

Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

PURGEABLES BY GC/MS (EPA 624)

Amalista	Method	Batch	MDL Limit	Reporting Limit	Sample	Dilution	Date Extracted	Date	Data Oualifiers
Analyte	METHOR	Daten	LIIN	Limit	Result	ractor	LXIFACIEU	Analyzed	Quantier 3
Sample ID: IPC2012-01 (Outfall 002 - Water	er)								
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	l	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 - Wate	r).								
Reporting Units: ug/l	-,								
Benzene	EPA 624	6C26008	0.28	2.0	ND	i	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 %				
• • • • • • • • • • • • • • • • • • • •									

Del Mar Analytical - Irvine Michele Chamberlin

Project Manager





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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	er)								
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	
Pentachiorophenol	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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MWH-Pasadena/Boeing

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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 Reporting Units: ug/l	r) - cont.								
alpha-BHC Surrogate: Decachlorobiphenyl (45-120%) Surrogate: Tetrachloro-m-xylene (35-115%)	EPA 608	6C20114	0.00095	0.0095	ND 80 % 72 %	0.952	03/20/06	03/22/06	



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METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result		Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2012-01 (Outfall 002 - Wa	ater) - cont.								
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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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2012-01 (Outfall 002 - Wa	ter) - 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 - Wa Reporting Units: ml/l/hr	ter)								
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 - Wat Reporting Units: NTU	ter)								
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 - Wat	ter)								
Reporting Units: ug/l			16.7	•	4.5	200		*	1, 8
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 - Wat Reporting Units: umhos/cm	ter)								
Specific Conductance	EPA 120.1	6C20059	1.0	1.0	1000	1	03/20/06	03/20/06	





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SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 002 (IPC2012-01) - Water	Hold Time (in days) r	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
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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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C26008 Extracted: 03/2	<u>6/06</u>										
Blank Analyzed: 03/26/2006 (6C260	08-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/i							
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/I	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			

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager



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METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C26008 Extracted: 03/26/06	Ĺ										
LCS Analyzed: 03/26/2006 (6C26008-BS	1)										
Surrogate: 4-Bromofluorobenzene	26.1			ug/l	25.0		104	80-120			
Matrix Spike Analyzed: 03/26/2006 (6C2	(6008-MS1)				Sou	rce: IPC2	169-01				
Benzene	23.6	2.0	0.28	ug/i	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-MS	D1)			Sou	rce: IPC2	169-01				
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/i	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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Michele Chamberlin Project Manager



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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											
4 2 0	•	is D 1)				100, IF C4		00 130			
Surrogate: Dibromofluoromethane	24.7			ug/l	25.0		99	80-120			
Surrogate: Toluene-d8	25.2			ug/I	25.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	24.8			ug/l	25.0		99	80-120			



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

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C22052 Extracted: 03/22/0	<u>6</u>										
Blank Analyzed: 03/28/2006 (6C22052-1	91 K1\										
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	0.0	0.10	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-BS	of a contract										M-NR1
Bis(2-ethylhexyl)phthalate	9.92	5.0	1.1	ug/l	10.0		99	60-130			
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		<i>78</i>	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 (6C2205	32-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	J
N-Nitrosodimethylamine	7.14	8.0	0.22	ug/l	10.0		71	40-120	9	20	J
Pentachiorophenol	7.58	8.0	0.78	ug/l	10.0		76	50-120	10	25	j
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			

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager



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Report Number: IPC2012

Sampled: 03/18/06

Attention: Bronwyn Kelly

Received: 03/18/06

METHOD BLANK/QC DATA

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

Reporting Spike Source %REC RPD Data

Analyte Result Limit MDL Units Level Result %REC Limits RPD Limit Qualifiers

Batch: 6C22052 Extracted: 03/22/06

LCS Dup Analyzed: 03/28/2006 (6C22052-BSD1)

Surrogate: Terphenyl-d14 7.20

1

ug/l 10.0

2 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/	<u>06</u>										
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-I	BS1)										M-NR1
alpha-BHC	0.376	0.010	0.0010	ug/l	0.500		75	45-120			
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 (6C20	114-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		1.	



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METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C20077 Extracted: 03/20/06											
Blank Analyzed: 03/20/2006 (6C20077-Bl	•										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/20/2006 (6C20077-BS1	1)										
Mercury	8.47	0.20	0.050	ug/l	8.00		106	85-115			
Matrix Spike Analyzed: 03/20/2006 (6C20	0077-MS1)				Sou	rce: IPC1	866-04				
Mercury	8.85	0.20	0.050	ug/l	8.00	ND	111	70-130			
Matrix Spike Dup Analyzed: 03/20/2006	(6C20077-MSI) 1)			Sou	rce: IPC1	866-04				
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-BI	E1)										
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
	-	1.0	0.040	ug/i							
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	0.08		96	85-115			
Matrix Spike Analyzed: 03/20/2006 (6C20	085-MS1)				Sour	ce: IPC1	984-01				
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 (6C20	085-MS2)				Sour	ce: IPC1	984-02				
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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C20085 Extracted: 03/20/00	<u>5</u> _		ě								
Matrix Spike Dup Analyzed: 03/20/2006	(6C20085-M	ISD1)			Sou	rce: IPC1	984-01				
C	~~~	2.0	0.25	11	00.0	400	100	70-130	2	20	
Copper	570	2.0	0.25	ug/l	80.0	490	100	/0-150	2	20	



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METHOD BLANK/QC DATA

INORGANICS

ž vodivito	D 34	Reporting Limit	MDI	¥1	Spike	Source	e/BEC	%REC	DDD	RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Kesuit	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C18032 Extracted: 03/18/06	<u>.</u>										
Blank Analyzed: 03/18/2006 (6C18032-B	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/18/2006 (6C18032-BS	1)										
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 (6C1	8032-MS1)				Sou	rce: IPC2	009-01				
Sulfate	57.0	0.50	0.45	mg/l	10.0	46	110	80-120			
Matrix Spike Dup Analyzed: 03/18/2006	(6C18032-N	ISD1)			Sou	rce: IPC2	009-01				
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-B)	LK1)										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							
LCS Analyzed: 03/23/2006 (6C18047-BS)	I)										
Biochemical Oxygen Demand	210	100	30	mg/l	198		106	85-115			
LCS Dup Analyzed: 03/23/2006 (6C18047	7-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-Bl	OK1)										
Surfactants (MBAS)	ND	0.10	0.044	mg/l							



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METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C18055 Extracted: 03/18/06	-										
LCS Analyzed: 03/18/2006 (6C18055-BS)	1)										
Surfactants (MBAS)	0.253	0.10	0.044	mg/l	0.250		101	90-110			
Matrix Spike Analyzed: 03/18/2006 (6C1:	8055-MS1)				Sou	rce: IPC2	012-01				
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-M	SD1)			Sou	rce: IPC2	012-01				
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-Bl	LK1)										
Turbidity	ND	1.0	0.040	NTU							
Duplicate Analyzed: 03/18/2006 (6C1805	7-DUP1)				Sou	rce: IPC2	012-01				
Turbidity	0.410	1.0	0.040	NTU		0.38	A1 -1 -1		8	20	J
Batch: 6C20059 Extracted: 03/20/06	<u>-</u>						٠				
Duplicate Analyzed: 03/20/2006 (6C20059	DUP1)				Sou	rce: IPC1	731-05				
Specific Conductance	2300	1.0	1.0	umhos/cm		2300			0	5	
Batch: 6C20060 Extracted: 03/20/06					•						
Blank Analyzed: 03/20/2006 (6C20060-BI	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							



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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 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 (6C2006) Total Dissolved Solids	1200	10	10	mg/l	Sour	rce: IPC1 1200	1731-05		0	10	
Batch: 6C20061 Extracted: 03/20/06	•										
Blank Analyzed: 03/20/2006 (6C20061-BI Perchlorate	.K1) 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 (6C20	061-MS1)				Sour	ce: IPC1	960-13				
Perchlorate	66.1	4.0	0.80	ug/l	50.0	15	102	80-120			
Matrix Spike Dup Analyzed: 03/20/2006 (Perchlorate	6C20061-MSI 66.1	91) 4.0	0.80	ug/l	Sour 50.0	rce: IPC1 15	960-13 102	80-120	0	20	
Batch: 6C20099 Extracted: 03/20/06											
Blank Analyzed: 03/20/2006 (6C20099-BL Total Cyanide	. K1) 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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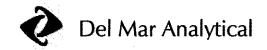
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METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C20099 Extracted: 03/20/06	_										
Matrix Spike Analyzed: 03/20/2006 (6C2	0099-MS1)				Sou	rce: IPC1	117-02				
Total Cyanide	69.9	5.0	2.2	ug/l	200	3.1	33	70-115			M2
Matrix Spike Analyzed: 03/20/2006 (6C2	0099-MS2)				Sou	rce: IPC1	293-02				
Total Cyanide	183	5.0	2.2	ug/l	200	2.2	90	70-115			
Matrix Spike Analyzed: 03/20/2006 (6C2	0099-MS3)				Sou	rce: IPC1	294-01				
Total Cyanide	189	5.0	2.2	ug/l	200	2.8	93	70-115			
Matrix Spike Analyzed: 03/20/2006 (6C2	0099-MS4)				Sou	rce: IPC1	415-03				
Total Cyanide	110	5.0	2.2	ug/l	200	ND	55	70-115			M2
Matrix Spike Dup Analyzed: 03/20/2006	(6C20099-MS)	D1)			Sou	rce: IPC1	117-02				
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-MS)	D2)			Sour	rce: IPC1	293-02				
Total Cyanide	185	5.0	2.2	ug/l	200	2.2	91	70-115	1	15	
Matrix Spike Dup Analyzed: 03/20/2006	(6C200 9 9-MSI	D3)			Soui	rce: IPC1	294-01				
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-MSI	D4)			Sour	rce: IPC1	415-03				
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-Bl	L K1)										
Oil & Grease	ND	5.0	0.94	mg/l							



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METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C21053 Extracted: 03/21/06	_										
	-										
LCS Analyzed: 03/21/2006 (6C21053-BS)	l)										M-NR1
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120			
LCS Dup Analyzed: 03/21/2006 (6C21053	3-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-Bl	•										
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 (6C2)	1086-MS1)				Sour	rce: IPC2	012-01				
Ammonia-N (Distilled)	11.5	0.50	0.30	mg/l	10.0	0.56	109	70-120			. · · · · · · · · · · · · · · · · · · ·
Matrix Spike Dup Analyzed: 03/21/2006	6C21086-MS	D1)			Sour	ce: IPC2	012-01	•			
Ammonia-N (Distilled)	11.2	0.50	0.30	mg/l	10.0	0.56	106	70-120	3	15	
Batch: 6C21112 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21112-BI	LK1)										
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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METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C21112 Extracted: 0	3/21/06										
Duplicate Analyzed: 03/21/2006 ((6C21112-DUP1)				Sou	rce: IPC1	568-01				
Total Suspended Solids	26.0	10	10	mg/l		25			4	10	



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Compliance Check

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

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	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



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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
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DATA QUALIFIERS AND DEFINITIONS

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

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



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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	\mathbf{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	\mathbf{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

EDD + Level 4 Analysis Performed:

Samples: IPC2012-01

CHEM NAME ADDRESS	lress:		Client Name/Address: Project:								ANALYS	ANALYSIS REQUIRED	RED		
MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	ina enue, Suite	500	Boeing-SSFL NPDES Routine Outfall 002	L NPDES Ifail 002		Metals:	SƏI	ļ	<u> </u>			's:		-S). , ADMA,	Field readings Temp = ご3. /
Project Manager. Bronwyn Kelly Sampler. Ozyrosc Rodyn	Bronwyn Case	7. \$	Phone Number: (826) 568-6691 Fax Number: (626) 568-6515	967. 191. 115		n Recoverable Pb, Hg, leable Solids	3 624 + xylet	O (and all col	oes (total rec	eengeb 0S)30 ABM) atnatas	N+EON , FOS	PI ,205, TB ductivity	M-sinon BHC (608)	5 Trichlorophe trotoluene, Bis hexyl)phthalate echlorophenol (Z. Z. = #q
Sample Sample Description Matrix	ple Container	15 TO 3	Sampling	Preservative	Bottle *	'no				 	CF,	noO		A, C iniG	Comments
†	o ≡	-	ς'_	HNO3	4.	×		 -							24 TAT
Outfall 002- W	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-		HNO3	82	×		<u> </u>		_					24 TAT
Outfall 002 W	1.45 m	-		None	N	×								, , ,	
Outfall 002 W	VOAs	6		HCI	% % % %		×	 							
Outfall 002 W	Amber	7		None	4,48			×							
Outfall 002 W	1. Amber	7	***************************************	2	5A, 58			┝	×				<u> </u>		24 TAT
Outfall 002 W	Poly-500	-		NaOH	v				×						24 TAT
Outfall 002 W	Poly:	-		None	,			<u> </u>		×					
Outfall 002 W	Poly-500	C4		None	88, A8						×				
Outfall 002 W	Poly-500	64		None	86 ¥3						×				
Outfall 002 W	Poly-500	N		None	10k, 10B							×			
Outfall 002 W	889-40-4 10-4			H2SO4									×		
Outfall 002 W	11. Amber	24		None	12A, 128								×		
Outfall 002 W	1t. Amber	7		None	13A, 13B									×	
Trip Blank W	VOAs	Ø		9	14A, 14B, 14C		×								
													\dashv		
Y		2/8/8/	3	Received By	١		Date/Time:	 E		,		<u> </u>	Hours	Turn around Time: (check) 24 Hours 5 Days	
Responsibled By		M	Date/Time:	Received By			Date/Time:			7		\$ 5	48 Hours 72 Hours	10 Days Normal	1
Relinquished By	e de la composiçõe de l	سيستسنسن السندسي	IĒ.	Received By			Dete/Time:	7 % ×	Vilme:		. "	E S	rehoral Par O	Perchlorate Only 72 Hours. Metals Only 72 Hours	
			•	7	<u>)</u> ,	1	,	ご	Š	Ŋ	بر بر				` . '



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

Welance lehaled (to)





Section I: Sample Inventory Report

Date Received:

3/21/2006

Alta Lab. ID

Client Sample ID

27446-001

IPC2012-01

SECTION II

Page 3 of 229

Method Blank				EPA Method 1613
Matrix: Aqueous	QC Batch No.:	7870	Lab Sample: 0-MB001	
Sample Size: 1.00 L	Date Extracted:	26-Mar-06	Date Analyzed DB-5: 28-Mar-06	Date Analyzed DB-225: NA
Analyte Conc.	Conc. (ug/L) DL a	EMPC b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND 0.00000649		1S 13C-2,3,7,8-TCDD	78.6 25 - 164
1.2.3.7.8-PeCDD	099000000°0 CN	-	13C-1,2,3,7,8-PeCDD	79.1 25 - 181
Ą	ND 0.00000135		13C-1,2,3,4,7,8-HxCDD	86.3 32 - 141
	ND 0.00000141		13C-1,2,3,6,7,8-HxCDD	73.8 28 130
1,2,3,7,8,9-HxCDD	1E10000000 W CIN		13C-1,2,3,4,6,7,8-HpCDD	69.1 23 - 140
1.2.3.4.6.7.8-HpCDD	ND 0.00000168	=	13C-OCDD	52.7 17-157
OCOD	0.00000537		13C-2,3,7,8-TCDF	80.3 24 - 169
			13C-1,2,3,7,8-PeCDF	77.1 24 - 185
1.2.3.7.8-PeCDF	ND 0.000000504		13C-2,3,4,7,8-PeCDF	21 - 178 - 15.5 Per 1 - 178 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
2.3.4.7.8-PeCDF	ND 0.000000462		13C-1,2,3,4,7,8-HxCDF	74.9 26-152
1.2.3.4.7.8-HXCDF	2		13C-1,2,3,6,7,8-HxCDF	71.2
*	9		13C-2,3,4,6,7,8-HxCDF	68.3 28-136
77.90			13C-1,2,3,7,8,9-HxCDF	72.1 29-147
ľ	2		13C-1,2,3,4,6,7,8-HpCDF	57.5 28 - 143
	ND 0.00000635		13C-1,2,3,4,7,8,9-HpCDF	64.3 26-138
	ND 0.000000754			
OCDF	ND 0.00000185		CRS 37CI-2,3,7,8-TCDD	88.7 35-197
Totals			Footnotes	
Total TCDD	2		a. Sample specific estimated detection limit.	95
Total PeCDD	Q		b. Estimated maximum possible concentration.	
Total HxCDD Total HpCDD	8910000000 ON		d. Lower control limit - upper control limit.	
ķ <u>i</u> s.√	ND 0.00000508	2000 2000 2000 2000 2000 2000 2000 200		
ž	ND 0.00000457			
e .,	43.			
Analyst RAS			Approved By: Melanee A. Schuld	Schuld 28-Mar-2006 15:31

OPR Results				EPA Method 1613	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 Da	Date Analyzed DB-225	225: NA
Analyte	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%R LC	TOPTOT
2,3,7,8-TCDD	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	81.2 25	25 - 194
1,2,3,7,8-PeCDD	50.0 60.2	35-71	13C-1,2,3,7,8-PeCDD	78.1 25	25 - 181
1,2,3,4,7,8-HxCDD	50.0	35-82	13C-1,2,3,4,7,8-HxCDD	83.7 32	32 - 141
1,2,3,6,7,8-HxCDD	50.0 61.6	38 - 67	13C-1,2,3,6,7,8-HxCDD		28 - 130
1,2,3,7,8,9-HxCDD	50.0	32.81	13C-1,2,3,4,6,7,8-HpCDD	70.4 23	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0 63.3	35 - 70	13C-OCDD	49.2	17 - 157
0000	100	78 - 144	13C-2,3,7,8-TCDF	81.7	24 - 169
2,3,7,8-TCDF	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	75.4 24	24 - 185
<u> </u>	509	40 - 67	13C-2,3,4,7,8-PeCDF	76.4 21	21 - 178
2,3,4,7,8-PeCDF	50.0 60.6	34 - 80	13C-1,2,3,4,7,8-HxCDF		26 - 152
12,3,4,7,8-txcDF	\$0.0	36 - 67	13C-1,2,3,6,7,8-HxCDF	69.4 26	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	28 - 136
2,3,4,6,7,8-HxCDF	619	35 - 78	13C-1,2,3,7,8,9-HxCDF	73.6 29	29-147
1,2,3,7,8,9-HxCDF	50.0 61.6	39 - 65	13C-1,2,3,4,6,7,8-HpCDF		28 - 143
1,2,3,4,6,7,8-HpCDF	50.0	41.61	13C-1,2,3,4,7,8,9-HpCDF	66.2 26	26-138
1,2,3,4,7,8,9-HpCDF	50.0 64.3	39 - 69	13C-OCDF	51.2 17	17-157
8	123	63 - 170	CRS 37CF2,3,7,8-TCDD	0.10	95 197
The state of the s					

Approved By:

Analyst: RAS

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

Sample ID: IPC2012-01						EPA Method 1613	1 1613
Clicat Data Name: Del Mar Analytical, Irvine Project: IPC2012 Date Collected: 18-Mar-06 Time Collected: 0900	Sample Data Matrix: Sample Size:	Aqueous 1.01 L	Laboratory Data Lab Sample: QC Batch No.: Date Analyzed D8-5:	27446-001 7870 28-Mar-06	Date Receitsed: Date Extracted: Date Analyzed DB-225:		21-Mar-06 26-Mar-06 NA
Analyte Conc. (ug/L) DL a	EMPCb	Qualifiers	Labeled Standard	ard	%R LCL	LCL-UCL ^d Qualifiers	iers
2,3,7,8-TCDD ND 0.000000730	00730		IS 13C-2,3,7,8-TCDD	QQ	75.1 25	25 - 164	
QN QQ	10700		13C-1,2,3,7,8-PeCDD	CDD	71.3 25	25 - 181	
2	0910		13C-1,2,3,4,7,8-HxCDD	HxCDD		32 - 141	
1,2,3,6,7,8-HxCDD ND 0.00000174	0174 0159		13C-1,2,3,6,7,8-HxCDD	HxCDD	63.8 28	28 - 130 23 - 140	- A.
2	0910		13C-OCDD	•		17-157	
OCDD 0.0000636		J,B	13C-2,3,7,8-TCDF	DF (c)	77.1 24	24 - 169	:
2,3,7,8-TCDF 0.006000564	0.000000564	Salar Salar Salar Salar Salar	13C-1,2,3,7,8-PeCDF	CDF CDF	69.6 24	24 - 185	
2 2	00782		13C-12.3.47.8-HxCDF	HXCDF	€,	26 - 152	λ
Q	10000000000000000000000000000000000000	A STATE OF S	13C-1,2,3,6,7,8-HxCDF	HxCDF	1	26 - 123	
2			13C-2,3,4,6,7,8-HxCDF	-HxCDF	57.3 28	28 - 136	
2			13C-1,2,3,7,8,9-HxCDF	HxCDF	61.7 29	29 - 147	'A\'
1,2,3,7,8,9-HxCDF ND 0.000000705	00705		13C-1,2,3,4,6,7,8-HpCDF	8-HpCDF 9-HpCDF	53.2 28 60.6 26	28 - 143 26 - 138	
2 5	00007		13C-OCDF	<u>.</u>		- 157	
			Footnotes	*			: :
Total TCDD 0.000000730	00730	* 100 mm	a Sample specific estimated detection limit. b. Estimated maximum toossible concentration.	ed detection limit.	13 A 15 A		
22	0.00000165	J. S.	c. Method detection limit. d. Lower control limit - upper control limit	per control limit			
Total TCDF	0.000000813						Han.
Total HxCDF 0.0000 Total HpCDF 0.0000	0.000000516	14.90. 1 10.00 10.		48 A			- \$2,- - 2,- - 2,- - 2,-
Analyst: RAS			Approved By:	Melance A. Schuld		28-Mar-2006 15:31	

Project 27446

APPENDIX

Page 7 of 229

DATA QUALIFIERS & ABBREVIATIONS

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.

This compound was also detected in the method blank.

H The signal-to-noise ratio is greater than 10:1.

Chemical interference

The amount detected is below the Lower Calibration Limit of the instrument.

See Cover Letter

В

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

TEO 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



Del Mar Analytical - Irvine

Irvine, CA 92614

Phone: (949) 261-1022

17461 Derian Avenue. Suite 100

SENDING LABORATORY:

17451 Darten Ave. Suite 100, Invine, CA 92614 Ph (949) 261-1022 Fex (949) 261-1222 1014 E. Cooley Dr., Suite A. Colton, CA 92324 Ph (909) 370-4667 Fex (909) 370-1046 Ph (909) 370-4667 Fex (909) 370-1046 Ph (909) 370-4667 Fex (909) 370-1046 Ph (90

SUBCONTRACT ORDER - PROJECT # IPC2012

Alta Analytical - SUB

1104 Windfield Way

El Dorado Hills, CA 95762

Phone:(916) 933-1640

ax: (949) 261-1228 Toject Manager: Michele (Chamberlin		Fax: (916) 673-0)106	
tandard TAT is request	ed unless specific due da		> Due Date: 2	13/06	Initials: WC
ample ID: IPC2012-01 W 1613-Dioxin-HR-Alta EDD + Level 4	ater Sampled: 03/1 03/25/06 09:00 04/15/06 09:00		Instant Nofication J flags, 17 congeners, Excel EDD email to	no TEQ,ug/L,sub=Alta pm,Include Std logs for Lvl I	v
ontainers Supplied: 1 L Amber (IPC2012-01G) 1 L Amber (IPC2012-01H)					· · · · · · · · · · · · · · · · · · ·
	-				
÷					
					,
		•			
			INTEGRITY:		
All containers intact:	•	le iabels/COC agree: es Preserved Properly:	☐ Yes ☐ No ☐ Yes ☐ No	Samples Received On Ice:: Samples Received at (temp	
2			Fed	<u>- 5 </u>	
Released By	Date	B	Received By	THINK WILL	Time 1/06 0900
Released By	Date	Time	Received By	Date	Time
Project 27446					Pa gag olo 6t

SAMPLE LOG-IN CHECKLIST

2744/2

Alta Project #:	a II IV				_		
Samples Arrival:	Date/Time	0900	Initials:	BSB	SB Location: WR-7		
Logged In:	Date/Time	1032	Initials:	3B	Location:	R-2	
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other	
Preservation:	(Ice)	Blue	Blue ice Dry		Ice None		
Temp °C 0.5°C		Time: 09/5			Thermometer ID: DT-20		

				YES/	NO	NA
Adequate Sample Volume Received?		• •		V		
Holding Time Acceptable?						
Shipping Container(s) Intact?						
Shipping Custody Seals Intact?						
Shipping Documentation Present?					<u> </u>	
Airbill Trk# 79	108 S	0464	6177	$-+\nu$		
Sample Container Intact?					 	1
Sample Custody Seals Intact?					1	
Chain of Custody / Sample Documen	tation Pr	esent?			+./	┼
COC Anomaly/Sample Acceptance F	orm con	npleted?			<u> </u>	\vdash
If Chlorinated or Drinking Water Sam	ples, Ac	ceptable P	reservation?	•		
Na₂S₂O₃ Preservation Documented?			COC	Sample Container	No	one
Shipping Container	Alta	(Client)	Retain	Return	Dis	pose

Comments:

sampler's initials found on sample label

APPENDIX G

Section 76

Outfall 002, March 18, 2006

AMEC Data Validation Reports

MF	CONTRACT COMPI	LANCE SCREENING FOR	M FOR HAR Package ID	
	60 East Vassar Drive			1261.001D.01
	e 500			IPC2012
	ewood, CO 80226	N	o. of Analyses	
	Laboratory Del Mar - 1		Date: April I	
	Reviewer E. Wesslin		Reviewer's S	ignature (
	Analysis/Method Volatiles		X	
AC	LION ITEMS,			
	Case Narrative		-	
	Deficiencies			
	er et et 1115 tet en			
2.	Out of Scope			
	Analyses			
	Analyses			
3.	Analyses Not Conducted			
. J.	Analyses (vor Conducted			
			anna ann a gan an an an an an an an	
4.	Missing Hardcopy Deliverables	***************************************		
	Deliverables			
			eriini.	
5.	Incorrect Hardcopy		ngga pamapan katalah di kapatan kanasa menasak di katalah di	in the state of th
	Deliverables		·	<u>.</u>
	and attended to			
-		nnyddinunyng y y y deferiagined gyddin y y rhyddingiaddyn ar y yr y dyddin gydd accendd y dyddin y dyddin y dy		
6.				
	Protocol, e.g.,			
	Holding Times	***************************************		
	GC/MS Tune/Inst. Performance	AND DESCRIPTION OF THE PROPERTY OF THE PROPERT	····	
	Calibration			
	Method blanks	**************************************		
	Surrogates	Marine the state of the state o		
	Matrix Spike/Dup LCS			
	Field QC	***************************************	***************************************	
	Internal Standard Performance			
	Compound Identification			
	Quantitation			
	System Performance			
CO	MMENTS*	Acceptable as reviewed		
* \$	ubcontracted analytical laboratory is not n	necting contract and/or method requireme	arits.	
• D	ifferences in protocol have been adopted	by the laboratory but no action against th	e laboratory is require	ર ા



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

SDG: Analysis: IPC2012 VOCs

1. INTRODUCTION

Task Order Title:

NPDES

MECX Project Number:

1261.001D.01

Sample Delivery Group:

IPC2012

Project Manager:

P. Costa

Matrix:

Water

Analysis: QC Level: Volatiles

No. of Samples:

Level IV

No. of Reanalyses/Dilutions:

0

2

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.

