-01											
Mercury	8.33	0.20	0.050	ug/l	8.00	ND	104	70-130	0	20	
Batch: 6C14081 Extracted: 03/14/06											
Blank Analyzed: 03/15/2006 (6C14081-BLK1)											
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 03/15/2006 (6C14081-BS1)											
Antimony	77.6	2.0	0.050	ug/l	80.0		97	85-115			
Cadmium	76.1	1.0	0.025	ug/l	80.0		95	85-115			
Copper	77.2	2.0	0.25	ug/l	80.0		96	85-115			
Lead	78.2	1.0	0.040	ug/l	80.0		98	85-115			
Thallium	77.6	1.0	0.15	ug/l	80.0		97	85-115			

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 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 003 Report Number: IPC1333	Sampled: 03/11/06 Received: 03/11/06
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METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C14081 Extracted: 03/14/06											
Matrix Spike Analyzed: 03/15/2006 (6C14081-MS1)						Source: IPC0677-01					
Antimony	77.1	2.0	0.050	ug/l	80.0	0.21	96	70-130			
Cadmium	74.1	1.0	0.025	ug/l	80.0	0.13	92	70-130			
Copper	75.3	2.0	0.25	ug/l	80.0	ND	94	70-130			
Lead	78.1	1.0	0.040	ug/l	80.0	0.14	97	70-130			
Thallium	77.9	1.0	0.15	ug/l	80.0	0.30	97	70-130			
Matrix Spike Analyzed: 03/15/2006 (6C14081-MS2)						Source: IPC1061-02					
Antimony	76.7	2.0	0.050	ug/l	80.0	0.32	95	70-130			
Cadmium	71.0	1.0	0.025	ug/l	80.0	0.075	89	70-130			
Copper	78.4	2.0	0.25	ug/l	80.0	4.9	92	70-130			
Lead	73.0	1.0	0.040	ug/l	80.0	0.25	91	70-130			
Thallium	73.0	1.0	0.15	ug/l	80.0	0.15	91	70-130			
Matrix Spike Dup Analyzed: 03/15/2006 (6C14081-MSD1)						Source: IPC0677-01					
Antimony	79.5	2.0	0.050	ug/l	80.0	0.21	99	70-130	3	20	
Cadmium	77.0	1.0	0.025	ug/l	80.0	0.13	96	70-130	4	20	
Copper	77.5	2.0	0.25	ug/l	80.0	ND	97	70-130	3	20	
Lead	77.8	1.0	0.040	ug/l	80.0	0.14	97	70-130	0	20	
Thallium	78.4	1.0	0.15	ug/l	80.0	0.30	98	70-130	1	20	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 003 Report Number: IPC1333	Sampled: 03/11/06 Received: 03/11/06
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C11028 Extracted: 03/11/06											
Blank Analyzed: 03/11/2006 (6C11028-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/11/2006 (6C11028-BS1)											
Chloride	4.84	0.50	0.15	mg/l	5.00		97	90-110			
Sulfate	9.85	0.50	0.45	mg/l	10.0		98	90-110			M-3
Matrix Spike Analyzed: 03/11/2006 (6C11028-MS1)											
						Source: IPC1298-01					
Chloride	55.1	2.5	0.75	mg/l	5.00	51	82	80-120			
Matrix Spike Dup Analyzed: 03/11/2006 (6C11028-MSD1)											
						Source: IPC1298-01					
Chloride	55.3	2.5	0.75	mg/l	5.00	51	86	80-120	0	20	
Batch: 6C16069 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16069-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/16/2006 (6C16069-BS1)											
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/16/2006 (6C16069-DUP1)											
						Source: IPC1296-01					
Total Dissolved Solids	325	10	10	mg/l		320			2	10	
Batch: 6C16125 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16125-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							

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 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 003 Report Number: IPC1333	Sampled: 03/11/06 Received: 03/11/06
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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
<u>Batch: 6C16125 Extracted: 03/16/06</u>											
LCS Analyzed: 03/16/2006 (6C16125-BS1)											
Total Suspended Solids	921	10	10	mg/l	1000		92	85-115			
Duplicate Analyzed: 03/16/2006 (6C16125-DUP1)											
Total Suspended Solids	270	10	10	mg/l		Source: IPC1288-01 260			4	10	
<u>Batch: 6C21053 Extracted: 03/21/06</u>											
Blank Analyzed: 03/21/2006 (6C21053-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/21/2006 (6C21053-BS1)											
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120			M-NRI
LCS Dup Analyzed: 03/21/2006 (6C21053-BSD1)											
Oil & Grease	17.0	5.0	0.94	mg/l	20.0		85	65-120	1	20	

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 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC1333-01	413.1 Oil and Grease	Oil & Grease	mg/l	1.30	4.7	15
IPC1333-01	Antimony-200.8	Antimony	ug/l	0.88	2.0	6.00
IPC1333-01	Cadmium-200.8	Cadmium	ug/l	0.058	1.0	4.00
IPC1333-01	Chloride - 300.0	Chloride	mg/l	40	1.0	150
IPC1333-01	Copper-200.8	Copper	ug/l	2.60	2.0	14
IPC1333-01	Lead-200.8	Lead	ug/l	0.66	1.0	5.20
IPC1333-01	Mercury - 245.1	Mercury	ug/l	0.026	0.20	0.20
IPC1333-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.71	0.15	10.00
IPC1333-01	Sulfate-300.0	Sulfate	mg/l	43	0.50	250
IPC1333-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	310	10	850
IPC1333-01	Thallium-200.8	Thallium	ug/l	0.027	1.0	2.00

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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



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

Project ID: Routine Outfall 003

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NRI** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 003

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
EPA 905.0	Water		
SM2540C	Water	X	X

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC1333-01

Analysis Performed: EDD + Level 4

Samples: IPC1333-01

Eberline Services

2030 Wright Avenue - Richmond, CA 94804

Analysis Performed: Level 4 + EDD

Samples: IPC1333-01

Analysis Performed: Strontium 90

Samples: IPC1333-01

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager

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IPC 1333

Client Name/Address:
MWH-Pasadena
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Project Manager: Bronwyn Kelly
Sampler:

Project:
Boeing-SSFL NPDES
Routine Outfall 003
Stormwater at RMHF
Phone Number:
(626) 568-6691
Fax Number:
(626) 568-6515

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED						Field readings: Temp = 51.4 pH = 7.1	Comments	
							Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl, SO4, NO3+NO2-N	TDS, TSS	Sr-90 (90S.0)			
Outfall 003	W	1L Poly	1	3-11-06 10:15	HNO3	1A	X								
Outfall 003-Dup	W	1L Poly	1		HNO3	1B	X								
Outfall 003	W	1L Amber	2		None	2A, 2B		X							
Outfall 003	W	1L Amber	2		HCl	3A, 3B		X							
Outfall 003	W	Poly-500 ml	2		None	4A, 4B			X						
Outfall 003	W	Poly-500 ml	2		None	5A, 5B			X						
Outfall 003	W	Poly-1 gal	1	3-11-06 10:15	None	6A, 6B				X				unfiltered and unreserved analysis	
Relinquished By	Date/Time: 3-11-06 1315			Received By: Bronwyn Kelly			Date/Time: 3/11/06 1315			Turn around Time: (check) 5 Days					
Relinquished By	Date/Time: 3/11/06 1530			Received By: [Signature]			Date/Time: 3-11-06 1530			48 Hours			10 Days		
Relinquished By	Date/Time: 3/11/06 1530			Received By: [Signature]			Date/Time: 3-11-06 1530			72 Hours			Normal		
							Perchlorate Only 72 Hours								
							Metals Only 72 Hours								
							Sample Integrity: (Check) Intact							On Use: <input checked="" type="checkbox"/> 52	



March 17, 2006

Alta Project I.D.: 27408

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 14, 2006 under your Project Name "IPC1333". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/14/2006

Alta Lab. ID

Client Sample ID

27408-001

IPC1333-01

SECTION II

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7831	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	15-Mar-06	Date Analyzed DB-5:	16-Mar-06
				Date Analyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000114		84.5	25 - 104
1,2,3,7,8-PeCDD	ND	0.00000107		89.5	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000125		78.5	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000127		81.6	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000122		76.3	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.00000151		46.5	17 - 157
OCDD	ND	0.00000230		87.5	24 - 169
2,3,7,8-TCDF	ND	0.000000947		96.4	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000115		99.6	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000110		82.4	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.000000529		89.4	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000483		86.8	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.000000528		81.7	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.000000739		74.0	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.000000972		79.7	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.000000916		54.0	17 - 157
OCDF	ND	0.00000319		99.1	35 - 197
Totals					
Total TCDD	ND	0.00000114			
Total PeCDD	ND	0.00000107			
Total HxCDD	ND	0.00000124			
Total HpCDD	ND	0.00000151			
Total TCDF	ND	0.000000947			
Total PeCDF	ND	0.00000112			
Total HxCDF	ND	0.000000560			
Total HpCDF	ND	0.000000946			

Footnotes

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

Analyst: RAS Approved By: William J. Luksenburg 17-Mar-2006 11:36

OPR Results		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7831	Lab Sample:	0-OPR001
Sample Size:	1.00 L	Date Extracted:	15-Mar-06	Date Analyzed DB-5:	16-Mar-06
				Date Analyzed DB-225:	NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-1CDD	73.8	25 - 164
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	78.9	25 - 181
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	71.7	32 - 141
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	72.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	60.1	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	45.3	17 - 157
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	75.3	24 - 169
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	83.4	24 - 185
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	88.7	21 - 178
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	79.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.6	28 - 136
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	70.9	29 - 147
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	62.2	28 - 143
1,2,3,4,6,7,8,9-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	63.7	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	51.1	17 - 157
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	95.5	35 - 197

Analyst: DMS
 Approved By: William J. Luksemburg 17-Mar-2006 11:36

Sample ID: IPC1333-01		EPA Method 1613			
Client Data		Sample Data		Laboratory Data	
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	DL ^a	EMPC ^b	Labelled Standard	%R LCL-UCL ^d Qualifiers
Project: IPC1333	Sample Size: 0.997 L	Conc. (ug/L)			
Date Collected: 11-Mar-06					
Time Collected: 1015					
Lab Sample: 27408-001	Date Analyzed DB-5: 16-Mar-06				Date Received: 14-Mar-06
QC Batch No.: 7831	Date Analyzed DB-5: 16-Mar-06				Date Extracted: 15-Mar-06
					Date Analyzed DB-225: NA
Analyte	Conc. (ug/L)	DL^a	EMPC^b	Labelled Standard	%R LCL-UCL^d Qualifiers
2,3,7,8-TCDD	ND	0.000000999		13C-2,3,7,8-TCDD	68.8 25 - 164
1,2,3,7,8-PeCDD	ND	0.00000115		13C-1,2,3,7,8-PeCDD	69.8 25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000179		13C-1,2,3,4,7,8-HxCDD	60.6 32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000184		13C-1,2,3,6,7,8-HxCDD	64.3 28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000175		13C-1,2,3,4,6,7,8-HpCDD	59.4 23 - 140
1,2,3,4,6,7,8-HpCDD	0.0000116			13C-OCDD	42.7 17 - 157
OCDD	0.000122			13C-2,3,7,8-TCDF	73.9 24 - 169
2,3,7,8-TCDF	ND	0.000000843		13C-1,2,3,7,8-PeCDF	80.4 24 - 185
1,2,3,7,8-PeCDF	ND	0.00000101		13C-2,3,4,7,8-PeCDF	78.5 21 - 178
2,3,4,7,8-PeCDF	ND	0.000000952		13C-1,2,3,4,7,8-HxCDF	62.6 26 - 152
1,2,3,4,7,8-HxCDF	ND	0.000000546		13C-1,2,3,6,7,8-HxCDF	66.9 26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000508		13C-2,3,4,6,7,8-HxCDF	64.5 28 - 136
2,3,4,6,7,8-HxCDF	ND	0.000000556		13C-1,2,3,7,8,9-HxCDF	61.5 29 - 147
1,2,3,7,8,9-HxCDF	ND	0.000000778		13C-1,2,3,4,6,7,8-HpCDF	58.7 28 - 143
1,2,3,4,6,7,8-HpCDF	0.0000202			13C-1,2,3,4,7,8,9-HpCDF	61.4 26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.000000707		13C-OCDF	46.0 17 - 157
OCDF	ND		0.00000761	CRS 37Cl-2,3,7,8-TCDD	91.9 35 - 197
Totals					
Total TCDD	ND	0.000000999			
Total PeCDD	ND	0.00000115			
Total HxCDD	0.00000197		0.00000289		
Total HpCDD	0.0000257				
Total TCDF	ND	0.000000843			
Total PeCDF	ND	0.000000979			
Total HxCDF	ND		0.000000423		
Total HpCDF	0.00000533				

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

Analyst: RAS
Approved By: William J. Luksemburg 17-Mar-2006 11:36

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



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 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-8086 Fax (619) 505-8886
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-8043 Fax (480) 785-0851
 2820 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IPC1333

<p>SENDING LABORATORY: Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin</p>	<p>RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106</p> <p style="text-align: right; font-size: 1.2em;">27408</p> <p style="text-align: right; font-size: 1.2em;">5006 -0.3°C</p> <p style="text-align: right; font-size: 1.2em;">BIB 3/14/06</p>
--	--

Standard TAT is requested unless specific due date is requested => Due Date: 3/27/06 Initials: UC

Analysis	Expiration	Comments
Sample ID: IPC1333-01 Water	Sampled: 03/11/06 10:15	unfiltered and unpreserved analysis
1613-Dioxin-HR-Alta	03/18/06 10:15	J flags, 17 congeners, no TEQ, ug/L, sub-Alta
EDD + Level 4	04/08/06 10:15	Excel EDD email to pm, Include Std logs for Lvl IV

Containers Supplied:
 1 L Amber (IPC1333-01C)
 1 L Amber (IPC1333-01D)

SAMPLE INTEGRITY:

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

Released By: Michele Chamberlin Date: 3/13/06 Time: 09:15
 Received By: Bettina L. Benedict Date: 3/14/06 Time: 09:15

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27408

Samples Arrival:	Date/Time 3/14/06 0915	Initials: BLB	Location: WR-2
Logged In:	Date/Time 3/14/06 1106	Initials: BLB	Location: WR-2
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	-0.3°C	Time: 0935	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7920	4114	7994
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			None
Shipping Container	Alta	Client	Retain
			Return
			Dispose

Comments:



EBERLINE SERVICES

April 6, 2006

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

Reference: Del Mar Analytical Project No. IPC1333
Eberline Services NELAP Cert #01120CA (exp. 01/31/07)
Eberline Services Report R603083-8669

Dear Ms. Chamberlin:

Enclosed are results from the analyses of one water sample received at Eberline Services on March 14, 2006. The sample was analyzed according to the accompanying Del Mar Analytical Subcontract Order Form. The requested analysis was strontium-90 (Sr-90, EPA905.0). The QC LCS, blank analysis, and duplicate analysis results for the analysis were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require a matrix spike analysis to be performed.

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

Regards,

Melissa Mannion
Senior Program Manager

MCM/njv

Enclosure: Report
Subcontract Form
Receipt checklist
Invoice

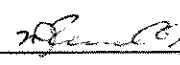
Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com
NPDES - 3686

Eberline Services

ANALYSIS RESULTS

SDG <u>8669</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603083-01</u>	Contract <u>PROJECT# IPC1333</u>
Received Date <u>03/14/06</u>	Matrix <u>WATER</u>

<u>Client</u>	<u>Lab</u>	<u>Collected</u>	<u>Analyzed</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>Units</u>	<u>MDA</u>
<u>Sample ID</u>	<u>Sample ID</u>						
IPC1333-01	8669-001	03/11/06	03/23/06	Sr-90	1.64 ± 0.47	pCi/L	0.580

Certified by <u></u>
Report Date <u>04/06/06</u>
Page 1


Eberline Services

QC RESULTS

SDG <u>8669</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603083-01</u>	Contract <u>PROJECT# IPC1333</u>
Received Date <u>03/14/06</u>	Matrix <u>WATER</u>

Lab	<u>Sample ID</u>	<u>Nuclide</u>	<u>Results</u>	<u>Units</u>	<u>Amount Added</u>	<u>MDA</u>	<u>Evaluation</u>
<u>LCS</u>							
	8669-002	Sr-90	9.91 ± 0.76	pCi/Smpl		0.319	
<u>BLANK</u>							
	8669-003	Sr-90	-0.056 ± 0.21	pCi/Smpl	NA	0.517	<MDA

<u>DUPLICATES</u>				<u>ORIGINALS</u>			
<u>Sample ID</u>	<u>Nuclide</u>	<u>Results ± 2σ</u>	<u>MDA</u>	<u>Sample ID</u>	<u>Results ± 2σ</u>	<u>MDA</u>	<u>3σ</u>
8669-004	Sr-90	1.57 ± 0.46	0.554	8669-001	1.64 ± 0.47	0.580	4 65 satis.

Certified by <u></u>
Report Date <u>04/06/06</u>
Page <u>2</u>



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DELMAR City IRVINE State CA
 Date/Time received 03/14/06 9:15 CoC No. IPC 1333
 Container I.D. No. Box / styro Requested TAT (Days) ASAP P.O. Received Yes [] No []

INSPECTION

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

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
 15. Inspected by [Signature] Date: 03/14/06 Time: 10:00

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

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4867 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9688
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IPC1333

SENDING LABORATORY:
 Del Mar Analytical, Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 261-1228
 Project Manager: Michele Chamberlin

RECEIVING LABORATORY:
 Eberline Services
 2030 Wright Avenue
 Richmond, CA 94804
 Phone: (510) 235-2633
 Fax: (510) 235-0438

8669

Standard TAT is requested unless specific due date is requested => Due Date: As soon as possible - RUSH Initials: MC

Analysis	Expiration	Comments
Sample ID: IPC1333-01 Water	Sampled: 03/11/06 10:15	unfiltered and unpreserved analysis
Level 4 + EDD-OUT	04/08/06 10:15	**LEVEL IV QC, ACCESS 7 EDD**
* Strontium 90-O	03/11/07 10:15	905.0, sub to Eberline
Containers Supplied: 1 gal Poly (IPC1333-01K)		

** Please do not filter or preserve this sample. Dilution is okay or dissolution if necessary.*

MC 3/13/06

SAMPLE INTEGRITY:

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

Released By: Michele Chamberlin Date: _____ Time: _____ Received By: [Signature] Date: 03/14/06 Time: 9:15

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

APPENDIX G

Section 82

Outfall 003, March 11, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^X
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4DF34
 Task Order 1261.001D.01
 SDG No. IPC1333

No. of Analyses 1

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxin/Furan by Method 1613

Date: <u>April 3, 2006</u>
Reviewer's Signature <i>K Shadowlight</i>

ACTION ITEMS^a	
1. Case Narrative	_____
Deficiencies	_____
2. Out of Scope Analyses	_____
3. Analyses Not Conducted	_____
4. Missing Hardcopy Deliverables	_____
5. Incorrect Hardcopy Deliverables	_____
6. Deviations from Analysis Protocol, e.g.,	Detects below the laboratory lower calibration level were qualified as estimated.
Holding Times	Any EMPC was qualified as an estimated nondetect.
GC/MS Tune/Inst. Performance	_____
Calibration	_____
Method blanks	_____
Surrogates	_____
Matrix Spike/Dup LCS	_____
Field QC	_____
Internal Standard Performance	_____
Compound Identification	_____
Quantitation	_____
System Performance	_____
COMMENTS^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.	
^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 003

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC1333

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001.01
Sample Delivery Group: IPC1333
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 3, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 003	IPC1333-01	27408-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7831-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7831-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any reported estimated maximum possible concentration (EMPC) was qualified as an estimated nondetect, "UJ." Detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

Sample ID: **IPC1333-01** *Out-fall 003* **EPA Method 1613**

Client Data
 Name: Del Mar Analytical, Irvine
 Project: IPC1333
 Date Collected: 11-Mar-06
 Time Collected: 1015

Sample Data
 Matrix: Aqueous
 Sample Size: 0.997 L

Laboratory Data
 Lab Sample: 27408-001
 QC Batch No.: 7831
 Date Analyzed DB-5: 16-Mar-06
 Date Received: 14-Mar-06
 Date Extracted: 15-Mar-06
 Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000999			IS 13C-2,3,7,8-TCDD	68.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000115			13C-1,2,3,7,8-PeCDD	69.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000179			13C-1,2,3,4,7,8-HxCDD	60.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000184			13C-1,2,3,6,7,8-HxCDD	64.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000175			13C-1,2,3,4,6,7,8-HpCDD	59.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000116			J	13C-OCDD	42.7	17 - 157	
OCDD	0.000122				13C-2,3,7,8-TCDF	73.9	24 - 169	
2,3,7,8-TCDF	ND	0.000000843			13C-1,2,3,7,8-PeCDF	80.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000101			13C-2,3,4,7,8-PeCDF	78.5	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000952			13C-1,2,3,4,7,8-HxCDF	62.6	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000546			13C-1,2,3,6,7,8-HxCDF	66.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000508			13C-2,3,4,6,7,8-HxCDF	64.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000556			13C-1,2,3,7,8,9-HxCDF	61.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000778			13C-1,2,3,4,6,7,8-HpCDF	58.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000202			J	13C-1,2,3,4,7,8,9-HpCDF	61.4	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000707			13C-OCDF	46.0	17 - 157	
OCDF	ND		0.000000761		CRS 37Cl-2,3,7,8-TCDD	91.9	35 - 197	

Totals

Total TCDD	ND	0.000000999						
Total PeCDD	ND	0.00000115						
Total HxCDD	0.00000197		0.00000289					
Total HpCDD	0.00000257							
Total TCDF	ND	0.000000843						
Total PeCDF	ND	0.000000979						
Total HxCDF	ND		0.000000423					
Total HpCDF	0.00000533							

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

Analyst: RAS
Level IV
 Approved By: William J. Luiksemburg
 Date: 17-Mar-2006 11:36

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4RA4
 Task Order: 1261.001D.01
 SDG No.: IPC0164, IPC1333

No. of Analyses: 2

Laboratory: Eberline
 Reviewer: P. Meeks
 Analysis/Method: Radionuclides

Date: <u>April 13, 2006</u>
Reviewer's Signature <i>P. Meeks</i>

ACTION ITEMS^a	
1. Case Narrative Deficiencies	_____
2. Out of Scope Analyses	_____
3. Analyses Not Conducted	_____
4. Missing Hardcopy Deliverables	_____
5. Incorrect Hardcopy Deliverables	_____
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	_____
COMMENTS^b	Acceptable as reviewed.
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

**NPDES Sampling
Multiple Outfalls**

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUPS: IPC0164 & IPC1333

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC0164, IPC1333
Project Manager: P. Costa
Matrix: Water
Analysis: Radionuclides
QC Level: Level IV
No. of Samples: 2
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 13, 2006

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

Table 1. Sample Identification

Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
Outfall 003	IPC0164-01	8668-001	water	905.0
Outfall 003	IPC1333-01	8669-001	water	905.0

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

Both samples in these SDGs were received at Del Mar Analytical within the temperature limits of $4 \pm 2^\circ\text{C}$. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition.