Project

NPDES

SDG:

IPC2012

Analysis:

VOCs

Table 1. Sample Identification

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

DATA VALIDATION REPORT

SDG: Analysis:

VOCs

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. 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.

Holding Times 2.1.3

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

GC/MS TUNING 2.2

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.

Revision 0 **B4VO46**

Project:

Analysis:

NPDES

SDG:

IPC2012 VOCs

DATA VALIDATION REPORT

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.

Project: NPDES SDG: IPC2012 Analysis: VOCs

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.



17461 Desian Arre,, Suite 100, Ionine, CA 92614 (989) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Culton, CA 92524 (989) 370-4667 FAX (989) 370-1046 9830 South 51st St., Suite 8-120, Phoenic, AZ 65044 (480) 785-0643 FAX (460) 785-0653 2520 E. Sumari Rd. #3, Eas Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC2012

Sampled: 03/18/06

Pasadena, CA 91101 Report Number Attention: Bronwyn Kelly Received: 03/18/06

PURGEABLES BY GC/MS (EPA 624)

Amalyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifi	
*****	PROPERTY.	Dark III	L.M.	LARIN	RESUL	Lacion	eati acteu	Vinanasso	and the second	, Q
iample ID: IPC2012-01 (Outfall 002 - Wat	er)							J.P.	Parks	13
Reporting Units: 12/1									Chrys	10
Benzene	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	U	STATE OF THE PARTY
Carbon tetrachloride	EPA 624	6C26008	0.28	5.0	ND	1	03/26/06	03/26/06	. *	and and and
Chloroform	EPA 624	6C26008	0.33	2.0	ND	1	03/26/06	03/26/06	- (1
, I-Dichloroethane	EPA 624	6C26008	0.27	2.0	ND	1	03/26/06	03/26/06		ot opiderately di
,2-Dichloroethane	EPA 624	6C26008	0.28	2.0	ND	I,	03/26/06	03/26/06	Angelativ	r fee handy
,1-Dichloroethene	EPA 624	6C26008	0.42	3.0	ND	1	03/26/06	03/26/06	and the same of th	W Sales
thylbenzene	EPA 624	6C26008	0.25	2.0	ND	1	03/26/06	03/26/06	i i	
Tetrachioroethene	EPA 624	6C26008	0.32	2.0	ND	1	03/26/06	03/26/06	200	
foluene	EPA 624	6C26008	0.36	2.0	ND	1	03/26/06	03/26/06		(Alabama)
,1,1-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	aucodellina.	-
,1,2-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	Moderation	Presidentity
Trichloroethene	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	Challender	TO THE PERSON NAMED IN COLUMN
richlorofluoromethane	EPA 624	6C26008	0.34	5.0	ND	1	03/26/06	03/26/06	Mad Consta	
/inyl chloride	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06		-
Cylenes, Total	EPA 624	6C26008	0.90	4.0	ND	1	03/26/06	03/26/06		W.
Surrogate: Dibromofluoromethane (80-1209	6)	**		•	107 %					The state of the s
Surrogate: Toluene-d8 (80-120%)					100 %					Service CLOSE
Surrogate: 4-Bromoftuorobenzene (80-120%	9	,			100 %					e e
ample ID: IPC2012-02 (Trip Blank - Wat			100					•		
Reporting Units: wg/l						4.				
enzene .	EPA 624	6C26008	0.28	2.0	ND	1	03/26/06	03/26/06	V.	Committee of the commit
Carbon tetrachloride	EPA 624	6C26008	0.28	5.0	ND	1	03/26/06	03/26/06	1	-
Chloroform	EPA 624	6C26008	0.33	2.0	ND	1	03/26/06	03/26/06		and the same of th
,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		deli (Marian)
,I-Dichloroethene	EPA 624	6C26008	0.42	3.0	ND	1	03/26/06	03/26/06		
Ethylbenzene	BPA 624	6C26008	0.25	2.0	ND	1	03/26/06	03/26/06	ja i i i i i i i i i i i i i i i i i i i	
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-Trichkoroethane	EPA 624	6C26008	0.30	2.0	ND	1	03/26/06	03/26/06	(1) is	
,1,2-Trichloroethane	EPA 624	6C26008	0.30	2.0	ND	ı	03/26/06	03/26/06	****	
Frichloroethene	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06	nin)Age	
Frichlorofluoromethane	EPA 624	6C26008	0.34	5.0	ND	1	03/26/06	03/26/06		
Vinyt chlorida	EPA 624	6C26008	0.26	5.0	ND	1	03/26/06	03/26/06		
Cylenes, Total	EPA 624	6C26008	0.90	4.0	MD	.,1	03/26/06	03/26/06	V	
urrogate: Dibromoftuoromethane (80-1209	6)			•	100%					
urrogate: Toluene-d8 (80-120%)					98 %				(A) reads	
Surrogate: 4-Bromofluorobenzene (80-120%	9				100%					



CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX				Package ID:	B4WC50
12269 Eas	t Vassar Drive				1261.001D.01
Aurora, CC	80014			SDG No.:	IPC2012
			No.	of Analyses:	1
	Laboratory: Del Mar /	\nalytical		Date: April 11	, 2006
	Reviewer: P. Meeks			Reviewar's Si	gnature
Analys	sis/Method: General I	Vinerals		P. MW	\
				•	
ACTION ITE	EMS*				
. Case N	iarrative				
Deficie	encies				
2. Out of	Scope Analyses	***************************************			
	•				.,
3. Analys	ses Not Conducted				
				······································	<u>, , , , , , , , , , , , , , , , , , , </u>
4. Missin	g Hardcopy				<u></u>
Delive					
DON'T C	IUVICS				
5. Incorre	ect Hardcopy				
Delive		<u></u>			
6. Deviat	ions from Analysis	Qualifications applied for	a C(CV outlier and a	detect below
	ol, e.g.,	the reporting limit.		14.5.	
Holding	Times				
GC/MS	Tune/Inst. Performance				
Calibrat	ion				
Method					
Surroga				······································	
	Spike/Dup LCS				
Field Q	T				
	Standard Performance				
Quantita	und Identification				
	Performance	***************************************	*********	<u></u>	
COMMENTS	e joint fail in a section of the commence of t		·····		
CUMMENTS					
			-		***************************************
	<u>, a , a a , fi , a a , a a a fairm da factación que aritan de minimizado de la factación de l</u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		- <u> </u>	(1997-1997-1997-1997-1997-1997-1997-1997
	-	meeting contract and/or method re			
^b Differences i	in protocol have been adopted	by the laboratory but no action a	gains	t the laboratory is red	quired.



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

Project:

NPDES

SDG:

IPC2012

Analysis:

Gen. Min.

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MECX Project Number:

DATA VALIDATION REPORT

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

Project:

NPDES

SDG: Analysis:

IPC2012 Gen. Min.

DATA VALIDATION REPORT

Table 1. Sample Identification

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

NPDES

SDG: Analysis: IPC2012 Gen. Min.

DATA VALIDATION REPORT

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 \pm 2° C. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 CALIBRATION

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; therefore, 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.

B4WC50 3 Revision 0

Project:

NPDES

SDG: Analysis: IPC2012 Gen. Min.

DATA VALIDATION REPORT

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.



17461 Derian Ave., Suite 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) 785-0651 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Report Number: IPC2012

Sampled: 03/18/06

Received: 03/18/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualific	rs
Sample ID: IPC2012-01 (Outfall 002	- Water) - cont.								Sev Qual	Code
Reporting Units: mg/l								e		<u> </u>
Ammonia-N (Distilled)	EPA 350.2	6C21086	0.30	0.50	0.56	1	03/21/06	03/21/06	ゴ	R
Biochemical Oxygen Demand	EPA 405.1	6C18047	0.59	2.0	ND	1	03/18/06	03/23/06	*	ļ
Chloride	EPA 300.0	6C18032	0.75	2.5	45	5	03/18/06	03/18/06		İ
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		
Suifate	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	ACCOUNTS.	
Sample ID: IPC2012-01 (Outfail 002 Reporting Units: mW/hr	- Water)								MARKATA COMP.	
Total Settleable Solids	EPA 160.5	6C18054	0.10	0.10	ND	1	03/18/06	03/18/06		
Sample ID: IPC2012-01 (Outfail 002 Reporting Units: NTU	- Water)								V	
Turbidity	EPA 180.1	6C18057	0.040	1.0	0.38	1	03/18/06	03/18/06	1	DNG
Sample ID: IPC2012-01 (Outfall 002 Reporting Units: ug/l	- Water)									
Total Cyanide	EPA 335.2	6C20099	2.2	5.0	2.2	ı	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

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, I 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 IPC2823-01

CLIENT ID Outfall 002

MATRIX Water

IPC2823-02

Trip Blank

Water

Reviewed By:

Del Mar Analytical - Irvine Michele Chamberlin

Michele Chamberlin

Project Manager

Sampled: 03/28/06

Received: 03/28/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPC2823

Attention: Bronwyn Kelly

PURGEABLES BY GC/MS (EPA 624)

			MDL	Reporting	Sample	Dilution	Date	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	Qualifiers
Sample ID: IPC2823-01 (Outfall 002 - Wat	er)								
Reporting Units: ug/i	•								
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%	<i>á)</i>				122 %				A-01, ZX
Surrogate: Toluene-d8 (80-120%)	e e e e e e e e e e e e e e e e e e e				111 %				
Surrogate: 4-Bromofluorobenzene (80-120%))				106 %				
Sample ID: IPC2823-02 (Trip Blank - Water	er)								
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	ì	03/30/06	03/30/06	
Surrogate: Dibromofluoromethane (80-120%	9				118 %				
Surrogate: Toluene-d8 (80-120%)					100 %				
Surrogate: 4-Bromofluorobenzene (80-120%))				93 %				

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager



Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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 - Wa	ter)								
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%	5)				87%				
Surrogate: Nitrobenzene-d5 (45-120%)					85 %				
Surrogate: 2-Fluorobiphenyl (45-120%)					82 %				
Surrogate: Terphenyl-d14 (45-120%)					85 %				



17461 Derian Ave., Suite 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 S1st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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 Reporting Units: ug/l	r) - cont.								
alpha-BHC Surrogate: Decachlorobiphenyl (45-120%) Surrogate: Tetrachloro-m-xylene (35-115%)	EPA 608	6C29050	0.00096	0.0096	ND 85 % 83 %	0.962	03/29/06	03/29/06	



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

MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

Attention: Bronwyn Kelly

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

Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

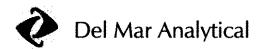
Pasadena, CA 91101 Report Number: IPC2823

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 - W	ater) - 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 - Wa	ater)								
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 - Wa	ater)								
Reporting Units: NTU	WD 1 100 1		0.040	1.0	• •		00.000.00	00.100.107	
Turbidity	EPA 180.1	6C29118	0.040	1.0	2.9	1	03/29/06	03/29/06	
Sample ID: IPC2823-01 (Outfall 002 - Wa	iter)						,		
Reporting Units: ug/l	A Section 1985	- 13							
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 - Wa	iter)								
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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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

SHORT HOLD TIME DETAIL REPORT

Sample ID: Outfall 002 (IPC2823-01) - Water	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
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



Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30002 Extracted: 03/30/06	<u>6</u>										
Blank Analyzed: 03/30/2006 (6C30002-F											
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-BS	1)										
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			

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager



Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPC2823

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

Attention: Bronwyn Kelly

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30002 Extracted: 03/30/06	5										
											
LCS Analyzed: 03/30/2006 (6C30002-BS	1)										
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 (6C3	0002-MS1)				Sou	rce: IPC2	321-02				
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		4	
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/i	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-MS	SD1)			Sou	rce: IPC2	321-02				
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/I	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	

Del Mar Analytical - Irvine Michele Chamberlin

Project Manager



Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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	RPD	RPD Limit	Data Qualifiers
Batch: 6C30002 Extracted: 03/30/06											
	-										
Matrix Spike Dup Analyzed: 03/30/2006	(6C30002-M	SD1)			Sou	rce: IPC2	2321-02				
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-Bl	LK1)										
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/I							•
1,2-Dichloroethane	ND	2.0	0.28	ug/I			•				
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			



Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2823

Sampled: 03/28/06

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Attention: Bronwyn Kelly

METHOD BLANK/QC DATA

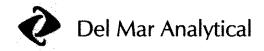
PURGEABLES BY GC/MS (EPA 624)

_		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30026 Extracted: 03/30/06	_										
LCS Analyzed: 03/30/2006 (6C30026-BS	1)										
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 (6C3)	0026-MS1)				Sou	rce: IPC2	562-02				
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/i	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	7 9	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			

Del Mar Analytical - Irvine

Michele Chamberlin

Project Manager



Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2823

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

PURGEABLES BY GC/MS (EPA 624)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C30026 Extracted: 03/30/06	<u>6</u>										
35-4-2- C-11- D 4-1 1-02/30/2006	//C/2002/ 3/	ECD4)			6	rce: IPC2					
Matrix Spike Dup Analyzed: 03/30/2006	•	•							_		
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	e*
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			



Project ID: Routine Outfall 002

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Pasadena, CA 91101

Report Number: IPC2823

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Attention: Bronwyn Kelly

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: 03/28/00	Ĺ										
Blank Analyzed: 03/30/2006 (6C28053-B	LK1)										
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-BS	1)	4. *			a a			: " · ·			M-NR1
Bis(2-ethylhexyl)phthalate	10.6	5.0	1.7	ug/l	10.0		106	60-130			•
2,4-Dinitrotoluene	9.94	9.0	0.20	ug/l	10.0		99	60-120			
N-Nitrosodimethylamine	7.86	8.0	0.10	ug/l	10.0		79	40-120			J
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/I	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 (6C2805	3-BSD1)										
Bis(2-ethylhexyl)phthalate	11.4	5.0	1.7	ug/I	10.0		114	60-130	7	20	
2,4-Dinitrotoluene	10.7	9.0	0.20	ug/I	10.0		107	60-120	7	20	
N-Nitrosodimethylamine	9.28	8.0	0.10	ug/I	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			

Del Mar Analytical - Irvine

Michele Chamberlin Project Manager



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MWH-Pasadena/Boeing

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METHOD BLANK/QC DATA

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

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

Batch: 6C28053 Extracted: 03/28/06

LCS Dup Analyzed: 03/30/2006 (6C28053-BSD1)

Surrogate: Terphenyl-d14 8.

ug/l 10.0

87 45-120



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ORGANOCHLORINE PESTICIDES (EPA 608)

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29050 Extracted: 03/29/06	<u>.</u>										
Blank Analyzed: 03/29/2006 (6C29050-B	LK1)										
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-BS	1)										
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 (6C2	9050-MS1)				Sou	rce: IPC2	322-01				
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	and the second second	SD1)			Sou	rce: IPC2	322-01				
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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METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29072 Extracted: 03/29/06	_										
	•										
Blank Analyzed: 03/29/2006 (6C29072-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/29/2006 (6C29072-BS	l)										
Mercury	7.90	0.20	0.050	ug/l	8.00		99	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C2	9072-MS1)				Sou	rce: IPC2	718-01				
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29072-MS	D 1)			Sou	rce: IPC2	718-01				
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-B	EKN :			ē,							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
LCS Analyzed: 03/29/2006 (6C29080-BS)	1)										
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 (6C2	9080-MS1)				Sour	rce: IPC2	585-01				
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-MS)	D1)			Sou	rce: IPC2	585-01				
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/I	80.0	0.67	98	70-130	0	20	



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INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C28055 Extracted: 03/28/06	_										
Blank Analyzed: 03/28/2006 (6C28055-B	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.15	0.45	mg/l							
											
LCS Analyzed: 03/28/2006 (6C28055-BS) Chloride	1) 4.81	0.50	0.15		5.00		96	90-110			14.1
Sulfate	4.81 9.76		0.15	mg/l							M-3
Surate	9.70	0.50	0.45	mg/l	10.0		98	90-110			
Matrix Spike Analyzed: 03/28/2006 (6C2	8055-MS1)				Sou	rce: IPC2	694-01				
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120			
Matrix Spike Dup Analyzed: 03/28/2006	(6C28055-M	SD1)			Sou	rce: IPC2	694-01				
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20	
Batch: 6C29047 Extracted: 03/29/06						27					
	.										
Blank Analyzed: 03/29/2006 (6C29047-Bl	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/29/2006 (6C29047-BS1	A).										M-NR1
Oil & Grease	17.6	5.0	0.94	mg/l	20.0		88	65-120			
LCS Dup Analyzed: 03/29/2006 (6C29047	LRSD1)										
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120	2	20	
		0.0	0.5	*****	2010			00 120	2	20	
Batch: 6C29064 Extracted: 03/29/06	•										
Blank Analyzed: 04/03/2006 (6C29064-BI	.K1)										
Biochemical Oxygen Demand	ND	2.0	0.59	mg/l							



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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
•		Limit	171171.	Onks	Level	Kesuit	/ ORCHIOC	AUSTRALIA	KI D	Limit	Quantitors
Batch: 6C29064 Extracted: 03/29/06	-								*		
LCS Analyzed: 04/03/2006 (6C29064-BS)	1)										M-NR1
Biochemical Oxygen Demand	218	100	30	mg/l	198		110	85-115			
LCS Dup Analyzed: 04/03/2006 (6C2906-	4-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 (6C2907	•				Sou	rce: IPC2	2034-01				
Specific Conductance	195	1.0	1.0	umhos/cm		200			3	5	
Batch: 6C29077 Extracted: 03/29/06	-										
Blank Analyzed: 03/29/2006 (6C29077-Bl	F 16241.										
Total Dissolved Solids	ND	10	10	mg/l							
	· ·						-				•
LCS Analyzed: 03/29/2006 (6C29077-BS) Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
		10	10	mg/1				90-110			
Duplicate Analyzed: 03/29/2006 (6C2907	7-DUP1)				Sour	rce: IPC2	817-01				
Total Dissolved Solids	240	10	10	mg/l		240			0	10	
Batch: 6C29086 Extracted: 03/29/06	•										
Blank Analyzed: 03/29/2006 (6C29086-Bl	LK1)										
Perchlorate	ND	4.0	0.80	ug/I							



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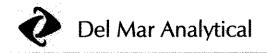
Sampled: 03/28/06 Received: 03/28/06

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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: 6C29086 Extracted: 03/29/06	•										
LCS Analyzed: 03/29/2006 (6C29086-BS)	•		0.00	,	50 B		101	05 115			
Perchlorate	50.4	4.0	0.80	ug/l	50.0		101	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C2	9086-MS1)				Sou	rce: IPC2	840-01				
Perchlorate	57.1	4.0	0.80	ug/l	50.0	6.2	102	80-120			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29086-M	SD1)			Sou	rce: IPC2	840-01				
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-Bl	LK1)										
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	2-DUP1)				Sour	rce: IPC2	722-01				
Total Suspended Solids	22.0	10	10	mg/l		21			5	10	
Batch: 6C29109 Extracted: 03/29/06											
Blank Analyzed: 03/29/2006 (6C29109-Bl	LK1)										
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			



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INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29109 Extracted: 03/29/06	<u>i</u>										
Matrix Spike Analyzed: 03/29/2006 (6C2	9109-MS1)				Sou	rce: IPC2	2823-01				
Total Cyanide	194	5.0	2.2	ug/l	200	ND	97	70-115			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29109-M	SD1)			Sou	irce: IPC2	2823-01				
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-B	LK1)										
Turbidity	0.0500	1.0	0.040	NTU							J
Duplicate Analyzed: 03/29/2006 (6C2911	8-DUP1)				Sou	rce: IPC2	867-01				
Turbidity	0.110	1.0	0.040	NTU		0.10			10	20	J
Batch: 6C29127 Extracted: 03/29/06											
	•					• • •	, A.	-	100	٠.	•
Blank Analyzed: 03/29/2006 (6C29127-B	LK1)								w.		
Surfactants (MBAS)	ND	0.10	0.044	mg/l							
LCS Analyzed: 03/29/2006 (6C29127-BS	()										
Surfactants (MBAS)	0.269	0.10	0.044	mg/l	0.250		108	90-110			
Matrix Spike Analyzed: 03/29/2006 (6C2	9127-MS1)				Sou	rce: IPC2	820-01				
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-M	SD1)			Son	rce: IPC2	820-01				
Surfactants (MBAS)	0.347	0.10	0.044	mg/l	0.250	0.090	103	50-125	1	20	



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INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result		%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C30104 Extracted: 03/30/06	<u>.</u>										
Blank Analyzed: 03/30/2006 (6C30104-B	LK1)										
Ammonia-N (Distilled)	ND	0.50	0.30	mg/l							
LCS Analyzed: 03/30/2006 (6C30104-BS	1)										
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0		109	80-115			
Matrix Spike Analyzed: 03/30/2006 (6C3	0104-MS1)				Sou	rce: IPC	2822-01				
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-M	SD1)			Sou	rce: IPC	2822-01				
Ammonia-N (Distilled)	10.9	0.50	0.30	mg/l	10.0	ND	109	70-120	3	15	



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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.