According to the Los Angeles Regional Water Quality Control Board's (LARWQCB) guidance letter dated 01/12/05, unfiltered samples should not be preserved and filtered aliquots should be preserved after filtration. The samples in these SDGs were not preserved or filtered. No qualifications were required.

2.1.2 Chain of Custody

The original COCs were signed and dated by field and laboratory personnel and the transfer COCs were signed by personnel from both laboratories. Eberline did not list the MWH IDs on the Form Is; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

Both samples were analyzed beyond the five day holding time for unpreserved samples; therefore, strontium detected in the samples was qualified as estimated, "J." No further qualifications were required.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability. All strontium chemical yields were at least 75% and were considered acceptable. No further qualifications were required.

2.3 BLANKS

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

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Aqueous blank spikes were analyzed in association with the samples in these SDGs. The blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analyses on both samples in these SDGs. Both results were within the 3-sigma limit limits. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Analyses that involve the yielding of an analytical tracer do not require matrix spike analyses; therefore, no strontium matrix spike was performed. No qualifications were required.

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in these SDGs. The sample results and MDAs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in these SDGs.

Eberline Services

ANALYSIS RESULTS

SDG <u>8669</u>	Client <u>DEL MAR ANAL</u>
Work Order <u>R603083-01</u>	Contract <u>PROJECT# IPC1333</u>
Received Date <u>03/14/06</u>	Matrix <u>WATER</u>

Client	Lab	Sample ID	Collected	Analyzed	Nuclide	Results ± 2σ	Units	MDA	Low Lim	Qual Code
IPC1333-01	6669-001	<u>Outfall 003</u>	03/11/06	03/23/06	Sr-90	1.64 ± 0.47	pCi/L	0.580	J	H

LEVEL IV

Certified by <u>[Signature]</u>
Report Date <u>04/06/06</u>
Page 1

APPENDIX G

Section 83

Outfall 003, March 28, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 003

Sampled: 03/28/06
Received: 03/28/06
Issued: 03/30/06 19:11

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IPC2825-01

CLIENT ID
Outfall 003

MATRIX
Water

Reviewed By:

Michele Chamberlin

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



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

Project ID: Routine Outfall 003

Report Number: IPC2825

Sampled: 03/28/06

Received: 03/28/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2825-01 (Outfall 003 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C29080	0.050	2.0	0.88	1	03/29/06	03/29/06	J
Cadmium	EPA 200.8	6C29080	0.025	1.0	ND	1	03/29/06	03/29/06	
Copper	EPA 200.8	6C29080	0.25	2.0	2.0	1	03/29/06	03/29/06	
Lead	EPA 200.8	6C29080	0.040	1.0	0.52	1	03/29/06	03/29/06	J
Mercury	EPA 245.1	6C29072	0.050	0.20	ND	1	03/29/06	03/29/06	
Thallium	EPA 200.8	6C29080	0.15	1.0	ND	1	03/29/06	03/29/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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



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

Project ID: Routine Outfall 003

Report Number: IPC2825

Sampled: 03/28/06

Received: 03/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2825-01 (Outfall 003 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C28055	0.15	0.50	17	1	03/28/06	03/28/06	
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	0.44	1	03/28/06	03/28/06	
Oil & Grease	EPA 413.1	6C29047	0.90	4.8	ND	1	03/29/06	03/29/06	
Sulfate	EPA 300.0	6C28055	0.45	0.50	16	1	03/28/06	03/28/06	
Total Dissolved Solids	SM2540C	6C29077	10	10	110	1	03/29/06	03/29/06	
Total Suspended Solids	EPA 160.2	6C29092	10	10	ND	1	03/29/06	03/29/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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



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

Project ID: Routine Outfall 003

Report Number: IPC2825

Sampled: 03/28/06

Received: 03/28/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 003 (IPC2825-01) - Water EPA 300.0	2	03/28/2006 14:10	03/28/2006 18:15	03/28/2006 20:00	03/28/2006 21:15

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 003

Report Number: IPC2825

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

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C29072 Extracted: 03/29/06										
Blank Analyzed: 03/29/2006 (6C29072-BLK1)										
Mercury	ND	0.20	0.050	ug/l						
LCS Analyzed: 03/29/2006 (6C29072-BS1)										
Mercury	7.90	0.20	0.050	ug/l	8.00		99 85-115			
Matrix Spike Analyzed: 03/29/2006 (6C29072-MS1)										
						Source: IPC2718-01				
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99 70-130			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29072-MSD1)										
						Source: IPC2718-01				
Mercury	7.82	0.20	0.050	ug/l	8.00	ND	98 70-130	1	20	
Batch: 6C29080 Extracted: 03/29/06										
Blank Analyzed: 03/29/2006 (6C29080-BLK1)										
Antimony	ND	2.0	0.050	ug/l						
Cadmium	ND	1.0	0.025	ug/l						
Copper	ND	2.0	0.25	ug/l						
Lead	ND	1.0	0.040	ug/l						
Thallium	ND	1.0	0.15	ug/l						
LCS Analyzed: 03/29/2006 (6C29080-BS1)										
Antimony	82.4	2.0	0.050	ug/l	80.0		103 85-115			
Cadmium	81.9	1.0	0.025	ug/l	80.0		102 85-115			
Copper	79.3	2.0	0.25	ug/l	80.0		99 85-115			
Lead	81.8	1.0	0.040	ug/l	80.0		102 85-115			
Thallium	80.7	1.0	0.15	ug/l	80.0		101 85-115			

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC2825

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

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29080 Extracted: 03/29/06											
Matrix Spike Analyzed: 03/29/2006 (6C29080-MS1)						Source: IPC2585-01					
Antimony	84.4	2.0	0.050	ug/l	80.0	0.091	105	70-130			
Cadmium	80.3	1.0	0.025	ug/l	80.0	ND	100	70-130			
Copper	82.8	2.0	0.25	ug/l	80.0	8.6	93	70-130			
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	70-130			
Thallium	77.3	1.0	0.15	ug/l	80.0	ND	97	70-130			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29080-MSD1)						Source: IPC2585-01					
Antimony	84.2	2.0	0.050	ug/l	80.0	0.091	105	70-130	0	20	
Cadmium	80.7	1.0	0.025	ug/l	80.0	ND	101	70-130	1	20	
Copper	82.7	2.0	0.25	ug/l	80.0	8.6	93	70-130	0	20	
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	70-130	0	20	
Thallium	77.5	1.0	0.15	ug/l	80.0	ND	97	70-130	0	20	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC2825

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C28055 Extracted: 03/28/06											
Blank Analyzed: 03/28/2006 (6C28055-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/28/2006 (6C28055-BS1)											
Chloride	4.81	0.50	0.15	mg/l	5.00		96	90-110			M-3
Sulfate	9.76	0.50	0.45	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 03/28/2006 (6C28055-MS1) Source: IPC2694-01											
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120			
Matrix Spike Dup Analyzed: 03/28/2006 (6C28055-MSD1) Source: IPC2694-01											
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20	
Batch: 6C29047 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29047-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/29/2006 (6C29047-BS1) M-NR1											
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120			
LCS Dup Analyzed: 03/29/2006 (6C29047-BSD1)											
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120	2	20	
Batch: 6C29077 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29077-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							

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

Project ID: Routine Outfall 003

Report Number: IPC2825

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29077 Extracted: 03/29/06											
LCS Analyzed: 03/29/2006 (6C29077-BS1)											
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/29/2006 (6C29077-DUP1)											
						Source: IPC2817-01					
Total Dissolved Solids	240	10	10	mg/l		240			0	10	
Batch: 6C29092 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29092-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/29/2006 (6C29092-BS1)											
Total Suspended Solids	953	10	10	mg/l	1000		95	85-115			
Duplicate Analyzed: 03/29/2006 (6C29092-DUP1)											
						Source: IPC2722-01					
Total Suspended Solids	22.0	10	10	mg/l		21			5	10	

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Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

Report Number: IPC2825

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

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC2825-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.86	4.8	15
IPC2825-01	Antimony-200.8	Antimony	ug/l	0.88	2.0	6.00
IPC2825-01	Cadmium-200.8	Cadmium	ug/l	0.011	1.0	4.00
IPC2825-01	Chloride - 300.0	Chloride	mg/l	17	0.50	150
IPC2825-01	Copper-200.8	Copper	ug/l	2.00	2.0	14
IPC2825-01	Lead-200.8	Lead	ug/l	0.52	1.0	5.20
IPC2825-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPC2825-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.44	0.15	10.00
IPC2825-01	Sulfate-300.0	Sulfate	mg/l	16	0.50	250
IPC2825-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	110	10	850
IPC2825-01	Thallium-200.8	Thallium	ug/l	0	1.0	2.00

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 003

Report Number: IPC2825

Sampled: 03/28/06

Received: 03/28/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

Report Number: IPC2825

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

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPC2825-01

Analysis Performed: EDD + Level 4
Samples: IPC2825-01

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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IPCOES

Del Mar Analytical Version 03/16/06 **CHAIN OF CUSTODY FORM**

Client Name/Address:			Project:			ANALYSIS REQUIRED							Field readings:		
MVH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Project Manager: Bronwyn Kelly Sampler: <i>Bingya & Daniels</i>			Boeing-SSFL NPDES Routine Outfall 003 Stormwater at RMHF Phone Number: (626) 568-6691 Fax Number: (626) 568-6515			Total Recoverable Metals:	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl, SO4, NO3+NO2-N	TDS, TSS	Sr-90 (90S.0)	Comments		Temp = 55° C	pH = 7.5
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Sb, Cd, Cu, Pb, Hg, Tl								
Outfall 003	W	1L Poly	1	3/23/06 1400	HNO3	1A	X								
Outfall 003-Dup	W	1L Poly	1		HNO3	1B	X								
Outfall 003	W	1L Amber	2		None	2A, 2B	X								
Outfall 003	W	1L Amber	2		HCl	3A, 3B		X							
Outfall 003	W	Poly-500 ml	2		None	4A, 4B			X						
Outfall 003	W	Poly-500 ml	2		None	5A, 5B			X						
Outfall 003	W	Poly-1 gal	1		None	6A, 6B				X					unfiltered and unpreserved analysis
Relinquished By	<i>Kelley</i>	Date/Time:	3/28/06	1500	Received By	<i>John</i>	Date/Time:	3/28/06	1500						
Relinquished By	<i>Bingya & Daniels</i>	Date/Time:	3/28/06	1815	Received By	<i>John</i>	Date/Time:	3/28/06	1815						
Relinquished By	<i>Bingya & Daniels</i>	Date/Time:	3/28/06	1815	Received By	<i>John</i>	Date/Time:	3/28/06	1815						



April 03, 2006

Alta Project ID.: 27499

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 30, 2006 under your Project Name "IPC2825". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



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



Section I: Sample Inventory Report

Date Received: 3/30/2006

Alta Lab. ID

Client Sample ID

27499-001

IPC2825-01

SECTION II

Method Blank		EPA Method 1613						
Matrix:	Aqueous	QC Batch No.:	7886	Lab Sample:	0-MB001			
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-06			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000977			13C-2,3,7,8-TCDD	74.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000135			13C-1,2,3,7,8-PeCDD	74.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.000000919			13C-1,2,3,4,7,8-HxCDD	75.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.000000964			13C-1,2,3,6,7,8-HxCDD	75.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.000000913			13C-1,2,3,4,6,7,8-HpCDD	76.6	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.000000944			13C-OCDD	43.6	17 - 157	
OCDD	ND	0.00000222			13C-2,3,7,8-TCDF	79.1	24 - 169	
2,3,7,8-TCDF	ND	0.000000845			13C-1,2,3,7,8-PeCDF	81.7	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000110			13C-2,3,4,7,8-PeCDF	83.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000101			13C-1,2,3,4,7,8-HxCDF	75.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000457			13C-1,2,3,6,7,8-HxCDF	76.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000415			13C-2,3,4,6,7,8-HxCDF	76.4	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000487			13C-1,2,3,7,8,9-HxCDF	76.9	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000630			13C-1,2,3,4,6,7,8-HpCDF	69.4	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000489			13C-1,2,3,4,7,8,9-HpCDF	79.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000435			13C-OCDF	50.1	17 - 157	
OCDF	ND	0.00000220			CRS 37Cl-2,3,7,8-TCDD	81.3	35 - 197	
Totals								
Total TCDD	ND	0.000000977						
Total PeCDD	ND	0.00000135						
Total HxCDD	ND	0.000000932						
Total HpCDD	ND	0.000000944						
Total TCDF	ND	0.000000845						
Total PeCDF	ND	0.00000106						
Total HxCDF	ND	0.000000491						
Total HpCDF	ND	0.000000463						

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 03-Apr-2006 11:43

OPR Results		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7886	Lab Sample:	0-OPR001
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-06
				Date Analyzed DB-225:	NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	63.0	25 - 164
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	63.9	25 - 181
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	63.7	32 - 141
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	63.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	52.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	31.1	17 - 157
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	63.0	24 - 169
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	67.1	24 - 185
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	68.4	21 - 178
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4	26 - 152
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	64.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	65.5	28 - 136
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	63.2	29 - 147
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.3	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	56.4	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	37.9	17 - 157
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	78.6	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 03-Apr-2006 11:43

Sample ID: IPC2825-01

EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27499-001		
Project:	IPC2825	Sample Size:	0.994 L	QC Batch No.:	7886		
Date Collected:	28-Mar-06			Date Analyzed DB-5:	1-Apr-06		
Time Collected:	1410			Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000990		IS 13C-2,3,7,8-1CDD	65.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000148		13C-1,2,3,7,8-PeCDD	65.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000124		13C-1,2,3,4,7,8-HxCDD	69.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000139		13C-1,2,3,6,7,8-HxCDD	67.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000127		13C-1,2,3,4,6,7,8-HpCDD	66.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000961			13C-OCDD	35.5	17 - 157	
OCDD	0.0000872			13C-2,3,7,8-TCDF	65.6	24 - 169	
2,3,7,8-TCDF	ND	0.000000985		13C-1,2,3,7,8-PeCDF	71.8	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000908		13C-2,3,4,7,8-PeCDF	67.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000102		13C-1,2,3,4,7,8-HxCDF	69.3	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000459		13C-1,2,3,6,7,8-HxCDF	72.1	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000425		13C-2,3,4,6,7,8-HxCDF	66.0	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000494		13C-1,2,3,7,8,9-HxCDF	69.4	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000628		13C-1,2,3,4,6,7,8-HpCDF	65.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000206			13C-1,2,3,4,7,8,9-HpCDF	70.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000659		13C-OCDF	44.3	17 - 157	
OCDF	ND		0.00000459	CRS 37Cl-2,3,7,8-TCDD	82.7	35 - 197	
Totals							
Total TCDD	ND	0.000000990					
Total PeCDD	ND	0.00000148					
Total HxCDD	ND	0.000000997					
Total HpCDD	0.0000222						
Total TCDF	ND	0.000000985					
Total PeCDF	ND	0.000000964					
Total HxCDF	ND	0.00000101					
Total HpCDF	0.00000488						

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 03-Apr-2006 11:43

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPC2825

<p>SENDING LABORATORY: Del Mar Analytical - Irvine 17461 Derian Avenue. Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin</p>	<p>RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106</p> <p style="font-size: 2em; text-align: right;">27499 0.3°C</p>
---	---

Standard TAT is requested unless specific due date is requested => Due Date: 4/5/06 Initials: _____

Analysis	Expiration	Comments
Sample ID: IPC2825-01 Water	Sampled: 03/28/06 14:10	
1613-Dioxin-HR-Alta	04/04/06 14:10	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/25/06 14:10	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC2825-01C)		
1 L Amber (IPC2825-01D)		

SAMPLE INTEGRITY:

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

~~Released By _____ Date _____ Time _____~~ Received By Bethmaid. Benedict Date 3/30/06 Time 0900

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

Project 27499

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27499

Samples Arrival:	Date/Time 3/30/06 0900	Initials: BSB	Location: WR-2
Logged In:	Date/Time 3/30/06 1120	Initials: BSB	Location: WR-2
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	0.3°C	Time: 1023	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7914 2591 2912		
Sample Container Intact?			✓
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			None
Shipping Container	Alta	Client	Retain
			Return
			Dispose

Comments:

APPENDIX G

Section 84

Outfall 003, March 28, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
 12260 East Vassar Drive
 Suite 500
 Lakewood, CO 80226


Package ID B4DF59
 Task Order 1261.001D.01
 SDG No. IPC2825

No. of Analyses 1

Laboratory Alta Analytical

Date: April 10, 2006 ~~February 17, 2006~~

Reviewer E. Wessling

Reviewer's Signature 

Analysis/Method Dioxins/ Furans by Method 1613

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications were assigned for the following: - results between the RL and the MDL were estimated and annotated "DNQ" - EMPC values were qualified as estimated nondetects
COMMENTS ^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Annual Outfall 003

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC2825

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001D.01
Sample Delivery Group: IPC2825
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 10, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 003	IPC2825-01	27499-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7886-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7886-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualification of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. Peaks which did not meet the ion abundance criteria for identification were qualified as estimated nondetects, as the values presented by the laboratory were the Estimated Possible Maximum Concentrations, EMPCs. No further qualifications were required.



EPA Method 1613

Client Data		Sample Data		Laboratory Data			
Sample ID: IPC2825-01	Outfall 003	Matrix: Aqueous	Sample Size: 0.994 L	Lab Sample: 27499-001	Date Received: 30-Mar-06		
Name: Del Mar Analytical, Irvine		EMPC ^b		QC Batch No.: 7886	Date Extracted: 31-Mar-06		
Project: IPC2825		DL ^a		Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225: NA		
Date Collected: 28-Mar-06		Conc. (ug/L)					
Time Collected: 1410							
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000990		IS 13C-2,3,7,8-TCDD	65.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000148		13C-1,2,3,7,8-PeCDD	65.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000124		13C-1,2,3,4,7,8-HxCDD	69.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000139		13C-1,2,3,6,7,8-HxCDD	67.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000127		13C-1,2,3,4,6,7,8-HpCDD	66.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000961			13C-OCDD	35.5	17 - 157	
OCDD	0.0000872			13C-2,3,7,8-TCDF	65.6	24 - 169	
2,3,7,8-TCDF	ND	0.000000985		13C-1,2,3,7,8-PeCDF	71.8	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000908		13C-2,3,4,7,8-PeCDF	67.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000102		13C-1,2,3,4,7,8-HxCDF	69.3	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000459		13C-1,2,3,6,7,8-HxCDF	72.1	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000425		13C-2,3,4,6,7,8-HxCDF	66.0	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000494		13C-1,2,3,7,8,9-HxCDF	69.4	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000628		13C-1,2,3,4,6,7,8-HpCDF	65.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000206			13C-1,2,3,4,7,8,9-HpCDF	70.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND			13C-OCDF	44.3	17 - 157	
OCDF	ND	0.000000659		CRS 37Cl-2,3,7,8-TCDD	82.7	35 - 197	
Totals			0.00000459				
Total TCDD	ND	0.000000990					
Total PeCDD	ND	0.00000148					
Total HxCDD	ND		0.000000997				
Total HpCDD	0.0000222						
Total TCDF	ND	0.000000985					
Total PeCDF	ND	0.000000964					
Total HxCDF	ND		0.00000101				
Total HpCDF	0.00000488						

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 03-Apr-2006 11:43

LEVEL IV

APPENDIX G

Section 85

Outfall 004, March 1, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 004

Sampled: 03/01/06
Received: 03/01/06
Issued: 03/20/06 16:41

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IPC0165-01

CLIENT ID
Outfall 004

MATRIX
Water

Reviewed By:

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager



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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0165-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C04030	0.050	2.0	1.0	1	03/04/06	03/07/06	J
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.074	1	03/04/06	03/07/06	J
Copper	EPA 200.8	6C04030	0.25	2.0	5.3	1	03/04/06	03/07/06	
Lead	EPA 200.8	6C04030	0.040	1.0	1.0	1	03/04/06	03/07/06	
Mercury	EPA 245.1	6C02097	0.050	0.20	ND	1	03/02/06	03/02/06	

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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



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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06
Received: 03/01/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0165-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C02051	0.15	0.50	22	1	03/02/06	03/02/06	
Nitrate/Nitrite-N	EPA 300.0	6C02051	0.080	0.15	0.48	1	03/02/06	03/02/06	
Oil & Grease	EPA 413.1	6C09045	0.90	4.8	ND	1	03/09/06	03/09/06	
Sulfate	EPA 300.0	6C02051	0.45	0.50	6.7	1	03/02/06	03/02/06	
Total Dissolved Solids	SM2540C	6C06069	10	10	79	1	03/06/06	03/06/06	
Total Suspended Solids	EPA 160.2	6C07078	10	10	ND	1	03/07/06	03/07/06	

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 004 (IPC0165-01) - Water EPA 300.0	2	03/01/2006 09:40	03/01/2006 19:00	03/02/2006 08:00	03/02/2006 11:46

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004
Report Number: IPC0165

Sampled: 03/01/06
Received: 03/01/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02097 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02097-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/02/2006 (6C02097-BS1)											
Mercury	7.88	0.20	0.050	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/02/2006 (6C02097-MS1) Source: IPB2608-01											
Mercury	7.84	0.20	0.050	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02097-MSD1) Source: IPB2608-01											
Mercury	7.88	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C04030 Extracted: 03/04/06											
Blank Analyzed: 03/07/2006 (6C04030-BLK1)											
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/07/2006 (6C04030-BS1)											
Antimony	80.4	2.0	0.050	ug/l	80.0		100	85-115			
Cadmium	82.2	1.0	0.025	ug/l	80.0		103	85-115			
Copper	82.2	2.0	0.25	ug/l	80.0		103	85-115			
Lead	78.1	1.0	0.040	ug/l	80.0		98	85-115			
Matrix Spike Analyzed: 03/07/2006 (6C04030-MS1) Source: IPC0303-01											
Antimony	80.9	2.0	0.050	ug/l	80.0	ND	101	70-130			
Cadmium	80.4	1.0	0.025	ug/l	80.0	ND	100	70-130			
Copper	80.2	2.0	0.25	ug/l	80.0	0.45	100	70-130			
Lead	77.8	1.0	0.040	ug/l	80.0	0.044	97	70-130			

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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



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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C04030 Extracted: 03/04/06											
Matrix Spike Analyzed: 03/07/2006 (6C04030-MS2)						Source: IPC0303-02					
Antimony	80.8	2.0	0.050	ug/l	80.0	0.087	101	70-130			
Cadmium	79.7	1.0	0.025	ug/l	80.0	0.13	99	70-130			
Copper	81.0	2.0	0.25	ug/l	80.0	1.2	100	70-130			
Lead	77.6	1.0	0.040	ug/l	80.0	0.15	97	70-130			
Matrix Spike Dup Analyzed: 03/07/2006 (6C04030-MSD1)						Source: IPC0303-01					
Antimony	81.0	2.0	0.050	ug/l	80.0	ND	101	70-130	0	20	
Cadmium	80.1	1.0	0.025	ug/l	80.0	ND	100	70-130	0	20	
Copper	79.7	2.0	0.25	ug/l	80.0	0.45	99	70-130	1	20	
Lead	77.8	1.0	0.040	ug/l	80.0	0.044	97	70-130	0	20	

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06
 Received: 03/01/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C02051 Extracted: 03/02/06										
Blank Analyzed: 03/02/2006 (6C02051-BLK1)										
Chloride	ND	0.50	0.15	mg/l						
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l						
Sulfate	ND	0.50	0.45	mg/l						
LCS Analyzed: 03/02/2006 (6C02051-BS1)										
Chloride	4.75	0.50	0.15	mg/l	5.00		95 90-110			
Sulfate	9.68	0.50	0.45	mg/l	10.0		97 90-110			
Matrix Spike Analyzed: 03/02/2006 (6C02051-MS1) Source: IPC0165-01										
Chloride	27.1	0.50	0.15	mg/l	5.00	22 102	80-120			
Sulfate	17.0	0.50	0.45	mg/l	10.0	6.7 103	80-120			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02051-MSD1) Source: IPC0165-01										
Chloride	26.2	0.50	0.15	mg/l	5.00	22 84	80-120	3	20	
Sulfate	16.5	0.50	0.45	mg/l	10.0	6.7 98	80-120	3	20	
Batch: 6C06069 Extracted: 03/06/06										
Blank Analyzed: 03/06/2006 (6C06069-BLK1)										
Total Dissolved Solids	ND	10	10	mg/l						
LCS Analyzed: 03/06/2006 (6C06069-BS1)										
Total Dissolved Solids	992	10	10	mg/l	1000		99 90-110			
Duplicate Analyzed: 03/06/2006 (6C06069-DUP1) Source: IPC0087-01										
Total Dissolved Solids	865	10	10	mg/l		860		1	10	

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06
Received: 03/01/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C07078 Extracted: 03/07/06											
Blank Analyzed: 03/07/2006 (6C07078-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/07/2006 (6C07078-BS1)											
Total Suspended Solids	966	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 03/07/2006 (6C07078-DUP1)											
						Source: IPC0093-01					
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C09045 Extracted: 03/09/06											
Blank Analyzed: 03/09/2006 (6C09045-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/09/2006 (6C09045-BS1)											
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120			M-NR1
LCS Dup Analyzed: 03/09/2006 (6C09045-BSD1)											
Oil & Grease	17.3	5.0	0.94	mg/l	20.0		86	65-120	3	20	

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Sushmitha Reddy For Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC0165-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.67	4.8	15
IPC0165-01	Antimony-200.8	Antimony	ug/l	1.00	2.0	6.00
IPC0165-01	Cadmium-200.8	Cadmium	ug/l	0.074	1.0	4.00
IPC0165-01	Chloride - 300.0	Chloride	mg/l	22	0.50	150
IPC0165-01	Copper-200.8	Copper	ug/l	5.30	2.0	14
IPC0165-01	Mercury - 245.1	Mercury	ug/l	0.028	0.20	0.20
IPC0165-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.48	0.15	10.00
IPC0165-01	Sulfate-300.0	Sulfate	mg/l	6.70	0.50	250
IPC0165-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	79	10	850

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06
Received: 03/01/06

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPC0165-01

Analysis Performed: EDD + Level 4
Samples: IPC0165-01

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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Del Mar Analytical Version 02/17/05 **CHAIN OF CUSTODY FORM** Page 1 of 1

IPC 0165

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Routine Outfall 004 Stormwater at SRE		ANALYSIS REQUIRED											
Project Manager: Bronwyn Kelly Sampler: <i>Bronwyn Kelly</i>		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Total Recoverable Metals: Sp, Cd, Cu, Pb, Hg	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl, SO4, NO3+NO2-N	TDS, TSS					Field readings: Temp = 55.9 pH = 7.2		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #									Comments
Outfall 004	W	Poly-1L	1	3/1/06 1545	HNO3	1A	X								
Outfall 004-Dup	W	Poly-1L	1		HNO3	1B	X								
Outfall 004	W	Glass-Amber	2		None	2A, 2B		X							
Outfall 004	W	Glass-Amber	2		HCl	3A, 3B			X						
Outfall 004	W	Poly-500 ml	2		None	4A, 4B				X					
Outfall 004	W	Poly-500 ml	2		None	5A, 5B					X				
Reinquished By <i>Bronwyn Kelly</i>		Date/Time: 3/1/06 1545		Received By <i>Bronwyn Kelly</i>		Date/Time: 3/1/06 1545		Turn around Times (check)							
Reinquished By <i>Bronwyn Kelly</i>		Date/Time: 3/1/06 1900		Received By <i>Bronwyn Kelly</i>		Date/Time: 3/1/06 1900		48 Hours		72 Hours		Perchlorate Only 72 Hours		Metals Only 72 Hours	
Reinquished By		Date/Time:		Received By		Date/Time:		72 Hours		Normal		Sample Integrity (Check)		On Ice:	
				<i>Bronwyn Kelly</i>		3/1/06 1900						Intact		4	



March 08, 2006

Alta Project I.D.: 27365

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 03, 2006 under your Project Name "IPC0165". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/3/2006

Alta Lab. ID

Client Sample ID

27365-001

IPC0165-01

SECTION II

Method Blank		EPA Method 1613						
Matrix:	Aqueous	QC Batch No.:	7807	Lab Sample:	0-MB001			
Sample Size:	1.00 L	Date Extracted:	5-Mar-06	Date Analyzed DB-5:	7-Mar-06			
				Date Analyzed DB-225:	NA			
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000119			13C-2,3,7,8-TCDD	82.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000130			13C-1,2,3,7,8-PeCDD	84.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000161			13C-1,2,3,4,7,8-HxCDD	82.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000170			13C-1,2,3,6,7,8-HxCDD	81.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000161			13C-1,2,3,4,6,7,8-HpCDD	79.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000167			13C-OCDD	54.4	17 - 157	
OCDD	ND	0.00000485			13C-2,3,7,8-TCDF	85.8	24 - 169	
2,3,7,8-TCDF	ND	0.00000138			13C-1,2,3,7,8-PeCDF	89.7	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000126			13C-2,3,4,7,8-PeCDF	92.9	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000115			13C-1,2,3,4,7,8-HxCDF	82.7	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000677			13C-1,2,3,6,7,8-HxCDF	82.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000623			13C-2,3,4,6,7,8-HxCDF	83.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000697			13C-1,2,3,7,8,9-HxCDF	77.1	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000951			13C-1,2,3,4,6,7,8-HpCDF	71.7	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000890			13C-1,2,3,4,7,8,9-HpCDF	80.8	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000780			13C-OCDF	59.4	17 - 157	
OCDF	ND	0.00000335			CRS 37Cl-2,3,7,8-TCDD	90.3	35 - 197	
Totals								
Total TCDD	ND	0.00000119						
Total PeCDD	ND	0.00000130						
Total HxCDD	ND	0.00000164						
Total HpCDD	ND	0.00000167						
Total TCDF	ND	0.00000138						
Total PeCDF	ND	0.00000120						
Total HxCDF	ND	0.00000725						
Total HpCDF	ND	0.00000836						
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 08-Mar-2006 14:29

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No:	7807	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	5-Mar-06	Date Analyzed DB-5:	7-Mar-06	
				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	11.1	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	77.8	25 - 164
1,2,3,7,8-PeCDD	50.0	56.7	35 - 71	13C-1,2,3,7,8-PeCDD	81.0	25 - 181
1,2,3,4,7,8-HxCDD	50.0	54.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	74.4	32 - 141
1,2,3,6,7,8-HxCDD	50.0	53.3	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.6	28 - 130
1,2,3,7,8,9-HxCDD	50.0	52.4	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	74.2	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	55.2	35 - 70	13C-OCDD	52.1	17 - 157
OCDD	100	109	78 - 144	13C-2,3,7,8-TCDF	78.6	24 - 169
2,3,7,8-TCDF	10.0	11.2	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	84.3	24 - 185
1,2,3,7,8-PeCDF	50.0	55.2	40 - 67	13C-2,3,4,7,8-PeCDF	87.3	21 - 178
2,3,4,7,8-PeCDF	50.0	56.1	34 - 80	13C-1,2,3,4,7,8-HxCDF	76.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	55.2	36 - 67	13C-1,2,3,6,7,8-HxCDF	76.9	26 - 123
1,2,3,6,7,8-HxCDF	50.0	56.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0	56.4	35 - 78	13C-1,2,3,7,8,9-HxCDF	69.6	29 - 147
1,2,3,7,8,9-HxCDF	50.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	70.6	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	55.1	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	74.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.0	39 - 69	13C-OCDF	57.0	17 - 157
OCDF	100	105	63 - 170	CRS 37Cl-2,3,7,8-TCDD	94.1	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 08-Mar-2006 14:29

EPA Method 1613

Sample ID: **IPC0165-01**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27365-001		
Project:	IPC0165	Sample Size:	1.00 L	QC Batch No:	7807		
Date Collected:	1-Mar-06			Date Analyzed DB-S:	8-Mar-06		
Time Collected:	0940			Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000139		IS 13C-2,3,7,8-TCDD	68.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000158		13C-1,2,3,7,8-PeCDD	68.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000276		13C-1,2,3,4,7,8-HxCDD	61.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000294		13C-1,2,3,6,7,8-HxCDD	61.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000276		13C-1,2,3,4,6,7,8-HpCDD	61.7	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000547			13C-OCDD	39.9	17 - 157	
OCDD	0.000706			13C-2,3,7,8-TCDF	67.1	24 - 169	
2,3,7,8-TCDF	ND	0.00000117		13C-1,2,3,7,8-PeCDF	73.1	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000136		13C-2,3,4,7,8-PeCDF	70.7	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000147		13C-1,2,3,4,7,8-HxCDF	59.4	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000130		13C-1,2,3,6,7,8-HxCDF	57.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000129		13C-2,3,4,6,7,8-HxCDF	58.2	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000139		13C-1,2,3,7,8,9-HxCDF	60.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000179		13C-1,2,3,4,6,7,8-HpCDF	57.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000556			13C-1,2,3,4,7,8,9-HpCDF	60.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000119		13C-OCDF	45.7	17 - 157	
OCDF	0.0000156			CRS 37Cl-2,3,7,8-TCDD	87.0	35 - 197	
Totals							
Total TCDD	ND	0.00000139					
Total PeCDD	ND	0.00000158					
Total HxCDD	0.0000138						
Total HpCDD	0.0000115						
Total TCDF	ND	0.00000117					
Total PeCDF	ND	0.00000141					
Total HxCDF	0.00000361		0.00000599				
Total HpCDF	0.0000220						

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 08-Mar-2006 14:29

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



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

SUBCONTRACT ORDER - PROJECT # IPC0165

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 Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 <div style="text-align: right; font-size: 1.5em; font-family: cursive;"> 27365 0.4°C </div>

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

Analysis	Expiration	Comments
Sample ID: IPC0165-01 Water 1613-Dioxin-HR-Alta EDD + Level 4	Sampled: 03/01/06 09:40 03/08/06 09:40 03/29/06 09:40	Instant Notification I flags, 17 congeners, no TEQ, ug/L, sub=Alta Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IPC0165-01C) 1 L Amber (IPC0165-01D)		

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

	Date	Time	Fed-Ex 3-2-06 	Date	Time
Released By	Date	Time	Received By	Date	Time
Released By	Date	Time	Received By	Date	Time

Project 27365

Page 016283

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27365

Samples Arrival:	Date/Time 3/3/06 0855	Initials: BBB	Location: WR-2
Logged In:	Date/Time 3/3/06 1252	Initials: BBB	Location: WR-2
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	0.4	Time: 1000	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill			
Trk #	7920 3239 5438		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			None
Shipping Container	Alta	Client	Retain
			Return
			Dispose

Comments:

APPENDIX G

Section 86

Outfall 004, March 1, 2006

AMEC Data Validation Reports



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 004

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPC0165

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001.01
Sample Delivery Group: IPC0165
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 2, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 004	IPC0165-01	27365-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7807-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7807-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

Sample ID: **IPC0165-01** Outfall 004 **EPA Method 1613**

Client Data
 Name: Del Mar Analytical, Irvine
 Project: IPC0165
 Date Collected: 1-Mar-06
 Time Collected: 0940

Sample Data
 Matrix: Aqueous
 Sample Size: 1.00 L

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000139			13C-2,3,7,8-TCDD	68.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000158			13C-1,2,3,7,8-PeCDD	68.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000276			13C-1,2,3,4,7,8-HxCDD	61.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000294			13C-1,2,3,6,7,8-HxCDD	61.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000276			13C-1,2,3,4,6,7,8-HpCDD	61.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000547				13C-OCDD	39.9	17 - 157	
OCDD	0.000706				13C-2,3,7,8-TCDF	67.1	24 - 169	
2,3,7,8-TCDF	ND	0.00000117			13C-1,2,3,7,8-PeCDF	73.1	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000136			13C-2,3,4,7,8-PeCDF	70.7	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000147			13C-1,2,3,4,7,8-HxCDF	59.4	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000130			13C-1,2,3,6,7,8-HxCDF	57.0	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000129			13C-2,3,4,6,7,8-HxCDF	58.2	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000139			13C-1,2,3,7,8,9-HxCDF	60.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000179			13C-1,2,3,4,6,7,8-HpCDF	57.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000556			J	13C-1,2,3,4,7,8,9-HpCDF	60.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000119			13C-OCDF	45.7	17 - 157	
OCDF	0.0000156			J	GRS-37Cl-2,3,7,8-TCDD	87.0	35 - 197	

Totals

Total TCDD	ND	0.00000139		
Total PeCDD	ND	0.00000158		
Total HxCDD	0.0000138			
Total HpCDD	0.000115			
Total TCDF	ND	0.00000117		
Total PeCDF	ND	0.00000141		
Total HxCDF	0.00000361		0.00000599	
Total HpCDF	0.0000220			

Footnotes

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

Rev Qual Code
 u →

u →
 J u
 J u
 u u
 u u

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4MT42
 Task Order: 1261.001D.01
 SDG No.: IPC0165

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: Metals

Date: April 10, 2006
 Reviewer's Signature


ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Qualifications applied for a blank detect and a detect below the reporting limit.
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^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 Sampling
Outfall 004

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPC0165

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC0165
Project Manager: P. Costa
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 10, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for ICP and ICP-MS Metals (DVP-5, Rev. 0)*, *EPA Method 200.8*, and validation guidelines outlined in the *USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form 1s with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form 1 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	Matrix	COC Method
Outfall 004	IPC0165-01	Water	200.8

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

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

2.3 CALIBRATION

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

2.4 BLANKS

Cadmium was detected in a bracketing CCB at 0.027 µg/L; therefore, cadmium detected in Outfall 004 was qualified as an estimated nondetect, "UJ." No further qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

No ICSA and ICSAB analyses were performed in association with the sample in this SDG for the ICP-MS metals; therefore, no assessment was made with respect to this criterion.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

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

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKES

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

2.9 ICP/MS AND ICP SERIAL DILUTION

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

2.10 INTERNAL STANDARDS PERFORMANCE

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

2.11 SAMPLE RESULT VERIFICATION

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

2.12 FIELD QC SAMPLES

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

2.12.1 Field Blanks and Equipment Rinsates

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

2.12.2 Field Duplicates

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



Del Mar Analytical

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

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

Project ID: Routine Outfall 004

Report Number: IPC0165

Sampled: 03/01/06
Received: 03/01/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0165-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C04030	0.050	2.0	1.0	1	03/04/06	03/07/06	Rev Qual Qual Code J J DNQ
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.074	1	03/04/06	03/07/06	UJ J B
Copper	EPA 200.8	6C04030	0.25	2.0	5.3	1	03/04/06	03/07/06	
Lead	EPA 200.8	6C04030	0.040	1.0	1.0	1	03/04/06	03/07/06	
Mercury	EPA 245.1	6C02097	0.050	0.20	ND	1	03/02/06	03/02/06	*

* Analysis not validated

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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

LEVEL IV
IPC0165 <Page 2 of 11>

APPENDIX G

Section 87

Outfall 004, March 11, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 004

Sampled: 03/11/06
Received: 03/11/06
Issued: 03/24/06 17:31

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IPC1334-01

CLIENT ID
Outfall 004

MATRIX
Water

Reviewed By:

Michele Chamberlin

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC1334-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C14081	0.050	2.0	0.58	1	03/14/06	03/15/06	J
Cadmium	EPA 200.8	6C14081	0.025	1.0	0.040	1	03/14/06	03/15/06	J
Copper	EPA 200.8	6C14081	0.25	2.0	0.72	1	03/14/06	03/15/06	J
Lead	EPA 200.8	6C14081	0.040	1.0	0.34	1	03/14/06	03/15/06	J
Mercury	EPA 245.1	6C14077	0.050	0.20	ND	1	03/14/06	03/14/06	
Thallium	EPA 200.8	6C16088	0.15	1.0	ND	1	03/16/06	03/17/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC1334-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C11028	0.15	0.50	15	1	03/11/06	03/11/06	
Nitrate/Nitrite-N	EPA 300.0	6C11028	0.080	0.15	0.21	1	03/11/06	03/11/06	
Oil & Grease	EPA 413.1	6C21053	0.90	4.8	3.1	1	03/21/06	03/21/06	J
Sulfate	EPA 300.0	6C11028	0.45	0.50	2.9	1	03/11/06	03/11/06	
Total Dissolved Solids	SM2540C	6C16069	10	10	56	1	03/16/06	03/16/06	
Total Suspended Solids	EPA 160.2	6C16125	10	10	ND	1	03/16/06	03/16/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 004 (IPC1334-01) - Water EPA 300.0	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
	2	03/11/2006 10:40	03/11/2006 15:30	03/11/2006 16:15	03/11/2006 16:41

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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



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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06
Received: 03/11/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C14077 Extracted: 03/14/06										
Blank Analyzed: 03/14/2006 (6C14077-BLK1)										
Mercury	ND	0.20	0.050	ug/l						
LCS Analyzed: 03/14/2006 (6C14077-BS1)										
Mercury	8.30	0.20	0.050	ug/l	8.00		104 85-115			
Matrix Spike Analyzed: 03/14/2006 (6C14077-MS1) Source: IPC1217-01										
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104 70-130			
Matrix Spike Dup Analyzed: 03/14/2006 (6C14077-MSD1) Source: IPC1217-01										
Mercury	8.33	0.20	0.050	ug/l	8.00	ND	104 70-130	0	20	
Batch: 6C14081 Extracted: 03/14/06										
Blank Analyzed: 03/15/2006 (6C14081-BLK1)										
Antimony	ND	2.0	0.050	ug/l						
Cadmium	ND	1.0	0.025	ug/l						
Copper	ND	2.0	0.25	ug/l						
Lead	ND	1.0	0.040	ug/l						
LCS Analyzed: 03/15/2006 (6C14081-BS1)										
Antimony	77.6	2.0	0.050	ug/l	80.0		97 85-115			
Cadmium	76.1	1.0	0.025	ug/l	80.0		95 85-115			
Copper	77.2	2.0	0.25	ug/l	80.0		96 85-115			
Lead	78.2	1.0	0.040	ug/l	80.0		98 85-115			
Matrix Spike Analyzed: 03/15/2006 (6C14081-MS1) Source: IPC0677-01										
Antimony	77.1	2.0	0.050	ug/l	80.0	0.21	96 70-130			
Cadmium	74.1	1.0	0.025	ug/l	80.0	0.13	92 70-130			
Copper	75.3	2.0	0.25	ug/l	80.0	ND	94 70-130			
Lead	78.1	1.0	0.040	ug/l	80.0	0.14	97 70-130			

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C14081 Extracted: 03/14/06											
Matrix Spike Analyzed: 03/15/2006 (6C14081-MS2)						Source: IPC1061-02					
Antimony	76.7	2.0	0.050	ug/l	80.0	0.32	95	70-130			
Cadmium	71.0	1.0	0.025	ug/l	80.0	0.075	89	70-130			
Copper	78.4	2.0	0.25	ug/l	80.0	4.9	92	70-130			
Lead	73.0	1.0	0.040	ug/l	80.0	0.25	91	70-130			
Matrix Spike Dup Analyzed: 03/15/2006 (6C14081-MSD1)						Source: IPC0677-01					
Antimony	79.5	2.0	0.050	ug/l	80.0	0.21	99	70-130	3	20	
Cadmium	77.0	1.0	0.025	ug/l	80.0	0.13	96	70-130	4	20	
Copper	77.5	2.0	0.25	ug/l	80.0	ND	97	70-130	3	20	
Lead	77.8	1.0	0.040	ug/l	80.0	0.14	97	70-130	0	20	
Batch: 6C16088 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16088-BLK1)											
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 03/16/2006 (6C16088-BS1)											
Thallium	79.0	1.0	0.15	ug/l	80.0		99	85-115			
Matrix Spike Analyzed: 03/16/2006 (6C16088-MS1)						Source: IPC1555-01					
Thallium	77.8	1.0	0.15	ug/l	80.0	ND	97	70-130			
Matrix Spike Analyzed: 03/16/2006 (6C16088-MS2)						Source: IPC1303-01					
Thallium	75.6	1.0	0.15	ug/l	80.0	ND	94	70-130			
Matrix Spike Dup Analyzed: 03/16/2006 (6C16088-MSD1)						Source: IPC1555-01					
Thallium	77.0	1.0	0.15	ug/l	80.0	ND	96	70-130	1	20	

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Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06
Received: 03/11/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C11028 Extracted: 03/11/06											
Blank Analyzed: 03/11/2006 (6C11028-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/11/2006 (6C11028-BS1)											
Chloride	4.84	0.50	0.15	mg/l	5.00		97	90-110			
Sulfate	9.85	0.50	0.45	mg/l	10.0		98	90-110			M-3
Matrix Spike Analyzed: 03/11/2006 (6C11028-MS1)											
						Source: IPC1298-01					
Chloride	55.1	2.5	0.75	mg/l	5.00	51	82	80-120			
Matrix Spike Dup Analyzed: 03/11/2006 (6C11028-MSD1)											
						Source: IPC1298-01					
Chloride	55.3	2.5	0.75	mg/l	5.00	51	86	80-120	0	20	
Batch: 6C16069 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16069-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/16/2006 (6C16069-BS1)											
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/16/2006 (6C16069-DUP1)											
						Source: IPC1296-01					
Total Dissolved Solids	325	10	10	mg/l		320			2	10	
Batch: 6C16125 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16125-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							

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Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06
Received: 03/11/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C16125 Extracted: 03/16/06										
LCS Analyzed: 03/16/2006 (6C16125-BS1)										
Total Suspended Solids	921	10	10	mg/l	1000		92 85-115			
Duplicate Analyzed: 03/16/2006 (6C16125-DUP1)										
						Source: IPC1288-01				
Total Suspended Solids	270	10	10	mg/l		260		4	10	
Batch: 6C21053 Extracted: 03/21/06										
Blank Analyzed: 03/21/2006 (6C21053-BLK1)										
Oil & Grease	ND	5.0	0.94	mg/l						
LCS Analyzed: 03/21/2006 (6C21053-BS1)										
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86 65-120			M-NR1
LCS Dup Analyzed: 03/21/2006 (6C21053-BSD1)										
Oil & Grease	17.0	5.0	0.94	mg/l	20.0		85 65-120	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 004