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPC2823

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

Attention: Bronwyn Kelly

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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
* .	and the second of the second o	and the second s	

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

1613-Dioxin-HR-Alta

Samples: IPC2823-01

Analysis Performed: EDD + Level 4

Samples: IPC2823-01

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

- 200 m	Field readings. Temp = 55.1	91 =Hd	Comments	24 TAT	24 TAT				24TAT	24TAT										2 y S	Annual Transferred	Normal		
	-S) , AMGN	8 Trichlorophe brotoluene, Bis http://bisisiste echlorophenol (I	Dinid lynts	MANAGEMENT													×			24 Hours 5 Days	10 Days	S.	Perchlorate Only 72 Hours	
ဂူ		18 BHC (608)	AqiA													×	-	_			48 Hours	72 Hours	hiorate	•
ANALYSIS REQUIRED	' S	ST, SQT, TS ductivity M-sinor	noO											×	×					₹ 7	# # # # # # # # # # # # # # # # # # #	2	4	4.4
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_	NPDES all 002	91. 15	Preservative	HNO3	HNO3	None		None	HC	NaOH	None	None	None	None	H2SO4	None	None	ΕĞ		Kecewed by	Received By	1	Received By	,
Project.	Boeing-SSFL NPDES Routine Outfall 002	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	160 00													4			Jate/Time:		605	Time:	
Pro			Cont.	· P				~	~			2	CI.	6	*	2	7	3			/ Date/Time	N	Date	
Client Name/Address: Project:	MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager. Bronwyn Kelly K. Kryter Sampler. Krytes, K	a		Poly 1	Poly 1	VOAs 3	Glass-2 Amber	1L Amber 2	Poly-500 mi	Poly-/			Poty-500		إبسية	1. Amber	VOAs				なとと		
/Address	adena ke Avenur A 91101	Page: A	Sample		3	>	*	3	3	*	3	3	3	3	*	≥		3		À.		See	à	
Client Name/Address:	MWH-Pasadena 300 North Lake Avenu Pasadena, CA 91101	roject Mar ampler: 🔏	Sample	Outfall 002	Outfall 002- Dup	Outfall 002	Outfall 002	Cutfall 002	Outfall 002	Outfall 002	Outfall 002	Outfall 002	Outfall 002	Outfall 002	Cutfall 002	Outfall 002	Outfall 002	Trip Blank		Kelinquished By	Refinantshed /	が人力	Relinquished By	



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. Maicr

Director of HRMS Services



Also 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

27498-001

IPC2823-01

SECTION II

Page 3 of 11

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)	/L) DL a	EMPC b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	ND 0.000000977		IS 13C-2,3,7,8-TCDD	74.2 25 - 164
1,2,3,7,8-PeCDD	ND 0.00000135			
1,2,3,4,7,8-HxCDD	ND 0.000000919		13C-1,2,3,4,7,8-HxCDD	75.1
		7 23 3. 4 4 2 2 2	13C-1,2,3,6,7,8-HxCDD	75.0 28 - 130
			13C-1,2,3,4,6,7,8-HpCDD	76.6
,8-HpCDD	ND 0.000000944		13C-0CDD	43.6 17 - 157
			13C-2,3,7,8-TCDF	79.1 24 - 169
: 'V	ND 0.000000845			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	9	-	13C-1,2,3,4,7,8-HxCDF	75.0 26 - 152
1,2,3,4,7,8-HxCDF	ND 0.00000457		13C-1,2,3,6,7,8-HxCDF	76.8
	ND 0.00000415		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
				69.4 28 - 143
	. 16.5		13C-1,2,3,4,7,8,9-HpCDF	79.8 26-138
\			13C-OCDF	50.1 17-157
OCDF	ND 0.00000220		CRS 37CI-2,3,7,8-TCDD	81.3 35 - 197
Totals			Footnotes	
Total TCDD Total PeCDD	ND 0.000000977		a. Sample specific estimated detection limit. b. Estimated maximum possible concentration.	
€ .	ND 0.000000932		c. Method detection limit.	
į.			d. Lower control limit supper control limit.	Address of the second of the s
Tt.	Share A		200 - 200 -	
Total HxCDF Total HpCDF	ND 0.000000491 ND 0.000000463			
			Approved By: Martha M. Maier	laier 03-Apr-2006 11:23

Project 27498

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

OPR Results				EPAN	EPA Method 1613
Matrix: Aqueous Sample Size: 1.00 L	QC Batch No Date Extracted.	7886 31-Mar-06	Lab Sample: 0-OPR001 Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225:	DB-225: NA
Analyte	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	rcrncr
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		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 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	35 - 70	13C-OCDD	31.1	17 - 157
0000	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		34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4	26 - 152
1,2,3,4,7,8-HxCDF	\$0.00	26-67	13C-1,2,3,6,7,8-HxCDF	54.	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	20,0	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 - 62	13C-1,2,3,4,6,7,8-HpCDF	51.3	28 - 143
1.2,3,4,6,7,8-HpCDF	50.0	9.1	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	63-170	CRS 37Cl-2,3,7,8-TCDD	78.6 35 197	35 - 197

Analyst: JMH

Sample ID: IPC2823-01				· ·		EPA IN	EPA Method 1613
Data	Sample Data		Laborators Data			W	
Name: Del Mar Analytical, Irvine	Matrix	Aqueous	Lab Sample:	27498-001	Date Received:	:eived:	30-Mar-06
Mected Mected	Sample Size:	T 996'0	QC Batch No. Date Analyzed DB-5.	7886 1-Apr-06	Date Extracted Date Analyzed	Date Extracted Date Analyzed DB-225:	31-Mar-06
Analyte Conc. (ug/L) DL a	EMPCb	Qualifiers	Labeled Standard	L. p.	%R	rcr-ucr ^d	Oualifiers
2,3,7,8-TCDD ND 0.000	0.000000703		18 13C-2,3,7,8-TCDD	1	72.8	25 - 164	
2	0.00000163		13C-1,2,3,7,8-PeCDD	ODS	70.9	25 - 181	
ð	0.00000120		13C-1,2,3,4,7,8-HxCDD	(xCDD	70.9	32 - 141	
2	0.00000124		13C-1,2,3,6,7,8-HxCDD	IxCDD	70.2	28 - 130	
· 《 · · · · · · · · · · · · · · · · · ·	0.00000118		13C-1,2,3,4,6,7,8-HpCDD	ньсор	72.5	23 - 140	
1,2,3,4,6,7,8-HpCDD 0.00000158		-	13C-0CDD	:	41.8	17-157	
00000130			13C-2,3,7,8-TCDF		8.17	24 - 169	
2	0.000000925		13C-1,2,3,7,8-PeCDF	JDF.	77.4	24 - 185	
9 0 000000	0.00000131		13C-2,3,4,7,8-PeCDF	'DF	76.1	21 - 178	PER
Q	00131		13C-1,2,3,4,7,8-HxCDF	(xCDF	71.0	26 - 152	
1,2,3,4,7,8-HxCDF ND 0.000	0.00000412		13C-1,2,3,6,7,8-HxCDF	(xCDF)	74.4	26 - 123	
2	0.000000359		13C-2,3,4,6,7,8-HxCDF	[xCDF	73.6	28 - 136	
2	0.00000411		13C-1,2,3,7,8,9-HxCDF	EXCDF	73.1	29 - 147	
	0.000000535		13C-1,2,3,4,6,7,8-HpCDF	HPCDF	629	28 - 143	
9	0.000000546		13C-1,2,3,4,7,8,9-HpCDF	HPCDF	74.5	26 - 138	
	0.000000516		13C-OCDF		50.2	17 - 157	
OCDF 0.000	0.00000181		CRS 37CI-2,3,7,8-TCDD	Q	86.1	35 - 197	
Totals		.: .	Footnotes				
Total TCDD ND 0.000	0.000000703		a Sample specific estimated detection limit	detection limit			
2			c. Methyl detection limit	ior corcentation.			·,·
851000000		0.00000285	d Lower control limit - upper control limit	r control limit.			15 - 76 - 76 - 76 - 76 - 76 - 76 - 76 - 7
Total TCDF 0.000	0.000000925		1	1 1 2 3 3 4 4 4 4 4	-	-	
Q	0.000000424						
Total HpCDF 0.000	74	\$240 @ 00 \ 20				,	2
April 10 CT					-	The state of the s	

Analyst: JMH

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

APPENDIX

Page 7 of 11

DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

I Chemical interference

J The amount detected is below the Lower Calibration Limit of the instrument.

See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit - concentrations that corresponds to low calibration point

ND Not Detected

TEQ Toxic Equivalency

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

CERTIFICATIONS

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



Project 27498

17461 Denien Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Suite A. Collon, CA 92384

9484 Chesepeake Drive, Suite 805, San Diago, CA \$212 9830 South 51st Street, Suite 8-120, Phoenix, AZ 8504 Ph (909) 370-4667 Fex (Ph (909) 370-4667 Fex (Ph (619) 505-9596 Fex (

Fax (909) 370-1046 Fax (819) 505-9689

(480) 785-0043 Fax (480) 78 (702) 798-3620 Fax (702) 798

SUBCONTRACT ORDER - PROJECT # IPC2823

RECEIVING LABORATORY: SENDING LABORATORY: Del Mar Analytical - Irvine Alta Analytical - SUB 17461 Derian Avenue. Suite 100 1104 Windfield Way El Dorado Hills, CA 95762 Irvine, CA 92614 Phone: (916) 933-1640 Phone: (949) 261-1022 Fax: (949) 261-1228 Fax: (916) 673-0106 Project Manager: Michele Chamberlin Standard TAT is requested unless specific due date is requested -> Due Date: Initials: Expiration Sample ID: IPC2823-01 Water Sampled: 03/28/06 11:00 Instant Nofication 1613-Dioxin-HR-Alta 04/04/06 11:00 J flags, 17 congeners, no TEQ, ng/L, sub-Alta EDD + Level 4 04/25/06 11:00 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: ☐ Yes ☐ No Sample labels/COC agree: Samples Received On Ice:: ☐ Yes ☐ No Yes ples Preserved Properly: Samples Received at (temp): Released by Time Released By Time Date Time Received By Date

Phasel) of 11

SAMPLE LOG-IN CHECKLIST

Alta Project #:	27498				-		
Samples Arrival:	Date/Time	090	Initials	SB	Locatio	m: WR-	7
Logged In:	Date/Time	1116	Initials	SB	Locatio	on:WR	~
Delivered By:	FedEx	UPS	Cal	DHL	Н	and ivered	Other
Preservation:	(ce	Blu	e ice	Dry	ce	No	ne

1023

Time:

	YES	NO	NA
Adequate Sample Volume Received?	11		
Holding Time Acceptable?	1		
Shipping Container(s) Intact?	1		
Shipping Custody Seals Intact?	1		
Shipping Documentation Present?	V		
Airbill Trk# 79/4 25 9/ 29/2	1		
Sample Container Intact?	V		1./
Sample Custody Seals Intact?			V
Chain of Custody / Sample Documentation Present?	V	<u> </u>	
COC Anomaly/Sample Acceptance Form completed?		V	<u> </u>
	•		V
	imple ntainer	No	one
	eturn	Dis	pose

Thermometer ID: DT-20

Preservation:

Comments:

Temp °C

APPENDIX G

Section 78

Outfall 002, March 28, 2006 AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA Package ID B4DF58 MECX, LLC Task Order 1261.001D.01 12260 East Vassar Drive SDG No. IPC2823 Suite 500 No. of Analyses 1 Lakewood, CO 80226 Date: April 10, 2006February 17, 2006 Laboratory Alta Analytical Reviewer's Signature Reviewer E. Wessling Analysis/Method Dioxins/ Furans by Method 1613 **ACTION ITEMS*** **Case Narrative Deficiencies** 2. Out of Scope Analyses 3. Analyses Not Conducted Missing Hardcopy **Deliverables** 5. Incorrect Hardcopy Deliverables Qualifications were assigned for the following: 6. Deviations from Analysis - results between the RL and the MDL were estimated and annotated "DNQ" Protocol, e.g., **Holding Times** GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field OC Internal Standard Performance

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

Compound Identification

Quantitation
System Performance

COMMENTS^b

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

NPDES IPC2823 D/F Analysis:

DATA VALIDATION REPORT

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001D.01

Sample Delivery Group:

IPC2823

Project Manager:

Matrix:

P. Costa

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

Project: SDG: Analysis: NPDES IPC2823 D/F

DATA VALIDATION REPORT

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.

Project: SDG: NPDES IPC2823 D/F

DATA VALIDATION REPORT

SDG: Analysis:

2.2.2 Mass Spectrometer Performance

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

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

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7886-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.

Project: SDG: Analysis: NPDES IPC2823 D/F

DATA VALIDATION REPORT

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

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

2.7.2 Field Duplicates

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

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

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



Sample ID:	: PC2823-01	こがちの	200]		entral market bestellige betre bestellige be				EPA N	EPA Method 1613
Client Data				Sample Data		Laboratory Data				
Name:	Del Mar A	Del Mar Analytical, Irvine		Matrix:	Aqueous	Lab Sample:	27498-001	Date Received:	/ed:	30-Mar-06
Project: Date Collected:		V.		Sample Size:	T 996'0	QC Batch No.:	7886	Date Extracted:	tod:	31-Mar-06
Time Collected:						Date Analyzed DB-5:	1-Apr-06	Date Analyz	Date Analyzed DB-225:	NA
Analyte	Conc.	. (ug/L)	DL a	EMPCb	Qualifiers	Labeled Standard	lard	%R L	rcr-ncr _q	Oualifiers
2,3,7,8-TCDD	CDD	N Q	0.000000703	03		IS 13C-2,3,7,8-TCDD	DD	72.8	25 - 164	
1,2,3,7,8-PeCDD	PeCDD	QN	0.00000163	9		13C-1,2,3,7,8-PeCDD	eCDD	70.9	25 - 181	
1,2,3,4,7,	1,2,3,4,7,8-HxCDD	9	0.00000120	9		13C-1,2,3,4,7,8-HxCDD	-HxCDD	6.07	32 - 141	
1,2,3,6,7,	1,2,3,6,7,8-HxCDD	S	0.00000124	4		13C-1,2,3,6,7,8-HxCDD	-HxCDD	70.2	28 - 130	
1,2,3,7,8,	1,2,3,7,8,9-HxCDD	<u>R</u>	0.00000118	••		13C-1,2,3,4,6,7,8-HpCDD	8-нрсрр	72.5	23 - 140	
A. 1,2,3,4,6,	1,2,3,4,6,7,8-HpCDD	0.00000158			h	13C-OCDD		41.8	17 - 157	
0000		0.0000130				13C-2,3,7,8-TCDF	Ď.	71.8	24 - 169	
2,3,7,8-TCDF	CDF	2	0.000000925	25		13C-1,2,3,7,8-PeCDF	eCDF	77.4	24 - 185	
1,2,3,7,8-PeCDF	PecDF	2	0.00000131			13C-2,3,4,7,8-PeCDF	eCDF	76.1	21-178	
2,3,4,7,8-PeCDF	PeCDF	Q.	0.00000131	11		13C-1,2,3,4,7,8-HxCDF	-HxCDF	71.0	26 - 152	
1,2,3,4,7,	1,2,3,4,7,8-HxCDF	9	0.000000412	11.2		13C-1,2,3,6,7,8-HxCDF	-H _x CDF	74,4	26 - 123	
1,2,3,6,7,	1,2,3,6,7,8-HxCDF	QN	0.000000359	159		13C-2,3,4,6,7,8-HxCDF	-HxCDF	73.6	28 - 136	
2,3,4,6,7,	2,3,4,6,7,8-HxCDF	8	0.000000411			13C-1,2,3,7,8,9-HxCDF	HKOUF	73.1	29 - 147	
1,2,3,7,8,	1,2,3,7,8,9-HxCDF	S	0.000000535	335		13C-1,2,3,4,6,7,8-HpCDF	,8-HpCDF	62.9	28 - 143	
1,2,3,4,6,	1,2,3,4,6,7,8-HpCDF	윤	0.000000546	746		13C-1,2,3,4,7,8,9-HpCDF	9-HpCDF	74.5	26 - 138	
1,2,3,4,7,	1,2,3,4,7,8,9-HpCDF	ND	0.000000516	911		13C-OCDF		50.2	17 - 157	
OCDF		QN	0.00000181	=		CRS 37CI-2,3,7,8-TCDD	CDD	86.1	35 - 197	
Totals						Footnotes				
Total TCDD	DD	QN	0.000000703	703		a. Sample specific estimated detection limit.	ed detection limit.			
Total PeCDD	da	Ę	0.00000163	83		b. Estimated maximum possible concentration.	ssible concentration.			
Total HxCDD	CDD	S	0.00000121	21		c. Method detection limit.				
Total HpCDD	69	0.00000158	ó۳	0.00000285	7285	d. Lower control limit - upper control limit.	oper control limit.			
Total TCDF	DF	S	0.000000925	325						
Total PeCDF	ODF.	R	0.00000131	<u></u>						
Total HxCDF	CDF	S	0.000000424	424			:			
Total HpCDF	9	8	0.000000532	532						
Analyst:	JMH	an Mylos			· .	Approved By:	Martha M. Maicr		03-Apr-2006 11:23	S.

Analyst: Analyst: 5 - 326 Project 27498

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME(o*		Package ID	
122	2269 East Vassar Drive Task Order 1261.001D.01			
Aur	ora, CO 80014		SDG No.	IPC2823
			No. of Analyses	··· 2 ·····
	Laboratory Del Mar And	alytical-Irvine	Date: April	11, 2006
Reviewer K. Shadowlight Reviewer's Signature		Signature ,		
1	Analysis/Method Volatiles by	Method 624	Ksa	admilt
				<u> </u>
AC	rion items*			
•	Case Narrative			
	Deficiencies			
2.	Out of Scope Analyses	Eddin Ariestin in a seithe de fra a seith Eagle a feang de de seamaigeach ann an		
3.	Analyses Not Conducted			
4.	Missing Hardcopy			
	Deliverables		ytessen – Anglinian in indignigus y men diddining apartigative a menus per men and a secure per mental aparti	
5.	Incorrect Hardcopy			
	Deliverables	· · · · · · · · · · · · · · · · · · ·	19 <u>19-1</u>	· · · · · · · · · · · · · · · · · · ·
6.	Deviations from Analysis	On all factions are	e assigned for the foll	
O.	Protocol, e.g.,		bration %D outlier	<u> </u>
	Holding Times	- a continuing can		
	GC/MS Tune/inst. Performance	- a surrogate ouur		
	Calibration	The detect hetwee	in the MDL and the re	porting limit was qualified
	Method blanks	as estimated.	III WE MUL BIN WE I	porting mint was quantied
	Surrogates	00 V30110035		
	Matrix Spike/Dup LCS			
	Field QC			**************************************
	Internal Standard Performance			
	Compound Identification		maintenament minist a desaritos escarios esta esta esta en esta en esta esta en esta	
	Quantitation			
	System Performance			
CO	MMENTS ⁵	1		
		1	territoria de la compania de la comp	
	ing di digitang di panggang p Panggang panggang pa		(Colories Colories de la Colories de Colo	ikandi sake ja ja manida manida kandi kalaja kalaja kandi kandi kandi kandi kandi kandi kandi kandi kandi kand Kandi sake ja
				and the second
	ubcontracted analytical laboratory is not i			V - V - V - V - V - V - V - V - V - V -
0	ifferences in prolocol have been adopted	by the laboratory but no a	ction against the laboratory	is required.



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 002

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPC2823

Prepared by

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

NPDES IPC2823

SDG: Analysis:

VOCs

1. INTRODUCTION

Task Order Title:

NPDES

MEC^X Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPC2823

Project Manager:

P. Costa

Matrix:

Water

Analysis: QC Level:

Reviewer:

Volatiles Level IV

No. of Samples:

2

No. of Reanalyses/Dilutions:

0

K. Shadowlight

Date of Review:

April 11, 2006

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

Project:

NPDES

SDG:

IPC2823

Analysis:

VOCs

Table 1. Sample Identification

DATA VALIDATION REPORT

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

Project:

NPDES

SDG: Analysis:

VOCs

DATA VALIDATION REPORT

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C, at 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 ≥0.05 and the %RSDs were ≤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 ≥0.05 and all %Ds were within the QC limit of ≤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.

Project: SDG: NPDES

Analysis:

VOCs

2.4 BLANKS

DATA VALIDATION REPORT

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.

Project: SDG: NPDES IPC2823

Analysis:

A There was a second

VOCs

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

DATA VALIDATION REPORT

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.

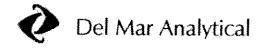
2.12 TENTATIVELY IDENTIFIED COMPOUNDS

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.

Revision 0



MWH-Pasadona/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 Qualifie	rs
Sample ID: IPC2823-01 (Outfall 002 - W Reporting Units: ng/l	/ater)								Stal	the 16de
Зепиене	EPA 624	6C30026	0.28	2.0	ND	l	03/30/06	03/31/06	` u	1000
Prichlorotrifluoroethane (Freon 113).	EPA 624	6C30026	1.2	5.0	ND	1	03/30/06	03/31/06	ũ	
Carbon tetrachloride	EPA 624	6C30026	0.28	5.0	ND	1	03/30/06	03/31/06	UJ	10
Chloroform	EPA 624	6C30026	0.33	2.0	ND	*	03/30/06	03/31/06	u	
.1-Dichloroethane	EPA 624	6C30026	0.27	2.0	ND	1	03/30/06	03/31/06	ł	
,2-Dichloroethane	EPA 624	6C30026	0.28	2.0	ND	Ī	03/30/06	03/31/06	ľ	
,1-Dichloroethene	EPA 624	6C30026	0.42	3.0	ND	1	03/30/06	03/31/06		
3thylbenzene	EPA 624	6C30026	0.25	2.0	ND	Ĩ	03/30/06	03/31/06	1	
etrachloroethene	EPA 624	6C30026	0.32	2.0	ND	1	03/30/06	03/31/06	1	1
Coluene	EPA 624	6C30026	0.36	2.0	ND	i	03/30/06	03/31/06		
,l,i-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	1	03/30/06	03/31/06	•	
,1,2-Trichloroethane	EPA 624	6C30026	0.30	2.0	ND	į.	03/30/06	03/31/06	√	
frichloroethene	EPA 624	6C30026	0.26	5.0	0.29	ī	03/30/06	03/31/06	J	DND 5
richlorofluoromethane	EPA 624	6C30026	0.34	5.0	ND	i.	03/30/06	03/31/06	ũ.	1-11-
/inyl chloride	EPA 624	6C30026	0.26	5.0	ND	1	03/30/06	03/31/06	1	
Cylenes, Total	EPA 624	6C30026	0.90	4.0	ND	ì	03/30/06	03/31/06		
'urrogate: Dibromofluoromethane (80-12)			2.0	1,00	122%	8.	0.0:00	osis noo	A-01. Z	· v
urrogate: Toluene-d8 (80-120%)	·				111%				JETOGE, KAN	7.
urrogate: 4-Bromofluorobenzene (80-120	%)	1. 1.41.			106%	:			n A nac	. • :
ample ID: IPC2823-02 (Trip Blank - Wa	ater)								Fix!	YUC)
Reporting Units: ng/l		•								cde
lenzene	EPA 624	6C30002	0.28	2.0	ND	I	03/30/06	03/30/06	U	
richlorstrifluoroethane (Freon 113)	EPA 624	6C30002	1.2	5.0	ND	Ĺ	03/30/06	03/30/06	ľ	
arbon tetrachloride	EPA 624	6C30002	0.28	5.0	ND	1	03/30/06	03/30/06	ľ	
hloroform	EPA 624	6C30002	0.33	2.0	ND	1	03/30/06	03/30/06	1	ľ
,1-Dichloroethane	EPA 624	6C30002	0.27	2.0	ND	1	03/30/06	03/30/06		
,2-Dichloroethane	EPA 624	6C30002	0.28	2.0	ND	1	03/30/06	03/30/06		l
,I-Dichloroethene	EPA 624	6C30002	0.42	3.0	ND	1	03/30/06	03/30/06		
thylbenzene	EPA 624	6C30002	0.25	2.0	ND]	03/30/06	03/30/06		
etrachloroethene	EPA 624	6C30002	0.32	2.0	ND	Ĭ	03/30/06	03/30/06		
oluene	EPA 624	6C30002	0.36	2.0	ND	Ĭ	03/30/06	03/30/06		
,I,I-Trichloroethane	EPA 624	6C30002	0.30	2.0	ND		03/30/06	03/30/06		
,I.2-Trichloroethane	EPA 624	6C30002	0.30	2:0	ND	1	03/30/06	03/30/06		
nchloroethene	EPA 624	6C30X02	0.26	5.0	MO	1	03/30/06	03/30/06		
nchlorofluoromethane	EPA 624	6C30002	0.34	5.0	ND	1	03/30/06	03/30/06		
myl chloride	EPA 624	6C30002	0.26	5.0	ND	Ì	03/30/06	03/30/06		
ylenes, Total	EPA 624	6C30002	0.90	4.()	ND			03/30/06	1	
urrogate: Dibromofluoromethane (80-120)	<i>%)</i>				118%	7	a segret service is SC NA	w. ac. 95 ch 2 1876	₹.	
arrogate: Toluene-d8 (80-120%)					100 %					
urrogate: 4-Bromofluorobenzene (80-1209	6)				93 %					

el Mar Analytical - Irvine

lichele Chamberlin vject Manager level I

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

IE(Package ID: B4WC54
	69 East Vassar Drive	Task Order: 1261.001D.01
UII)	ora, CO 80014	SDG No.: IPC2823
		No. of Analyses: 1
	Laboratory: Del Mar A	
	Reviewer. P. Meeks	
	Analysis/Method: General N	Winerals Y. MQ
C	TION ITEMS*	
	Case Narrative	
	Deficiencies	
2	Out of Scope Analyses	
3.	Analyses Not Conducted	
4.	and the state of t	
	Deliverables	
5.	Incorrect Hardcopy	
	Deliverables	
6.	Deviations from Analysis	
O.	••····································	
	Protocol, e.g.,	
	Holding Times GCMS Tune/Inst. Performance	
	Calibration	
	Method blanks	
	Surrogates	
	Matrix Spike/Dup LCS	
	Field QC	
	Internal Standard Performance	
	Compound Identification	
	System Performance	
~~	MMENTS!	
<u> </u>		Acceptable as reviewed.
		
		and the second s



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

Project:

NPDES

SDG:

IPC2823 Analysis: Gen. Min.

DATA VALIDATION REPORT

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

1261.001D.01

Sample Delivery Group:

IPC2823

Project Manager:

P. Costa

Water

Matrix:

General Minerals

Analysis:

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

Project:

NPDES

SDG:

IPC2823

Analysis:

Gen. Min.

Table 1. Sample Identification

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

DATA VALIDATION REPORT

NPDES

SDG: Analysis: IPC2823 Gen. Min.

DATA VALIDATION REPORT

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 \pm 2° C. No preservation problems were noted by the laboratory. No qualifications were required.

2.1.2 Chain of Custody

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

2.1.3 Holding Times

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

2.2 CALIBRATION

For turbidity and specific conductivity, the check standard recoveries were found to be acceptable. For ammonia, no information regarding the standardization of the titrant was provided; 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.

B4WC54 3 Revision 0

Project: SDG:

NPDES IPC2823

DATA VALIDATION REPORT

Analysis: Gen. Min.