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC1334-01	413.1 Oil and Grease	Oil & Grease	mg/l	3.10	4.8	15
IPC1334-01	Antimony-200.8	Antimony	ug/l	0.58	2.0	6.00
IPC1334-01	Cadmium-200.8	Cadmium	ug/l	0.040	1.0	4.00
IPC1334-01	Chloride - 300.0	Chloride	mg/l	15	0.50	150
IPC1334-01	Copper-200.8	Copper	ug/l	0.72	2.0	14
IPC1334-01	Lead-200.8	Lead	ug/l	0.34	1.0	5.20
IPC1334-01	Mercury - 245.1	Mercury	ug/l	0.0033	0.20	0.20
IPC1334-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.21	0.15	10.00
IPC1334-01	Sulfate-300.0	Sulfate	mg/l	2.90	0.50	250
IPC1334-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	56	10	850
IPC1334-01	Thallium-200.8	Thallium	ug/l	0.040	1.0	2.00

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 004

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC1334-01

Analysis Performed: EDD + Level 4

Samples: IPC1334-01

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager

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Del Mar Analytical

IPC 1334

CHAIN OF CUSTODY FORM

ANALYSIS REQUIRED

Project:
Boeing-SSFL NPDES
Routine Outfall 004
Stormwater at SRE

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

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

Project Manager: Bronwyn Kelly
Sampler: *De-rose*

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED						Field readings.
							Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl, SO4, NO3+NO2-N	TDS, TSS		
Outfall 004	W	Poly-1L	1	3-11-06 1315	HNO3	1A	X						Temp = 52.9°
Outfall 004-Dup	W	Poly-1L	1	3-11-06 1315	HNO3	1B	X						PH = 7.0
Outfall 004	W	Glass-Amber	2		None	2A, 2B							
Outfall 004	W	Glass-Amber	2		HCl	3A, 3B		X					
Outfall 004	W	Poly-500 ml	2		None	4A, 4B			X				
Outfall 004	W	Poly-500 ml	2	3-11-06 1530	None	5A, 5B				X			

Relinquished By: *Kate Brown* Date/Time: 3-11-06 1315
 Received By: *John Brown* OMAI 3/11/06 1315

Relinquished By: *John Brown* OMAI 3/11/06 1530
 Received By: *John Brown* OMAI 3-11-06 1530

Relinquished By: _____ Date/Time: _____
 Received By: *John Brown* OMAI 3-11-06 1530

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

Perchlorate Only 72 Hours _____
 Metals Only 72 Hours _____
 Sample Integrity: (Check) On Ice: 50



March 17, 2006

Alta Project I.D.: 27409

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 14, 2006 under your Project Name "IPC1334". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/14/2006

Alta Lab. ID

Client Sample ID

27409-001

IPC1334-01

SECTION II

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7831	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	15-Mar-06	Date Analyzed DB-5:	16-Mar-06
				Date Analyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000114		84.5	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000107		89.5	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000125		78.5	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000127		81.6	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000122		76.3	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.00000151		46.5	17 - 157
OCDD	ND	0.00000230		87.5	24 - 169
2,3,7,8-TCDF	ND	0.00000947		96.4	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000115		99.6	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000110		82.4	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.00000529		89.4	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.00000483		86.8	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.00000528		81.7	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000739		74.0	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.00000972		79.7	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.00000916		54.0	17 - 157
OCDF	ND	0.00000319		99.1	35 - 197
Totals					
Total TCDD	ND	0.00000114			
Total PeCDD	ND	0.00000107			
Total HxCDD	ND	0.00000124			
Total HpCDD	ND	0.00000151			
Total TCDF	ND	0.00000947			
Total PeCDF	ND	0.00000112			
Total HxCDF	ND	0.00000560			
Total HpCDF	ND	0.00000946			

Footnotes

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

Analyst: RAS

Approved By: William J. Luksemburg 17-Mar-2006 11:36

OPR Results		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7831	Lab Sample:	0-OPR001
Sample Size:	1.00 L	Date Extracted:	15-Mar-06	Date Analyzed DB-5:	16-Mar-06
				Date Analyzed DB-225:	NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	73.8	25 - 164
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	78.9	25 - 181
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	71.7	32 - 141
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	72.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	60.1	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	45.3	17 - 157
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	75.3	24 - 169
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	83.4	24 - 185
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	88.7	21 - 178
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	79.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.6	28 - 136
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	70.9	29 - 147
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	62.2	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	63.7	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	51.1	17 - 157
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	95.5	35 - 197

Analyst: DMS

Approved By: William J. Luksemburg 17-Mar-2006 11:36

Sample ID: IPC1334-01		EPA Method 1613					
Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27409-001		
Project:	IPC1334	Sample Size:	1.02 L	QC Batch No.:	7831		
Date Collected:	11-Mar-06			Date Analyzed DB-5:	16-Mar-06		
Time Collected:	1040			Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000107		IS 13C-2,3,7,8-TCDD	69.6	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000148		13C-1,2,3,7,8-PeCDD	69.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000134		13C-1,2,3,4,7,8-HxCDD	62.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000147		13C-1,2,3,6,7,8-HxCDD	64.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000136		13C-1,2,3,4,6,7,8-HpCDD	61.9	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000204			13C-OCDD	44.5	17 - 157	
OCDD	0.000322			13C-2,3,7,8-TCDF	70.5	24 - 169	
2,3,7,8-TCDF	ND	0.000000965		13C-1,2,3,7,8-PeCDF	76.2	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000113		13C-2,3,4,7,8-PeCDF	73.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000115		13C-1,2,3,4,7,8-HxCDF	62.8	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000487		13C-1,2,3,6,7,8-HxCDF	66.5	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000452		13C-2,3,4,6,7,8-HxCDF	64.1	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000512		13C-1,2,3,7,8,9-HxCDF	60.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000685		13C-1,2,3,4,6,7,8-HpCDF	59.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.0000268			13C-1,2,3,4,7,8,9-HpCDF	61.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000869		13C-OCDF	48.0	17 - 157	
OCDF	0.00000847			CRS 37Cl-2,3,7,8-TCDD	101	35 - 197	
Totals							
Total TCDD	ND	0.00000107					
Total PeCDD	ND	0.00000148					
Total HxCDD	0.00000157		0.00000290				
Total HpCDD	0.0000405						
Total TCDF	ND	0.000000965					
Total PeCDF	ND	0.00000114					
Total HxCDF	0.00000246						
Total HpCDF	0.0000107						

Footnotes

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

Analyst: RAS

Approved By: William J. Luksemburg 17-Mar-2006 11:36

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



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 9530 South 51st Street, Suite B-126, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 796-3820 Fax (702) 796-3821

SUBCONTRACT ORDER - PROJECT # IPC1334

<p>SENDING LABORATORY: Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin</p>	<p>RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106</p> <p style="font-size: 2em; text-align: right;">27409</p> <p style="font-size: 1.5em; text-align: right;">-0.3°C</p>
--	--

Standard TAT is requested unless specific due date is requested => Due Date: 3/27/06 Initials: MC

Analysis	Expiration	Comments
Sample ID: IPC1334-01 Water	Sampled: 03/11/06 10:40	
1613-Dioxin-HR-Alta	03/18/06 10:40	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/08/06 10:40	Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC1334-01C)		
1 L Amber (IPC1334-01D)		

SAMPLE INTEGRITY:

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

Michele Chamberlin Released By Date _____ Time _____ Received By *Fed. Ex 3-13-06* Date _____ Time _____
Bettina J. Benedict Received By Date *3/14/06* Time *0915*

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27409

Samples Arrival:	Date/Time 3/14/06 0915	Initials: BLB	Location: WR-2			
Logged In:	Date/Time 3/14/06 1110	Initials: BLB	Location: WR-2			
Delivered By:	<u>FedEx</u>	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice	None		
Temp °C	-0.3°C	Time:	0935	Thermometer ID:	DT-20	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7920	4114	7994
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			<u>None</u>
Shipping Container	Alfa	<u>Client</u>	Retain
			<u>Return</u>
			Dispose

Comments:

APPENDIX G

Section 88

Outfall 004, March 11, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4DF35
 Task Order 1261.001D.01
 SDG No. IPC1334

No. of Analyses 1

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxin/Furan by Method 1613

Date: April 3, 2006
 Reviewer's Signature


ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Detects below the laboratory lower calibration level were qualified as estimated.
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 004

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC1334

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001.01
Sample Delivery Group: IPC1334
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 3, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 004	IPC1334-01	27409-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7831-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7831-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

Sample ID: **IPC1334-01** Out fall 004 **EPA Method 1613**

Client Data		Sample Data		Laboratory Data			
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27409-001		
Project:	IPC1334	Sample Size:	1.02 L	QC Batch No.:	7831		
Date Collected:	11-Mar-06			Date Analyzed DB-5:	16-Mar-06		
Time Collected:	1040			Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000107			69.6	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000148			69.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000134			62.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000147			64.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000136		J	61.9	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000204				44.5	17 - 157	
OCDD	0.000322				70.5	24 - 169	
2,3,7,8-TCDF	ND	0.000000965			76.2	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000113			73.1	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000115			62.8	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000487			66.5	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000452			64.1	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000512			60.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000685			59.1	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000268			J	61.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000869			48.0	17 - 157	
OCDF	0.00000847			J	101	35 - 197	
Totals							
Total TCDD	ND	0.00000107					
Total PeCDD	ND	0.00000148					
Total HxCDD	0.00000157		0.00000290				
Total HpCDD	0.0000405						
Total TCDF	ND	0.000000965					
Total PeCDF	ND	0.00000114					
Total HxCDF	0.00000246						
Total HpCDF	0.00000107						

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

Analyst: RAS

Approved By: William J. Luksemburg

17-Mar-2006 11:36

Project 27409

NPDES - 3813

APPENDIX G

Section 89

Outfall 004, March 21, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 004

Sampled: 03/21/06
Received: 03/21/06
Issued: 03/29/06 20:18

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID	CLIENT ID	MATRIX
IPC2199-01	Outfall 004	Water

Reviewed By:

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



Del Mar Analytical

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

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

Project ID: Routine Outfall 004

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2199-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C22075	0.050	2.0	0.57	1	03/22/06	03/22/06	J
Cadmium	EPA 200.8	6C22075	0.025	1.0	0.025	1	03/22/06	03/22/06	J
Copper	EPA 200.8	6C22075	0.25	2.0	0.99	1	03/22/06	03/22/06	J
Lead	EPA 200.8	6C22075	0.040	1.0	0.34	1	03/22/06	03/22/06	J
Mercury	EPA 245.1	6C22059	0.050	0.20	ND	1	03/22/06	03/22/06	
Thallium	EPA 200.8	6C22075	0.15	1.0	ND	1	03/22/06	03/22/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 004 Report Number: IPC2199	Sampled: 03/21/06 Received: 03/21/06
--	---	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2199-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C21047	0.15	0.50	17	1	03/21/06	03/22/06	
Nitrate/Nitrite-N	EPA 300.0	6C21047	0.080	0.15	0.16	1	03/21/06	03/22/06	
Oil & Grease	EPA 413.1	6C24046	0.89	4.7	ND	1	03/24/06	03/24/06	
Sulfate	EPA 300.0	6C21047	0.45	0.50	3.1	1	03/21/06	03/22/06	
Total Dissolved Solids	SM2540C	6C22065	10	10	69	1	03/22/06	03/22/06	
Total Suspended Solids	EPA 160.2	6C23099	10	10	ND	1	03/23/06	03/23/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 004 (IPC2199-01) - Water EPA 300.0	2	03/21/2006 09:10	03/21/2006 20:30	03/21/2006 23:30	03/22/2006 01:25

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

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

Project ID: Routine Outfall 004

Report Number: IPC2199

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

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C22059 Extracted: 03/22/06											
Blank Analyzed: 03/22/2006 (6C22059-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/22/2006 (6C22059-BS1)											
Mercury	7.16	0.20	0.050	ug/l	8.00		90	85-115			
Matrix Spike Analyzed: 03/22/2006 (6C22059-MS1)											
						Source: IPC2120-17					
Mercury	7.15	0.20	0.050	ug/l	8.00	ND	89	70-130			
Matrix Spike Dup Analyzed: 03/22/2006 (6C22059-MSD1)											
						Source: IPC2120-17					
Mercury	7.18	0.20	0.050	ug/l	8.00	ND	90	70-130	0	20	
Batch: 6C22075 Extracted: 03/22/06											
Blank Analyzed: 03/22/2006 (6C22075-BLK1)											
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 03/22/2006 (6C22075-BS1)											
Antimony	80.2	2.0	0.050	ug/l	80.0		100	85-115			
Cadmium	80.4	1.0	0.025	ug/l	80.0		100	85-115			
Copper	80.7	2.0	0.25	ug/l	80.0		101	85-115			
Lead	80.5	1.0	0.040	ug/l	80.0		101	85-115			
Thallium	86.1	1.0	0.15	ug/l	80.0		108	85-115			

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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Del Mar Analytical

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 004 Report Number: IPC2199	Sampled: 03/21/06 Received: 03/21/06
--	---	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C22075 Extracted: 03/22/06											
Matrix Spike Analyzed: 03/22/2006 (6C22075-MS1)						Source: IPC2111-01					
Antimony	84.6	2.0	0.050	ug/l	80.0	0.086	106	70-130			
Cadmium	79.5	1.0	0.025	ug/l	80.0	ND	99	70-130			
Copper	88.7	2.0	0.25	ug/l	80.0	14	93	70-130			
Lead	77.1	1.0	0.040	ug/l	80.0	0.23	96	70-130			
Thallium	82.6	1.0	0.15	ug/l	80.0	ND	103	70-130			
Matrix Spike Dup Analyzed: 03/22/2006 (6C22075-MSD1)						Source: IPC2111-01					
Antimony	86.7	2.0	0.050	ug/l	80.0	0.086	108	70-130	2	20	
Cadmium	81.5	1.0	0.025	ug/l	80.0	ND	102	70-130	2	20	
Copper	90.3	2.0	0.25	ug/l	80.0	14	95	70-130	2	20	
Lead	78.9	1.0	0.040	ug/l	80.0	0.23	98	70-130	2	20	
Thallium	84.9	1.0	0.15	ug/l	80.0	ND	106	70-130	3	20	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 004

Report Number: IPC2199

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C21047 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21047-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/21/2006 (6C21047-BS1)											
Chloride	5.19	0.50	0.15	mg/l	5.00		104	90-110			M-3
Sulfate	9.34	0.50	0.45	mg/l	10.0		93	90-110			M-3
Batch: 6C22065 Extracted: 03/22/06											
Blank Analyzed: 03/22/2006 (6C22065-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/22/2006 (6C22065-BS1)											
Total Dissolved Solids	984	10	10	mg/l	1000		98	90-110			
Duplicate Analyzed: 03/22/2006 (6C22065-DUP1)											
						Source: IPC2169-01					
Total Dissolved Solids	1120	10	10	mg/l		1100			2	10	
Batch: 6C23099 Extracted: 03/23/06											
Blank Analyzed: 03/23/2006 (6C23099-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/23/2006 (6C23099-BS1)											
Total Suspended Solids	972	10	10	mg/l	1000		97	85-115			

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 004 Report Number: IPC2199	Sampled: 03/21/06 Received: 03/21/06
--	---	---

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C23099 Extracted: 03/23/06											
Duplicate Analyzed: 03/23/2006 (6C23099-DUP1)						Source: IPC2307-02					
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C24046 Extracted: 03/24/06											
Blank Analyzed: 03/24/2006 (6C24046-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/24/2006 (6C24046-BS1)											
Oil & Grease	18.0	5.0	0.94	mg/l	20.0		90	65-120			M-NRI
LCS Dup Analyzed: 03/24/2006 (6C24046-BSD1)											
Oil & Grease	19.0	5.0	0.94	mg/l	20.0		95	65-120	5	20	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC2199-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.28	4.7	15
IPC2199-01	Antimony-200.8	Antimony	ug/l	0.57	2.0	6.00
IPC2199-01	Cadmium-200.8	Cadmium	ug/l	0.025	1.0	4.00
IPC2199-01	Chloride - 300.0	Chloride	mg/l	17	0.50	150
IPC2199-01	Copper-200.8	Copper	ug/l	0.99	2.0	14
IPC2199-01	Lead-200.8	Lead	ug/l	0.34	1.0	5.20
IPC2199-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPC2199-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.16	0.15	10.00
IPC2199-01	Sulfate-300.0	Sulfate	mg/l	3.10	0.50	250
IPC2199-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	69	10	850
IPC2199-01	Thallium-200.8	Thallium	ug/l	0.020	1.0	2.00

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC2199-01

Analysis Performed: EDD + Level 4

Samples: IPC2199-01

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical Version 03/1/06 **CHAIN OF CUSTODY FORM**

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Project: Boeing-SSFL NPDES Routine Outfall 004 Stormwater at SRE		Field readings: Temp = 57.0 pH = 7.4								
Project Manager: Bronwyn Kelly Sampler: <i>Barron, Rubin</i>		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: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl-, SO4, NO3+NO2-N	TDS, TSS	Comments
Outfall 004	W	Poly-1L	1	3/2/06 8:30	HNO3	1A	X					
Outfall 004-Dup	W	Poly-1L	1		HNO3	1B	X					
Outfall 004	W	Glass-Amber	2		None	2A, 2B		X				
Outfall 004	W	Glass-Amber	2		HCl	3A, 3B			X			
Outfall 004	W	Poly-500 ml	2		None	4A, 4B				X		
Outfall 004	W	Poly-500 ml	2		None	5A, 5B					X	
Relinquished By	<i>[Signature]</i>	Date/Time	4/2/06	1715	Received By	<i>[Signature]</i>	Date/Time	3/21/06	1715	Turn around Time: (check)	24 Hours	5 Days
Relinquished By	<i>[Signature]</i>	Date/Time	3/21/06	2030	Received By	<i>[Signature]</i>	Date/Time	3/21/06	2030	48 Hours	10 Days	
Relinquished By	<i>[Signature]</i>	Date/Time			Received By	<i>[Signature]</i>	Date/Time			72 Hours	Normal	
					Received By		Date/Time			Perrchlorate Only 72 Hours		
										Metals Only 72 Hours		
										Sample Integrity - (Check)		50
										Insect		On bar

, 2006

Project I.D.: 27455

Shelie Chamberlin
Alta Analytical, Irvine
Meridian Avenue, Suite 100
Irvine, CA 92614

Ms. Chamberlin,

Attached are the results for the one aqueous sample received at Alta Analytical Laboratory on March 15 under your Project Name "IPC2199". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was requested for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Index, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current policies, 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,



M. Maier
Director of HRMS Services



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



Alta Analytical Laboratory Inc.

1104 Windfield Way
El Dorado Hills, CA 95762

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

Page 1 of 235

NPDES - 3827

Section I: Sample Inventory Report

Date Received: 3/23/2006

Alta Lab. ID

Client Sample ID

27455-001

IPC2199-01

SECTION II

Method Blank		EPA Method 1613					
Matrix:	Aqueous	QC Batch No.:	7893	Lab Sample:	0-MB001		
Sample Size:	1.00 L	Date Extracted:	3-Apr-06	Date Analyzed DB-5:	4-Apr-06		
				Date Analyzed DB-225:	NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000744		IS 13C-2,3,7,8-TCDD	77.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000247		13C-1,2,3,7,8-PeCDD	46.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000119		13C-1,2,3,4,7,8-HxCDD	80.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000116		13C-1,2,3,6,7,8-HxCDD	77.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000113		13C-1,2,3,4,6,7,8-HpCDD	82.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	ND	0.00000126		13C-OCDD	65.0	17 - 157	
OCDD	ND	0.00000292		13C-2,3,7,8-TCDF	78.3	24 - 169	
2,3,7,8-TCDF	ND	0.00000786		13C-1,2,3,7,8-PeCDF	57.4	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000186		13C-2,3,4,7,8-PeCDF	46.8	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000205		13C-1,2,3,4,7,8-HxCDF	80.8	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000547		13C-1,2,3,6,7,8-HxCDF	74.4	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000523		13C-2,3,4,6,7,8-HxCDF	80.3	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000572		13C-1,2,3,7,8,9-HxCDF	82.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000731		13C-1,2,3,4,6,7,8-HpCDF	79.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000476		13C-1,2,3,4,7,8,9-HpCDF	84.6	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000528		13C-OCDF	68.7	17 - 157	
OCDF	ND	0.00000148		CRS 37Cl-2,3,7,8-TCDD	95.1	35 - 197	
Totals							
Total TCDD	ND	0.000000744					
Total PeCDD	ND	0.00000247					
Total HxCDD	ND	0.00000116					
Total HpCDD	ND	0.00000126					
Total TCDF	ND	0.00000786					
Total PeCDF	ND	0.00000195					
Total HxCDF	ND	0.00000588					
Total HpCDF	ND	0.00000500					

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 05-Apr-2006 09:28

OPR Results **EPA Method 1613**

Matrix: Aqueous		QC Batch No.: 7893	Lab Sample: 0-OPR001			
Sample Size: 1.00 L		Date Extracted: 3-Apr-06	Date Analyzed DB-5: 4-Apr-06			
			Date Analyzed DB-225: NA			
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	72.5	25 - 164
1,2,3,7,8-PeCDD	50.0	49.8	35 - 71	13C-1,2,3,7,8-PeCDD	42.4	25 - 181
1,2,3,4,7,8-HxCDD	50.0	48.9	35 - 82	13C-1,2,3,4,7,8-HxCDD	69.3	32 - 141
1,2,3,6,7,8-HxCDD	50.0	49.5	38 - 67	13C-1,2,3,6,7,8-HxCDD	62.9	28 - 130
1,2,3,7,8,9-HxCDD	50.0	48.6	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	67.5	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	51.8	35 - 70	13C-OCDD	52.7	17 - 157
OCDD	100	98.3	78 - 144	13C-2,3,7,8-TCDF	74.0	24 - 169
2,3,7,8-TCDF	10.0	10.1	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	47.8	24 - 185
1,2,3,7,8-PeCDF	50.0	50.1	40 - 67	13C-2,3,4,7,8-PeCDF	40.2	21 - 178
2,3,4,7,8-PeCDF	50.0	50.2	34 - 80	13C-1,2,3,4,7,8-HxCDF	69.7	26 - 152
1,2,3,4,7,8-HxCDF	50.0	49.5	36 - 67	13C-1,2,3,6,7,8-HxCDF	58.1	26 - 123
1,2,3,6,7,8-HxCDF	50.0	48.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	68.8	28 - 136
2,3,4,6,7,8-HxCDF	50.0	48.9	35 - 78	13C-1,2,3,7,8,9-HxCDF	68.7	29 - 147
1,2,3,7,8,9-HxCDF	50.0	50.2	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	65.9	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	70.8	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	48.6	39 - 69	13C-OCDF	56.1	17 - 157
OCDF	100	102	63 - 170	CRS 37Cl-2,3,7,8-TCDD	97.9	35 - 197

Analyst: JMH Approved By: Martha M. Maier 05-Apr-2006 09:28

Sample ID: IPC2199-01 **EPA Method 1613**

Client Data
 Name: Del Mar Analytical, Irvine
 Project: IPC2199
 Date Collected: 21-Mar-06
 Time Collected: 0910

Sample Data
 Matrix: Aqueous
 Sample Size: 1.01 L

Laboratory Data
 Lab Sample: 27455-001 Date Received: 23-Mar-06
 QC Batch No.: 7893 Date Extracted: 3-Apr-06
 Date Analyzed DB-5: 4-Apr-06 Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000653			IS 13C-2,3,7,8-TCDD	67.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000294			13C-1,2,3,7,8-PeCDD	44.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000170			13C-1,2,3,4,7,8-HxCDD	60.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000168			13C-1,2,3,6,7,8-HxCDD	59.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000163			13C-1,2,3,4,6,7,8-HpCDD	60.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000218			J	13C-OCDD	53.1	17 - 157	
OCDD	0.000306				13C-2,3,7,8-TCDF	62.3	24 - 169	
2,3,7,8-TCDF	ND	0.000000880			13C-1,2,3,7,8-PeCDF	47.3	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000162			13C-2,3,4,7,8-PeCDF	40.0	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000185			13C-1,2,3,4,7,8-HxCDF	61.8	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000113			13C-1,2,3,6,7,8-HxCDF	45.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000139			13C-2,3,4,6,7,8-HxCDF	53.4	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000126			13C-1,2,3,7,8,9-HxCDF	68.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000142			13C-1,2,3,4,6,7,8-HpCDF	68.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000271			J	13C-1,2,3,4,7,8,9-HpCDF	71.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000955			13C-OCDF	63.1	17 - 157	
OCDF	0.00000856			J	CRS 37Cl-2,3,7,8-TCDD	98.4	35 - 197	
Totals								
Total TCDD	ND	0.000000653						
Total PeCDD	ND	0.00000294						
Total HxCDD	0.00000153							
Total HpCDD	0.00000482							
Total TCDF	ND	0.000000880						
Total PeCDF	ND	0.00000173						
Total HxCDF	ND	0.00000129						
Total HpCDF	0.00000271		0.000000757					

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 05-Apr-2006 09:28

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IPC2199

SENDING LABORATORY:
 Del Mar Analytical - Irvine
 17461 Derian Avenue, Suite 100
 Irvine, CA 92614
 Phone: (949) 261-1022
 Fax: (949) 261-1228
 Project Manager: Michele Chamberlin

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

27455
1.0°C

Standard TAT is requested unless specific due date is requested => Due Date: 2 Weeks Initials: _____

Analysis	Expiration	Comments
Sample ID: IPC2199-01 Water	Sampled: 03/21/06 09:10	
1613-Dioxin-HR-Alta	03/28/06 09:10	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/18/06 09:10	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC2199-01C)		
1 L Amber (IPC2199-01D)		

SAMPLE INTEGRITY:

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

~~Released By _____ Date _____ Time _____ Received By _____ Date _____ Time _____~~
 Released By _____ Date _____ Time _____ Received By Letitia J. Benedict Date 3/23/06 Time 0830

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27455

Samples Arrival:	Date/Time 3/23/06 0830	Initials: UBB	Location: WR-2
Logged In:	Date/Time 3/23/06 0931	Initials: UBB	Location: WR-2
Delivered By:	<u>FedEx</u>	UPS	Cal
		DHL	Hand Delivered
		Other	
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
		None	
Temp °C	1.0°C	Time: 0850	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7926 9301 2660		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			<u>None</u>
Shipping Container	Alta	<u>Client</u>	Retain
			<u>Return</u>
			Dispose

Comments:

APPENDIX G

Section 90

Outfall 004, March 21, 2006

AMEC Data Validation Reports



DATA VALIDATION REPORT

NPDES Monitoring Program
Annual Outfall 004

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC2199

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001D.01
Sample Delivery Group: IPC2199
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 12, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 004	IPC2199-01	27455-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 1°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

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

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7893-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7893-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualification of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. Reported detects for total dioxin or total furan isomers containing both dioxin or furan and EMPC values were qualified as estimated detects, "J." No further qualifications were required.



Sample ID: IPC2199-01		EPA Method 1613						
Client Data		Sample Data						
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 27455-001	Date Received: 23-Mar-06					
Project: IPC2199	Sample Size: 1.01 L	QC Batch No.: 7893	Date Extracted: 3-Apr-06					
Date Collected: 21-Mar-06		Date Analyzed DB-S: 4-Apr-06	Date Analyzed DB-225: NA					
Time Collected: 0910								
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000653			IS 13C-2,3,7,8-TCDD	67.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000294			13C-1,2,3,7,8-PeCDD	44.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000170			13C-1,2,3,4,7,8-HxCDD	60.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000168			13C-1,2,3,6,7,8-HxCDD	59.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000163			13C-1,2,3,4,6,7,8-HpCDD	60.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000218				13C-OCDD	53.1	17 - 157	
OCDD	0.000306				13C-2,3,7,8-TCDF	62.3	24 - 169	
2,3,7,8-TCDF	ND	0.00000880			13C-1,2,3,7,8-PeCDF	47.3	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000162			13C-2,3,4,7,8-PeCDF	40.0	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000185			13C-1,2,3,4,7,8-HxCDF	61.8	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000113			13C-1,2,3,6,7,8-HxCDF	45.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000139			13C-2,3,4,6,7,8-HxCDF	53.4	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000126			13C-1,2,3,7,8,9-HxCDF	68.6	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000142			13C-1,2,3,4,6,7,8-HpCDF	68.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000271				13C-1,2,3,4,7,8,9-HpCDF	71.7	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000955			13C-OCDF	63.1	17 - 157	
OCDF	0.00000856				CBS 37Cl-2,3,7,8-TCDD	98.4	35 - 197	
Totals								
Total TCDD	ND	0.00000653						
Total PeCDD	ND	0.00000294						
Total HxCDD	0.00000153							
Total HpCDD	0.00000482							
Total TCDF	ND	0.000000880						
Total PeCDF	ND	0.00000173						
Total HxCDF	ND	0.00000129						
Total HpCDF	0.00000271		0.00000757					

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

Approved By: Martia M. Mater 05-Apr-2006 09:28

Analyte: JMH

APPENDIX G

Section 91

Outfall 004, March 28, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 004

Sampled: 03/28/06
Received: 03/28/06
Issued: 03/30/06 19:15

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IPC2826-01

CLIENT ID
Outfall 004

MATRIX
Water

Reviewed By:

Michele Chamberlin

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



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

Project ID: Routine Outfall 004
Report Number: IPC2826

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

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2826-01 (Outfall 004 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C29080	0.050	2.0	0.43	1	03/29/06	03/29/06	J
Cadmium	EPA 200.8	6C29080	0.025	1.0	ND	1	03/29/06	03/29/06	
Copper	EPA 200.8	6C29080	0.25	2.0	0.95	1	03/29/06	03/29/06	J
Lead	EPA 200.8	6C29080	0.040	1.0	0.27	1	03/29/06	03/29/06	J
Mercury	EPA 245.1	6C29072	0.050	0.20	ND	1	03/29/06	03/29/06	
Thallium	EPA 200.8	6C29080	0.15	1.0	ND	1	03/29/06	03/29/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2826-01 (Outfall 004 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C28055	0.15	0.50	14	1	03/28/06	03/28/06	
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	0.17	1	03/28/06	03/28/06	
Oil & Grease	EPA 413.1	6C29047	0.90	4.8	ND	1	03/29/06	03/29/06	
Sulfate	EPA 300.0	6C28055	0.45	0.50	2.7	1	03/28/06	03/28/06	
Total Dissolved Solids	SM2540C	6C29077	10	10	58	1	03/29/06	03/29/06	
Total Suspended Solids	EPA 160.2	6C29092	10	10	ND	1	03/29/06	03/29/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 004 (IPC2826-01) - Water EPA 300.0	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
	2	03/28/2006 08:30	03/28/2006 18:15	03/28/2006 20:00	03/28/2006 21:27

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical

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

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

Project ID: Routine Outfall 004

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29072 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29072-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/29/2006 (6C29072-BS1)											
Mercury	7.90	0.20	0.050	ug/l	8.00		99	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C29072-MS1) Source: IPC2718-01											
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29072-MSD1) Source: IPC2718-01											
Mercury	7.82	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C29080 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29080-BLK1)											
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 03/29/2006 (6C29080-BS1)											
Antimony	82.4	2.0	0.050	ug/l	80.0		103	85-115			
Cadmium	81.9	1.0	0.025	ug/l	80.0		102	85-115			
Copper	79.3	2.0	0.25	ug/l	80.0		99	85-115			
Lead	81.8	1.0	0.040	ug/l	80.0		102	85-115			
Thallium	80.7	1.0	0.15	ug/l	80.0		101	85-115			

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C29080 Extracted: 03/29/06											
Matrix Spike Analyzed: 03/29/2006 (6C29080-MS1)						Source: IPC2585-01					
Antimony	84.4	2.0	0.050	ug/l	80.0	0.091	105	70-130			
Cadmium	80.3	1.0	0.025	ug/l	80.0	ND	100	70-130			
Copper	82.8	2.0	0.25	ug/l	80.0	8.6	93	70-130			
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	70-130			
Thallium	77.3	1.0	0.15	ug/l	80.0	ND	97	70-130			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29080-MSD1)						Source: IPC2585-01					
Antimony	84.2	2.0	0.050	ug/l	80.0	0.091	105	70-130	0	20	
Cadmium	80.7	1.0	0.025	ug/l	80.0	ND	101	70-130	1	20	
Copper	82.7	2.0	0.25	ug/l	80.0	8.6	93	70-130	0	20	
Lead	79.2	1.0	0.040	ug/l	80.0	0.67	98	70-130	0	20	
Thallium	77.5	1.0	0.15	ug/l	80.0	ND	97	70-130	0	20	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2826

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

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C28055 Extracted: 03/28/06											
Blank Analyzed: 03/28/2006 (6C28055-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/28/2006 (6C28055-BS1)											
Chloride	4.81	0.50	0.15	mg/l	5.00		96	90-110			M-3
Sulfate	9.76	0.50	0.45	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 03/28/2006 (6C28055-MS1)											
						Source: IPC2694-01					
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120			
Matrix Spike Dup Analyzed: 03/28/2006 (6C28055-MSD1)											
						Source: IPC2694-01					
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20	
Batch: 6C29047 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29047-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/29/2006 (6C29047-BS1)											
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120			M-NRI
LCS Dup Analyzed: 03/29/2006 (6C29047-BSD1)											
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120	2	20	
Batch: 6C29077 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29077-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C29077 Extracted: 03/29/06										
LCS Analyzed: 03/29/2006 (6C29077-BS1)										
Total Dissolved Solids	994	10	10	mg/l	1000		99 90-110			
Duplicate Analyzed: 03/29/2006 (6C29077-DUP1)										
						Source: IPC2817-01				
Total Dissolved Solids	240	10	10	mg/l		240		0	10	
Batch: 6C29092 Extracted: 03/29/06										
Blank Analyzed: 03/29/2006 (6C29092-BLK1)										
Total Suspended Solids	ND	10	10	mg/l						
LCS Analyzed: 03/29/2006 (6C29092-BS1)										
Total Suspended Solids	953	10	10	mg/l	1000		95 85-115			
Duplicate Analyzed: 03/29/2006 (6C29092-DUP1)										
						Source: IPC2722-01				
Total Suspended Solids	22.0	10	10	mg/l		21		5	10	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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



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

Project ID: Routine Outfall 004

Report Number: IPC2826

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

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC2826-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.67	4.8	15
IPC2826-01	Antimony-200.8	Antimony	ug/l	0.43	2.0	6.00
IPC2826-01	Cadmium-200.8	Cadmium	ug/l	0.0019	1.0	4.00
IPC2826-01	Chloride - 300.0	Chloride	mg/l	14	0.50	150
IPC2826-01	Copper-200.8	Copper	ug/l	0.95	2.0	14
IPC2826-01	Lead-200.8	Lead	ug/l	0.27	1.0	5.20
IPC2826-01	Mercury - 245.1	Mercury	ug/l	0	0.20	0.20
IPC2826-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.17	0.15	10.00
IPC2826-01	Sulfate-300.0	Sulfate	mg/l	2.70	0.50	250
IPC2826-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	58	10	850
IPC2826-01	Thallium-200.8	Thallium	ug/l	0	1.0	2.00

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 004

Report Number: IPC2826

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

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPC2826-01

Analysis Performed: EDD + Level 4
Samples: IPC2826-01

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical CHAIN OF CUSTODY FORM

Version 03/1/06

IP(2826)

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

Project:
 Boeing-SSFL NPDES
 Routine Outfall 004
 Stormwater at SRE

Project Manager: Bronwyn Kelly
Phone Number: (626) 568-6691
Fax Number: (626) 568-6515

Sampler: *K. Kelly*

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	ANALYSIS REQUIRED						Comments
							TDS, TSS	C _l , SO ₄ , NO ₃ +NO ₂ -N	Oil & Grease (EPA 413.1)	TCDD (and all congeners)	Sb, Cd, Cu, Pb, Hg, Tl	Field readings:	
Outfall 004	W	Poly-1L	1	3/28/06 1500	HNO3	1A	X						Temp = 57.2
Outfall 004-Dup	W	Poly-1L	1		HNO3	1B	X						pH = 7.7
Outfall 004	W	Glass-Amber	2		None	2A, 2B		X					
Outfall 004	W	Glass-Amber	2		HCl	3A, 3B		X					
Outfall 004	W	Poly-500 ml	2		None	4A, 4B		X					
Outfall 004	W	Poly-500 ml	2		None	5A, 5B		X					

Relinquished By: *[Signature]* Date/Time: 3/28/06 1500
Received By: *[Signature]* Date/Time: 3/28/06 1815

Relinquished By: *[Signature]* Date/Time: 3/28/06 1815
Received By: *[Signature]* Date/Time: 3/28/06 1815

Relinquished By: *[Signature]* Date/Time: 3/28/06 1815
Received By: *[Signature]* Date/Time: 3/28/06 1815

Turn around Time: (check)
 24 Hours 5 Days
 48 Hours 10 Days
 72 Hours Normal
 Perchlorate Only 72 Hours
 Metals Only 72 Hours
 Sample Integrity: (Check) Intact On Ice: 2°C



April 03, 2006

Alta Project I.D.: 27500

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 30, 2006 under your Project Name "IPC2826". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



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



Section I: Sample Inventory Report

Date Received: 3/30/2006

Alta Lab. ID

Client Sample ID

27500-001

IPC2826-01

SECTION II

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7886	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-06
				Date Analyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.000000977		74.2	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000135		74.0	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.000000919		75.1	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.000000964		75.0	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.000000913		76.6	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.000000944		43.6	17 - 157
OCDD	ND	0.00000222		79.1	24 - 169
2,3,7,8-TCDF	ND	0.000000845		81.7	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000110		83.8	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000101		75.0	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.000000457		76.8	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000415		76.4	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.000000487		76.9	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.000000630		69.4	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.000000489		79.8	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.000000435		50.1	17 - 157
OCDF	ND	0.00000220		81.3	35 - 197
Totals					
Total TCDD	ND	0.000000977			
Total PeCDD	ND	0.00000135			
Total HxCDD	ND	0.000000932			
Total HpCDD	ND	0.000000944			
Total TCDF	ND	0.000000845			
Total PeCDF	ND	0.00000106			
Total HxCDF	ND	0.000000491			
Total HpCDF	ND	0.000000463			

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 03-Apr-2006 11:49

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No.:	7886	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5:	1-Apr-06	
				Date Analyzed DB-225:	NA	
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	11.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	63.0	25 - 164
1,2,3,7,8-PeCDD	50.0	59.5	35 - 71	13C-1,2,3,7,8-PeCDD	63.9	25 - 181
1,2,3,4,7,8-HxCDD	50.0	56.2	35 - 82	13C-1,2,3,4,7,8-HxCDD	63.7	32 - 141
1,2,3,6,7,8-HxCDD	50.0	56.1	38 - 67	13C-1,2,3,6,7,8-HxCDD	63.7	28 - 130
1,2,3,7,8,9-HxCDD	50.0	54.5	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	52.6	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	56.0	35 - 70	13C-OCDD	31.1	17 - 157
OCDD	100	113	78 - 144	13C-2,3,7,8-TCDF	63.0	24 - 169
2,3,7,8-TCDF	10.0	11.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	67.1	24 - 185
1,2,3,7,8-PeCDF	50.0	53.9	40 - 67	13C-2,3,4,7,8-PeCDF	68.4	21 - 178
2,3,4,7,8-PeCDF	50.0	54.9	34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4	26 - 152
1,2,3,4,7,8-HxCDF	50.0	55.7	36 - 67	13C-1,2,3,6,7,8-HxCDF	64.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	57.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	65.5	28 - 136
2,3,4,6,7,8-HxCDF	50.0	55.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	63.2	29 - 147
1,2,3,7,8,9-HxCDF	50.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.3	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	54.8	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	56.4	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.6	39 - 69	13C-OCDF	37.9	17 - 157
OCDF	100	106	63 - 170	CRS 37Cl-2,3,7,8-TCDD	78.6	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 03-Apr-2006 11:49

Sample ID: IPC2826-01		EPA Method 1613						
Client Data		Laboratory Data						
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 27500-001	Date Received: 30-Mar-06					
Project: IPC2826	Sample Size: 0.997 L	QC Batch No.: 7886	Date Extracted: 31-Mar-06					
Date Collected: 28-Mar-06		Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225: NA					
Time Collected: 0830								
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.000000956			IS 13C-2,3,7,8-TCDD	61.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000139			13C-1,2,3,7,8-PeCDD	61.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000156			13C-1,2,3,4,7,8-HxCDD	62.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000157			13C-1,2,3,6,7,8-HxCDD	61.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000152			13C-1,2,3,4,6,7,8-HpCDD	65.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.0000153			J	13C-OCDD	34.3	17 - 157	
OCDD	0.000240				13C-2,3,7,8-TCDF	60.0	24 - 169	
2,3,7,8-TCDF	ND	0.000000906			13C-1,2,3,7,8-PeCDF	66.9	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000170			13C-2,3,4,7,8-PeCDF	62.6	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000170			13C-1,2,3,4,7,8-HxCDF	62.6	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000474			13C-1,2,3,6,7,8-HxCDF	65.9	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000435			13C-2,3,4,6,7,8-HxCDF	62.9	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000492			13C-1,2,3,7,8,9-HxCDF	64.0	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000635			13C-1,2,3,4,6,7,8-HpCDF	61.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000237			J	13C-1,2,3,4,7,8,9-HpCDF	65.0	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000562			13C-OCDF	40.7	17 - 157	
OCDF	0.00000560			J	CRS 37Cl-2,3,7,8-TCDD	87.7	35 - 197	
Totals								
Total TCDD	ND	0.000000956						
Total PeCDD	ND	0.00000139						
Total HxCDD	ND	0.00000155						
Total HpCDD	0.0000297							
Total TCDF	ND	0.000000906						
Total PeCDF	ND	0.00000170						
Total HxCDF	0.00000132							
Total HpCDF	0.00000926							

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
 Date: 03-Apr-2006 11:49

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4657 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9589
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPC2826

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 Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone : (916) 933-1640 Fax: (916) 673-0106 <div style="text-align: right; font-size: 1.5em; margin-top: 10px;"> 27500 0.3°C </div>

Standard TAT is requested unless specific due date is requested ⇒ Due Date: 4/5/06 Initials: _____

Analysis	Expiration	Comments
Sample ID: IPC2826-01 Water	Sampled: 03/28/06 08:30	
1613-Dioxin-HR-Alta	04/04/06 08:30	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/25/06 08:30	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC2826-01C)		
1 L Amber (IPC2826-01D)		

SAMPLE INTEGRITY:

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

~~Released By~~ 3/29/06 Bettina G. Benedict 3/29/06 0900
~~Date~~ ~~Time~~ ~~Received By~~ ~~Date~~ ~~Time~~

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

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27500

Samples Arrival:	Date/Time <u>3/30/06 0900</u>	Initials: <u>BSB</u>	Location: <u>WR-2</u>
Logged In:	Date/Time <u>3/30/06 1122</u>	Initials: <u>BSB</u>	Location: <u>WR-2</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	<u>0.3°C</u>	Time: <u>1023</u>	Thermometer ID: <u>DT-20</u>

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # <u>7914 2591 2912</u>	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?			<input checked="" type="radio"/> None
Shipping Container	Alta	<input checked="" type="radio"/> Client	Retain
		<input checked="" type="radio"/> Return	Dispose

Comments:

APPENDIX G

Section 92

Outfall 004, March 28, 2006

AMEC Data Validation Reports


CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
 12260 East Vassar Drive
 Suite 500
 Lakewood, CO 80226

Package ID B4DF60
 Task Order 1261.001D.01
 SDG No. IPC2826

No. of Analyses 1

Laboratory Alta Analytical
 Reviewer E. Wessling
 Analysis/Method Dioxins/ Furans by Method 1613

Date: ~~April 10, 2006~~ February 17, 2006
 Reviewer's Signature


ACTION ITEMS^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis	Qualifications were assigned for the following:
Protocol, e.g.,	- results between the RL and the MDL were estimated and annotated "DNQ"
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Annual Outfall 004

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC2826

Prepared by

MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001D.01
Sample Delivery Group: IPC2826
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 10, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 004	IPC2826-01	27500-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7886-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7886-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualification of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.