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

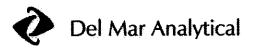
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

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/Bocing

Project ID: Routine Outfall 002

300 North Lake Avenue, Suite 1200

Sampled: 03/28/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2823

Received: 03/28/06

INORGANICS

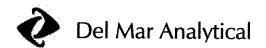
Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Dat Qualit	
Sample ID: IPC2823-01 (Outfall 002	- Water) - cont.								Rev	100
Reporting Units: mg/l			~ ~ ~		3 173		00.000	namaur.	U	+-
Ammonia-N (Distilled)	EPA 350.2	6C30104	0.30	0.50	ND	1	03/30/06	03/30/06		1
Biochemical Oxygen Demand	EPA 405.1	6C29064	0.59	2.0	1.6	1	03/29/06	04/03/06	* 1	1
Chloride	EPA 300.0	6C28055	1.5	5.0	42	10	03/28/06	03/28/06	l	
Nitrate/Nitrite-N	EPA 300.0	6C28055	0.080	0.15	ND	1	03/28/06	03/28/06] .	
Dil & 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	- [Ī
Surfactants (MBAS)	SM5540-C	6C29127	0.044	0.10	0.090	1	03/29/06	03/29/06	J	
l'otal 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	Ì	
Sample ID: IPC2823-01 (Outfall 002 Reporting Units: ml//hr	- Water)									
otal Settleable Solids	EPA 160.5	6C28105	0.10	0.10	0.10	1	03/28/06	03/28/06	\bigvee	
Sample ID: IPC2823-01 (Outfall 002	- Water)									
Reporting Units: NTU Furbidity	EPA 180.1	6C29118	0.040	1.0	2.9	1	03/29/06	03/29/06		***************************************
Sample ID: IPC2823-01 (Outfall 002 Reporting Units: ug/l	- Water)									
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 Reporting Units: umkos/cm	- Water)									The second secon
Specific Conductance	EPA 120.1	6C29076	1.0	1.0	900	1.	03/29/06	03/29/06		
		* An	alysis	not	valida	ted				

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

APPENDIX G

Section 79

Outfall 003, March 1, 2006
Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

Project: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

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, I 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
IPC0164-01

CLIENT ID
Outfall 003

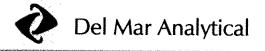
MATRIX

Water

Reviewed By

Del Mar Analytical - Irvine Sushmitha Reddy For Michele Chamberlin

Project Manager



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

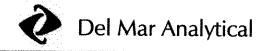
Report Number: IPC0164

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 - 1	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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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Report Number: IPC0164

Sampled: 03/01/06

Attention: Bronwyn Kelly

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	



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

SHORT HOLD TIME DETAIL REPORT

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



MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C02097 Extracted: 03/02/06											-
	•										
Blank Analyzed: 03/02/2006 (6C02097-BI	.K1)										
Mercury	ND	0.20	0.050	ug/l							
T CC 4 materials 02/02/2007 (CC02007 DCs				_							
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 (6C02	097-MS1)				Sou	rce: IPB2	608-01				
Mercury	7.84	0.20	0.050	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2006 (ርድ <u>ስንስ</u> ስፕ ኬናር	D1)			e	IBD2	C00 01				
Mercury	7.88	0.20	0.050	d		rce: IPB2		70.120		••	
Mercury	7.00	0.20	0.030	ug/l	8.00	ND	98	70-130	1	20	
Batch: 6C04030 Extracted: 03/04/06											
Blank Analyzed: 03/07/2006 (6C04030-BL	*										
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/i							•
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/i	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 (6C04)	130-MS1)				Sour	ce: IPC03	R03_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	0.43	97	70-130			



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC0164

Sampled: 03/01/06

Attention: Bronwyn Kelly

Received: 03/01/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result		%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C04030 Extracted: 03/04/06	<u>i</u>										
Matrix Spike Analyzed: 03/07/2006 (6C0	4030-MS2)				Sou	rce: IPC(303-02				
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-M	SD1)			Sou	rce: IPC0	303-01				
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	



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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C02051 Extracted: 03/02/06	_										
Blank Analyzed: 03/02/2006 (6C02051-B	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/02/2006 (6C02051-BS)	I)										
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 (6C0)	2051-MS1)				Sour	rce: IPC0	165-01				
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-MS	D1)			Sour	ce: IPC0	165-01				
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-BI	.K1)										
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)				Sour	ce: IPC0	087-01				
Total Dissolved Solids	865	10	10	mg/l		860			1	10	



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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C07078 Extracted: 03/07/00	<u>5</u>										
Blank Analyzed: 03/07/2006 (6C07078-B	LKI)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/07/2006 (6C07078-BS	1)										
Total Suspended Solids	966	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 03/07/2006 (6C0707	(8-DUP1)				Sou	rce: IPC0	093-01				
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C13044 Extracted: 03/13/06	<u>.</u>										
Blank Analyzed: 03/13/2006 (6C13044-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/13/2006 (6C13044-BS)	1)										M-NR1
Oil & Grease	19.6	5.0	0.94	mg/l	20.0		98	65-120			
LCS Dup Analyzed: 03/13/2006 (6C13044	4-BSD1)				*						
Oil & Grease	19.2	5.0	0.94	mg/l	20.0		96	65-120	2	20	

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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC0164

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
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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPC0164

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

DATA QUALIFIERS AND DEFINITIONS

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

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

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0164

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

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

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

Page 1 of 1	The state of the s	Field readings:	pH= 7.2	Comments							unfitered analysis				7	>	<u> </u>	Turn around Time: (check) 24 Hours 5 Days	10 Days	Normal	Metaks Only 72 Hours	Sample Integrity: (Check) On ice:
, , , ,	ANALYSIS REQUIRED		(0.306								X							Tum aroun 24 Hours	48 Hours	72 Hours	(C ') Metaks Only 72 Hours	Sample int
IN OF CUSTODY FORM		geners) (413.1)	tecoverable (and all con tease (EPA (and all con tease (EPA)	SP, CO TCDD	×	×	×	X	×	×								Date Time:	Date/Time:	Legal Control	73/104)
USTO				Bottle	* *	10	2A, 28	æ ₹	9	SA, SB	89							7	ト	7		0
		PDES II 003 RMHF	i 10	Preservative	HNO3	HNO3	None	귳	None	None	None							Received By	Received By	Benefited By		7
10/21/05 CHA	Project:	Boeing-SSFL NPDES Routine Outfall 003 Stormwater at RMHF	Phone Number. (626) 568-6691 Fax Number. (626) 568-6515	Sampling	3//10						>			-				Date/Time:	Date/Time.	11/06 (905)		
at Version			n Kelly	5 E	-	-	2	Der 2	2 2	8	1 180							3/1/64			· .	
nalytic	dress:	ena venue, Suil 101	F. Bronwy	ple Container	E	1L Poly	1£ Amber	1. Amber	Poly-500	Poly-500	Poly-1 gal							;	10	The state of the s	6	***************************************
Del Mar Analytical version 10/21/05 CHA	Client Name/Address:	MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager. Bronwyn Kelly Sampler: スピーアメンジ パピ	Sample Sample Description Matrix	†	Outfall 003- W	Outfall 003 W							Newmound by	Kalindalisa Eri	Refinantial By						



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,

Martha M. Maier

Director of HRMS Services



(cts)

Section I: Sample Inventory Report

Date Received:

3/3/2006

Alta Lab. ID

Client Sample ID

27367-001

IPC0164-01

Project 27367

SECTION II

Page 3 of 279

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

Approved By:

Matrix. Aquecous QC Bauch No.: 7897 Lab Sample: 0-MB001 Sample Size: 1.00 L Date Extracted: 5-Mar-06 Date Anniyzed DB-5: 7-Mar-06 Date Current State Current State Anniyzed DB-5: 7-Mar-06 Date Current Anniyae Date Anniyzed DB-5: 7-Mar-06 Date Anniyzed DB-5: To Anniyzed DB-5: To Anniyzed DB-5: Date Anniyzed DB-5: To Anniyzed DB-5: To Anniyzed DB-5: To Anniyzed DB-5: Date Anniyzed DB-5: To Anniyzed DB-5: To Anniyzed DB-5: Date An	Method Blank	A management of the second sec					EPA Method 1613	nod 1613
1,00 L Date Extracted: S-Mar-06 Date Analyzed DB-5: 7-Mar-06 Date Analyzed DB-252			QC Batch No.:	7807		10		
Cone. (ug/L) DL a concoligation EMPC b Qualifiers Labeled Standard γ/R LCL-UCLd DD ND 0.00000119 15. 13C-23.7.8-PeCDD 82.1 25 - 164 DD ND 0.00000110 82.1 32 - 144 CDD ND 0.00000170 82.1 32 - 144 CDD ND 0.00000170 82.1 32 - 144 CDD ND 0.00000170 82.1 32 - 144 CDD ND 0.0000016 13C-12.3.46.7.8-HxCDD 81.9 23 - 146 FCDD ND 0.0000018 13C-02.3.78-PcCDF 85.8 24 - 169 B ND 0.0000018 13C-02.3.78-PcCDF 85.7 24 - 185 DF ND 0.0000018 13C-0.2.3.78-PcCDF 89.7 24 - 185 DF ND 0.0000018 13C-1.2.3.47.8-HxCDF 82.0 25 - 148 CDF ND 0.000000857 13C-1.2.3.46.7.8-HxCDF 82.0 13 CDF ND 0.000000857 13C-1.2.			Date Extracted:	5-Mar-06			lyzed DB-225:	< X
ND 0,00000119 18 13C-2,37,8-TCDD 82.1		. (ug/L)	eg .	٥	Labeled Standard	%R	1	Oualifiers
DD ND 0,00000130 13C-12.3.7.8-PcDD 84.5 CDD ND 0,00000161 13C-12.3.4.7.8-HxCDD 82.1 CDD ND 0,00000167 13C-12.3.4.7.8-HxCDD 82.1 PCDD ND 0,00000167 13C-2.3.7.8-HxCDF 85.8 PCDD ND 0,00000126 13C-2.3.7.8-HxCDF 89.7 DF ND 0,00000126 13C-2.3.7.8-HxCDF 82.0 DF ND 0,00000126 13C-1.2.3.7.8-HxCDF 82.0 DF ND 0,00000657 13C-1.2.3.7.8-HxCDF 82.0 CDF ND 0,00000659 13C-1.2.3.7.8-HxCDF 82.0 PCDF ND 0,000000350 13C-1.2.3.7.8-HxCDF 82.0	2,3,7,8-TCDD	ND	0.00000119			82.1	25 - 164	
CDD ND 0,00000161 13C-1,2,3,4,7,8-HxCDD 82.1 CDD ND 0,00000170 13C-1,2,3,4,7,8-HxCDD 81.9 CDD ND 0,00000167 13C-1,2,3,4,5,7-HyCDD 79.4 HyCDD ND 0,00000167 13C-0CDD 84.4 ND 0,00000126 13C-2,3,7-8-PcCDF 85.8 DF ND 0,00000126 13C-2,3,7-8-PcCDF 82.0 DF ND 0,0000015 13C-1,2,3,7-8-PcCDF 82.0 DF ND 0,00000657 13C-1,2,3,7-8-PcCDF 82.0 CDF ND 0,00000667 13C-1,2,3,7,8-PcCDF 82.0 CDF ND 0,00000667 13C-1,2,3,4,7,8-HxCDF 83.9 CDF ND 0,00000667 13C-1,2,3,4,7,8-HxCDF 83.9 CDF ND 0,00000667 13C-1,2,3,4,7,8-HxCDF 83.9 CDF ND 0,00000689 13C-1,2,3,4,7,8-HxCDF 80.8 HpCDF ND 0,000000689 13C-1,2,3,4,7,8-HxCDF 80.4 <		Q	0.00000130		13C-1,2,3,7,8-PeCDD	84.5	25 - 181	
CDD ND 0.00000170 13C-1,2,3,6,7,8-HkCDD 81.9 CDD ND 0.00000161 13C-1,2,3,4,6,7,8-HkCDD 79.4 HCDD ND 0.00000167 13C-1,2,37,8-PcDF 85.8 ND 0.00000138 13C-1,2,37,8-PcDF 89.7 DF ND 0.00000156 13C-1,2,37,8-PcDF 82.0 CDF ND 0.00000677 13C-1,2,34,78-HkCDF 82.0 CDF ND 0.00000677 13C-1,2,34,78-HkCDF 82.0 CDF ND 0.00000677 13C-1,2,34,78-HkCDF 83.9 CDF ND 0.00000677 13C-1,2,34,6,78-HkCDF 83.9 CDF ND 0.00000890 13C-1,2,34,6,78-HkCDF 83.9 CDF ND 0.00000890 13C-1,2,34,7,8-HkCDF 80.8 HCDF ND 0.00000890 13C-1,2,34,7,8-HkCDF 80.8 HCDF ND 0.00000890 13C-1,2,34,7,8-HkCDF 80.8 HCDF ND 0.000000189 a.Sample specific estimated detection limit		Q	0.00000161	. 4	13C-1,2,3,4,7,8-HxCDD	82.1	32 - 141	
(CDD ND 0.00000161 13C-1,23,46,7,8-HpCDD 79.4 hpCDD ND 0.00000167 13C-0,23,7,8-HpCDD 54.4 ND 0.00000126 13C-2,3,7,8-PeCDF 85.7 DF ND 0.00000126 82.9 DF ND 0.00000017 82.0 CDF ND 0.00000067 13C-2,3,45,78-HpCDF 82.0 CDF ND 0.00000067 13C-1,2,3,7,8-HpCDF 82.0 CDF ND 0.00000067 13C-1,2,3,45,78-HpCDF 83.9 CDF ND 0.00000089 13C-1,2,3,45,78-HpCDF 77.1 HpCDF ND 0.00000089 13C-1,2,3,45,78-HpCDF 71.7 tpCDF ND 0.00000089 13C-1,2,3,46,78-HpCDF 80.8 tpCDF ND 0.00000089 13C-1,2,3,46,78-HpCDF 80.8 tpCDF ND 0.00000089 13C-1,2,3,46,78-HpCDF 80.8 tpCDF ND 0.000000139 a. Sample specific estimated detection limit. ND 0.00000164 <td>1.2.3.6.7.8-HxCDD</td> <td></td> <td></td> <td>:</td> <td>13C-1,2,3,6,7,8-HxCDD</td> <td>81.9</td> <td>28 - 130</td> <td></td>	1.2.3.6.7.8-HxCDD			:	13C-1,2,3,6,7,8-HxCDD	81.9	28 - 130	
tpCDD ND 0.00000167 13C-CCDD 54.4 ND 0.00000485 13C-23,7,8-TCDF 85.8 ND 0.00000138 13C-12,3,7,8-PeCDF 89.7 DF ND 0.0000015 13C-12,3,7,8-PeCDF 82.0 DF ND 0.00000623 13C-12,3,7,8-PeCDF 82.0 CDF ND 0.00000623 13C-12,3,4,7,8-PeCDF 82.0 CDF ND 0.00000623 13C-12,3,4,6,7,8-HxCDF 82.0 CDF ND 0.00000653 13C-12,3,4,6,7,8-HxCDF 83.9 CDF ND 0.000000890 13C-12,3,4,6,7,8-HxCDF 80.8 PCDF ND 0.000000890 13C-12,3,4,6,7,8-HxCDF 80.8 PCDF ND 0.000000780 13C-12,3,4,7,8,9-HxCDF 80.8 PCDF ND 0.000000780 13C-12,3,4,7,8,9-HxCDF 80.8 PCDF ND 0.00000119 a. Sample specific estimated detection limit. b. Lating detection limit. ND 0.00000120 a. Sample specific estimated detection limit. <td>1,2,3,7,8,9-HxCDD</td> <td></td> <td></td> <td></td> <td>13C-1,2,3,4,6,7,8-HpCDL</td> <td></td> <td>23 - 140</td> <td></td>	1,2,3,7,8,9-HxCDD				13C-1,2,3,4,6,7,8-HpCDL		23 - 140	
ND 0.00000485 13C-2.3,7,8-TCDF 85.8	1,2,3,4,6,7,8-HpCDD	Q	0.00000167		13C-0CDD	54.4	17 - 157	
DF ND 0.00000138 13C-1,2,3,7,8-PeCDF 89.7 DF ND 0.00000115 13C-2,3,4,7,8-PeCDF 92.9 DF ND 0.00000657 13C-1,2,3,4,7,8-HxCDF 82.0 CDF ND 0.00000657 13C-1,2,3,6,7,8-HxCDF 83.9 CDF ND 0.00000697 13C-1,2,3,4,6,7,8-HxCDF 83.9 CDF ND 0.00000890 13C-1,2,3,4,6,7,8-HxCDF 77.1 CDF ND 0.00000890 13C-1,2,3,4,7,8-HxCDF 80.8 HpCDF ND 0.00000890 13C-1,2,3,4,7,8-HpCDF 80.8 HpCDF ND 0.00000130 2.5mple specific estimated detection limit 90.3 ND 0.00000130 a. Sample specific estimated detection limit c. Method detection limit c. Method detection limit ND 0.00000164 a. Control limit d. Lower control limit c. Method detection limit ND 0.00000120 c. Method detection limit d. Lower control limit d. Lower control limit ND 0.00000035 c. Method detection lim	OCDD	2	0.00000485		13C-2,3,7,8-TCDF	85.8	24 - 169	
DF ND 0.00000126 13C-2,3,4,7,8-PeCDF 92.9 DF ND 0.0000015 13C-1,2,3,4,7,8-PeCDF 82.7 CDF ND 0.00000677 13C-1,2,3,6,7,8-HxCDF 82.0 CDF ND 0.00000697 13C-1,2,3,7,8,9-HxCDF 83.9 CDF ND 0.00000951 13C-1,2,3,7,8,9-HxCDF 77.1 CDF ND 0.00000980 13C-1,2,3,4,7,8,9-HpCDF 80.8 HpCDF ND 0.00000780 CRS 37Cl-2,3,4,7,8,9-HpCDF 80.8 HpCDF ND 0.00000780 13C-1,2,3,4,7,8,9-HpCDF 80.8 HpCDF ND 0.00000780 2. Sample specific estimated detection limit. b. Estimated maximum possible coincertration. ND 0.00000130 a. Sample specific estimated detection limit. c. Method detection limit. d. Lower control limit. ND 0.00000167 c. Method detection limit. d. Lower control limit. d. Lower control limit. ND 0.00000120 c. Method detection limit. d. Lower control limit. d. Lower control limit. ND <td>2,3,7,8-TCDF</td> <td>2</td> <td>0.00000138</td> <td></td> <td>13C-1,2,3,7,8-PeCDF</td> <td>89.7</td> <td>24 - 185</td> <td></td>	2,3,7,8-TCDF	2	0.00000138		13C-1,2,3,7,8-PeCDF	89.7	24 - 185	
DF ND 0.00000115 13C-1,2,3,7,8-HxCDF 82.7 CDF ND 0.00000677 13C-1,2,3,6,7,8-HxCDF 82.0 CDF ND 0.00000697 13C-1,2,3,4,6,7,8-HxCDF 83.9 CDF ND 0.00000951 13C-1,2,3,4,6,7,8-HpCDF 77.1 CDF ND 0.00000951 13C-1,2,3,4,6,7,8-HpCDF 77.1 CDF ND 0.00000950 13C-1,2,3,4,8,9-HpCDF 77.1 ApCDF ND 0.00000780 CRS 37Cl-2,3,7,8-TCDD 90.3 ApCDF ND 0.00000139 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000149 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000164 c. Method detection limit. d. Lower control limit. ND 0.00000120 a. Concentration. c. Method detection limit. ND 0.00000138 c. Method detection limit. d. Lower control limit. ND 0.000000138 c. Method detection limit. d. Lower control limit. </th <td>1,2,3,7,8-PeCDF</td> <td>Q</td> <td>0.00000126</td> <td></td> <td>13C-2,3,4,7,8-PeCDF</td> <td>92.9</td> <td>21 - 178</td> <td></td>	1,2,3,7,8-PeCDF	Q	0.00000126		13C-2,3,4,7,8-PeCDF	92.9	21 - 178	
CDF ND 0.000006677 13C-1,2,3,6,7,8-HxCDF 82.0 CDF ND 0.00000623 13C-2,3,4,6,7,8-HxCDF 83.9 CDF ND 0.000000951 13C-1,2,3,7,8,9-HxCDF 77.1 CDF ND 0.000000951 13C-1,2,3,4,7,8,9-HxCDF 71.7 IpCDF ND 0.000000890 13C-1,2,3,4,7,8,9-HxCDF 80.8 IpCDF ND 0.000000890 13C-1,2,3,4,7,8,9-HyCDF 80.8 IpCDF ND 0.000000335 CRS 37C1-2,3,4,7,8,9-HyCDF 80.3 ND 0.00000119 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000119 a. Sample specific estimated detection limit. c. Method detection limit. ND 0.00000167 c. Method detection limit. d. Lower control limit. ND 0.00000120 c. Method detection limit. d. Lower control limit. ND 0.00000120 c. Method detection limit. d. Lower control limit. ND 0.00000120 c. Method detection limit. d. Lower control limit.	-3	S	0.00000115	3	13C-1,2,3,4,7,8-HxCDF	82.7	26 - 152	
CDF ND 0.00000623 13C-2,3,4,6,7,8-HxCDF 83.9 CDF ND 0.00000697 77.1 CDF ND 0.000000951 13C-1,2,3,4,7,8,9-HpCDF 71.7 IpCDF ND 0.000000780 CRS 37C1-2,3,4,7,8,9-HpCDF 80.8 IpCDF ND 0.00000033 CRS 37C1-2,3,7,8-TCDD 90.3 ND 0.00000119 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000164 c. Method detection limit. d. Lower control limit. ND 0.00000120 c. Method detection limit. ND 0.000000136 c. Method detection limit. ND 0.000000120 c. Method detection limit. ND 0.000000138 c. Method detection l		2	0.000000677		13C-1,2,3,6,7,8-HxCDF	82.0	26 - 123	1. 24
CDF ND 0.00000697			0.000000623		13C-2,3,4,6,7,8-HxCDF	83.9	28 - 136	
CDF ND 0.00000951 13C-1,2,3,4,7,8-HpCDF 71.7		1.0	0.000000000		13C-1,2,3,7,8,9-HxCDF	77.1	29 - 147	
IpCDF ND 0.000000890 13C-12,3,47,89-HpCDF 80.8 4pCDF ND 0.00000780 2CRS 37Cl-2,3,7,8-TCDD 90.3 ND 0.00000133 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000164 c. Method detection limit. ND 0.00000167 d. Lower control limit. ND 0.00000138 d. Lower control limit. ND 0.00000120 a. Lower control limit. ND 0.00000120 a. Lower control limit. ND 0.000000138 a. Lower control limit.	1,2,3,7,8,9-HxCDF				13C-1,2,3,4,6,7,8-HpCDF		28 - 143	
IPCDF ND 0.000000780 13C-OCDF 59.4 ND 0.00000119 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000164 c. Method detection limit. ND 0.00000167 c. Method detection limit. ND 0.00000120 d. Lower control limit. ND 0.00000120 d. Lower control limit. ND 0.000000120 n. O.00000120 ND 0.000000120 n. O.00000120 ND 0.000000120 n. O.000000120	1,2,3,4,6,7,8-HpCDF	43	0.000000890				26 - 138	
ND 0.00000335 Footnotes Pootnotes ND 0.00000119 a. Sample specific estimated detection limit. ND 0.00000164 b. Estimated maximum possible concentration. ND 0.00000167 c. Method detection limit. ND 0.00000120 d. Lower control limit.	1,2,3,4,7,8,9-HpCDF	2	0.000000780		13C-OCDF	59.4	17-157	
ND 0.00000119 ND 0.00000130 ND 0.00000167 ND 0.00000120 ND 0.00000120 ND 0.00000725		Q	0.00000335		CRS 37CI-2,3,7,8-TCDD	90.3	35 - 197	22
ND 0.00000119 ND 0.00000164 ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.00000725 ND 0.00000836	Totals				Footnotes			
ND 0.00000164 ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.000000725 ND 0.000000836		Q X	0.00000119		a. Sample specific estimated detection lin	iit.		
ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.000000725 ND 0.000000836		2 2	0.00000150		b Estimated maximum possible concentr	ation.		
ND 0.00000138 ND 0.00000120 ND 0.000000725 ND 0.000000836	Total HpCDD		0.00000167		d. Lower control limit * upper control lim			
ON ON	Total TCDF	2	0.00000138		•			
ON ON	Total PeCDF	2	0.00000120		S			
ND		Q.	0.000000725					
		Q	0.000000836					

Project 27367

Analyst JMH

OPR Results				EPA Method 1613	613
Matrix: Aqueous Sample Size: 1.00 L	QC Batch No.: Date Extracted	7807 5-Mar-06	Lab Sample: 0-OPR001 Date Analyzed DB-5: 7-Mar-06	Date Analyzed DB-225:	NA
	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%R LCL-UCL	-
	10.0	6.7 - 15.8	IS 13C-2,3,7,8-TCDD	77.8 25 - 164	
	50.0 56.7	35-71	13C-1,2,3,7,8-PeCDD		
	50.0 54.3	35 - 82	13C-1,2,3,4,7,8-HxCDD	74.4 32 - 141	
100	50.0	38 - 67	13C-1,2,3,6,7,8-HxCDD	76.6 28 - 130	
Care	50.0 52.4	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	74.2 23 - 140	
· ·	50.0 55.2	35 - 70	13C-0CDD	52.1 17-157	
	601 001	78 - 144	13C-2,3,7,8-TCDF	78.6 24-169	
: :		7.5 - 15.8	13C-1,2,3,7,8-PeCDF	84.3 24 - 185	
1,2,3,7,8-reCDF	0.0 55.2	79-04	13C-2,3,4,7,8-PeCDF	87.3 21-178	7
4.	50.0 56.1	34 - 80	13C-1,2,3,4,7,8-HxCDF	76.8 26 - 152	
	\$0.0 S \$2.2 S	36 - 67	13C-1,2,3,6,7,8-HxCDF	76.9 26 . 123	*
	50.0 56.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.3 28 - 136	
	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	69.6 29 - 147	
.: .3	50.0 54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	70.6 28 - 143	
	11.	41.61	13C-1,2,3,4,7,8,9-HpCDF	74.0 26 - 138	
j		39-69	13C-OCDF	57.0 17-157	
100 m	100 105	63 - 170	CRS 37CI-2,3,7,8-TCDD	94.1 35-197	