Client Data		Sample Data		Laboratory Data									
Sample ID: IPC2826-01	Del Mar Analytical, Irvine IPC2826	Matrix: Aqueous	Lab Sample: 27500-001	Date Received: 30-Mar-06	EPA Method 1613								
Date Collected: 28-Mar-06	Time Collected: 0830	Sample Size: 0.997 L	QC Batch No.: 7886	Date Extracted: 31-Mar-06									
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Date Analyzed DB-5: 1-Apr-06		Date Analyzed DB-225: NA							
Analyte		Conc. (ug/L)		DL ^a		EMPC ^b		Labeled Standard		%R		LCL-UCL ^d Qualifiers	
2,3,7,8-TCDD	ND	0.000000956						IS	13C-2,3,7,8-TCDD	61.8	25 - 164		
1,2,3,7,8-PeCDD	ND	0.00000139							13C-1,2,3,7,8-PeCDD	61.2	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.00000156							13C-1,2,3,4,7,8-HxCDD	62.5	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.00000157							13C-1,2,3,6,7,8-HxCDD	61.7	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.00000152							13C-1,2,3,4,6,7,8-HpCDD	65.8	23 - 140		
1,2,3,4,6,7,8-HpCDD	0.0000153								13C-OCDD	34.3	17 - 157		
OCDD	0.000240								13C-2,3,7,8-TCDF	60.0	24 - 169		
2,3,7,8-TCDF	ND	0.000000906							13C-1,2,3,7,8-PeCDF	66.9	24 - 185		
1,2,3,7,8-PeCDF	ND	0.00000170							13C-2,3,4,7,8-PeCDF	62.6	21 - 178		
2,3,4,7,8-PeCDF	ND	0.00000170							13C-1,2,3,4,7,8-HxCDF	62.6	26 - 152		
1,2,3,4,7,8-HxCDF	ND	0.000000474							13C-1,2,3,6,7,8-HxCDF	65.9	26 - 123		
1,2,3,6,7,8-HxCDF	ND	0.000000435							13C-2,3,4,6,7,8-HxCDF	62.9	28 - 136		
2,3,4,6,7,8-HxCDF	ND	0.000000492							13C-1,2,3,7,8,9-HxCDF	64.0	29 - 147		
1,2,3,7,8,9-HxCDF	ND	0.000000635							13C-1,2,3,4,6,7,8-HpCDF	61.0	28 - 143		
1,2,3,4,6,7,8-HpCDF	0.00000237								13C-1,2,3,4,7,8,9-HpCDF	65.0	26 - 138		
1,2,3,4,7,8,9-HpCDF	ND								13C-OCDF	40.7	17 - 157		
OCDF	0.00000560								CRS 37Cl-2,3,7,8-TCDD	87.7	35 - 197		
Totals								Footnotes					
Total TCDD	ND	0.000000956						a. Sample specific estimated detection limit.					
Total PeCDD	ND	0.00000139						b. Estimated maximum possible concentration.					
Total HxCDD	ND	0.00000155						c. Method detection limit.					
Total HpCDD	0.0000297							d. Lower control limit - upper control limit.					
Total TCDF	ND	0.000000906											
Total PeCDF	ND	0.00000170											
Total HxCDF	0.00000132												
Total HpCDF	0.00000926												

Analyst: JMH
 Approved By: Martha M. Maier 03-Apr-2006 11:49

Project 27500
 PM 4/11/06
 LEVEL IV

APPENDIX G

Section 93

Outfall 005, March 29, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 005

Sampled: 03/29/06
Received: 03/29/06
Issued: 03/31/06 16:59

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IPC2951-01

CLIENT ID
Outfall 005

MATRIX
Water

Reviewed By:

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



Del Mar Analytical

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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2951-01 (Outfall 005 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C29141	0.050	2.0	0.61	1	03/29/06	03/30/06	J
Cadmium	EPA 200.8	6C29141	0.025	1.0	ND	1	03/29/06	03/30/06	
Copper	EPA 200.8	6C29141	0.25	2.0	2.0	1	03/29/06	03/30/06	
Lead	EPA 200.8	6C29141	0.040	1.0	0.20	1	03/29/06	03/30/06	J
Mercury	EPA 245.1	6C30065	0.050	0.20	0.092	1	03/30/06	03/30/06	J
Thallium	EPA 200.8	6C29141	0.15	1.0	ND	1	03/29/06	03/30/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2951-01 (Outfall 005 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C29054	3.0	10	57	20	03/29/06	03/29/06	
Nitrate/Nitrite-N	EPA 300.0	6C29054	1.6	3.0	43	20	03/29/06	03/29/06	
Oil & Grease	EPA 413.1	6C30048	0.90	4.8	ND	1	03/30/06	03/30/06	
Sulfate	EPA 300.0	6C29054	9.0	10	50	20	03/29/06	03/29/06	
Total Dissolved Solids	SM2540C	6C30063	10	10	700	1	03/30/06	03/30/06	
Total Suspended Solids	EPA 160.2	6C30086	10	10	ND	1	03/30/06	03/30/06	
Sample ID: IPC2951-01RE1 (Outfall 005 - Water)									
Reporting Units: mg/l									
Nitrate/Nitrite-N	EPA 300.0	6C30050	0.80	1.5	46	10	03/30/06	03/30/06	

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 Michele Chamberlin
 Project Manager

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IPC2951 <Page 3 of 11>

NPDES - 3884



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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Outfall 005 (IPC2951-01) - Water					
EPA 300.0	2	03/29/2006 10:15	03/29/2006 18:45	03/29/2006 20:30	03/29/2006 22:36
Sample ID: Outfall 005 (IPC2951-01RE1) - Water					
EPA 300.0	2	03/29/2006 10:15	03/29/2006 18:45	03/30/2006 15:00	03/30/2006 18:56

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
Batch: 6C29141 Extracted: 03/29/06										
Blank Analyzed: 03/30/2006 (6C29141-BLK1)										
Antimony	ND	2.0	0.050	ug/l						
Cadmium	ND	1.0	0.025	ug/l						
Copper	ND	2.0	0.25	ug/l						
Lead	ND	1.0	0.040	ug/l						
Thallium	ND	1.0	0.15	ug/l						
LCS Analyzed: 03/30/2006 (6C29141-BS1)										
Antimony	76.0	2.0	0.050	ug/l	80.0		95	85-115		
Cadmium	76.9	1.0	0.025	ug/l	80.0		96	85-115		
Copper	75.5	2.0	0.25	ug/l	80.0		94	85-115		
Lead	78.2	1.0	0.040	ug/l	80.0		98	85-115		
Thallium	77.6	1.0	0.15	ug/l	80.0		97	85-115		
Matrix Spike Analyzed: 03/30/2006 (6C29141-MS1)										
					Source: IPC2844-01					
Antimony	78.8	2.0	0.050	ug/l	80.0	0.68	98	70-130		
Cadmium	75.4	1.0	0.025	ug/l	80.0	ND	94	70-130		
Copper	384	2.0	0.25	ug/l	80.0	320	80	70-130		
Lead	76.3	1.0	0.040	ug/l	80.0	1.1	94	70-130		
Thallium	75.5	1.0	0.15	ug/l	80.0	ND	94	70-130		
Matrix Spike Analyzed: 03/30/2006 (6C29141-MS2)										
					Source: IPC2911-01					
Antimony	84.6	2.0	0.050	ug/l	80.0	ND	106	70-130		
Cadmium	81.9	1.0	0.025	ug/l	80.0	ND	102	70-130		
Copper	87.2	2.0	0.25	ug/l	80.0	8.8	98	70-130		
Lead	83.4	1.0	0.040	ug/l	80.0	0.35	104	70-130		
Thallium	82.8	1.0	0.15	ug/l	80.0	ND	104	70-130		
Matrix Spike Dup Analyzed: 03/30/2006 (6C29141-MSD1)										
					Source: IPC2844-01					
Antimony	82.4	2.0	0.050	ug/l	80.0	0.68	102	70-130	4	20
Cadmium	78.8	1.0	0.025	ug/l	80.0	ND	98	70-130	4	20
Copper	403	2.0	0.25	ug/l	80.0	320	104	70-130	5	20
Lead	82.3	1.0	0.040	ug/l	80.0	1.1	102	70-130	8	20
Thallium	80.9	1.0	0.15	ug/l	80.0	ND	101	70-130	7	20

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 005
 Report Number: IPC2951

Sampled: 03/29/06
 Received: 03/29/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30065 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30065-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/30/2006 (6C30065-BS1)											
Mercury	7.87	0.20	0.050	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/30/2006 (6C30065-MS1)											
						Source: IPC2857-01					
Mercury	8.16	0.20	0.050	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 03/30/2006 (6C30065-MSD1)											
						Source: IPC2857-01					
Mercury	8.19	0.20	0.050	ug/l	8.00	ND	102	70-130	0	20	

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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06
 Received: 03/29/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C29054 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29054-BLK1)											
Chloride	0.161	0.50	0.15	mg/l							J
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/29/2006 (6C29054-BS1)											
Chloride	4.63	0.50	0.15	mg/l	5.00		93	90-110			
Sulfate	9.51	0.50	0.45	mg/l	10.0		95	90-110			
Matrix Spike Analyzed: 03/29/2006 (6C29054-MS1) Source: IPC2868-01											
Chloride	4.83	0.50	0.15	mg/l	5.00	0.38	89	80-120			
Sulfate	10.3	0.50	0.45	mg/l	10.0	1.2	91	80-120			
Matrix Spike Dup Analyzed: 03/29/2006 (6C29054-MSD1) Source: IPC2868-01											
Chloride	4.83	0.50	0.15	mg/l	5.00	0.38	89	80-120	0	20	
Sulfate	10.2	0.50	0.45	mg/l	10.0	1.2	90	80-120	1	20	
Batch: 6C30048 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30048-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/30/2006 (6C30048-BS1)											
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120			M-NR1
LCS Dup Analyzed: 03/30/2006 (6C30048-BSD1)											
Oil & Grease	19.4	5.0	0.94	mg/l	20.0		97	65-120	9	20	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 005 Report Number: IPC2951	Sampled: 03/29/06 Received: 03/29/06
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C30050 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30050-BLK1)											
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Batch: 6C30063 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30063-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/30/2006 (6C30063-BS1)											
Total Dissolved Solids	990	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/30/2006 (6C30063-DUP1)											
Total Dissolved Solids	295	10	10	mg/l		Source: IPC2961-01 300			2	10	
Batch: 6C30086 Extracted: 03/30/06											
Blank Analyzed: 03/30/2006 (6C30086-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/30/2006 (6C30086-BS1)											
Total Suspended Solids	987	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 03/30/2006 (6C30086-DUP1)											
Total Suspended Solids	216	10	10	mg/l		Source: IPC2670-01 230			6	10	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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



Del Mar Analytical

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

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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06
 Received: 03/29/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC2951-01	413.1 Oil and Grease	Oil & Grease	mg/l	0.57	4.8	15
IPC2951-01	Antimony-200.8	Antimony	ug/l	0.61	2.0	6.00
IPC2951-01	Cadmium-200.8	Cadmium	ug/l	0	1.0	4.00
IPC2951-01	Chloride - 300.0	Chloride	mg/l	57	10	150
IPC2951-01	Copper-200.8	Copper	ug/l	2.00	2.0	14
IPC2951-01	Lead-200.8	Lead	ug/l	0.20	1.0	5.20
IPC2951-01	Mercury - 245.1	Mercury	ug/l	0.092	0.20	0.20
IPC2951-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	43	3.0	10.00
IPC2951-01	Sulfate-300.0	Sulfate	mg/l	50	10	250
IPC2951-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	700	10	850
IPC2951-01	Thallium-200.8	Thallium	ug/l	0	1.0	2.00
IPC2951-01RE1	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	46	1.5	10.00

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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IPC2951 <Page 10 of 11>

NPDES - 3891



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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPC2951-01

Analysis Performed: EDD + Level 4

Samples: IPC2951-01

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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IPCA51

Del Mar Analytical Version 03/01/06 **CHAIN OF CUSTODY FORM**

Client Name/Address:		Project:		ANALYSIS REQUIRED										Field readings:				
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Project Manager: Bronwyn Kelly Sampler: <i>SLR03-12</i>		Boeing-SSFL NPDES Routine Outfall 005 Stormwater at FSD-1 Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Oil & Grease (EPA 413.1)	Cl ⁻ , SO ₄ , NO ₃ +NO ₂ -N	TDS, TSS	Temp = 6°C	pH= 7.0	Comments
Outfall 005	W	Poly-1L	1	3/29/06 16:15	HNO3	1A	X											
Outfall 005-Dup	W	Poly-1L	1		HNO3	1B	X											
Outfall 005	W	Glass-Amber	2		None	2A, 2B			X									
Outfall 005	W	Glass-Amber	2		HCl	3A, 3B			X									
Outfall 005	W	Poly-500 ml	2		None	4A, 4B				X								
Outfall 005	W	Poly-500 ml	2	3/24/06 10:15	None	5A, 5B					X							
Relinquished By: <i>SLR</i> Date/Time: <i>3/29/06 1600</i> Received By: <i>SLR</i> Date/Time: <i>3/29/06 1600</i>																		
Relinquished By: <i>SLR</i> Date/Time: <i>3/29/06 1845</i> Received By: <i>SLR</i> Date/Time: <i>3/29/06 1845</i>																		
Turn around Time: (check) 24 Hours <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input type="checkbox"/> 72 Hours <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Metals Only 72 Hours <input type="checkbox"/> Sample Integrity: (Check) Intact <input checked="" type="checkbox"/> On Ice: <input checked="" type="checkbox"/>																		

SLR
SLR



April 04, 2006

Alta Project I.D.: 27506

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 31, 2006 under your Project Name "IPC2951". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



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



Section I: Sample Inventory Report

Date Received: 3/31/2006

Alta Lab. ID

Client Sample ID

27506-001

IPC2951-01

SECTION II

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7889	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	1-Apr-06	Date Analyzed DB-5:	3-Apr-06
				Date Analyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000128		69.5	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000135		75.3	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000138		74.1	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000142		76.8	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000135		76.9	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.000000972		37.5	17 - 157
OCDD	ND	0.00000275		70.7	24 - 169
2,3,7,8-TCDF	ND	0.00000102		75.7	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000106		78.6	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000103		74.4	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.000000440		76.7	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000410		76.4	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.000000469		76.1	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.000000599		65.9	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.000000722		76.7	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.000000661		47.0	17 - 157
OCDF	ND	0.00000405		83.8	35 - 197
Totals					
Total TCDD	ND	0.00000128			
Total PeCDD	ND	0.00000135			
Total HxCDD	ND	0.00000138			
Total HpCDD	ND	0.000000972			
Total TCDF	ND	0.00000102			
Total PeCDF	ND	0.00000104			
Total HxCDF	ND	0.000000474			
Total HpCDF	ND	0.000000692			

Footnotes

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

Analyst: DMS

Approved By: Martha M. Maier 04-Apr-2006 14:04

OPR Results		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7889	Lab Sample:	0-OPR001
Sample Size	1.00 L	Date Extracted:	1-Apr-06	Date Analyzed DB-5:	3-Apr-06
				Date Analyzed DIB-225:	NA
Analyte	Spike Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	62.4	25 - 164
1,2,3,7,8-PeCDD	50.0	35 - 71	13C-1,2,3,7,8-PeCDD	65.4	25 - 181
1,2,3,4,7,8-HxCDD	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	60.0	32 - 141
1,2,3,6,7,8-HxCDD	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	60.8	28 - 130
1,2,3,7,8,9-HxCDD	50.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.0	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	35 - 70	13C-OCDD	30.1	17 - 157
OCDD	100	78 - 144	13C-2,3,7,8-TCDF	61.7	24 - 169
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	65.3	24 - 185
1,2,3,7,8-PeCDF	50.0	40 - 67	13C-2,3,4,7,8-PeCDF	68.0	21 - 178
2,3,4,7,8-PeCDF	50.0	34 - 80	13C-1,2,3,4,7,8-HxCDF	56.2	26 - 152
1,2,3,4,7,8-HxCDF	50.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	58.4	26 - 123
1,2,3,6,7,8-HxCDF	50.0	42 - 65	13C-2,3,4,6,7,8-HxCDF	60.7	28 - 136
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	58.6	29 - 147
1,2,3,7,8,9-HxCDF	50.0	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.0	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	60.3	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	39 - 69	13C-OCDF	37.3	17 - 157
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	75.6	35 - 197

Analyst: DMS
 Approved By: Martha M. Maier 04-Apr-2006 14:04

Sample ID: IPC2951-01

EPA Method 1613

Client Data		Sample Data		Laboratory Data	
Name:	Del Mar Analytical, Irvine	Matrix:	Aqueous	Lab Sample:	27506-001
Project:	IPC2951	Sample Size:	1.03 L	QC Batch No.:	7889
Date Collected:	29-Mar-06			Date Analyzed DB-S:	3-Apr-06
Time Collected:	1015			Date Analyzed DB-225:	NA
				Date Received:	31-Mar-06
				Date Extracted:	1-Apr-06
				Date Analyzed DB-225:	NA

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000140			13C-2,3,7,8-TCDD	55.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000168			13C-1,2,3,7,8-PeCDD	61.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000174			13C-1,2,3,4,7,8-HxCDD	58.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000177			13C-1,2,3,6,7,8-HxCDD	59.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000170			13C-1,2,3,4,6,7,8-HpCDD	60.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000594			J	13C-OCDD	35.4	17 - 157	
OCDD	0.0000798				13C-2,3,7,8-TCDF	51.3	24 - 169	
2,3,7,8-TCDF	ND	0.00000157			13C-1,2,3,7,8-PeCDF	57.3	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000166			13C-2,3,4,7,8-PeCDF	58.5	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000157			13C-1,2,3,4,7,8-HxCDF	58.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000174			13C-1,2,3,6,7,8-HxCDF	59.2	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000163			13C-2,3,4,6,7,8-HxCDF	60.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000172			13C-1,2,3,7,8,9-HxCDF	60.7	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000244			13C-1,2,3,4,6,7,8-HpCDF	54.5	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000333			13C-1,2,3,4,7,8,9-HpCDF	64.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000283			13C-OCDF	42.2	17 - 157	
OCDF	ND	0.000000381			CRS 37Cl-2,3,7,8-TCDD	76.3	35 - 197	

Totals		Footnotes	
Total TCDD	ND	a. Sample specific estimated detection limit.	
Total PeCDD	ND	b. Estimated maximum possible concentration.	
Total HxCDD	ND	c. Method detection limit.	
Total HpCDD	0.0000110	d. Lower control limit - upper control limit.	
Total TCDF	ND		
Total PeCDF	ND		
Total HxCDF	ND		
Total HpCDF	ND		

Analyst: DMS
 Approved By: Martha M. Maier 04-Apr-2006 14:04

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



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 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3820 Fax (702) 798-3821

SUBCONTRACT ORDER - PROJECT # IPC2951

<p>SENDING LABORATORY: Del Mar Analytical - Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin</p>	<p>RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone : (916) 933-1640 Fax: (916) 673-0106</p> <p style="font-size: 2em; margin-left: 20px;">27506 2.0°C</p>
---	--

Standard TAT is requested unless specific due date is requested => Due Date: 4/6/06 Initials: _____

Analysis	Expiration	Comments
Sample ID: IPC2951-01 Water	Sampled: 03/29/06 10:15	Instant Notification
1613-Dioxin-HR-Alta	04/05/06 10:15	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/26/06 10:15	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC2951-01C)		
1 L Amber (IPC2951-01D)		

SAMPLE INTEGRITY:

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

Released By: Amy Jones Date: 3/30/06 Time: _____ Received By: Bethina Q. Benedict Date: 3/31/06 Time: 0905

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

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27506

Samples Arrival:	Date/Time 3/31/06 0905	Initials: BAB	Location: WR-2
Logged In:	Date/Time 3/31/06 1058	Initials: BAB	Location: WR-2
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	2.0°C	Time: 0935	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7903 76134744		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
			None
Shipping Container	Alta	Client	Retain
			Return
			Dispose

Comments:

APPENDIX G

Section 94

Outfall 005, March 29, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX, LLC
 12260 East Vassar Drive
 Suite 500
 Lakewood, CO 80226

Package ID B4DF62
 Task Order 1261.001D.01
 SDG No. IPC2951

No. of Analyses 1

Laboratory Alta Analytical
 Reviewer E. Wessling
 Analysis/Method Dioxins/ Furans by Method 1613

Date: April 10, 2006 ~~February 17, 2006~~
 Reviewer's Signature 

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	_____
2. Out of Scope Analyses	_____ _____
3. Analyses Not Conducted	_____
4. Missing Hardcopy Deliverables	_____ _____
5. Incorrect Hardcopy Deliverables	_____ _____
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications were assigned for the following: - results between the RL and the MDL were estimated and annotated "DNQ" _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
COMMENTS ^b	_____

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



DATA VALIDATION REPORT

NPDES Monitoring Program
Annual Outfall 005

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC2951

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001D.01
Sample Delivery Group: IPC2951
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: E. Wessling
Date of Review: April 10, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 005	IPC2951-01	27506-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7889-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7889-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualification of the site sample was required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.



Client Data		Sample Data		Laboratory Data		EPA Method 1613	
Sample ID:	IPC2951-01	DL ^a	EMPC ^b	Matrix:	Lab Sample:	Date Received:	
Name:	Del Mar Analytical, Irvine	ND	0.00000140	Aqueous	27506-001	31-Mar-06	
Project:	IPC2951	ND	0.00000168	Sample Size: 1.03 L	7889	1-Apr-06	
Date Collected:	29-Mar-06	ND	0.00000174		3-Apr-06	NA	
Time Collected:	1015	ND	0.00000177		Date Analyzed DB-5:		
		ND	0.00000170		Date Analyzed DB-225:		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000140			13C-2,3,7,8-TCDD	55.4	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000168			13C-1,2,3,7,8-PeCDD	61.4	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000174			13C-1,2,3,4,7,8-HxCDD	58.7	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000177			13C-1,2,3,6,7,8-HxCDD	59.6	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000170			13C-1,2,3,4,6,7,8-HpCDD	60.4	23 - 140
1,2,3,4,6,7,8-HpCDD	0.00000594				13C-OCDD	35.4	17 - 157
OCDD	0.0000798			J	13C-2,3,7,8-TCDF	51.3	24 - 169
2,3,7,8-TCDF	ND	0.00000157			13C-1,2,3,7,8-PeCDF	57.3	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000166			13C-2,3,4,7,8-PeCDF	58.5	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000157			13C-1,2,3,4,7,8-HxCDF	58.0	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.00000174			13C-1,2,3,6,7,8-HxCDF	59.2	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.00000163			13C-2,3,4,6,7,8-HxCDF	60.5	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.00000172			13C-1,2,3,7,8,9-HxCDF	60.7	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000244			13C-1,2,3,4,6,7,8-HpCDF	54.5	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.00000333			13C-1,2,3,4,7,8,9-HpCDF	64.1	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.00000283			13C-OCDF	42.2	17 - 157
OCDF	ND	0.00000381			CRS 37Cl-2,3,7,8-TCDD	76.3	35 - 197
Totals							
Total TCDD	ND	0.00000140					
Total PeCDD	ND	0.00000168					
Total HxCDD	ND	0.00000174					
Total HpCDD	0.0000110						
Total TCDF	ND	0.00000157					
Total PeCDF	ND	0.00000162					
Total HxCDF	ND	0.00000186					
Total HpCDF	ND	0.00000308					
Footnotes							
a. Sample specific estimated detection limit.							
b. Estimated maximum possible concentration.							
c. Method detection limit.							
d. Lower control limit - upper control limit.							

Outfall 005

Approved By: Martha M. Maier 04-Apr-2006 14:04

LEVEL IV

Analyst: DMS

Project 27506

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4WC52
 Task Order: 1261.001D.01
 SDG No.: IPC2951

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: General Minerals

Date: <u>April 12, 2006</u>
Reviewer's Signature <i>P. Meeks</i>

ACTION ITEMS ^a	
1. Case Narrative Deficiencies	_____
2. Out of Scope Analyses	_____
3. Analyses Not Conducted	_____
4. Missing Hardcopy Deliverables	_____
5. Incorrect Hardcopy Deliverables	_____
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Reanalysis rejected in favor of original result. _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
COMMENTS ^b	_____

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



DATA VALIDATION REPORT

**NPDES Sampling
Outfall 005**

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC2951

Prepared by

**MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014**

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^x Project Number: 1261.001D.01
Sample Delivery Group: IPC2951
Project Manager: P. Costa
Matrix: Water
Analysis: General Minerals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 12, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the *MEC^x Data Validation Procedure for General Minerals (DVP-6, Rev. 0)*, *USEPA Methods for Chemical Analysis of Water and Wastes Method 300.0*, and validation guidelines outlined in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94)*. Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 005	IPC2951-01	Water	General Minerals

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analysis presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. Outfall 005 was reanalyzed for nitrate/nitrite, but the laboratory did not append the client ID for the reanalysis with "RE1." Therefore reviewer added this information to the form Is. No qualifications were required.

2.1.3 Holding Times

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

2.2 CALIBRATION

The initial calibration correlation coefficients were ≥ 0.995 and the ICV and CCV recoveries were within the control limits of 90-110%. No qualifications were required.

2.3 BLANKS

Chloride was detected in the method blank but not at sufficient concentration to qualify the site sample. There were no other detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported recoveries were within the laboratory-established control limits. No LCS recovery was listed for nitrate; however, the reviewer checked the raw data and found that nitrate was spiked into the LCS and was recovered acceptably. No qualifications were required.

DATA VALIDATION REPORT

2.5 LABORATORY DUPLICATES

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

2.6 MATRIX SPIKES

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

2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. Per a request from MWH personnel, Outfall 005 was reanalyzed for nitrate/nitrite. As the reanalysis result, Outfall 005 RE1, was similar to the original result, the reviewer rejected, "R," the reanalysis result in favor of the original result, Outfall 005. No further qualifications were required.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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

Project ID: Routine Outfall 005

Report Number: IPC2951

Sampled: 03/29/06
 Received: 03/29/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Raw	Qual Code
Sample ID: IPC2951-01 (Outfall 005 - Water) - cont. Reporting Units: mg/l										
Chloride	EPA 300.0	6C29054	3.0	10	57	20	03/29/06	03/29/06		
Nitrate/Nitrite-N	EPA 300.0	6C29054	1.6	3.0	43	20	03/29/06	03/29/06		
Oil & Grease	EPA 413.1	6C30048	0.90	4.8	ND	1	03/30/06	03/30/06	+	
Sulfate	EPA 300.0	6C29054	9.0	10	50	20	03/29/06	03/29/06		
Total Dissolved Solids	SM2540C	6C30063	10	10	700	1	03/30/06	03/30/06	*	
Total Suspended Solids	EPA 160.2	6C30086	10	10	ND	1	03/30/06	03/30/06	*	
Sample ID: IPC2951-01RE1 (Outfall 005 - Water) Reporting Units: mg/l										
Nitrate/Nitrite-N	EPA 300.0	6C30050	0.80	1.5	46	10	03/30/06	03/30/06	R	D

* Analysis not validated
 LEVEL IV

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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APPENDIX G

Section 95

Outfall 006, March 01, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 006

Sampled: 03/01/06
Received: 03/01/06
Issued: 03/20/06 16:46

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

CASE NARRATIVE

- SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.
- HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
- PRESERVATION: Samples requiring preservation were verified prior to sample analysis.
- QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
- COMMENTS: Results that fall between the MDL and RL are 'J' flagged.
- SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID	CLIENT ID	MATRIX
IPC0166-01	Outfall 006	Water

Reviewed By:

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager



Del Mar Analytical

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0166-01 (Outfall 006 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C04030	0.050	2.0	1.2	1	03/04/06	03/07/06	J
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.033	1	03/04/06	03/07/06	J
Copper	EPA 200.8	6C04030	0.25	2.0	8.5	1	03/04/06	03/07/06	
Lead	EPA 200.8	6C04030	0.040	1.0	1.2	1	03/04/06	03/07/06	
Mercury	EPA 245.1	6C02097	0.050	0.20	ND	1	03/02/06	03/02/06	

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
--	---	---

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC0166-01 (Outfall 006 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C02051	0.15	0.50	6.6	1	03/02/06	03/02/06	
Nitrate/Nitrite-N	EPA 300.0	6C02051	0.080	0.15	0.49	1	03/02/06	03/02/06	
Oil & Grease	EPA 413.1	6C09045	0.90	4.8	2.0	1	03/09/06	03/09/06	J
Sulfate	EPA 300.0	6C02051	0.18	0.50	5.1	1	03/02/06	03/02/06	
Total Dissolved Solids	SM2540C	6C06069	10	10	86	1	03/06/06	03/06/06	
Total Suspended Solids	EPA 160.2	6C07078	10	10	ND	1	03/07/06	03/07/06	

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
--	---	---

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 006 (IPC0166-01) - Water EPA 300.0	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
	2	03/01/2006 07:40	03/01/2006 19:00	03/02/2006 08:00	03/02/2006 12:02

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
--	---	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C02097 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02097-BLK1)											
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/02/2006 (6C02097-BS1)											
Mercury	7.88	0.20	0.050	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/02/2006 (6C02097-MS1)											
						Source: IPB2608-01					
Mercury	7.84	0.20	0.050	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02097-MSD1)											
						Source: IPB2608-01					
Mercury	7.88	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C04030 Extracted: 03/04/06											
Blank Analyzed: 03/07/2006 (6C04030-BLK1)											
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/07/2006 (6C04030-BS1)											
Antimony	80.4	2.0	0.050	ug/l	80.0		100	85-115			
Cadmium	82.2	1.0	0.025	ug/l	80.0		103	85-115			
Copper	82.2	2.0	0.25	ug/l	80.0		103	85-115			
Lead	78.1	1.0	0.040	ug/l	80.0		98	85-115			
Matrix Spike Analyzed: 03/07/2006 (6C04030-MS1)											
						Source: IPC0303-01					
Antimony	80.9	2.0	0.050	ug/l	80.0	ND	101	70-130			
Cadmium	80.4	1.0	0.025	ug/l	80.0	ND	100	70-130			
Copper	80.2	2.0	0.25	ug/l	80.0	0.45	100	70-130			
Lead	77.8	1.0	0.040	ug/l	80.0	0.044	97	70-130			

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
--	---	---

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C04030 Extracted: 03/04/06											
Matrix Spike Analyzed: 03/07/2006 (6C04030-MS2)						Source: IPC0303-02					
Antimony	80.8	2.0	0.050	ug/l	80.0	0.087	101	70-130			
Cadmium	79.7	1.0	0.025	ug/l	80.0	0.13	99	70-130			
Copper	81.0	2.0	0.25	ug/l	80.0	1.2	100	70-130			
Lead	77.6	1.0	0.040	ug/l	80.0	0.15	97	70-130			
Matrix Spike Dup Analyzed: 03/07/2006 (6C04030-MSD1)						Source: IPC0303-01					
Antimony	81.0	2.0	0.050	ug/l	80.0	ND	101	70-130	0	20	
Cadmium	80.1	1.0	0.025	ug/l	80.0	ND	100	70-130	0	20	
Copper	79.7	2.0	0.25	ug/l	80.0	0.45	99	70-130	1	20	
Lead	77.8	1.0	0.040	ug/l	80.0	0.044	97	70-130	0	20	

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
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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: 6C02051 Extracted: 03/02/06											
Blank Analyzed: 03/02/2006 (6C02051-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/02/2006 (6C02051-BS1)											
Chloride	4.75	0.50	0.15	mg/l	5.00		95	90-110			
Sulfate	9.68	0.50	0.45	mg/l	10.0		97	90-110			
Matrix Spike Analyzed: 03/02/2006 (6C02051-MS1) Source: IPC0165-01											
Chloride	27.1	0.50	0.15	mg/l	5.00	22	102	80-120			
Sulfate	17.0	0.50	0.45	mg/l	10.0	6.7	103	80-120			
Matrix Spike Dup Analyzed: 03/02/2006 (6C02051-MSD1) Source: IPC0165-01											
Chloride	26.2	0.50	0.15	mg/l	5.00	22	84	80-120	3	20	
Sulfate	16.5	0.50	0.45	mg/l	10.0	6.7	98	80-120	3	20	
Batch: 6C06069 Extracted: 03/06/06											
Blank Analyzed: 03/06/2006 (6C06069-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/06/2006 (6C06069-BS1)											
Total Dissolved Solids	992	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/06/2006 (6C06069-DUP1) Source: IPC0087-01											
Total Dissolved Solids	865	10	10	mg/l		860			1	10	

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 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
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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: 6C07078 Extracted: 03/07/06											
Blank Analyzed: 03/07/2006 (6C07078-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/07/2006 (6C07078-BS1)											
Total Suspended Solids	966	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 03/07/2006 (6C07078-DUP1)											
						Source: IPC0093-01					
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C09045 Extracted: 03/09/06											
Blank Analyzed: 03/09/2006 (6C09045-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/09/2006 (6C09045-BS1)											
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120			M-NR1
LCS Dup Analyzed: 03/09/2006 (6C09045-BSD1)											
Oil & Grease	17.3	5.0	0.94	mg/l	20.0		86	65-120	3	20	

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
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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
IPC0166-01	413.1 Oil and Grease	Oil & Grease	mg/l	2.00	4.8	15
IPC0166-01	Antimony-200.8	Antimony	ug/l	1.20	2.0	6.00
IPC0166-01	Cadmium-200.8	Cadmium	ug/l	0.033	1.0	4.00
IPC0166-01	Chloride - 300.0	Chloride	mg/l	6.60	0.50	150
IPC0166-01	Copper-200.8	Copper	ug/l	8.50	2.0	14
IPC0166-01	Mercury - 245.1	Mercury	ug/l	0.0083	0.20	0.20
IPC0166-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.49	0.15	10.00
IPC0166-01	Sulfate-300.0	Sulfate	mg/l	5.10	0.50	250
IPC0166-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	86	10	850

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager



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

Project ID: Routine Outfall 006

Report Number: IPC0166

Sampled: 03/01/06

Received: 03/01/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-NR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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MWH-Pasadena/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Attention: Bronwyn Kelly	Project ID: Routine Outfall 006 Report Number: IPC0166	Sampled: 03/01/06 Received: 03/01/06
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Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPC0166-01

Analysis Performed: EDD + Level 4
Samples: IPC0166-01

Del Mar Analytical - Irvine
Sushmitha Reddy For Michele Chamberlin
Project Manager

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IP(066

Del Mar Analytical Version 02/17/05 **CHAIN OF CUSTODY FORM**

Client Name/Address:		Project:		ANALYSIS REQUIRED										Field readings:		
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101		Boeing-SSFL NPDES Routine Outfall 006 Stormwater at FSDf-2		Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg		TCDD (and all congeners)		Oil & Grease (EPA 413.1)		Cl-, SO4, NO3+NO2-N		TDS, TSS		Temp = 52.2 pH = 6.9		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #									Comments	
Outfall 006	W	Poly-1L	1	3/1/06 0740	HNO3	1A	X									
Outfall 006-Dup	W	Poly-1L	1		HNO3	1B	X									
Outfall 006	W	Glass-Amber	2		None	2A, 2B		X								
Outfall 006	W	Glass-Amber	2		HCl	3A, 3B			X							
Outfall 006	W	Poly-500 ml	2		None	4A, 4B				X						
Outfall 006	W	Poly-500 ml	2		None	5A, 5B					X					
Reinquished By		Date/Time:		Received By		Date/Time:		Turn around Time: (check)								
[Signature]		3/1/06 1545		[Signature]		3/1/06 1545		24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/>								
Reinquished By		Date/Time:		Received By		Date/Time:		Perchlorate Only 72 Hours								
[Signature]		3/1/06 1900		[Signature]		3/1/06 1900		Metals Only 72 Hours <input type="checkbox"/> Sample Integrity: (Check) <input checked="" type="checkbox"/> Intact						On Ice: <input checked="" type="checkbox"/>		
Reinquished By		Date/Time:		Received By		Date/Time:										
[Signature]				[Signature]												



March 08, 2006

Alta Project I.D.: 27366

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on March 03, 2006 under your Project Name "IPC0166". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/3/2006

Alta Lab. ID

Client Sample ID

27366-001

IPC0166-01

SECTION II

Method Blank		EPA Method 1613			
Matrix:	Aqueous	QC Batch No.:	7807	Lab Sample:	0-MB001
Sample Size:	1.00 L	Date Extracted:	5-Mar-06	Date Analyzed DB-S:	7-Mar-06
				Date Analyzed DB-225:	NA
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000119		82.1	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000130		84.5	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000161		82.1	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000170		81.9	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000161		79.4	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.00000167		54.4	17 - 157
OCDD	ND	0.00000485		85.8	24 - 169
2,3,7,8-TCDF	ND	0.00000138		89.7	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000126		92.9	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000115		82.7	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.00000677		82.0	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.00000623		83.9	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.00000697		77.1	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.00000951		71.7	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.00000890		80.8	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.00000780		59.4	17 - 157
OCDF	ND	0.00000335		90.3	35 - 197
Totals					
Total TCDD	ND	0.00000119			
Total PeCDD	ND	0.00000130			
Total HxCDD	ND	0.00000164			
Total HpCDD	ND	0.00000167			
Total TCDF	ND	0.00000138			
Total PeCDF	ND	0.00000120			
Total HxCDF	ND	0.00000725			
Total HpCDF	ND	0.00000836			

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 08-Mar-2006 14:52

OPR Results		EPA Method 1613				
Matrix:	Aqueous	QC Batch No:	7807	Lab Sample:	0-OPR001	
Sample Size:	1.00 L	Date Extracted:	5-Mar-06	Date Analyzed DB-5:	7-Mar-06	
				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	11.1	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD	77.8	25 - 164
1,2,3,7,8-PeCDD	50.0	56.7	35 - 71	13C-1,2,3,7,8-PeCDD	81.0	25 - 181
1,2,3,4,7,8-HxCDD	50.0	54.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	74.4	32 - 141
1,2,3,6,7,8-HxCDD	50.0	53.3	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.6	28 - 130
1,2,3,7,8,9-HxCDD	50.0	52.4	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	74.2	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	55.2	35 - 70	13C-OCDD	52.1	17 - 157
OCDD	100	109	78 - 144	13C-2,3,7,8-TCDF	78.6	24 - 169
2,3,7,8-TCDF	10.0	11.2	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	84.3	24 - 185
1,2,3,7,8-PeCDF	50.0	55.2	40 - 67	13C-2,3,4,7,8-PeCDF	87.3	21 - 178
2,3,4,7,8-PeCDF	50.0	56.1	34 - 80	13C-1,2,3,4,7,8-HxCDF	76.8	26 - 152
1,2,3,4,7,8-HxCDF	50.0	55.2	36 - 67	13C-1,2,3,6,7,8-HxCDF	76.9	26 - 123
1,2,3,6,7,8-HxCDF	50.0	56.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0	56.4	35 - 78	13C-1,2,3,7,8,9-HxCDF	69.6	29 - 147
1,2,3,7,8,9-HxCDF	50.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	70.6	28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	55.1	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	74.0	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.0	39 - 69	13C-OCDF	57.0	17 - 157
OCDF	100	105	63 - 170	<u>CRS</u> 37Cl-2,3,7,8-TCDD	94.1	35 - 197

Analyst: JMH

Approved By: Martha M. Maier 08-Mar-2006 14:52

Sample ID: IPC0166-01		EPA Method 1613				
Client Data		Sample Data		Laboratory Data		
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	Lab Sample: 27366-001	Date Received: 3-Mar-06			
Project: IPC0166	Sample Size: 1.00 L	QC Batch No.: 7807	Date Extracted: 5-Mar-06			
Date Collected: 1-Mar-06		Date Analyzed DB-5: 8-Mar-06	Date Analyzed DB-225: NA			
Time Collected: 0740						
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000117		90.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000107		95.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000170		86.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000175		88.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000167		92.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000350			61.5	17 - 157	
OCDD	0.0000477		J	89.8	24 - 169	
2,3,7,8-TCDF	ND	0.000000892		101	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000958		102	21 - 178	
1,2,3,4,7,8-PeCDF	ND	0.000000922		88.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000387		89.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000343		85.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000387		86.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000495		87.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000967		92.9	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000878		70.2	17 - 157	
OCDF	ND	0.00000313		93.0	35 - 197	
Totals						
Total TCDD	ND	0.00000117				
Total PeCDD	ND	0.00000107				
Total HxCDD	ND	0.00000171				
Total HpCDD	0.00000800					
Total TCDF	ND	0.000000892				
Total PeCDF	ND	0.000000940				
Total HxCDF	ND	0.000000398				
Total HpCDF	ND	0.000000925				

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 08-Mar-2006 14:52

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



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 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689
 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 796-3620 Fax (702) 796-3621

SUBCONTRACT ORDER - PROJECT # IPC0166

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 Chamberlin	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 <div style="font-size: 2em; margin-left: 20px;">27366</div> <div style="font-size: 2em; margin-left: 20px;">0.4°C</div>

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

Analysis	Expiration	Comments
Sample ID: IPC0166-01 Water	Sampled: 03/01/06 07:40	Instant Notification
1613-Dioxin-HR-Alta	03/08/06 07:40	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	03/29/06 07:40	Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC0166-01C)		
1 L Amber (IPC0166-01D)		

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

Fed - EX 3.2.06

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

Project 27366

Page 1 of 278

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27366

Samples Arrival:	Date/Time <u>3/3/06 0855</u>	Initials: <u>BBB</u>	Location: <u>WR-2</u>
Logged In:	Date/Time <u>3/3/06 1305</u>	Initials: <u>BBB</u>	Location: <u>WR-2</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> Cal
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C	<u>0.4</u>	Time:	<u>1000</u>
		Thermometer ID:	<u>DT-20</u>

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # <u>7920 3239 5438</u>			
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?		COC	Sample Container
Shipping Container	Alta	<input checked="" type="radio"/> Client	<input checked="" type="radio"/> Return
		Retain	Dispose

Comments:

APPENDIX G

Section 96

Outfall 006, March 1, 2006

AMEC Data Validation Reports

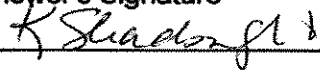
CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4DF45
 Task Order 1261.001D.01
 SDG No. IPC0166

No. of Analyses 1

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxin/Furan by Method 1613

Date: April 2, 2006
 Reviewer's Signature


ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Detects below the laboratory lower calibration level were qualified as estimated.
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 006

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC0166

Prepared by
MECX, LLC
12269 East Vassar Drive
Aurora, CO 80014

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001.01
Sample Delivery Group: IPC0166
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 2, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 006	IPC0166-01	27366-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7807-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7807-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

Sample ID: IPC0166-01		Outfall 00C		EPA Method 1631			
Client Data		Sample Data		Laboratory Data			
Name: Del Mar Analytical, Irvine	Matrix: Aqueous	DL ^a : 0.00000117	EMPC ^b : 1.00 L	Lab Sample: 27366-001	Date Received: 3-Mar-06		
Project: IPC0166	Sample Size: 1.00 L	0.00000107		QC Batch No.: 7807	Date Extracted: 5-Mar-06		
Date Collected: 1-Mar-06		0.00000170		Date Analyzed DB-5: 8-Mar-06	Date Analyzed DB-225: NA		
Time Collected: 0740		0.00000175					
		0.00000167					
		0.00000350	J				
		0.0000477	J				
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000117		13C-2,3,7,8-TCDD	90.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000107		13C-1,2,3,7,8-PeCDD	95.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000170		13C-1,2,3,4,7,8-HxCDD	86.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000175		13C-1,2,3,6,7,8-HxCDD	88.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000167		13C-1,2,3,4,6,7,8-HpCDD	92.2	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000350			13C-OCDD	61.5	17 - 157	
OCDD	0.0000477			13C-2,3,7,8-TCDF	89.8	24 - 169	
2,3,7,8-TCDF	ND	0.000000892		13C-1,2,3,7,8-PeCDF	101	24 - 185	
1,2,3,7,8-PeCDF	ND	0.000000958		13C-2,3,4,7,8-PeCDF	102	21 - 178	
2,3,4,7,8-PeCDF	ND	0.000000922		13C-1,2,3,4,7,8-HxCDF	88.1	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.000000387		13C-1,2,3,6,7,8-HxCDF	89.8	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.000000343		13C-2,3,4,6,7,8-HxCDF	85.5	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.000000387		13C-1,2,3,7,8,9-HxCDF	86.5	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.000000495		13C-1,2,3,4,6,7,8-HpCDF	87.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.000000967		13C-1,2,3,4,7,8,9-HpCDF	92.9	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.000000878		13C-OCDF	70.2	17 - 157	
OCDF	ND	0.000000313		CRS 37Cl-2,3,7,8-TCDD	93.0	35 - 197	
Totals				Footnotes			
Total TCDD	ND	0.00000117		a. Sample specific estimated detection limit.			
Total PeCDD	ND	0.00000107		b. Estimated maximum possible concentration.			
Total HxCDD	ND	0.00000171		c. Method detection limit.			
Total HpCDD	0.00000800			d. Lower control limit - upper control limit.			
Total TCDF	ND	0.000000892					
Total PeCDF	ND	0.000000940					
Total HxCDF	ND	0.000000398					
Total HpCDF	ND	0.000000925					

Analyst: JMH
 Approved By: Martha M. Maier
 08-Mar-2006 14:52

Project 27366

level IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID: B4MT44
 Task Order: 1261.001D.01
 SDG No.: IPC0166

No. of Analyses: 1

Laboratory: Del Mar Analytical
 Reviewer: P. Meeks
 Analysis/Method: Metals

Date: April 10, 2006
 Reviewer's Signature


ACTION ITEMS ^a	
1. Case Narrative Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance	Qualifications applied for a blank detect and a detect below the reporting limit.
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 Sampling
Outfall 006

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPC0166

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES Sampling
MEC^X Project Number: 1261.001D.01
Sample Delivery Group: IPC0166
Project Manager: P. Costa
Matrix: Water
Analysis: Metals
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: P. Meeks
Date of Review: April 10, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 006	IPC0166-01	Water	200.8

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 ICP-MS TUNING

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

2.3 CALIBRATION

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

2.4 BLANKS

Cadmium was detected in a bracketing CCB at 0.027 µg/L; therefore, cadmium detected in Outfall 006 was qualified as an estimated nondetect, "UJ." No further qualifications were required.