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

Analyst: JMH

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

Sample ID: IPC0164-01	101							EPA	EPA Method 1613
)a(a	Del Mar Analytical, Irvine		Sample Data Matrix	Anieons	Laboratory Data	100 10010	o o o o	- 1	
Project: IPC0164 Date Collected: I-Mar-06 Time Collected: 0805			Sample Size:	0.997 L	QC Batch No.: Date Analyzed DB-5:	7807 8-Mar-06	Date Extracted: Date Analyzed I	Date Extracted: Date Analyzed DB-225	3-Mar-06 5-Mar-06 NA
Analyte Conc.	c. (ug/L)	DI. a	EMPC	Qualifiers	Labeled Standard	dard	%R _	rerner	ō
2,3,7,8-TCDD	N	0.00000114	4		IS 13C-2.3.7.8-TCDD	dd.	60.3	75 164	ı
1,2,3,7,8-PeCDD	QN	0.000000878	78		,	CDD	(.60	† 0	
1,2,3,4,7,8-HxCDD	Q	0.00000224	13. 13.		13C-1,2,3,4,7,8-HxCDD	-HxCDD	, 60 V 4	32 - 141	
1,2,3,6,7,8-HxCDD		0.00000229	6		13C-1,2,3,6,7,8-HxCDD	-HxCDD	61.7	28 - 130	
1,2,3,7,8,9-HxCDD	2	0.00000220	0		13C-1,2,3,4.6,7,8-HpCDD	.8-HpCDD	60.3	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000515			-	13C-OCDD		40.7	17 - 157	
CUD	0.0000476			7. 1.	13C-2,3,7,8-TCDF	TQ.	6.69	24 - 169	:
1.3.7.8-1CDF	9 9		_		13C-1,2,3,7,8-PeCDF	eCDF	76.0	24 - 185	
77.74.79.70.77	e Fil	0.00000143			13C-2,3,4,7,8-PeCDF	eCD.	73.3	21 - 178	***
1,2,4,7,0-reCIJ	2 /	0.00000136	 		13C-1,2,3,4,7,8-HxCDF	-HxCDF	26.5	26 - 152	
		0.000000886	- · · · · · · · · · · · · · · · · · · ·		13C-1,2,3,6,7,8-HxCDF	-HxCDF	\$6.8	26 - 123	
1,2,3,0,7,8-HXCL)F	2 /	0.000000826	92		13C-2,3,4,6,7,8-HxCDF	-HxCDF	56.9	28 - 136	
	Q	0.000000895	95		13C-1,2,3,7,8,9-HxCDF	-HXCDF	0.19	29 - 147	•
		0.00000117	* * * * * * * * * * * * * * * * * * *	10 m	3.	,8-HpCDF	56.0	28 - 143	
	:3-	0.00000151				9-HpCDF	9.09	26 - 138	
1,2,3,4,7,8,9-HpCDF		0.00000141			13C-OCDF		45.2	17 - 157	
OCDF SEE	MD	0.00000380	ان الله الله الله الله الله الله الله ال		CRS 37CI-2,3,7,8-TCDD	COC	86.2	35 - 197	
Totals					Footnotes				
Total TCDD		0.00000114	-		a. Sample specific estimated detection limit	ed detection limit.			
	2 9	0.000000878	∞ .		b. Estimated maximum possible concentration.	ssible concentration.	n. Nari		
Total HpCDD		0.00000224		100 326 286 286 216 216 216 216	c. Method detection limit.	And the second s		- - - - -	
	2	0.00000147		÷		per control minn.	3 1	(조) (조) (조) (조) (조)	
Total PeCDF	2	0.00000140							
Total HxCDF	Q g	0.000000937	:: 						
Analyse in 113		# I TOPON'S		à.				***************************************	
Almysi JMH					Approved By:	Martha M. Maier		08-Mar-2006 14:55	

Project 27367

APPENDIX

Project 27367

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
Н	The signal-to-noise ratio is greater than 10:1.
1	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
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
	05-013-0
State of Arkansas, DEQ	
State of Arkansas, DOH	Reciprocity through CA
State of California - NELAP Primary AA State of Colorado	02102CA
State of Connecticut	PH-0182
State of Florida, DEP	E87777
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA050001
State of Louisiana, DEQ	01977
State of Maine	CA0413
State of Michigan	81178087
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	
State of Nevada	CA413
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-002
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	02996
State of Texas	TX247-2005A
U.S. Army Corps of Engineers	
State of Utah	9169330940
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q



Project 27367

17461 Derien Ave. Suite 189, Invine, CA 92614 Ph (949) 261-1922 Fax (9 1914 E. Cooley Dr., Suite A. Colton, CA 92324 Ph (909) 376-4667 Fax (9 heespeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9396 Fax (6 Gouth 51st Street, Suite 8-120, Phoenix, AZ 85044 Ph (460) 785-9043 Fax (4

Ph (460) 785-0043 Fac (480) 785-0

SUBCONTRACT ORDER - PROJECT # IPC0164

SENDIN	G LABORATORY:	RECEIVING LABORATORY:
Del Mar Analytical, Irvine	to the second second second ## 2	Alta Analysical CTID
17461 Derian Avenue. Suite	100	1104 Windfield Way 27367 El Dorado Hills, CA 95762 Phone: (916) 933-1640 0.4°C
Irvine, CA 92614		El Dorado Hills, CA 95762
Phone: (949) 261-1022		Phone:(916) 933-1640 0.4°C
Fax: (949) 261-1228		Fax: (916) 673-0106
Project Manager: Michele C	hamberlin	1144. (310) 073-0100
Standard TAT is requested	d unless specific due date is reque	ested => Due Date: Initials:
Analysis	Expiration	Comments
Sample ID: IPC0164-01 Wa 1613-Dioxin-HR-Alta EDD + Level 4	ter Sampled: 03/01/06 08:05 03/08/06 08:05 03/29/06 08:05	Instant Notication J flags,17 congeners,no TEQ,ug/L,sub=Alta Excel EDD email to pm,Include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IPC0164-01C) 1 L Amber (IPC0164-01D)		
	·	
r a. 1		
		•
		•
	•	•
•		
	•	•
		PLE INTEGRITY:
All containers intact:	☐ No Sample labels/COC age ☐ No Samples Preserved Prop	· · · · · · · · · · · · · · · · · · ·
X		Fea - (=x 3.2.06
Released By	Date Time	Fea - Ex 3.2.06 Received By Date Time Bettina & Benedict 3/3/06 0055
	•	Betting & Bone dict 3/3/16 0255
Released By	Date Time	Received By Date Time

Pagagio 106£19

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27367

Samples Arrival:	Date/Time 3/3/06	0855	Initials	18	Location: WR-	2
Logged In:	Date/Time	1313	Initials	is	Location: WR	-2
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	loa	Blu	e Ice	· Dry I	ce N	one
Temp °C Ø.4		Time: /	000		Thermometer I	D: DT-20

					YES,	NO	NA
Adequate Sample Volume Received?		*			V	-	
Holding Time Acceptable?					V		
Shipping Container(s) Intact?					1		
Shipping Custody Seals Intact?							V
Shipping Documentation Present?					1		
Airbill Trk# 798	10 32	739 5	7438	•	1		
Sample Container Intact?							
Sample Custody Seals Intact?							V
Chain of Custody / Sample Documentation Present?							
COC Anomaly/Sample Acceptance Form completed?							<u> </u>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?							1
Na ₂ S ₂ O ₃ Preservation Documented?			coc		nple ainer	(No	ne
Shipping Container	Alta	Client	Retain	Re	turn	Disp	oose

Comments:



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

Mely Mar

Senior Program Manager

MCM/njv

Enclosure:

Subcontract Form Receipt checklist

Invoice

Eberline Services

ANALYSIS RESULTS

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

Client

Lab

Sample ID

Sample ID Collected Analyzed Nuclide

Results + 20 Units

MDA

IPC0164-01

8668-001 03/01/06 03/17/06 Sr-90

1.28 ± 0.40 pCi/L

0.511

Certified by Report Date 04/06/06

Page 1

Eberline Services

QC RESULTS

SDG 8668	8	Client	DEL MAR ANAL
Work Order R603	3040-01	Contract	PROJECT# IPC0164
Received Date 03/0	03/06	Matrix	WATER

Sample ID Results ± 20 MDA RPD (Tot) Eval

0.859 ± 0.35 0.500 8668-001 1.28 ± 0.40 0.511 39 78 satis.

Lab Sample ID	<u>Nuclide</u>	<u>Results</u>	<u>Units</u>	Amount Added	<u>MDA</u>	<u>Evaluation</u>
LCS 8668-002	Sr-90	9.44 ± 0.66	pCi/Smpl	9.83	0.253	96% recovery
BLANK 8668-003	Sr-90	-0.002 ± 0.10	pCi/Smpl	NA ·	0.243	<mda< td=""></mda<>
***********	DUPLICATES			ORIGINALS	**************************************	3ơ

 Sample ID Nuclide
 Results ± 2σ
 MDA

 8668-004 Sr-90
 0.859 ± 0.35
 0.50

Certified by 26 CREPORT Date 04/05/06
Page 2



17461 Dertan Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Suite A, Colton, CA 92324

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044

Ph (949) 261-1022 Fax (949) 261-1228
Ph (909) 370-4667 Fax (909) 370-1046
Ph (619) 505-9596 Fax (619) 505-9689
Ph (480) 785-0043 Fax (480) 785-0851

Ph (702) 798-3620

SUBCONTRACT ORDER - PROJECT # IPC0164

Del Mar Analytical, Irv 17461 Derian Avenue. Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Miche	Suite 100	Eberline Services 2030 Wright Avenue Richmond, CA 94804 Phone :(510) 235-2633 Fax: (510) 235-0438	8668
Standard TAT is requested unless specific due date is requested => Due Date: Analysis Expiration Comments			Initials:
Sample ID: IPC0164-01 Level 4 + EDD-OUT Strontium 90-O Containers Supplied: 1 gal Poly (IPC0164-011	03/29/06 08:05 03/01/07 08:05	Instant Nofication **LEVEL IV QC, ACCESS 7 EDD** 905.0, sub to Eberline	

	SAMPL	E INTEGRITY:	
All containers intact: Yes No Custody Seals Present: Yes No	Sample labels/COC agree: Samples Preserved Properly		Samples Received On Ice:: Yes No Samples Received at (temp):
Aund		Ted	-E> 3.206
Rolessod By	Date Time	Received By MM	13 03 ac 9:30
Released By	Date Time	Received By	Date Time



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: DEL MAR City PLVIA	State OA	
Client: 152 MAR City INVINE State A Date/Time received 03/03/0/ 9-2000 No. 1PC 0164		
Container I.D. No. POX STYRU Requested TAT (Days) 5TD 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 [7]	
3. Custody seals on sample containers intact?	Yes [] No [] N/A [Y]	
4. Custody seals on sample containers dated & signed?	Yes [] No [] N/A [7]	
5. Packing material is:	v(yet []	
6. Number of samples in shipping container: Sample Matrix W		
7. Number of containers per sample: (Or see CoC)		
8. Samples are in correct container Yes [1] No []		
9. Paperwork agrees with samples? Yes [/] No []		
10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels []		
11. Samples are: In good condition [] Leaking [] Broken Container [] Missing []		
12. Samples are: Preserved [] Not preserved [X] pH	Liesci Asnac	
13. Describe any anomalies:		
Also R.M. potified of any anomalies? Yes [No [] Date		
14. VVas P.W. Hodried of any anomalos.		
13. 11300000		
Customer	omer Sample No. cpm mR/hr wipe	
Sample No. cpm mr//nr vvipe		
Calif	pration date	
	bration date	
Beta/Gamma Meter Ser. No Calil	oration date	

APPENDIX G

Section 80

Outfall 003, March 1, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC ^X	Package ID B4DF44	
12269 East Vassar Drive	Task Order 1261.001D.01	
Aurora, CO 80014	SDG No. IPC0164	
	No. of Analyses 1	
Laboratory Alta	Date: April 2, 2006	
Reviewer K. Shadov		
Analysis/Method Dioxin/Fu	ran by Method 1613 KShadn St	
	V	
ACTION ITEMS*		
Case Narrative		
Deficiencies		
2. Out of Scope Analyses		
3. Analyses Not Conducted		
o. Analyses Not Conducted		
4. Missing Hardcopy		
Deliverables		
5. Incorrect Hardcopy		
Deliverables		
6. Deviations from Analysis	Detects below the laboratory lower calibration level were qualified	
Protocol, e.g.,	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		
	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

Project. SDG:

DATA VALIDATION REPORT

Analysis:

NPDES IPC0164 D/F

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:

No. of Reanalyses/Dilutions:

Reviewer.

K. Shadowlight

Date of Review:

April 2, 2006

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

Project: SDG: Analysis:

NPDES IPC0164

D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

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

SDG: Analysis:

NPDES IPC0164 D/F

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be 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.

B4DF44

Project: SDG:

NPDES IPC0164

D/F

DATA VALIDATION REPORT

Analysis:

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

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER 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

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.

SDG: Analysis: IPC0164 D/F

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. 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.

Name: Del Mar Analytical, Irvine Project: IPC0164 Date Collected: 1-Mar-06 Time Collected: 0805 Analyte Conc. (ug/L) 2,3,7,8-TCDD ND 1,2,3,4,7,8-HxCDD ND 1,2,3,4,7,8-HxCDD ND 1,2,3,4,6,7,8-HyCDD ND 1,2,3,4,6,7,8-HyCDD ND 1,2,3,4,6,7,8-HyCDD 0.00000515		Matrix: A	Aqueous	Lab Sample: 27367-001	01 Date Received:	
200c. (ug		Size.				**************************************
Conc. (ug			0.997 L			5-Mar-06
Conc. (ug				Date Analyzed DB-5: 8-Mar-06	6 Date Analyzed DB-225:	NA
	DI a	EMPC	Qualifiers	Labeled Standard	%R LCL-UCL ^d	Oualiffers
	0.0000114			13C-243,7,8-TCDD	69.3 25 164	
	0.000000878	78		13C-1,2,3,7,8-PeCDD	68.9 25 - 181	
	0.00000224	*	500	[3C123.47.8-HKCD2	60,4 324,141	*
	1	6		13C-1,2,3,6,7,8-HxCDD	8	
	0.00000220	0		13C-L2:3,4,6,7,8-HpCDD	60.2 23+140	
The second secon			-	13C-OCDD	ő	
	0,000,0476			1 13C.23,7,8-TCDF 1 18.00.	-69.9=1.24 - 169	
		L		13C-1,2,3,7,8-PeCDF	d j	
1,2,3,7,8-ReCDF	0.00000143	200		13C-23.47.8-PecDF	73.3 21, 178	
	0.00000136	9.		13C-1,2,3,4,7,8-HxCDF	56.5 26 - 152	
1,2,3,4,7,8-HxCDF	0.000000886			* 13C-123.67.8-HxCDR**	568 264123	
1,2,3,6,7,8-HxCDF ND	0.000000826	579		13C-2,3,4,6,7,8-HxCDF	90000	
	0.000000855	56		13C-12,37,8,9-HxCDF	61.0 29 - 47	
1,2,3,7,8,9-HxCDF ND	0.0000117	(7		13C-1,2,3,4,6,7,8-HpCDF	ŝ	
	2100000			130-12347,89-HpCDF	**	
7,8,9-HpCDF	0.0000141	1		13C-OCDF		
OCDE	0.0000038	0		CKS 37CI-2,3,7,8-TCDD	862 35 197	
Totals				Footnotes		, and the second
Total TCDD ND Total PcCDD ND	0.00000114	14		a. Sample specific estimated detection limit. h. Belintated maximum possible consentation	nit. stiges, 11. (2.1. 14.1.)	
	γο	*		c. Method detection limit.		
9				d Lower control limit . upper control limi		
Total PeCDF ND	0.00000147	9				
Total HxCDF ND Total HxCDF	0.000000937	337			H. A.	

Analyst: JMH

Project 27367

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Package ID: B4MT43

Aurora, CO 80014 SDG No. IPC0164 No. of Analyses: 1 Laboratory: Del Mar Analytical Reviewer: P. Meeks Analysis/Method: Metals ACTION ITEMS* Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Protocol, e.g., reporting limit. Holding Times GCMS Tune/Inst. Performance Calibration Method blanks Surrogates Marix Spiko/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance Compound Identification Quantitation System Performance COMMMENTS*	12	269 East Vassar Drive			Task Order:	1261.001D.01
Laboratory: Del Mar Analytical Reviewer: P. Meeks Analysis/Method: Metals ACTION ITEMS* Case Narrative Deficiencles 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 Comment Horizon System Performance COMMENTS*	Au	rora, CO 80014			SDG No.:	IPC0164
Reviewer: P. Meeks Analysis/Method: Metals ACTION ITEMS* Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Protocol, e.g., reporting limit Holding Times GCMS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field GC Internal Standard Performance Compound Identification Quantitation System Performance Communication System Performance COMMMENTS* COMMMENTS* Reviewer's Signature Reviewer's				No.	of Analyses:	1
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	COI					
Subcontracted analytical laboratory is not meeting contract and/or method requirements.		A CONTRACTOR OF THE CONTRACTOR		~~	·	
Subcontracted analytical laboratory is not meeting contract and/or method requirements.	***************************************		······································	··· /··	······································	
Subcontracted analytical laboratory is not meeting contract and/or method requirements.						
^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.						
Differences in protocol have been adopted by the jaboraton; but no action against the laboraton; is required						

 MEC^{X}

12269 East Vassar Drive



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

Project:

NPDES IPC0164

SDG: Analysis:

Metals

DATA VALIDATION REPORT

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

1

No. of Reanalyses/Dilutions:

P. Meeks

Reviewer:

No. of Samples:

Date of Review:

April 10, 2006

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

Project:

NPDES

SDG:

IPC0164 Metals

Analysis:

Table 1. Sample Identification

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

DATA VALIDATION REPORT

NPDES

SDG:

IPC0164 Metals

Analysis:

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

DATA VALIDATION REPORT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4° C $\pm 2^{\circ}$ 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.

B4MT43

3

Revision 0

Project:

NPDES

SDG: Analysis: IPC0164 Metals

DATA VALIDATION REPORT

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.

B4MT43

4

Revision 0

Project:

NPDES

SDG: Analysis:

IPC0164

Metals

DATA VALIDATION REPORT

2.12 FIELD QC SAMPLES

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

2.12.1 Field Blanks and Equipment Rinsates

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

2.12.2 Field Duplicates

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Report Number: IPC0164

Sampled: 03/01/06

Received: 03/01/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Dat Qualif	
Sample ID: IPC0164-01 (Outfall 00)3 - Water)								Raw	Qual
Reporting Units: ug/l	•								Qual	Code
Antimony	EPA 200.8	6C04030	0.050	2.0	0.53	1	03/04/06	03/07/06	2 1	DNG
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.10	1	03/04/06	03/07/06	U3 1	8
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	JJ	DNa
Mercury	EPA 245.1	6C02097	0.050	0.20	ND	1	03/02/06	03/02/06	*	
					* Analy:	sis not	validat	ed		winerapology

Del Mar Analytical - IrvineSushmitha Reddy For Michele Chamberlin
Project Manager

LEVEL IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	G ⁻		ge ID: _	DAINA
122	69 East Vassar Drive		order:	1261.001D.01
Aur	ora, CO 80014			IPC0164, IPC1333
		No. of Anal		2
	Laboratory: Eberline	Date: /		
	Reviewer: P. Meeks	Review		
	Analysis/Method: Radionuc	lides (.	1100	<i>></i>

AC1	TION ITEMS			
	Case Narrative			
	Deficiencies			
2.	Out of Scope Analyses			
3.	Analyses Not Conducted			
4.	Missing Hardcopy			
	Deliverables			
5.	Incorrect Hardcopy			
	Deliverables			
6.	Deviations from Analysis			
	Protocol, e.g.,			
	Holding Times			
	GC/MS Tune/Inst. Performance			
	Calibration			
	Method blanks			
	Surrogates			
	Matrix Spike/Dup LCS			
	Field QC		4	
	Internal Standard Performance			
	Compound Identification		/	
	Quantitation			
,jujuka	System Performance		Lacore despertinarios	
CO	MMENTS*	Acceptable as reviewed.		



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:

Radionulcides

QC Level:

Level IV

2

No. of Samples:

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.

Project: SDG: Analysis: NPOES Multiple Rads

DATA VALIDATION REPORT

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

Rads

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±2°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.

84RA4 Revision 0

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	8568	Client DEL MAR ANAL
Work Order	R603040-01	Contract PROJECT# IPC0164
Received Date	03/03/06	Matrix MATER

Client Lab

Sample ID Sample ID Collected Analyzed Nuclide Results : 20 Units MDA Qual Cod.

Out (all 003

IPC0164-01 8668-001 03/01/06 03/17/06 Sr-20 1.28 : 0.40 PCi/L 0.511 J H

LEVEL IV

Certified by Report Date 04/05/06
Page 1

Eberline Services

ANALYSIS RESULTS

SDG 8669 Client DEL MAR ANAL

Work Order R603083-01 Contract PROJECTS IPC1333

Received Date 03/14/06 Matrix MATER

Client Lab

Sample ID Sample ID Collected Analyzed Nuclide Results : 20 Units MDA Cole

Optical Discrete Colected Analyzed Nuclide Results : 20 Units MDA Cole

Optical Discrete Colected Analyzed Nuclide Results : 20 Units MDA Cole

Optical Discrete Colected Analyzed Nuclide Results : 20 Units MDA Cole

Optical Discrete Colected Analyzed Nuclide Results : 20 Units MDA Cole

Optical Discrete Colected Analyzed Nuclide Results : 20 Units MDA Colected Analyzed Nuclide Results :

LEVEL IV

APPENDIX G

Section 81

Outfall 003, March 11, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

Project: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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

CLIENT ID

MATRIX

IPC1333-01

Outfall 003

Water

Reviewed By:

Del Mar Analytical - IrvineMichele Chamberlin

Michele Chamberson

Project Manager



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

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 - Wa	iter)								
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	



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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South S1st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

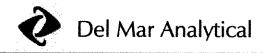
Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC1333

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	



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9830 South S1st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

Attention: Bronwyn Kelly

SHORT HOLD TIME DETAIL REPORT

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

17461 Derian Ave., Suite 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 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (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

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C14077 Extracted: 03/14/06	<u>.</u>										
Th. 1) I 1 00/1/1000 (1004 1000 TO											
Blank Analyzed: 03/14/2006 (6C14077-Bl	•										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/14/2006 (6C14077-BS)	l)										
Mercury	8.30	0.20	0.050	ug/l	8.00		104	85-115			
Matrix Spike Analyzed: 03/14/2006 (6C14	1077-MS1)				Sour	rce: IPC1	217-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 03/14/2006 ((6C14077-MS)	D1)			Sour	rce: IPC1	217-01				
Mercury	8.33	0.20	0.050	ug/l	8.00	ND	104	70-130	0	20	
Batch: 6C14081 Extracted: 03/14/06	ī										
Blank Analyzed: 03/15/2006 (6C14081-BI	.K1)										
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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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C14081 Extracted: 03/14/06	*										
Matrix Spike Analyzed: 03/15/2006 (6C1	4081-MS1)				Sou	rce: IPC0	677-01				
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 (6C1	4081-MS2)				Sou	rce: IPC1	061-02				
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/i	80.0	0.15	91	70-130			
Matrix Spike Dup Analyzed: 03/15/2006	(6C14081-MS)	D1)	٨.		Soui	rce: IPC0	677-01	٠			
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/I	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	



MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 6C11028 Extracted: 03/11/06		ranna.	1488783	Onics	Level	Result	/BREC	Limits	KI D	L/HHIL	Quantiters
	•										
Blank Analyzed: 03/11/2006 (6C11028-B	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/11/2006 (6C11028-BS	1)										
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 (6C1	1028-MS1)				Sou	rce: IPC1	298-01				
Chloride	55.1	2.5	0.75	mg/l	5.00	51	82	80-120			
Matrix Spike Dup Analyzed: 03/11/2006	(6C11028-M	(SD1)			Sou	rce: IPC1	298-01				
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-Bl	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/16/2006 (6C16069-BS1	D)										
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/16/2006 (6C16069	D-DUP1)				Som	rce: IPC1	296-01				
Total Dissolved Solids	325	10	10	mg/l	544	320			2	10	
Batch: 6C16125 Extracted: 03/16/06											
Diant, Amelina J. 0415/0806//C1/145 DI	1745										
Blank Analyzed: 03/16/2006 (6C16125-BI	•	10									
Total Suspended Solids	ND	10	10	mg/l							

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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Report Number: IPC1333

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

Attention: Bronwyn Kelly

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	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 (6C1612	5-DUP1)				Sou	rce: IPC1	288-01				
Total Suspended Solids	270	10	10	mg/l		260			4	10	
Batch: 6C21053 Extracted: 03/21/06											
Blank Analyzed: 03/21/2006 (6C21053-Bl	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/21/2006 (6C21053-BS1)										M-NR1
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120			
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	



MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC1333

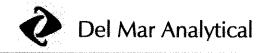
Sampled: 03/11/06

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



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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Sampled: 03/11/06
Report Number: IPC1333 Received: 03/11/06

Attention: Bronwyn Kelly

DATA QUALIFIERS AND DEFINITIONS

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

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

•

Report Number: IPC1333

Sampled: 03/11/06

Received: 03/11/06

Certification Summary

Del Mar Analytical - Irvine

Matrix	Nelac	California
Water		
Water		
Water	X	X
Water		
Water	X	x
	Water Water Water Water Water Water Water Water Water	Water Water Water Water X Water

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

Strontium 90

Analysis Performed: Stro Samples: IPC1333-01

	r Ana	N Tical	Vers	3/9/E0 uois	Uel Mar Analytical version 03/6/06 CHAIN O		SUSTC	F CUSTODY FORM	NAC	!	1001	-06, 123.3		Page 1 of 1
Client Name/Address	%Addres	.S.		Project	ij							NALYSIS REOI	JIRED	
MWH-Pasadena 300 North Lake Avenue, Suite 1200	sadena ke Avent	ie, Suite 12	200	Rout Storn	Boeing-SSFL NPDES Routine Outfall 003 Stormwater at RMHF	IPDES I 003 RMHF	<u> </u>		<u> </u>					Field readings:
Project Manager. Bronwyn Kelly Sampler.	Rager. B	ronwyn K		(626) (626) (626)	Phone Number (626) 568-6691 Fax Number (626) 568-6515			Recoverable M	onos ils bns) (Aq3) ssese	O4, NO3+NO2	881	(0.206)	***************************************	1.7. =Hd
Sample Description	Sample Matrix	Container	Cont.		Sampling Date/Time	Preservative	Bottle *				,sat	06-JS	······································	Comments
	*	1L Poly	-	-	3-1/09 65	HNO3	¥.	×						
Outfall 003- Dup	×	1L Poly	-			HNO3	e	×						
Outhall 003	×	1L Amber	8			None	2A, 2B		×					
Outfall 003	*	1L Amber	~			ਝੂ	3A, 3B		×					
Outfall 003	*	Poly-500 ml	7			None	4A, 4B			×				
Outfall 003	W	Poly-500 ml	74	- 		None	5A, 5B				×			
Ouffall 003	×	Poly-1 gal	-		0:15	None	6A, 6B					×		unfiltered and unpreserved
														Sical alianyais
			_											THE PARTY OF THE P
Refirmulahed By	is a	}	S	Date/Time 3 / 3/	ر راه	Received By	Š	ONAE DA	Date/Time: / 2/11/06	90	5/5/	**************************************	Turn arou 24 Hours	od Time; (c
Refinquished By	7	Bino	1	Date/Time	1535	Received By		ŏ	Date/Time:			A transfer of the state of the	48 Hours 72 Hours	10 Days
Refindulahed By	÷			Date/Time	e :	Received By		Ğ	Date/Time:				Perchlorat	e Only 72 Ho
						3	K	V - ,	3-11-06	70	1530		Mentals O	
W-1111		e de la composição de l		***************************************)			9			Sample In Infact	Sample Integrity: (Check) Integrity: (Check)





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 Director of HRMS Services

alite Marie



neta

Section I: Sample Inventory Report

Date Received:

3/14/2006

Alta Lab. ID

Client Sample ID

27408-001

IPC1333-01

SECTION II

Page 3 of 233

Method Blank					EPA Method 1613
Matrix: Aqueous	QC Batch No.:	7831	Lab Sample: 0-M	0-MB001	
Sample Size: 1.00 L	Date Extracted:	15-Mar-06	Date Analyzed DB-5: 16-N	16-Mar-06 Date Ar	Date Analyzed DB-225: NA
Analyte Conc. (ug/L.)	DL a EMPC b	b Qualifiers	Labeled Standard	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	0.00000114		LS 13C-2,3,7,8-TCDD	84.5	.25 - 164
Q			13C-1,2,3,7,8-PeCDD	89.5	25 - 181
ON NO	0.00000125		13C-1,2,3,4,7,8-HxCDD	D. 78.5	32
			13C-1,2,3,6,7,8-HxCDD	D 81.6	28 - 130
12,3,7,8,9-HxCDD ND 0.00000122	0.00000122	W. Ar The Area The Ar	13C-1,2,3,4,6,7,8-HpCDD	DD 76.3	23 - 140
;	0.00000151		13C-0CDD	46.5	17 - 157
OCDD CODD			13C-2,3,7,8-TCDF	518	24 - 169
2,3,7,8-TCDF ND	0.000000947	5	13C-1,2,3,7,8-PeCDF	:	24 - 185
1,2,3,7,8,PeCDF	0.00000115		13C-2,3,4,7,8-PeCDF	9.66	21 - 178
2,3,4,7,8-PeCDF ND	011000001			82.4	
11,2,3,4,7,8-HxCDF ND	.000000529		13C-1,2,3,6,7,8-HxCDF	89.4	26-123
1,2,3,6,7,8-HxCDF ND	.000000483			F 86.8	28 - 136
23,4,6,7,8-HXCDF	0.000000528		13C-1,2,3,7,8,9-HxCDF	F. 81.7	29 - 147
	0.000000739			DF 74.0	28 - 143
2			A A	DF 79.7	138
ă				54.0	151-157
	W217		CKS 3/Cl-2,3,7,8-1CDD	8	7 86 д
Totals			Footnotes		
Total TCDD ND Total PeCDD ND	0.00000114		a Sample specific estimated detection limit.	ı limit. Entrakon	
QX	0.00000124				
9	0.00000151		d Lower control limit - upp		
Total TCDF ND Total PeCDF	0.000000947 0.00000112				
•	0.000000560		MARKET CONTROL		
	© 222,0000000000000000000000000000000000				
Analyst: RAS			Approved By: Will	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
	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	15 13C-2,3,7,8-1CDD	73.8 25 - 164
	50.0 52.0	35 - 71	13C-1,2,3,7,8-PeCDD	78.9 25 - 181
	50.0	35 - 82	13C-1,2,3,4,7,8-HxCDD	71.7
	50.0 50.6	38 - 67	13C-1,2,3,6,7,8-HxCDD	72.7 28 - 130
	0.04	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	60.1 23.140
9	50.0 49.6	35 - 70	13C-OCDD	45.3 17-157
er I	101	78 - 144	13C-23,7,8-TCDF	75.3 24 - 169
	10.0 9.83	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	83.4 24-185
	50.0	40-67	13C-2,3,4,7,8-PeCDF	88.7 21 - 178
2,3,4,7,8-PeCDF		34 - 80	13C-1,2,3,4,7,8-HxCDF	
1.2,3,4,7,8-HxCDF	50.0	36-67	13C-1,2,3,6,7,8-HxCDF	79.4
1	50.0 49.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	76.6 28 - 136
	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	70.9 29 - 147
		39-65	13C-1,2,3,4,6,7,8-HpCDF	62.2 28 - 143
	50.0	4 - 61	13C-1,2,3,4,7,8,9-HpCDF	63.7 \$ 26 - 138
TPCDF		39-69	13C-OCDF	51.1 17-157
oco i	416 416	63-170	CRS 37CI-2,3,7,8-TCDD	18 18 18 18 18 18 18 18 18 18 18 18 18 1

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

Analyst: DMS

Sample ID: IPC1333-01						EPAN	EPA Method 1613
Data	Sample Data		Laboratory Data				
Name: Del Mar Analytical, Irvine	Matrix: A	Aqueous	Lab Sample	27408-001	Date Received	eived.	14-Mar-06
llected.	Sample Size: 0	0.997 L	QC Batch No.: Date Analyzed DB-5:	7831 16-Mer-06	Date Extracted	Date Extracted Date Analyzed DB-225	15-Mar-06
	EMPCb	Qualifiers	Labeled Standard	p.	%R	FCI-UCL ^d	Oualifiers
2 3 7 8.TCDD 0 000000000000000000000000000000000	00000		IS 13C-2378 TCDD		8 87	175 16.1	
	0.136			2 6	9,90	101-77	
2	olio Simo	20 20 20 20 20 20 20 20 20 20 20 20 20 2	13C-1,2,3,7,8-PeCDD	חק .	8.3	25 - 181	
2 × × × × × × × × × × × × × × × × × × ×	0179		13C-1,2,3,4,7,8-HxCDD	KCDD	9.09	32 - 141	
	0184		13C-1,2,3,6,7,8-HxCDD	[xCDD	64.3	28 - 130	
1,2,3,7,8,9-HxCDD NO 0.00000175	0175		13C-1,2,3,4,6,7,8-HpCDD	-HpCDD	59.4	23 - 140	
0.0000116		-	13C-OCDD		42.7	17 - 157	
OCDD 0.000122			13C-2,3,7,8-TCDF	L.	73.9	24 - 169	
2	00843		13C-1,2,3,7,8-PeCDF	CDF	80.4	24 - 185	
1,2,3,7,8-PeCDF 0.00000101	1010		13C-2,3,4,7,8-PeCDF	À	78.5	21 - 178	
2,3,4,7,8-PeCDF ND 0.000000952	00952		13C-1,2,3,4,7,8-HxCDF	I CDF	62.6	26 - 152	
1,2,3,4,7,8-HxCDF	0.000000546		13C-1,2,3,6,7,8-HxCDF	KCDF	6.99	26 - 123	
1,2,3,6,7,8-HxCDF ND 0.000000508	80500	-	13C-2,3,4,6,7,8-HxCDF	IXCDF	64.5	28 - 136	
2,3,4,6,7,8-HxCDF	00556	1 4 d	13C-1,2,3,7,8,9-HxCDF	LKCDF	61.5	29 - 147	20 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -
í			13C-1,2,3,4,6,7,8-HpCDF	-HpCDF	58.7	28 - 143	
1,2,3,46,7,8-HpCDF	· 一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个		13C-1,2,3,4,7,8,9-HpCDF	-HpCDF	61.4	26 - 138	
QX		, 3 . 3 . 4	13C-OCDF		46.0	17-157	
OCDF	0.00000761	***	CRS 37CI-2,3,7,8-TCDD	200	6716	35 - 197	
Totals	***		Footnotes				
Total TCDD ND 0.000000999 Total PeCDD ND 0.00000115	00999		a Sample specific estimated detection limit. b. Estimated maximum possible concentration.	detection limit. ible concentration.			
% 6x	0.0000	# # # # # # # # # # # # # # # # # # #	c. Method detection limit.	T T T T T T T T T T T T T T T T T T T	32		
Q	at a	\$ 100 miles			Ä		
9	0.000000000						441 1 1
Total HpCDF 0.00000533	0.000000423	3					
Analyst: RAS			Approved By:	William J. Luksemburg	semburg	17-Mar-2006 11:36	6 11:36

APPENDIX

Page 7 of 233

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
Н	The signal-to-noise ratio is greater than 10:1.
1	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
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

	Certificate Number
Accrediting Authority	
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



SENDING LABORATORY:

Del Mar Analytical, Irvine

17461 Derian Ave. Sulle 100, Irvins, CA 82814 1014 E. Cooley Dr., Sulle A. Collon, CA 82324

9484 Chesapeake Drive, Suite 805, San Diego, CA 82123

Alta Analytical - SUB

2020 E. Sument Rd., Bullo #3, Law Vagne, NV 90120

*h (948) 281-1022

Fac (949) 251-1226

(909) 370-4667 Fax (909) 37

(480) 785-9043 Fax (480) 785-085

SUBCONTRACT ORDER - PROJECT # IPC1333

17461 Derian Avenue. Sur Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Standard TAT is request		1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 Sed => Due Date: 3/27/66 Initials: UC
Analysis	Expiration	Comments
Sample ID: IPC1333-01 W	Vater Sampled: 03/11/06 10:15 03/18/06 10:15	unfiltered and unpreserved analysis I 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

·					. 1	SAMPLE	INT	EGRI	TY:			· · · · · · · · · · · · · · · · · · ·			
All containers intact: Custody Seals Present:		Yes Yes			Sample labels/O Samples Preserve			Yes Yes			•	es Received On Ice:: es Received at (temp):	<u> </u>	a D	No
Aleua	0	lai	NA	dia				F	2d	? - E	-×	3.13.00	5		
Released By				Date	Time	Bet	Rocei	ved By	2	Bone	liet	3/14/01	5	Time	5
Released By				Date	Time		Recei	ved/By				Date		Time	

Project 27408

Page ago a forts

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27408

Samples Arrival:	3/14/06	2	0915	Initials	B	B	Locat	ion: WR-	2
Logged In:	Date/Time	6	1106	initials	B	B	Local	ion UR-	-2-
Delivered By:	FedEx		UPS	Cal		DHL	D	Hand elivered	Other
Preservation:	Tce)	Blu	e Ice	·	Dry I	ce	No	one
Temp ℃ ~ 0.3	ic	Tir	ne: /	935		,	Thern	nometer IC): DT-20

					YE\$	NO	NA
Adequate Sample Volume Received	?				V		·
Holding Time Acceptable?				1.	V		
Shipping Container(s) Intact?	, .				1		
Shipping Custody Seals Intact?				•	/		
Shipping Documentation Present?					V		
Airbill Trk# 792) 4114	799	4		1		
Sample Container Intact?			,		V		
Sample Custody Seals Intact?							V
Chain of Custody / Sample Documer	ntation Pr	esent?		1	V		
COC Anomaly/Sample Acceptance F	orm con	pleted?				V	
If Chlorinated or Drinking Water Sam	ples, Acc	ceptable P	reservation?	4			1
Na ₂ S ₂ O ₃ Preservation Documented?			coc	San Cont	• [No	ne
Shipping Container	Alta ,	Client	Retain	Ret	um	Disp	ose

Comments:



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

Melissa Mann

MCM/njv

Enclosure:

Report

Subcontract Form Receipt checklist

Invoice

Eberline Services

ANALYSIS RESULTS

SDG 8669

Client DEL MAR ANAL

Work Order <u>R603083-01</u> Received Date 03/14/06

Contract PROJECT# IPC1333

Matrix WATER

Client

Lab

Sample ID

Sample ID Collected Analyzed Nuclide

Results ± 20 Units

MDA

IPC1333-01

8669-001 03/11/06 03/23/06 Sr-90

1.64 ± 0.47 pCi/L

0.580

Certified by 2000 (8) Report Date <u>04/06/06</u> Page 1

Eberline Services

QC RESULTS

ſ			I
-	SDG <u>8669</u>	Client DEL MAR ANAL	
	Work Order R603083-01	Contract PROJECT# IPC1333	
	Received Date 03/14/06	Matrix WATER	l
ŀ			_1

Lab Sample ID	<u>Nuclide</u>	Results	Units	Amount Added	MDA	Evaluation
LCS 8669-002	Sr-90	9.91 ± 0.76	pCi/Smpl		0.319	
BLANK						
8669-003	Sr-90	-0.056 ± 0.21	pCi/Smpl	. NA	0.517	<mda< td=""></mda<>
	DUPLICATES			ORIGINALS		
						3σ .
Sample ID	<u>Nuclide</u>	Results ± 20	MDA S	ample ID Results ±	2a MDA	RPD (Tot) Eval
8669-004	Sr-90	1.57 ± 0.46	0.554 8	669-001 1.64 ± 0	.47 0.5	80 4 65 satis.

Certified by A C C C Report Date 04/06/06

Page 2



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

nt:	103 14 0	6 Thoc	No	, 1050			
e/Time receive	BOX /ST	YPC Documents	od TAT (Davs)	ASAP P.O. Receive	d Yes[No[]	
ntainer I.D. No.			INSPE				
					es [X]	No[] N/A	[]
Custody s	eals on ship	oping container	: Intact :			No[] N/A	
Custody \$	eals on ship	pping container	r dated & signe			No[] N/A	
Custody 5	eals on sar	nple containers	intactr		-	No [] N/A	
		npie containers	s dated & signe	- ·	Net[]		*
Packing r	naterial is:		t-i	Sample Matrix			
Number o	of samples I	n shipping com	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(Or see CoC)		
Number (of containen	s per sample: .		Yes [\forall] No []		
		ect container		Yes [X] No []		
		ith samples?	rd lahels []	Pad labels 1 Appro	oriate sam	ple labels [>	(]
Samples	have: la	pe naza	iti labele () iXi laaki	ng [] Broken Cont	ainer[]	Missing [}
. Samples	are: In	good condition	t processed K] pH Preserv	ative		
. Samples	are: Pres	erved () No	it breserved y	\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
		**					
l. Describe	any anoma	alies:					
. Describe	any anoma	alies:					
Describe	any anoma	alies:					
		alies:		No. 1	Date		
4. Was P.I	M. notified	of any anomalie		No. 1			
4. Was P.I		alles: of any anomalie		es []] No [] 3 4 0 6 Time: _	Date		
4. Was P.I	M. notified o	of any anomalie		No. 1	Date		wipe
4. Was P.I	M. notified	alles: of any anomalie	es? Ye	es [] No [] No [] Time:	Date	72	wipe
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4. Was P.I	M. notified o	of any anomalie	es? Ye	es [] No [] No [] Time:	Date	72	wipe
4. Was P.I	M. notified o	of any anomalie mR/hr	es? Ye Date:	es [] No [] No [] Time:	Date O : 0	mR/hr	wipe



17461 Derian Ave. Sulte 100, irvine, CA 92614-1014 E. Cooley Dr., Suite A, Colton, CA 92324-9484 Chesapeake Drive, Suite 805, San Diego, CA 92123-9830 South 51st Street, Suite 8-120, Phoenix, AZ 85044-2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (949) 261-1022 Fax (949) 261-1226
Ph (909) 370-4867 Fax (909) 370-1046
Ph (619) 505-9596 Fax (619) 505-9688
Ph (480) 785-0043 Fax (480) 785-0851
Ph (702) 796-3820 Fax (702) 796-3821

SUBCONTRACT ORDER - PROJECT # IPC1333

RECEIVING LABORATORY:
Eberline Services 2030 Wright Avenue Richmond, CA 94804 Phone:(510) 235-2633 Fax: (510) 235-0438
> Due Date: 15 soon as Initials: 10 to Comments
unfiltered and unpreserved analysis **LEVEL IV QC, ACCESS 7 EDD** 905.0, sub to Eberline
if necessary. MC 3/13/06

				SAMPLE	INT	GRI'	ΓY:				
All containers intact: Custody Seals Present:	☑ Yes		•	ole labels/COC agree: oles Preserved Properly:	ď 0	Yes Yes		No No	Samples Received On Ice:: Samples Received at (temp):	O Yes	□N ₀
Allahas	Chri	ntsda				1	17	·	03/14/06	9:	:15
Released By		D	ate	Time	Receiv	ved By	V		Date	i I	ime
Released By		D	ate	Time	Receiv	ed By	7		Date	Ti	ime

APPENDIX G

Section 82

Outfall 003, March 11, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	EC _X	Package ID B4DF34
122	269 East Vassar Drive	Task Order 1261.001D.01
Au	rora, CO 80014	SDG No. IPC1333
		No. of Analyses 1
	Laboratory Alta	Date: April 3, 2006
	Reviewer K. Shadow	light Reviewer's Signature
	Analysis/Method Dioxin/Fura	
AC	TION ITEMS*	
	Case Narrative	
	Deficiencies	
2.	Out of Scope Analyses	
3.	Analyses Not Conducted	
	·	
4.	Missing Hardcopy	
	Deliverables	
5.	Incorrect Hardcopy	
	Deliverables	
6.	Deviations from Analysis	Detects below the laboratory lower calibration level were qualified
	Protocol, e.g.,	as estimated.
	Holding Times	Any EMPC was qualified as an estimated nondetect.
	GC/MS Tune/Inst. Performance	
	Calibration	
	Method blanks	
	Surrogates	
	Matrix Spike/Dup LCS	
	Field QC	
	Internal Standard Performance	
	Compound Identification	
	Quantitation	
- <u> </u>	System Performance	
COI	VIMENTS ^b	

	•	neeting contract and/or method requirements.
- Di	rrerences 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

Project: SDG: Analysis:

NPDES IPC1333 D/F

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001.01

Sample Delivery Group:

DATA VALIDATION REPORT

IPC1333

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

Reviewer:

0 K. Shadowlight

Date of Review:

April 3, 2006

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

DATA VALIDATION REPORT

Project: SDG: Analysis:

NPDES IPC1333 D/F

Table 1. Sample Identification

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

SDG: Analysis:

NPDES IPC1333 D/F

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be 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.

Project: SDG:

NPDES IPC1333

D/F

DATA VALIDATION REPORT

Analysis:

2.2.2 Mass Spectrometer Performance

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

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

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER 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.

Project: SDG:

NPDES IPC1333

DATA VALIDATION REPORT

Analysis: D/F

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No 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. 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.

ož:	\$1-00° K-00°	Del Mar Ana IPC1333	Del Mar Analytical, Irvine PC1333		Sample Data Matrix:		Laboratory Data	27408-001	Date Received:	cived:	14-Mar-06
	Date Collected: Time Collected:	11-Mar-06 1015			Sample Size.	. 0.997 L	OC Butch No.: Date Analyzed DB-5:	7831 16-Mar-06	Date Extracted: Date Analyzed 1	Date Extracted: Date Analyzed DB-225:	15-Mar-06 NA
3	Analyte	Conc. ((ug/L)	DL ^a	EMPC	Qualifiers	Labeled Standard	ndard	%R	LCL-UCL ^d	Oualifiers
	2,3,7,8-TCDD		ę	0.00000000	6660		IS 13C-2,3,7,8-TCDD	angi	8.89	25 - 164	
	1,2,3,7,8-PeCDD		2	0.00000115	5		13C-1,2,3,7,8-PeCDD	-Ресор	8.69	25 - 181	
	1,2,3,4,7,8-HxCDD	a	2	0.00000179	179		13C-1,2,3,4,7,8-HxCDD	*HXCDD	9.09	32-141	
	1,2,3,6,7,8-HxCDD	۵	2	0.00000184	184		13C-1,2,3,6,7,8-HxCDD	.8-HxCDD	2	28 - 130	
		À	2	0.00000175	175		13C-1,2,3,4,¢	13C-1,2,3,4,6,7,8-HpCDD	59.4	23 - 140	
3	·	2	0.0000116			-	13C-OCDD		42.7	17 - 157	
	0000		0.000122				13C-2,3,7,8-TCDF	<u>פֿ</u>	73.9	24-169	
	2,3,7,8-TCDF		2	0.000000843	0843		13C-1,2,3,7,8-PeCDF	-PeCDF	80.4	24 - 185	
	1,2,3,7,8-PeCDF		Ð	0.00000101	101		13C-2,3,4,7,8-PeCDF	PeCDF	78.5	21 - 178	
	2,3,4,7,8-PeCDF	:	2	0.000000952	0952		13C-1,2,3,4,7,8-HxCDF	.8-HxCDF	62.6	26 - 152	
	1,2,3,4,7,8-HxCDF	la.	Q	0.000000546	0546		13C-1,2,3,6,7,8-HxCDF	SHKCDF	6'99	26-123	
	1,2,3,6,7,8-HxCDF		Q	0.000000508	8050		13C-2,3,4,6,7,8-HxCDF	8-HxCDF	64.5	28 - 136	
	2,3,4,6,7,8-HxCDF	2	Q	0.000000556	9550		13C-1,2,3,7,8,9-HxCDF	,9-HKCDF	61.5	29 - 147	
.1	1,2,3,7,8,9-HxCDF	Œ	R	0.000000778	0778		13C-1,2,3,4,6,7,8-HpCDF	77,8-HpCDF	58.7	28 - 143	-
3	1,2,3,4,6,7,8-HpCDF	5	0.00000202	7			13C-1,2,3,4,7,8,9-HpCDF	8.9-HPCDF	61.4	26 - 138	
	1,2,3,4,7,8,9-HpCDF	DF.	9	0.000000707	0707		13C-OCDF		46.0	17-157	
0 *	OCDF		S		0000	0.00000761	CRS 37CI-2,3,7,6-TCDD	TCDD	616	35 - 197	
	Totals						Footnotes				de de la companya de
	Total TCDD	nahaman dada - Nada kanana	£	0.000000999	6660		a. Sample specific estimated detection limit.	uated detection limit.			
	Total PeCDD		Ð	0.00000115	115		b Estimated maximum possible concentration	possible concentration.			
,	Total HxCDD		0.00000197	r	0.000	0.00000289	c. Method detection limit.	· · · · · · · · · · · · · · · · · · ·		· · · · · ·	
	Total HpCDD		0.0000257				d Lower control limit - upper control limit	upper control limit.			
	Total TCDF		9	0.000000843	0843						
	Total PeCDF		2	0,000000979	62.60						
₹ 0	Total HxCDF		Q		0.00	0.000000423					
	Total HpCDF		0.00000533	6							

Project 27408

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

	69 East Vassar Drive ora, CO 80014	No.	o. of Analyses:	1261.001D.01 IPC0164, IPC1333 2
	Laboratory: Eberline Reviewer: P. Meeks Analysis/Method: Radionuc		Date: April 13 Revieweds Si	gnature
ACI	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			
COI	MMENTS*	Acceptable as reviewed.		
	ubconfracted analytical laboratory is not ifferences in protocol have been adopted			quired



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:

Radionulcides

QC Level:

Reviewer:

Level IV

No. of Samples:

2 0

No. of Reanalyses/Dilutions:

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.

Project: SDG: Analysis: NPDES Multiple Rads

DATA VALIDATION REPORT

Table 1. Sample identification

	Client ID	Del Mar ID	Eberline ID	Matrix	COC Method
ľ	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 $4\pm2^{\circ}$ 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.