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

No ICSA and ICSAB analyses were performed in association with the sample in this SDG for the ICP-MS metals; therefore, no assessment was made with respect to this criterion.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

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

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKES

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

2.9 ICP/MS AND ICP SERIAL DILUTION

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

2.10 INTERNAL STANDARDS PERFORMANCE

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

2.11 SAMPLE RESULT VERIFICATION

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

2.12 FIELD QC SAMPLES

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

2.12.1 Field Blanks and Equipment Rinsates

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

2.12.2 Field Duplicates

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



Del Mar Analytical

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

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

Project ID: Routine Outfall 006

Report Number: IPC0166

Sampled: 03/01/06
 Received: 03/01/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	
									Rev Qual	Qual Code
Sample ID: IPC0166-01 (Outfall 006 - Water)										
Reporting Units: ug/l										
Antimony	EPA 200.8	6C04030	0.050	2.0	1.2	1	03/04/06	03/07/06	J J	DNQ
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.033	1	03/04/06	03/07/06	U J J	B
Copper	EPA 200.8	6C04030	0.25	2.0	8.5	1	03/04/06	03/07/06		
Lead	EPA 200.8	6C04030	0.040	1.0	1.2	1	03/04/06	03/07/06		
Mercury	EPA 245.1	6C02097	0.050	0.20	ND	1	03/02/06	03/02/06	*	

* Analysis not validated

Del Mar Analytical - Irvine
 Sushmitha Reddy For Michele Chamberlin
 Project Manager

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

LEVEL IV

IPC0166 <Page 2 of 11>

APPENDIX G

Section 97

Outfall 006, March 11, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

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

Project: Routine Outfall 006

Sampled: 03/11/06
Received: 03/11/06
Issued: 03/24/06 17:43

NELAP #01108CA California ELAP#1197 CSDLAC #10117

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

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

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

LABORATORY ID
IPC1335-01

CLIENT ID
Outfall 006

MATRIX
Water

Reviewed By:

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager



Del Mar Analytical

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

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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06

Received: 03/11/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC1335-01 (Outfall 006 - Water)									
Reporting Units: ug/l									
Antimony	EPA 200.8	6C14081	0.050	2.0	1.3	1	03/14/06	03/15/06	J
Cadmium	EPA 200.8	6C14081	0.025	1.0	ND	1	03/14/06	03/15/06	
Copper	EPA 200.8	6C14081	0.25	2.0	0.54	1	03/14/06	03/15/06	J
Lead	EPA 200.8	6C14081	0.040	1.0	0.35	1	03/14/06	03/15/06	J
Mercury	EPA 245.1	6C14077	0.050	0.20	ND	1	03/14/06	03/14/06	
Thallium	EPA 200.8	6C14081	0.15	1.0	ND	1	03/14/06	03/15/06	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

IPC1335 <Page 2 of 11>

NPDES - 3964



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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06

Received: 03/11/06

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC1335-01 (Outfall 006 - Water) - cont.									
Reporting Units: mg/l									
Chloride	EPA 300.0	6C11028	0.15	0.50	6.4	1	03/11/06	03/11/06	
Nitrate/Nitrite-N	EPA 300.0	6C11028	0.080	0.15	0.64	1	03/11/06	03/11/06	
Oil & Grease	EPA 413.1	6C21053	0.89	4.7	ND	1	03/21/06	03/21/06	
Sulfate	EPA 300.0	6C11028	0.45	0.50	8.1	1	03/11/06	03/11/06	
Total Dissolved Solids	SM2540C	6C16069	10	10	90	1	03/16/06	03/16/06	
Total Suspended Solids	EPA 160.2	6C16125	10	10	ND	1	03/16/06	03/16/06	

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06

Received: 03/11/06

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 006 (IPC1335-01) - Water EPA 300.0	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
	2	03/11/2006 10:20	03/11/2006 15:30	03/11/2006 16:15	03/11/2006 16:56

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06
 Received: 03/11/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C14077 Extracted: 03/14/06										
Blank Analyzed: 03/14/2006 (6C14077-BLK1)										
Mercury	ND	0.20	0.050	ug/l						
LCS Analyzed: 03/14/2006 (6C14077-BS1)										
Mercury	8.30	0.20	0.050	ug/l	8.00		104		85-115	
Matrix Spike Analyzed: 03/14/2006 (6C14077-MS1)										
						Source: IPC1217-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104		70-130	
Matrix Spike Dup Analyzed: 03/14/2006 (6C14077-MSD1)										
						Source: IPC1217-01				
Mercury	8.33	0.20	0.050	ug/l	8.00	ND	104	70-130	0	20
Batch: 6C14081 Extracted: 03/14/06										
Blank Analyzed: 03/15/2006 (6C14081-BLK1)										
Antimony	ND	2.0	0.050	ug/l						
Cadmium	ND	1.0	0.025	ug/l						
Copper	ND	2.0	0.25	ug/l						
Lead	ND	1.0	0.040	ug/l						
Thallium	ND	1.0	0.15	ug/l						
LCS Analyzed: 03/15/2006 (6C14081-BS1)										
Antimony	77.6	2.0	0.050	ug/l	80.0		97		85-115	
Cadmium	76.1	1.0	0.025	ug/l	80.0		95		85-115	
Copper	77.2	2.0	0.25	ug/l	80.0		96		85-115	
Lead	78.2	1.0	0.040	ug/l	80.0		98		85-115	
Thallium	77.6	1.0	0.15	ug/l	80.0		97		85-115	

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 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 006
 Report Number: IPC1335

Sampled: 03/11/06
 Received: 03/11/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD RPD	Limit	Data Qualifiers
Batch: 6C14081 Extracted: 03/14/06											
Matrix Spike Analyzed: 03/15/2006 (6C14081-MS1)						Source: IPC0677-01					
Antimony	77.1	2.0	0.050	ug/l	80.0	0.21	96	70-130			
Cadmium	74.1	1.0	0.025	ug/l	80.0	0.13	92	70-130			
Copper	75.3	2.0	0.25	ug/l	80.0	ND	94	70-130			
Lead	78.1	1.0	0.040	ug/l	80.0	0.14	97	70-130			
Thallium	77.9	1.0	0.15	ug/l	80.0	0.30	97	70-130			
Matrix Spike Analyzed: 03/15/2006 (6C14081-MS2)						Source: IPC1061-02					
Antimony	76.7	2.0	0.050	ug/l	80.0	0.32	95	70-130			
Cadmium	71.0	1.0	0.025	ug/l	80.0	0.075	89	70-130			
Copper	78.4	2.0	0.25	ug/l	80.0	4.9	92	70-130			
Lead	73.0	1.0	0.040	ug/l	80.0	0.25	91	70-130			
Thallium	73.0	1.0	0.15	ug/l	80.0	0.15	91	70-130			
Matrix Spike Dup Analyzed: 03/15/2006 (6C14081-MSD1)						Source: IPC0677-01					
Antimony	79.5	2.0	0.050	ug/l	80.0	0.21	99	70-130	3	20	
Cadmium	77.0	1.0	0.025	ug/l	80.0	0.13	96	70-130	4	20	
Copper	77.5	2.0	0.25	ug/l	80.0	ND	97	70-130	3	20	
Lead	77.8	1.0	0.040	ug/l	80.0	0.14	97	70-130	0	20	
Thallium	78.4	1.0	0.15	ug/l	80.0	0.30	98	70-130	1	20	

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 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06
 Received: 03/11/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: 6C11028 Extracted: 03/11/06											
Blank Analyzed: 03/11/2006 (6C11028-BLK1)											
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/11/2006 (6C11028-BS1)											
Chloride	4.84	0.50	0.15	mg/l	5.00		97	90-110			
Sulfate	9.85	0.50	0.45	mg/l	10.0		98	90-110			M-3
Matrix Spike Analyzed: 03/11/2006 (6C11028-MS1) Source: IPC1298-01											
Chloride	55.1	2.5	0.75	mg/l	5.00	51	82	80-120			
Matrix Spike Dup Analyzed: 03/11/2006 (6C11028-MSD1) Source: IPC1298-01											
Chloride	55.3	2.5	0.75	mg/l	5.00	51	86	80-120	0	20	
Batch: 6C16069 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16069-BLK1)											
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/16/2006 (6C16069-BS1)											
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/16/2006 (6C16069-DUP1) Source: IPC1296-01											
Total Dissolved Solids	325	10	10	mg/l		320			2	10	
Batch: 6C16125 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16125-BLK1)											
Total Suspended Solids	ND	10	10	mg/l							

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 006
 Report Number: IPC1335

Sampled: 03/11/06
 Received: 03/11/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD RPD	Limit	Data Qualifiers
Batch: 6C16125 Extracted: 03/16/06											
LCS Analyzed: 03/16/2006 (6C16125-BS1)											
Total Suspended Solids	921	10	10	mg/l	1000		92	85-115			
Duplicate Analyzed: 03/16/2006 (6C16125-DUP1)											
Total Suspended Solids	270	10	10	mg/l		260			4	10	
Batch: 6C21053 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21053-BLK1)											
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/21/2006 (6C21053-BS1)											
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120			M-NR1
LCS Dup Analyzed: 03/21/2006 (6C21053-BSD1)											
Oil & Grease	17.0	5.0	0.94	mg/l	20.0		85	65-120	1	20	

Del Mar Analytical - Irvine
 Michele Chamberlin
 Project Manager

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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06
Received: 03/11/06

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IPC1335-01	413.1 Oil and Grease	Oil & Grease	mg/l	-2	4.7	15
IPC1335-01	Antimony-200.8	Antimony	ug/l	1.30	2.0	6.00
IPC1335-01	Cadmium-200.8	Cadmium	ug/l	0.017	1.0	4.00
IPC1335-01	Chloride - 300.0	Chloride	mg/l	6.40	0.50	150
IPC1335-01	Copper-200.8	Copper	ug/l	0.54	2.0	14
IPC1335-01	Lead-200.8	Lead	ug/l	0.35	1.0	5.20
IPC1335-01	Mercury - 245.1	Mercury	ug/l	0.0036	0.20	0.20
IPC1335-01	Nitrogen, NO3+NO2 -N	Nitrate/Nitrite-N	mg/l	0.64	0.15	10.00
IPC1335-01	Sulfate-300.0	Sulfate	mg/l	8.10	0.50	250
IPC1335-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	90	10	850
IPC1335-01	Thallium-200.8	Thallium	ug/l	0	1.0	2.00

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06

Received: 03/11/06

DATA QUALIFIERS AND DEFINITIONS

- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M-3** Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NRI** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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IPC1335 <Page 10 of 11>

NPDES - 3972



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

Project ID: Routine Outfall 006

Report Number: IPC1335

Sampled: 03/11/06

Received: 03/11/06

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta
Samples: IPC1335-01

Analysis Performed: EDD + Level 4
Samples: IPC1335-01

Del Mar Analytical - Irvine
Michele Chamberlin
Project Manager

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Del Mar Analytical Version 03/01/06 CHAIN OF CUSTODY FORM

LPC 1335

Client Name/Address: MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Project Manager: Bronwyn Kelly Sampler: <i>Barras</i>		Project: Boeing-SSFL NPDES Routine Outfall 006 Stormwater at FSDF-2 Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		ANALYSIS REQUIRED					Field readings: Temp = 57.3 pH = 7.2	Comments	
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Oil & Grease (EPA 413.1)		Cl, SO4, NO3+NO2-N
Outfall 006	W	Poly-1L	1	3/1/06 12:30 A	HNO3	1A	X				
Outfall 006-Dup	W	Poly-1L	1		HNO3	1B	X				
Outfall 006	W	Glass-Amber	2		None	2A, 2B		X			
Outfall 006	W	Glass-Amber	2		HCl	3A, 3B		X			
Outfall 006	W	Poly-500 ml	2		None	4A, 4B			X		
Outfall 006	W	Poly-500 ml	2		None	5A, 5B				X	
Relinquished By	Ruben Barras		3/1/06	1315	Received By		Judy Barras		3/1/06	1315	
Relinquished By	Judy Barras		3/1/06	1530	Received By		Judy Barras		3/1/06	1530	
Relinquished By	Judy Barras		3/1/06	1530	Received By		Judy Barras		3-11-06	1530	

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 loss: 50

②



March 17, 2006

Alta Project I.D.: 27410

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

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous samples received at Alta Analytical Laboratory on March 14, 2006 under your Project Name "IPC1335". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was provided for this work.

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

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

Sincerely,

Martha M. Maier
Director of HRMS Services



Section I: Sample Inventory Report

Date Received: 3/14/2006

Alta Lab. ID

Client Sample ID

27410-001

IPC1335-01

SECTION II

Method Blank		EPA Method 1613			
Matrix: Aqueous	QC Batch No.: 7831	Lab Sample: 0-MB001	Date Analyzed DB-5: 16-Mar-06	Date Analyzed DB-225: NA	
Sample Size: 1.00 L	Date Extracted: 15-Mar-06				
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND	0.00000114		84.5	25 - 164
1,2,3,7,8-PeCDD	ND	0.00000107		89.5	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.00000125		78.5	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.00000127		81.6	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.00000122		76.3	23 - 140
1,2,3,4,6,7,8-HpCDD	ND	0.00000151		46.5	17 - 157
OCDD	ND	0.00000230		87.5	24 - 169
2,3,7,8-TCDF	ND	0.000000947		96.4	24 - 185
1,2,3,7,8-PeCDF	ND	0.00000115		99.6	21 - 178
2,3,4,7,8-PeCDF	ND	0.00000110		82.4	26 - 152
1,2,3,4,7,8-HxCDF	ND	0.000000529		89.4	26 - 123
1,2,3,6,7,8-HxCDF	ND	0.000000483		86.8	28 - 136
2,3,4,6,7,8-HxCDF	ND	0.000000528		81.7	29 - 147
1,2,3,7,8,9-HxCDF	ND	0.000000759		74.0	28 - 143
1,2,3,4,6,7,8-HpCDF	ND	0.000000972		79.7	26 - 138
1,2,3,4,7,8,9-HpCDF	ND	0.000000916		54.0	17 - 157
OCDF	ND	0.00000319		99.1	35 - 197
Totals					
Total TCDD	ND	0.00000114			
Total PeCDD	ND	0.00000107			
Total HxCDD	ND	0.00000124			
Total HpCDD	ND	0.00000151			
Total TCDF	ND	0.000000947			
Total PeCDF	ND	0.00000112			
Total HxCDF	ND	0.000000560			
Total HpCDF	ND	0.000000946			

Footnotes

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

Analyst: RAS

Approved By: William J. Luksenburg 17-Mar-2006 11:36

OPR Results						EPA Method 1613		
Matrix:	Aqueous	QC Batch No.:	7831	Lab Sample:	0-OPR001			
Sample Size:	1.00 L	Date Extracted:	15-Mar-06	Date Analyzed DB-5:	16-Mar-06	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	9.83	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	73.8	25 - 164		
1,2,3,7,8-PeCDD	50.0	52.0	35 - 71	13C-1,2,3,7,8-PeCDD	78.9	25 - 181		
1,2,3,4,7,8-HxCDD	50.0	49.4	35 - 82	13C-1,2,3,4,7,8-HxCDD	71.7	32 - 141		
1,2,3,6,7,8-HxCDD	50.0	50.6	38 - 67	13C-1,2,3,6,7,8-HxCDD	72.7	28 - 130		
1,2,3,7,8,9-HxCDD	50.0	49.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	60.1	23 - 140		
1,2,3,4,6,7,8-HpCDD	50.0	49.6	35 - 70	13C-OCDD	45.3	17 - 157		
OCDD	100	101	78 - 144	13C-2,3,7,8-TCDF	75.3	24 - 169		
2,3,7,8-TCDF	10.0	9.83	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	83.4	24 - 185		
1,2,3,7,8-PeCDF	50.0	48.2	40 - 67	13C-2,3,4,7,8-PeCDF	88.7	21 - 178		
2,3,4,7,8-PeCDF	50.0	49.3	34 - 80	13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152		
1,2,3,4,7,8-HxCDF	50.0	49.6	36 - 67	13C-1,2,3,6,7,8-HxCDF	79.4	26 - 123		
1,2,3,6,7,8-HxCDF	50.0	49.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.6	28 - 136		
2,3,4,6,7,8-HxCDF	50.0	49.5	35 - 78	13C-1,2,3,7,8,9-HpCDF	70.9	29 - 147		
1,2,3,7,8,9-HpCDF	50.0	48.5	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	62.2	28 - 143		
1,2,3,4,6,7,8-HpCDF	50.0	47.9	41 - 61	13C-1,2,3,4,7,8,9-HpCDF	63.7	26 - 138		
1,2,3,4,7,8,9-HpCDF	50.0	48.1	39 - 69	13C-OCDF	51.1	17 - 157		
OCDF	100	91.4	63 - 170	CRS 37Cl-2,3,7,8-TCDD	95.5	35 - 197		

Analyst: DMS

Approved By: William J. Luksemburg 17-Mar-2006 11:36

Sample ID: **IPC1335-01** **EPA Method 1613**

Client Data	Laboratory Data
Name: Del Mar Analytical, Irvine	Lab Sample: 27410-001
Project: IPC1335	QC Batch No.: 7831
Date Collected: 11-Mar-06	Date Received: 14-Mar-06
Time Collected: 1020	Date Extracted: 15-Mar-06
	Date Analyzed DB-225: NA

Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-ULCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000120			IS 13C-2,3,7,8-1CDD	64.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000140			13C-1,2,3,7,8-PeCDD	63.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000175			13C-1,2,3,4,7,8-HxCDD	58.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000187			13C-1,2,3,6,7,8-HxCDD	57.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000176			13C-1,2,3,4,6,7,8-HpCDD	57.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000735			J	13C-OCDD	40.4	17 - 157	
OCDD	0.000103				13C-2,3,7,8-TCDF	62.2	24 - 169	
2,3,7,8-TCDF	ND	0.00000106			13C-1,2,3,7,8-PeCDF	65.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000109			13C-2,3,4,7,8-PeCDF	64.6	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000105			13C-1,2,3,4,7,8-HxCDF	59.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000530			13C-1,2,3,6,7,8-HxCDF	62.7	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000503			13C-2,3,4,6,7,8-HxCDF	61.2	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000547			13C-1,2,3,7,8,9-HxCDF	58.4	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000760			13C-1,2,3,4,6,7,8-HpCDF	56.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000903			13C-1,2,3,4,7,8,9-HpCDF	61.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000830			13C-OCDF	45.6	17 - 157	
OCDF	ND	0.00000414			CBS 37Cl-2,3,7,8-TCDD	99.0	35 - 197	

Totals

Total TCDD	ND	0.00000120						
Total PeCDD	ND	0.00000140						
Total HxCDD	ND	0.00000180						
Total HpCDD	0.0000167							
Total TCDF	ND	0.00000106						
Total PeCDF	ND	0.00000107						
Total HxCDF	ND	0.00000576						
Total HpCDF	ND	0.00000869						

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

Analyst: RAS
Approved By: William J. Luksemburg 17-Mar-2006 11:36

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

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



17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4857 Fax (909) 370-1046
 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-8588 Fax (619) 505-0880
 9530 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fax (480) 785-0851
 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IPC1335

<p>SENDING LABORATORY: Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin</p>	<p>RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106</p> <p style="font-size: 2em; text-align: right;">27410 -0.3°C</p>
--	--

Standard TAT is requested unless specific due date is requested => Due Date: 3/27/06 Initials: MC

Analysis	Expiration	Comments
Sample ID: IPC1335-01 Water	Sampled: 03/11/06 10:20	
1613-Dioxin-HR-Alta	03/18/06 10:20	J flags, 17 congeners, no TEQ, ug/L, sub=Alta
EDD + Level 4	04/08/06 10:20	Excel EDD email to pm, include Std logs for Lvl IV
Containers Supplied:		
1 L Amber (IPC1335-01C)		
1 L Amber (IPC1335-01D)		

SAMPLE INTEGRITY:

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

Released By: Michele Chamberlin Date: _____ Time: _____ Received By: Robert J. Benedict Date: 3/14/06 Time: 0915
 Released By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27410

Samples Arrival:	Date/Time 3/14/06 0915	Initials: BLB	Location: WR-2
Logged In:	Date/Time 3/14/06 1113	Initials: BLB	Location: WR-2
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> Cal
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C	-0.3°C	Time: 0935	Thermometer ID: DT-20

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk #	7920 4114 7994		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?			<input checked="" type="radio"/> None
Shipping Container	Alta	<input checked="" type="radio"/> Client	Retain
		<input checked="" type="radio"/> Return	Dispose

Comments:

APPENDIX G

Section 98

Outfall 006, March 11, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^x
 12269 East Vassar Drive
 Aurora, CO 80014

Package ID B4DF36
 Task Order 1261.001D.01
 SDG No. IPC1335

No. of Analyses 1

Laboratory Alta
 Reviewer K. Shadowlight
 Analysis/Method Dioxin/Furan by Method 1613

Date: <u>April 3, 2006</u>
Reviewer's Signature <i>K Shadowlight</i>

ACTION ITEMS^a	
Case Narrative	
Deficiencies	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
4. Missing Hardcopy Deliverables	
5. Incorrect Hardcopy Deliverables	
6. Deviations from Analysis Protocol, e.g.,	Detects below the laboratory lower calibration level were qualified as estimated.
Holding Times	
GC/MS Tune/Inst. Performance	
Calibration	
Method blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS^b	
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements. ^b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.	



DATA VALIDATION REPORT

NPDES Monitoring Program
Routine Outfall 006

ANALYSIS: DIOXINS/FURANS
SAMPLE DELIVERY GROUP: IPC1335

Prepared by

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

1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001.01
Sample Delivery Group: IPC1335
Project Manager: P. Costa
Matrix: Water
Analysis: Dioxins/Furans
QC Level: Level IV
No. of Samples: 1
No. of Reanalyses/Dilutions: 0
Reviewer: K. Shadowlight
Date of Review: April 3, 2006

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

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 006	IPC1335-01	27410-001	Water	1613

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

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

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs $\leq 20\%$ for the 16 native compounds (calibration by isotope dilution) and $\leq 35\%$ for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7831-MB001) was extracted and analyzed with the sample in this SDG. There were no target compounds detected in the method blank. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7831-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

Client Data		Sample Data		Laboratory Data		EPA Method 1613	
Sample ID: IPC1335-01	Outfall 006	Del Mar Analytical, Irvine IPC1335	Matrix: Aqueous Sample Size: 1.02 L	Lab Sample: 27410-001	Date Received: 14-Mar-06	QC Batch No.: 7831	Date Extracted: 15-Mar-06
Date Collected: 11-Mar-06	Time Collected: 1020	DL ^a	EMPC ^b	Date Analyzed DB-S: 16-Mar-06	Date Analyzed DB-225: NA		
Analyte	Conc. (ug/L)	DL ^a	EMPC ^b	Labeled Standard	%R	ICL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	0.00000120		IS 13C-2,3,7,8-TCDD	64.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.00000140		13C-1,2,3,7,8-PeCDD	63.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.00000175		13C-1,2,3,4,7,8-HxCDD	58.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.00000187		13C-1,2,3,6,7,8-HxCDD	57.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.00000176		13C-1,2,3,4,6,7,8-HpCDD	57.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000735			13C-OCDD	40.4	17 - 157	
OCDD	0.000103		J	13C-2,3,7,8-TCDF	62.2	24 - 169	
2,3,7,8-TCDF	ND	0.00000106		13C-1,2,3,7,8-PeCDF	65.6	24 - 185	
1,2,3,7,8-PeCDF	ND	0.00000109		13C-2,3,4,7,8-PeCDF	64.6	21 - 178	
2,3,4,7,8-PeCDF	ND	0.00000105		13C-1,2,3,4,7,8-HxCDF	59.0	26 - 152	
1,2,3,4,7,8-HxCDF	ND	0.00000530		13C-1,2,3,6,7,8-HxCDF	62.7	26 - 123	
1,2,3,6,7,8-HxCDF	ND	0.00000503		13C-2,3,4,6,7,8-HxCDF	61.2	28 - 136	
2,3,4,6,7,8-HxCDF	ND	0.00000547		13C-1,2,3,7,8,9-HxCDF	58.4	29 - 147	
1,2,3,7,8,9-HxCDF	ND	0.00000760		13C-1,2,3,4,6,7,8-HpCDF	56.6	28 - 143	
1,2,3,4,6,7,8-HpCDF	ND	0.00000903		13C-1,2,3,4,7,8,9-HpCDF	61.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	ND	0.00000830		13C-OCDF	45.6	17 - 157	
OCDF	ND	0.00000414		CRS 37Cl-2,3,7,8-TCDD	99.0	35 - 197	
Totals							
Total TCDD	ND	0.00000120					
Total PeCDD	ND	0.00000140					
Total HxCDD	ND	0.00000180					
Total HpCDD	0.00000167						
Total TCDF	ND	0.00000106					
Total PeCDF	ND	0.00000107					
Total HxCDF	ND	0.00000576					
Total HpCDF	ND	0.00000869					

Rev *Just*
Qual *code*
u →
J →
u →
u →
u →

Analyst: RAS
Level III
Approved By: William J. Luksemburg 17-Mar-2006 11:36

Project 27410

APPENDIX G

Section 99

Outfall 006, March 21, 2006

Del Mar Analytical Laboratory Report