B4RA4 4 Revision 0

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 8669 Client DEL MAR ANAL

Work Order R603083-01 Contract PROJECTS IPC1333

Received Date 03/14/06 Matrix WATER

| Client | Lab | | Sample ID | Collected Analyzed Nuclide | Results : 20 Units | MDA | Code |

LEVEL IV

APPENDIX G

Section 83

Outfall 003, March 28, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

Project: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

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

CLIENT ID

MATRIX

IPC2825-01

Outfall 003

Water

Reviewed By:

Del Mar Analytical - Irvine Michele Chamberlin

Michele Chamberen

Project Manager





MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

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 - W	ater)								
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	





MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

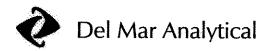
Report Number: IPC2825

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	



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2825

Sampled: 03/28/06

Received: 03/28/06

SHORT HOLD TIME DETAIL REPORT

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



Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC2825

Sampled: 03/28/06

Attention: Bronwyn Kelly

Received: 03/28/06

METHOD BLANK/QC DATA

METALS

		Reporting	3		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29072 Extracted: 03/29/06	<u>i</u>										
Blank Analyzed: 03/29/2006 (6C29072-B	LK1)										
Mercury	ND	0.20	0.050	ug/I							
LCS Analyzed: 03/29/2006 (6C29072-BS	1)										
Mercury	7.90	0.20	0.050	ug/l	8.00		99	85-115			
Matrix Spike Analyzed: 03/29/2006 (6C2	9072-MS1)				Sou	rce: IPC2	718-01				
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/29/2006	(6C29072-MS	5 D 1)			Sou	rce: IPC2	718-01				
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-B)	LK1)										
Antimony	ND	2.0	0.050	ug/l							745.
Cadmium	ND	1.0	0.025	ug/l		111					
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	1)									. •	
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			

Project Manager



Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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 Limit	Data Qualifiers
Batch: 6C29080 Extracted: 03/29/0	<u>6</u>										
Matrix Spike Analyzed: 03/29/2006 (6C:	29080-MS1)				Sou	rce: IPC2	585-01				
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-M	SD1)			Sou	rce: IPC2	585-01				
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	



Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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	RPD	RPD Limit	Data Qualifiers
Batch: 6C28055 Extracted: 03/28/06	-										4
Blank Analyzed: 03/28/2006 (6C28055-Bl	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/28/2006 (6C28055-BS1	1)										
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 (6C28	8055-MS1)				Sou	rce: IPC2	694-01				
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120			
Matrix Spike Dup Analyzed: 03/28/2006 (6C28055-MS	SD1)			Sou	rce: IPC2	694-01				
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20	
Batch: 6C29047 Extracted: 03/29/06											
	•	4.			. '			ř-			
Blank Analyzed: 03/29/2006 (6C29047-BI	.K1)										
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-BL	K1)										
Total Dissolved Solids	ND	10	10	mg/l							

Del Mar Analytical - IrvineMichele Chamberlin
Project Manager



Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2825

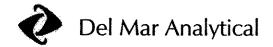
Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29077 Extracted: 03/29/06	•										
LCS Analyzed: 03/29/2006 (6C29077-BS)	1)										
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/29/2006 (6C2907	7-DUP1)				Sour	rce: IPC2	817-01				
Total Dissolved Solids	240	10	10	mg/l		240			0	10	
Batch: 6C29092 Extracted: 03/29/06	-										
Blank Analyzed: 03/29/2006 (6C29092-Bl	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/29/2006 (6C29092-BS)	i)										
Total Suspended Solids	953	10	10	mg/l	1000		95	85-115			
Duplicate Analyzed: 03/29/2006 (6C29092	2-DUP1)				Sour	ce: IPC2	722-01				
Total Suspended Solids	22.0	10	10	mg/l		21			. 5	.10	



Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2825

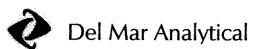
Sampled: 03/28/06

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	¥7-24-	Danulé	MATOX	Compliance
Labramber	Analysis	Anaiyie	Units	Result	MRL	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	Ó	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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

M-3

Report Number: IPC2825

Sampled: 03/28/06

Received: 03/28/06

DATA QUALIFIERS AND DEFINITIONS

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

Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

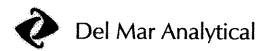
accepted based on acceptable recovery in the Blank Spike (LCS).

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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2825

Sampled: 03/28/06

Received: 03/28/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1	Water	X	x
EPA 300.0	Water	X	X
EPA 413.1	Water	X	X
SM2540C	Water	X	\mathbf{X}^{c}

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

. エア()ぞうく Page 1 of 1

Page 1 of 1)	88	Temp = 55	pH= 7.5	Comments								unfiltered and unpreserved analysis					The contract of the contract o	24 Hours 5 Days	48 Hours 10 Days	72 Hours Normal C	Perchlorate Only 72 Hours	Metals Only 72 Hours	Sample Integraty: (Check) Intact On los:
ノ	ANALYSIS REQUIRED				(.o.306) 06	§-√S							×						- A					<i></i>
	<			1-20	N+E(5, TSS						×	×							37	}	3/28/06 12/5			
FORM	With the State of	<u> </u>				s bns) () esses 2				×	×									S/20/	Date/Time:	12	Date/Time:		
CUSTODY FORM						il Recove Cd, Cu, F		×	8	2A, 2B	34, 38	4A, 4B	5A, 5B	64, 6B								Jan Jan			
	And the second s	DES	683		delindergrammer villebilden before med betrette betrette betrette betrette betrette betrette betrette betrette		Preservative Bot	HNO3	HNO3	None 2	중	None 4	None	None 6						Received by	Received By	the	Received By 1		
Mence CHA	Project:	Boeing-SSFL NPDES	Routine Outfall 003	Stormwater at Kwint	Phone Number:	(626) 568-6515	Sampling Date/Time							->						Ē	Sate/Lime:	5/8/5	ate/Time:		
Version 03	4	8					r # of Cont	*****	-	87	es =	N	8							09/87/2 5/48/66	Date	367	Carle		
nalytica	ress:		- E	enue, Suite O1	Bronwyn	er & Beer	de Container	三	11 Poly	11. Amber	11. Amber	Poly-500	Poly-500	Poly-1 gal	***************************************					\		1000			عوووب كرودوا والمتعادمة والاستطاعة والمتعادمة
Del Mar Analytical version 03/6/06 CHAIN OF	Client Name/Address		MWH-Pasadena	300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager: Bronwyn Kelly	Sampler. Bonga & Burrow	Sample Sample Description Matrix	T	Ouffail 003- W	Outfall 003 W	Outfall 003 W	Outfall 003 W	Outfail 003 W	Outfall 003 W						Kelinguished By	amouished By	JAN A	Relinquished By		



April 03, 2006

Alta Project LD: 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.



(916) 933-1640

Section I: Sample Inventory Report
Date Received: 3/30/2006

Alta Lab. ID

Client Sample ID

27499-001

IPC2825-01

SECTION II

Project 27499

Method Blank	Andrew Britisher was spring to the control of the c				EPA Method 1613
Matrix: Aqueous	OUS	QC Batch No.:	7886	Lab Sample: 0-MB001	
Sample Size: 1.0	1.00 L	Date Extracted:	31-Mar-06	Date Analyzed DB-5: 1-Apr-06	Date Analyzed DB-225: NA
Analyte	Conc. (ug/L)	DT a	EMPC b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	QN	0.000000077		IS 13C-2,3,7,8-1CDD	74.2 25 - 164
1,2,3,7,8-PeCDD	\$	0.00000135		13C-1,2,3,7,8-PeCDD	74.0 25 - 181
1,2,3,4,7,8-HxCDD	£			13C-1,2,3,4,7,8-HxCDD	75.1 32-141
1,2,3,6,7,8-HxCDD		0.000000964		13C-1,2,3,6,7,8-HxCDD	75.0 28 - 130
1,2,3,7,8,9-HxCDD		0.00000013		13C-1,2,3,4,6,7,8-HpCDD	76.6 23 - 140
1,2,3,4,6,7,8-HpCDD		0.000000944		13C-0CDD	
OCOD		0.00000222		13C-2,3,7,8-TCDF	79.1 24 - 169
2,3,7,8-TCDF	2	0.000000845	100 mm m m m m m m m m m m m m m m m m m	13C-1,2,3,7,8-PeCDF	
1,2,3,7,8*FeCDF	2 ;	O'TOOMOO'TO		13C-2,3,4,7,8-PeCDF	83.8 21 - 178
2,3,4,7,8-PeCDF	9	0.00000101			75.0 26 - 152
1,2,3,4,7,8-HxCDF	2	0.000000457		13C-1,2,3,6,7,8-HxCDF	76.8 1.726-123
1,2,3,6,7,8-HxCDF	2 !	0.000000415		13C-2,3,4,6,7,8-HxCDF	28 - 136
2,3,4,6,7,8-HxCDF	Q:	0.000000487		13C-1,2,3,7,8,9-HxCDF	18 176.9 1 29 147 18 18 18 18 18 18 18 18 18 18 18 18 18
1,2,3,7,8,9-HxCDF	500	0.000000630	E	13C-1,2,3,4,6,7,8-HpCDF	69.4 28 - 143
1,2,3,4,6,7,8-HpCDF	2	0.000000489	*	13C-1,2,3,4,7,8,9-HpCDF	79.8 26 - 138
1,2,3,4,7,8,9-HpCDF OCDF	<u>9</u>	0.000000435		13C-OCDF CRS 37CL-3 3.7 & TCDD	50.1 17 - 157
Totals				Footnotes	
Total TCDD	QN	0.000000977		a Sample specific estimated detection limit	
Total PeCDD	N.	0.00000135		b. Estimated maximum possible concentration.	
Total HxCDD	2	0.000000932	1	c. Method detection limit.	
Total HpCDD	£	0.000000944		d. Lower control limit - upper control limit	
Total TCDF	1 CA 2005	0.000000845			
	2 5	0.00000106			
130	3 2	0.000000463			
١.					

Analyst: JMH

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

OPR Results	-				EPA Method 1613	3
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:	¥
Analyte	Spike Conc. Con	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R LCL-UCL	
2,3,7,8-TCDD	10.0	0.11	6.7 - 15.8	<u>IS</u> 13C-2,3,7,8-TCDD		
1,2,3,7,8-reCDD	50.0	59.5	35-71	13C-1,2,3,7,8-PeCDD	63.9 25 - 181	
1,4,5,4,7,0-IIXCDD	50.0	56.2	35 - 82	13C-1,2,3,4,7,8-HxCDD	63.7 32 - 141	
	20.0	56.1	38-67	13C-1,2,3,6,7,8-HxCDD	63.7 28 - 130	
	50.0	54.5	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	52.6 23 - 140	- 4
	50.0	96.0	35 - 70	13C-OCDD	31.1 17-157	
	001	113	78 - 144	13C-2,3,7,8-TCDF	63.0 24-169	
ţ	10.0	9:10	7.5 - 15.8	13C-1,2,3,7.8-PeCDF	67.1 24 - 185	
Sales Sa Sales Sa Sa Sales Sa Sa Sa Sa Sa Sa Sa Sa Sa Sa Sa Sa Sa	20,0	53.9	29-04	13C-2,3,4,7,8-PeCDF	68.4 21-178	
	50.0	54.9	34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4 26-152	
1,4,3,4,7,0,41XCDF	20.0	55.7	36 67	13C-1,2,3,6,7,8-HxCDF	64.4 26 - 123	
	20.0	57.6	42 - 65	13C-2,3,4,6,7,8-HxCDF	65.5 28 - 136	
12. 13.	50.0	55.0	35.78	13C-1,2,3,7,8,9-HxCDF	63.2 29 . 147	
1,2,3,7,0,7-IIXCDF	20.0	54.9	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	51.3 28-143	
1,4,1,4,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,	20.0	54,8	41-61	13C-1,2,3,4,7,8,9-HpCDF	56.4 26 138	. SŠ
TOTAL TACTOR	50.0	.37.0	30.66	13C-0CDF	37.9 17-157	
	001	106	63 - 170	CRS 37CI-2,3,7,8-TCDD	78.6 35-197	

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

Analyst: JMH

Sample ID: IPC2825-01						EPAN	EPA Method 1613
Data	Sample Data		Laboratory Data				
Name Del Mar Analytical, Irvine Project: Project: PC2825	Matrix	Aqueous	Lab Sample:	27499-001	Date Received:	ived:	30-Mar-06
Date Collected: 28-Mar-06 Time Collected: 1410	Sample Size	0.994 L	QC Batch No.: Date Analyzed DB-5:	7886 1-Apr-06	Date Extracted: Date Analyzed I	Date Extracted: Date Analyzed DB-225;	31-Mar-06
Analyte Conc. (ug/L) DL a	EMPC ^b	Qualifiers	Labeled Standard	ard	%R 1	rcr-ncr _q	Ouslifiers
Q	0,000000000		IS 13C-2,3,7,8-1CDD	00	65.5	25 - 164	
QX (00000148		13C-1,2,3,7,8-PeCDD	eCDD	65.6	25 - 181	
9	00124	***	13C-1,2,3,4,7,8-HxCDD	HxCDD	0.69	32 - 141	
OZ.	00139		13C-1,2,3,6,7,8-HxCDD	HxCDD	6.7.9	28 - 130	
-	00127		13C-1,2,3,4,6,7,8-HpCDD	8-HpCDD	66.3	23 - 140	
1,2,3,4,6,7,8-HpCDD 0,00000961	\$ 100 miles		13C-OCDD	5 ₄	35.5	17 - 157	
0.00008/2			13C-2,3,7,8-TCDF	OF	65.6	24 - 169	373 373 373 373 374 374 374
	0.000000985		13C-1,2,3,7,8-PeCDF	CDF	71.8	24 - 185	
QN	0.000000000		13C-2,3,4,7,8-PeCDF	SCDF	67.1	21 - 178	10 to
ON ON	20102		13C-1,2,3,4,7,8-HxCDF	HXCDF	69.3	26 - 152	
O	000000459		13C-1,2,3,6,7,8-HxCDF	HxCDF	72.1	26-123	
2	0.000000425		13C-2,3,4,6,7,8-HxCDF	HXCDF	0.99	28 - 136	
2	000494	Section 1	13C-1,2,3,7,8,9-HxCDF	HXCDF	69.4	29 - 147	
1,2,3,7,8,9-HxCDF ND 0.0000	00628		_	8-HpCDF	65.7	28 - 143	
			13C-1,2,3,4,7,8,9-HpCDF	9-HpCDF	0.07	26 - 138	7
1,2,3,4,7,8,9-HpCDF ND 0.0000	0.000000659		13C-OCDF			17 - 157	
	0.00000459		CKS 37CI-2,3,7,8-TCDD	00	82.7	35 - 197	and the second
Totals			Footnotes				
Total PeCDD ND 0.0000	0.000000990		a. Sample specific estimated detection limit. D. Estimated maximum poselule concentration	d detection limit.	98.7		
ND 0.0000222	0.00000000		c. Method detection limit.				
0.0 ON	0.00000085	2.	o rows when man a drei winds thin.				
	900964	# 1					
Total HbCDF 600000488	0.0000010	01					
Animal Property and Property an							

Analyst: JMH

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

APPENDIX

Project 27499

DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

I Chemical interference

J The amount detected is below the Lower Calibration Limit of the instrument.

See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit - concentrations that corresponds to low calibration point

ND Not Detected

TEQ Toxic Equivalency

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

CERTIFICATIONS

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



Released By

Project 27499

Date

Time

Received By

17461 Derlan Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Sulte A. Colton, CA 92324 Ph (909) 370-4667 Fax (909) 370-1046 apeake Drive, Suita 805, San Diego, CA 92123 9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 2520 E. Surest Rd., Suite #3, Las Vegas, NV 80120

Ph (702) 798-3620

Fax (480) 785-0851

	SUBCONTRACT OF	RDER - PROJECT # IPC2825
Del Mar Analytical - Irvino 17461 Derian Avenue. Sui Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele (te 100 Chamberlin	RECEIVING LABORATORY: Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 Description: Carlo Carl
Analysis	Expiration	csted => Due Date: 4(5/06 Initials:
Sample ID: IPC2825-01 Wi 1613-Dioxin-HR-Alta EDD + Level 4 Containers Supplied:	ater Sampled: 03/28/06 14:10 04/04/06 14:10 04/25/06 14:10	J flags, 17 congeners, no TEQ, ng/L, sub=Alta Excel EDD email to pm, Include Std logs for Lvl IV
1 L Amber (IPC2825-01C) 1 L Amber (IPC2825-01D)		
	- - - - -	
,		
All containers intact: Yes Custody Scals Present: Yes	□ No Sample labels/COC agre □ No Samples Preserved Prope	
eleased By	Date Fine	Bettina d. Benedict 3/30/06 0900 Received By Date Time

Time

PRegd 0 of 11

Date

SAMPLE LOG-IN CHECKLIST

Alta Project #:	2740	19		<u>,</u>	,	,	
Samples Arrival:	Date/Time	6 09C	Initials	AB	Locati	on: WR-	-2-
Logged In:	Date/Time	6 1121) Initials	BSB	Locati	ion:WR	-2
Delivered By:	FedEx	UPS	Cal	DHL	1	Hand elivered	Other
Preservation:	loe	Blu	ie Ice	· Dry l	се	N	one
Town of A 2	0	Time: /	シンろ		Therm	ometer II	DT-20

	YES	NO	NA
Adequate Sample Volume Received?	V		
Holding Time Acceptable?	V		
Shipping Container(s) Intact?	1		
Shipping Custody Seals Intact?	-		
Shipping Documentation Present?	V		
Airbill Trk# 79/4 25-91 29/2	1	1	
Sample Container Intact?	V		
Sample Custody Seals Intact?			/
Chain of Custody / Sample Documentation Present?	1		
COC Anomaly/Sample Acceptance Form completed?		V	
			V
	nple ainer	No	one
Shipping Container Alta Client Retain Re		Dis	oose

Comments:

APPENDIX G

Section 84

Outfall 003, March 28, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4DF59</u> 12260 East Vassar Drive Task Order <u>1261.001D.01</u> Suite 500 SDG No. IPC2825 Lakewood, CO 80226 No. of Analyses 1 Laboratory Alta Analytical Date: April 10, 2006February 17, 2006 Reviewer E. Wessling Reviewer's Signature Analysis/Method Dioxins/ Furans by Method 1613 **ACTION ITEMS*** Case Narrative **Deficiencies** 2. Out of Scope Analyses **Analyses Not Conducted** Missing Hardcopy **Deliverables** Incorrect Hardcopy **Deliverables Deviations from Analysis** Qualifications were assigned for the following: Protocol, e.g., - results between the RL and the MDL were estimated and annotated "DNO" Holding Times - EMPC values were qualified as estimated nondetects GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS^b ^a Subcontracted analytical laboratory is not meeting contract and/or method requirements.

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



DATA VALIDATION REPORT

NPDES Monitoring Program Annual Outfall 003

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPC2825

Prepared by

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

Analysis:

NPDES IPC2825 D/F

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001D.01

Sample Delivery Group:

DATA VALIDATION REPORT

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

Project: SDG: NPDES IPC2825

D/F

DATA VALIDATION REPORT

SDG: Analysis:

Table 1. Sample Identification

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

D/F

SDG: Analysis:

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.

D/F

SDG: Analysis:

2.2.2 Mass Spectrometer Performance

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

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

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7886-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.

D/F

Analysis:

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:

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.

	Sample ID:	IPC2825-01	OUTEN 00	1 003			AND THE PARTY OF T			EPA	EPA Method 1613
	Cilent Data				Sample Data		Laboratory Data				
	Project:	Del Mar Analytical, Irvine	cal, Irvine		Matrix:	Aqueous	Lab Sample:	27499-001	Date Received:	ved:	30 Mar 06
-22-3		28-Mar-06 1410			Sample Size:	0.994 L	QC Batch No.: Date Analyzed DB.5:	7886	Date Extracted:	cted:	31-Mar-06
	Analyte	Cone. (na/L)		N a	quara	41.		I-Apr-00	Date Analy	Date Analyzed DB-225:	NA
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ywanen, i.	1,2,3,4,7,8-HxCDD		Ð	0.00000124	Z		13C-1,2,3,4,7,8-HxCDD	8-HxCDD	0.69	32 - 141	
. Trado Labba	1,2,3,6,7,8-HxCDD		2	0.00000139	6		13C-1,2,3,6,7,8-HxCDD	8-HxCDD	679	28 - 130	
o (obsessed	*******		R	0.00000127	2		13C-1.2.3.4.6.7.8-HpCDD	7.8-HpCDD	663	23 - 140	
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,,	2,3,7,8-TCDF		2	0.000000985	85		13C-1,2,3,7,8-PeCDF	PeCDF	7 8	24 - 185	
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180 Process 187 (18	2,3,4,7,8-PeCDF		2	0.00000102	2		13C-1.2.3.4.7.8-HxCDF	8-HxCDF	603	26.153	
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e, -, 46,/- e	2,3,4,6,7,8-HxCDF		R	0.000000494	16		13C-1 2 3 7 8 9-H×CDF	9-H _x CDF	60.00 60.4	20 147	
	1,2,3,7,8,9-HxCDF		R	0.000000628	28		13C-1 2 3 4 6 7 8-HrCDF	7 8-HnCDF	1. CO.	741 - 60	
Ž.		1100	0.00000206				13C-1-3-3-4-7-8 0-HCTE	A-Harme		26 - 143	
	1,2,3,4,7,8,9-HpCDF		S	0.000000659	59		13C-OCDE	or appear		20-138	
) K			9		0.00000459	59	CRS 37CI-2,3,7,8-TCDD	CDD	£ &	17-15/	
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Martha M. Maier 03-Apr-2006 11:43

Approved By:

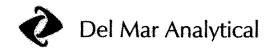
333

APPENDIX G

Section 85

Outfall 004, March 1, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

Project: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

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, I 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

IPC0165-01

Outfall 004

Water

Reviewed By:

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

Judanitha Feary





Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Attention: Bronwyn Kelly

Pasadena, CA 91101

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 - W	ater)								
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	



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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	



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

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

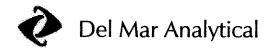
Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

SHORT HOLD TIME DETAIL REPORT

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



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C02097 Extracted: 03/02/06											
	-										
Blank Analyzed: 03/02/2006 (6C02097-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/02/2006 (6C02097-BS)	n.										
Mercury	7.88	0.20	0.050	ug/l	8.00		98	85-115			
•			0.050	- ₆ .				02-112			
Matrix Spike Analyzed: 03/02/2006 (6C0)	•					rce: IPB2	608-01				
Mercury	7.84	0.20	0.050	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2006	(6C02097-MS	5D1)			Sou	rce: IPB2	608-01				
Mercury	7.88	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
Patch 6004028 Futurated 02/04/06				-							
Batch: 6C04030 Extracted: 03/04/06	•										
Blank Analyzed: 03/07/2006 (6C04030-Bl	LK1)										
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
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 (6C04	1030-MS1)				Sour	ce: IPC0:	303-01				
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



Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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 (6C0	4030-MS2)				Sou	rce: IPC0	303-02				
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-M	SD1)			Sou	rce: IPC0	303-01				
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	



Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C02051 Extracted: 03/02/06											·
Blank Analyzed: 03/02/2006 (6C02051-BI	.K1)										
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 (6C02	051-MS1)				Sour	rce: IPC0	165-01				
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-MSI	D1)			Sour	rce: IPC0	165-01				
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	1.
Batch: 6C06069 Extracted: 03/06/06				• •	ika Toe	4	•				1.5
Blank Analyzed: 03/06/2006 (6C06069-BL	K1)										
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)				Sour	ce: IPC0	087-01				
Total Dissolved Solids	865	10	10	mg/l		860			1	10	

Del Mar Analytical - IrvineSushmitha Reddy For Michele Chamberlin
Project Manager



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C07078 Extracted: 03/07/06	•										
Blank Analyzed: 03/07/2006 (6C07078-B	LK1)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/07/2006 (6C07078-BS	1)										
Total Suspended Solids	966	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 03/07/2006 (6C0707	8-DUP1)				Sou	rce: IPC0	093-01				
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C09045 Extracted: 03/09/06											
Blank Analyzed: 03/09/2006 (6C09045-Bl	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/09/2006 (6C09045-BS)	I)										M-NR1
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120			:
LCS Dup Analyzed: 03/09/2006 (6C09045	5-BSD1)										
Oil & Grease	17.3	5.0	0.94	mg/l	20.0		86	65-120	3	20	



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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
		Analyte	Ontes	Result	14114777	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





Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

DATA QUALIFIERS AND DEFINITIONS

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

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

Duplicate.

M-NR1

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

RPD Relative Percent Difference





Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

Method	Matrix	Nelac	California
1613A/1613B	Water		
EDD + Level 4	Water		
EPA 160.2	Water	X	X
EPA 200.8	Water	\mathbf{X}^{c}	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

IPC ()(65 Page 1 of 1

Del Mar Analytical version 02/17/05. CHAIN OF CUSTODY FORM

	Field readings:	Temp = 55.9	PH= 7.2	Comments										\ ()		×	Turn around Timer-(check) 24 Hours 5 Dave		-	Normal	Perchiorate Only 72 Hours	Metals Only 72 Hours	Infact Consolid
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or test strategy white grant man market and	NPDES FAIL 004	1	er: 91	Preservative	HNO3	HNO3	None	HG.	None	None						1	A DE SECONDA	27 70	Received By		Kecewed By	つ ン	
Project:	Boeing-SSFL NPDES Routine Outfall 004 Stormwater at SRF		Phone Number (626) 568-6691 Fax Number: (626) 568-6515	Sampling Date/Time	2					_>							3//46 : 0	5. c.		2007	(6/ III 6		
4				5 E	-		04	7	8	2							3/2		2///	2	5		
dress:	MWH-Pasadena 300 North Lake Avenue Suite 1200	1101	Project Manager: Bronwyn Kelly Sampler: グバスシッス	Container Type	Poly-1E	Poly-1L	Glass- Amber	Glass- Amber	Poly-500 mi	Poly-500 ml		3	West of the second seco					1]	<u>'</u>	0		***************************************
Client Name/Address	MWH-Pasadena	Pasadena, CA 91101	Project Manager: Brom Sampler: パースタッパ	Sample Matrix	3	3	3	W	M	3						Pelinetiehad Du	to nation	#t 44	_	Relinquished By			
Client	¥ See	Pasad	Projec Samp	Sampi Bescri	9 O	Outfall 90 g	Outfall	15 45 15 45 16 45	90 eff							 G])	Reling			



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 1D

27365-001

IPC0165-01

SECTION II

Project 27365 Page 3 of 283

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	C b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD ND	0.00000119		<u>IS</u> 13C-2,3,7,8-1CDD	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
Q.			13C-1,2,3,6,7,8-HxCDD	
1,2,3,7,8,9-HxCDD ND	0.00000161		13C-1,2,3,4,6,7,8-HpCDD	
1,2,3,4,6,7,8-HpCDD ND	0.00000167	1.2	13C-OCDD	54.4 17 - 157
OCDD	0.00000485		13C-2,3,7,8-TCDF	85.8 24 - 169
2,3,7,8-TCDF	0.00000138		13C-1,2,3,7,8-PeCDF	
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	0,000000677		13C-1,2,3,6,7,8-HxCDF	82.0 26 - 123
1.2,3,6,7,8-HxCDF ND	0.000000623		13C-2,3,4,6,7,8-HxCDF	83.9 28 - 136
2,3,4,6,7,8-HxCDF	0.000000697		13C-1,2,3,7,8,9-HxCDF	77.1 29-147
	0.000000951		13C-1,2,3,4,6,7,8-HpCDF	71.7 28-143
1,2,3,4,6,7,8-HpCDF	0.000000890		13C-1,2,3,4,7,8,9-HpCDF	80.8
:			13C-OCDF	17
OCDF	0.00000335		CRS 37CI-2,3,7,8-TCDD	90.3 35-197
Totals			Footnotes	
			a. Sample specific estimated detection limit.	
			b. Estimated maximum possible concentration.	
Total HpCDD	0.00000164		c. Method detection inmi. d. Lower control limit - upper control limit.	
Total TCDF ND	0.00000138			
Total PeCDF	0.00000120	3/7		
Total HxCDF ND	0.000000725			
Analyst: JMH	· Andrewski state of the state	dere de la companya d	Approved By: Martha M. Maier	daier 08-Mar-2006 14:29

Project 27365

OPR Results				EPA N	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:	DB-225: NA
Analyte	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	TOPTOT
2,3,7,8-TCDD	10.0 11.1	6.7 - 15.8	1S 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	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	9.92	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
	100	78 - 144	13C-2,3,7,8-TCDF	78.6	24 - 169
F	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	84.3	24 - 185
1,2,3,7,8-PeCDF	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	36-67	13C-1,2,3,6,7,8-HxCDF	769	26 - 123
1,2,3,6,7,8-HxCDF		4265	13C-2,3,4,6,7,8-HxCDF	76.3	28 - 136
2,3,4,6,7,8-HxCDF	50.0	35 - 78	13C-1,2,3,7,8,9-HxCDF	9.69	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	41-61	13C-1,2,3,4,7,8,9-HpCDF	74.0	26 - 138
	50.0 55.0	39-69	13C-OCDF	57.0	17 - 157
OCDF	100	63 - 170	CRS 37Cl-2,3,7,8-TCDD	94.1	35 197

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

Analyst: JMH

Complete ID IDCOLCE 01						F.P.A.N	FPA Method 1613
Sample in: IFCU103-01					***************************************		
Citent Data	Sample Data		Laboratory Data				
	Matrix.	Aqueous	Lab Sample: 27	27365-001	Date Received:	.pa	3-Mar-06
Project: IPC0165 Data Collected: 1-Mar-06	Sample Size:	7 00 T		7807	Date Extracted	ted:	5-Mar-06
	·		Date Analyzed DB-5: 8.	8-Mar-06	Date Analyzed DB-225	ed DB-225	NA A
Analyte Conc. (ug/L) DL a	EMPCb	Qualifiers	Labeled Standard		%R L	rcr-ncr _d	Oualifiers
2.3.7.8-TCDD ND 0.00000139	00139		IS 13C-2,3,7,8-1CDD		68.7	25 - 164	
QN QC	00158		13C-1,2,3,7,8-PeCDD	0	9.89	25 - 181	
O.	90276		13C-1,2,3,4,7,8-HxCDD		61.1	32 - 141	
NO	00294		13C-1,2,3,6,7,8-HxCDD	00	0.19	28 - 130	
2	0,00000276	\$ 1	13C-1,2,3,4,6,7,8-HpCDD	CDD	61.7	23 - 140	
۵			13C-OCDD		39.9	17 - 157	egen graf gi
			13C-2,3,7,8-TCDF		67.1	24 - 169	
TCDF	00117		13C-1,2,3,7,8-PeCDF	ĨĿ.	73.1	24 - 185	,
Or NO	0.00000136		13C-2,3,4,7,8-PeCDF	ß.	7.07	21 - 178	
R	00147		13C-1,2,3,4,7,8-HxCDF	DF	59.4	26 - 152	
12.3.4.7.8-HxCDF ND 0.00000130	00130		13C-1,2,3,6,7,8-HxCDF	DF	57.0	26 - 123	· · · · · · · · · · · · · · · · · · ·
S	00000129		13C-2,3,4,6,7,8-HxCDF	DF	58.2	28 - 136	
23,4,6,7,8-HxCDF ND 0.00000139	00139	A STATE OF THE STA	13C-1,2,3,7,8,9-HxCDF		9.09	29 - 147	
QN.	0.00000179		13C-1,2,3,4,6,7,8-HpCDF	CDF	57.1	28 - 143	:
P 0.00000556			13C-1,2,3,4,7,8,9-HpCDF	CDF	9.09	26 - 138	
3,9-HpCDF ND		:		•	45.7	17 - 157	
OCDF		1	CRS 37CI-2,3,7,8-TCDD		87.0	35 - 197	- 1 3 () · · · · · · · · · · · · · · · · · ·
			Footnotes				
QX	0.00000139		a. Sample specific estimated detection limit.	ection limit.			
•	OCT ON	· · · · · · · · · · · · · · · · · · ·	c Method detection limit		9 10	-	
			d. Lower control limit - upper control limit.	ontrol limit.	277		. **
Q	0.00000117		:	,			
Total PeCDF ND 0.000	0.00000141		X.		# -		
	0.00000599	0599	: •			3m	
Total HpCDF 0.0000220							-
Analyst: JMH			Approved By:	Martha M. Maier		08-Mar-2006 14:29	53

APPENDIX

Page 7 of 283

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
Н	The signal-to-noise ratio is greater than 10:1.
1	Chemical interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
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.
ЕМРС	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



1014 E. Cooley Dr., Suite A., Colton, CA 92324 te Drive, Sulta 805, San Diego, CA 92123 Ph (949) 261-1022

Ph (702) 798-3620

SUBCONTRACT ORDER - PROJECT # IPC0165

SENDIN Del Mar Analytical, Irvine 17461 Derian Avenue. Suite Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Cl		RECEIVIN Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106	GLABORATORY: 27365 0.4°C
Standard TAT is requested Analysis	l unless specific due date is request Expiration	ted => Due Date: Comments	Initials:
Sample ID: IPC0165-01 Wa 1613-Dioxin-HR-Alta EDD + Level 4	ter Sampled: 03/01/06 09:40 03/08/06 09:40 03/29/06 09:40	Instant Nofication I flags, 17 congeners, no TEQ, ug/L, st Excel EDD email to pm, Include Std	ob=Alta logs for Lvl IV
Containers Supplied: 1 L Amber (IPC0165-01C) 1 L Amber (IPC0165-01D)			
		· ·	

SAMPLE INTEGRITY: ☐ Yes ☐ No □ No Samples Received On Ice:: ☐ Yes ☐ No Sample labels/COC agree: Samples Preserved Properly:

Yes Samples Received at (temp): eals Present: Yes No Date Time Date Time Released By

Project 27365

Pagage 106283

SAMPLE LOG-IN CHECKLIST

Alta Project #: <u>37365</u>

Samples Arrival:	Date/Time	0855	Initials:	B	Location: WR-	2
Logged in:	Date/Time	1252	Initials:	B	Location: WR-	-2-
Delivered By:	FedEx	UPS ·	Cal	DHL	Hand Delivered	Other
Preservation:	lce	Blu	e Ice	Dry k	ж N	one
Temp ℃ Ø.4		Time: /🌣	<u> </u>		Thermometer II	D: DT-20

					YEŞ.	NO	NA
Adequate Sample Volume Received?		•			V		
Holding Time Acceptable?					V		
Shipping Container(s) Intact?					V		
Shipping Custody Seals Intact?							V
Shipping Documentation Present?		·					
Airbill Trk# 798	0 32	739 5	7438	•	1		
Sample Container Intact?							
Sample Custody Seals Intact?					ļ		V
Chain of Custody / Sample Documen	tation Pr	esent?				<u> </u>	<u> </u>
COC Anomaly/Sample Acceptance F	a representatives	F16640-71-71				<u> </u>	
If Chlorinated or Drinking Water Sam			reservation?				V
Na ₂ S ₂ O ₃ Preservation Documented?			coc	Sar	nple t <u>ain</u> er	No	one
Shipping Container	Alta	(Client)	Retain	Re	turn)	Dis	oose

Comments:

APPENDIX G

Section 86

Outfall 004, March 1, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC^	Package ID B4DF42
12269 East Vassar Drive	Task Order 1261.001D.01
Aurora, CO 80014	SDG No. IPC0165
	No. of Analyses 1
Laboratory Alta	Date: April 2, 2006
Reviewer K. Shade	
Analysis/Method Dioxin/F	uran by Method 1613 R Shadn Int
	<u>U</u>
ACTION ITEMS*	
. Case Narrative	
Deficiencies	,
2. Out of Scope Analyses	
3. Analyses Not Conducted	
d Minima Linguis	
4. Missing Hardcopy Deliverables	
Deliver ables	
5. Incorrect Hardcopy	
Deliverables	
6. Deviations from Analysis	Detects below the laboratory lower calibration level were qualified
Protocol, e.g.,	
Holding Times	as estimated.
GC/MS Tune/Inst. Performance	3
Calibration	
Method blanks	· · · · · · · · · · · · · · · · · · ·
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification	
Quantitation	
System Performance	
COMMENTS	
3	
	ot meeting contract and/or method requirements. ted by the laboratory but no action against the laboratory is required.
היים וופסרו בופון איים איים ויים היים וויים וויים היים וויים	was by the laboratory but the abbuil against the laboratory is required.



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

Project:

DATA VALIDATION REPORT

SDG: Analysis:

NPDES IPC0165 O/F

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001.01

Sample Delivery Group:

IPC0165

Project Manager:

P. Costa

Matrix:

Water

Dioxins/Furans

Analysis:

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions: Reviewer:

Date of Review:

K. Shadowlight April 2, 2006

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

Project: SDG: Analysis: NPDES IPC0165 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

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

SDG: Analysis:

NPDES IPC0165 D/F

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be 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.

B4DF42

Project: SDG: NPDES IPC0165 D/F

DATA VALIDATION REPORT

SDG: Analysis:

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

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER 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.

Project: SDG: Analysis: NPDES IPC0165 D/F

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.

	- COTO-01 (COTO-00)	• •					
Clear Data			Sample Data	Laboratory Data			
Name:	Dei Mar Analytical, Irvine		Matrix: Aqueous	Lab Sample:	27365-001	Date Received:	3-Mar-06
	I-Mar-06		Sample Size: 1.00 L	QC Batch No.:	7807	Date Extracted:	5-Mar-06
Time Collected: 0	0940			Date Analyzed DB-5:	8-Mar-06	Date Analyzed DB-225:	NA NA
Analyte	Conc. (ug/L)	DL a	EMPC ^b Qualiffers	Labeled Standard	ard	%R LCL-UCL ^d	Oualiffers
2,3,7,8-TCDD 🌸	a N	0.00000139 🕾 🤇	19 P. C. C.	130-237.8-TCDD	OC.	68.7., 25 164	
1,2,3,7,8-PeCDD		0.00000158	%	13C-1,2,3,7,8-PeCDD	CDD	68.6 25 - 181	
1,2,3,4,7,8-HXCDD	.	0.00000276	76	13C-1,28,47,8-ESCDD	нхсэр 🐣 🖪	61.1 = 32 - 141	
6,7,8-HxCDI	2	0.00000294	z	13C-1,2,3,6,7,8-HxCDD	HxCDD	61.0 28 - 130	
12,3,7,8,9-HKCDD	2. F. S. S. S. D. S.	0.0000027	76g garage 18 18 18 18 18 18 18 18 18 18 18 18 18	1 13C-1,23,4,6,7,8-119CDD	8-HpCDD	61.7 23-140	
1,2,3,4,6,7,8-HpCDI				13C-OCDD			
OCDD	第 20,000,000 年 10,000,000 年	4.		N FISC 237,8-TCDT	OF STATE OF	167.11 24-169	
2,3,7,8-TCDF		0.00000117	1	13C-1,2,3,7,8-PeCDF	SCDF	\$	
1,2,3,7,8-PeCDF	ND	0.00000136		LIC2 147 8 PEODE	CDF	70.7 21-178	
7,8-PeCDF	2	0.00000147		13C-1,2,3,4,7,8-HxCDF	HxCDF		
12.3,4,7,8-HXCDR	W	0.00000130	30. 10. 10. 10. 10. 10.	- BC-L23.67.8-Hx	HACOF	57.01 - 26 - 123	
1,2,3,6,7,8-HxCDF	B	0.00000129	is convenient of the property	13C-2,3,4,6,7,8-HxCDF	HACOF	1	
2,3,4,6,7,8-HxCDF		0.00000139	19 THE RESERVE OF THE PARTY OF	430-11237/89-FXCDF	FIXCUF	60.6° = 29 - 147±	
1,2,3,7,8,9-HxCDF		0.00000179	2	13C-1,2,3,4,6,7,8-HpCDF	8-HpCDF	- 82	
16,7,8-HpC	DF			13C-123A/289-HpCDB	9-FpCDPE	. 60.6 - 26 - 138	
2,3,4,7,8,9-HpCDF		0.00000119	19	13C-OCDF		8	
OCDF	0.0000156			UKS 0701-23778-TGDD	00	87.0 35-197	
Fotals				Footnotes			
Total TCDD	2	0.00000139	36	a. Sample specific estimated detection limit	d detection limit.		
Total PeCDD	9	1000000	88	b. Belgesed methom byseible 5	mble concentration,		
Total HxCDD	0.0000138			c. Method detection limit.			
Total HpCDD	13 ST 1000			4 Lawer south limit - up	per control litter. 🏰		
Total TCDF	Q	0.00000117					
recur	13509000						
Total HpCDF	0.0000220		U.WOKKO				
Analyst JMH			· .	Approved By:	Martha M. Maier	ier 08-Mar-2006 14:29	

Project 27365

Caree TV

NPDES - 3772

33 35

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC ^X	Package ID: B4MT42	
12269 East Vassar Drive	Task Order: 1261.001D.01	***************************************
Aurora, CO 80014	SDG No.: IPC0165	
	No. of Analyses: 1	
Laboratory: Del Mar		
Reviewer: P. Meek	s Reviewede Signature	
Analysis/Method: Metals	[b. 440)	·
Facilities and the second seco	•	
ACTION ITEMS		
Case Narrative		
Deficiencies		
2. Out of Scope Analyses		
3. Analyses Not Conducted		
3. Analyses Not Conducted		
4-86		···
4. Missing Hardcopy		
Deliverables		***************************************
		
5. Incorrect Hardcopy		······································
Deliverables		
6. Deviations from Analysis	Qualifications applied for a blank detect and a detect below the	
Protocol, e.g.,	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		
	neeting contract and/or method requirements.	



DATA VALIDATION REPORT

NPDES Sampling Outfall 004

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPC0165

Prepared by

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

Project:

NPDES

SDG: Analysis: IPC0165 Metals

DATA VALIDATION REPORT

1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC^X Project Number:

1261.001D.01

Sample Delivery Group:

IPC0165

Project Manager:

P. Costa

Matrix:

i . Code

Analysis:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

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.

Project:

NPDES

SDG:

IPC0165

Analysis:

Metals

Table 1. Sample Identification

Client ID	Laboratory ID	Matrix	COC Method
Outfall 004	IPC0165-01	Water	200.8

DATA VALIDATION REPORT

NPDES

SDG: Analysis: IPC0165 Metals

DATA VALIDATION REPORT

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 $0.027~\mu g/L$; therefore, cadmium detected in Outfall 004 was qualified as an estimated nondetect, "UJ." No further qualifications were required.

B4MT42

Project:

NPDES

SDG:

Analysis:

IPC0165 Metals

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.

LABORATORY DUPLICATES 2.7

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**

DATA VALIDATION REPORT

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 methodspecified control limits of 60-125%. No qualifications were required.

2.11 SAMPLE RESULT VERIFICATION

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

B4MT42

4

Revision 0

Project:

NPDES

SDG:

IPC0165

Analysis:

Metals

FIELD QC SAMPLES

DATA VALIDATION REPORT

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

2.12.1 Field Blanks and Equipment Rinsates

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

2.12.2 Field Duplicates

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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

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

Report Number: IPC0165

Sampled: 03/01/06

Received: 03/01/06

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor		Date Analyzed	_)ata Hifi	
Sample ID: IPC0165-01 (Outfall 00 Reporting Units: ug/l)4 - Water)								Rev Qua		Code
Antimony	EPA 200.8	6C04030	0.050	2.0	1.0	1	03/04/06	03/07/06	2	j	DNQ
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.074	1	03/04/06	03/07/06	UT	J	В
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	*		
					¥ A	nalysis	not val	idated			

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

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 Project: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly 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, I 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

IPC1334-01

Outfall 004

Water

Reviewed By:

Del Mar Analytical - Irvine Michele Chamberlin

Michele Chamberdin

Project Manager





Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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/i									
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	





Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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 - \	Vater) - 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	



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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

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



Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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: 6C14077 Extracted: 03/14/06	-										
Blank Analyzed: 03/14/2006 (6C14077-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/14/2006 (6C14077-BS	l)										
Mercury	8.30	0.20	0.050	ug/l	8.00		104	85-115			
Matrix Spike Analyzed: 03/14/2006 (6C1	4077-MS1)				Son	rce: IPC1	217-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 03/14/2006	66C14077.M	enn		_	Sam.	rce: IPC1	217 61				
Mercury	8.33	0.20	0.050	ug/l	8.00	ND	104	70-130	0	20	
Batch: 6C14081 Extracted: 03/14/06				-91					v		
DETON OCTION EXTREMEN 05/14/00	•										
Blank Analyzed: 03/15/2006 (6C14081-Bl	LK1)										
Antimony	ND	2.0	0.050	ug/l	* *	. 4	120			1. 1.	
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 (6C14	1081-MS1)				Sour	ce: IPC0	677-01				
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 - IrvineMichele Chamberlin
Project Manager



Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C14081 Extracted: 03/14/06											
Matrix Spike Analyzed: 03/15/2006 (6C14	1081-MS2)				Sou	rce: IPC1	061-02				
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-MS	SD1)			Sou	rce: IPC0	677-01				
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-BI	Ж1)										
Thallium	ND	1.0	0.15	ug/l	5					•	
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 (6C16	088-MS1)				Sour	ce: IPC1	555-01				
Thallium	77.8	1.0	0.15	ug/l	80.0	ND	97	70-130			
Matrix Spike Analyzed: 03/16/2006 (6C16	088-MS2)				Sour	ce: IPC1	303-01				
Thallium	75.6	1.0	0.15	ug/l	80.0	ND	94	70-130			
Matrix Spike Dup Analyzed: 03/16/2006 (6C16088-MS	D1)			Sour	ce: IPC1:	555-01				
Thallium	77.0	1.0	0.15	ug/l	80.0	ND	96	70-130	1	20	



Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C11028 Extracted: 03/11/06	_										
											
Blank Analyzed: 03/11/2006 (6C11028-B	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/i							
LCS Analyzed: 03/11/2006 (6C11028-BS1	1)										
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 (6C1)	1028-MS1)				Sour	ce: IPC1	298-01				
Chloride	55.1	2.5	0.75	mg/l	5.00	51	82	80-120			
Matrix Spike Dup Analyzed: 03/11/2006	(6C11028-MS	D1)			Sour	ce: IPC1	298-01				
Chloride	55.3	2.5	0.75	mg/l	5.00	51	86	80-120	0	20	
Batch: 6C16069 Extracted: 03/16/06											
									٠,		ž.
Blank Analyzed: 03/16/2006 (6C16069-BI	LK1)										
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)				Sour	ce: IPC1	296-01				
Total Dissolved Solids	325	10	10	mg/l		320			2	10	
Batch: 6C16125 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16125-BL	.K1)										
Total Suspended Solids	ND	10	10	mg/l							

Del Mar Analytical - Irvine Michele Chamberlin

Project Manager



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: 6C16125 Extracted: 03/16/0	<u>)6</u>										
LCS Analyzed: 03/16/2006 (6C16125-B	S1)										
Total Suspended Solids	921	10	10	mg/l	1000		92	85-115			
Duplicate Analyzed: 03/16/2006 (6C161	25-DUP1)				Sou	rce: IPC1	288-01				
Total Suspended Solids	270	10	10	mg/l		260			4	10	
Batch: 6C21053 Extracted: 03/21/0	<u>16</u>										
Blank Analyzed: 03/21/2006 (6C21053-	BLK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/21/2006 (6C21053-B	S1)										M-NR1
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120			
LCS Dup Analyzed: 03/21/2006 (6C210	53-BSD1)										
Oil & Grease	17.0	5.0	0.94	mg/l	20.0		85	65-120	2 1 .	20	



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC1334

Sampled: 03/11/06

Received: 03/11/06

Attention: Bronwyn Kelly

Compliance Check

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

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	Limit
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





Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Attention: Bronwyn Kelly

Sampled: 03/11/06

Pasadena, CA 91101

Report Number: IPC1334

Received: 03/11/06

DATA QUALIFIERS AND DEFINITIONS

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

M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

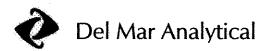
accepted based on acceptable recovery in the Blank Spike (LCS).

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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Report Number: IPC1334

Sampled: 03/11/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

Received: 03/11/06

Certification Summary

Del Mar Analytical - Irvine

Method Matrix P	ielac Californi	3
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: ED

EDD + Level 4

Samples: IPC1334-01

Page 1 of 1		Field readings.	Temp = 53.9	pH= 7.6	Comments					de des de la companya							Turn around Tirrie: (check) 24 Hours 5 Days	48 Hours 10 Days 72 Hours Normal	Perchiorate Only 72 Hours	Metals Only 72 Hours Sample Integrity: (Check)
DC 1034	ANALYSIS REQUIR			SS	ı 'so	31L	A Maria Mari					×					7/21			1530
Y FORM		(s), Tl gener	ecoverable	II & G	IS DT O	×	×	×	×	×						Date/Time:		Date/Time:	3-11.06
OF CUSTODY FORM		-			Preservative Brittle 1	*	HN03	HNO3 1B	None 2A, 2B	HCI 3.4, 3.8	None 4A, 4B	None SA, 5B					Received By	Received By	Received By	al a
Del Mar Analytical Version 03/1/06 CHAIN O	Project:	Boeing-SSFL NPDES Routine Outfall 004	Stormwater at SRE	(626) 568-6691 Fax Number:	Sampling	Cont. Date/Time	3-11-06				4	3-11-06					3 -//- 06 / 2/ \r	F		A16-700
Analytical vers	ddress.	dena	300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager: Bronwyn Kelly Sampler: あんいといる	Container	etrix Type	W Poly-11, 1	W Poly-1L 1	W Glass- 2	W Glass- 2	W Poly-500 2	W Poly-500 2			And the second control of the second control			E THURC -		
Del Mar	Client Name/Address	MWH-Pasadena	300 North Lake Aveni Pasadena, CA 91101	Project Manager: Bror Sampler: 友んパンピータン	Sample	Description	Outfall 004	Ouffall 004-Dup	Outfall 004	Outfall 004	Cutfall 004	Outfall 004					Relinguished By	Relinquished	Relinquished By	





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





Page 1 of 234

Section I: Sample Inventory Report
Date Received: 3/14/2006

Alta Lab. ID

Client Sample ID

27409-001

IPC1334-01

SECTION II

Project 27409 Page 3 of 234

Method Blank				EPA Method 1613
Matrix: Aqueous	QC Batch No.:	. 7831	Lab Sample: 0-MB001	
Sample Size: 1.00 L	Date Extracted:	i: 15-Mar-06	Date Analyzed DB-5: 16-Mar-06	Date Analyzed DB-225: NA
Analyte Conc. (ug/L)	e TO	EMPC ^b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	0.00000114		18 13C-2,3,7,8-1CDD	84.5 25-164
ON S	0.00000107		13C-1,2,3,7,8-PeCDD	
2	0,00000125		13C-1,2,3,4,7,8-HXCDD	78.5
ģ	0.00000127		13C-1,2,3,6,7,8-HxCDD	81.6
1,2,3,7,8,9.HxCDD ND	0.00000122		13C-1,2,3,4,6,7,8-HpCDD	23 140
S-HpCDD				i gi
			13C2,3,7,8-1CDF	5.5%. \$18.7 .4.18
2,3,7,8-TCDF	0.00000094		13C-123,7,8-PeCDF	96.4 24 - 185
× .	0.000000			
	,		13C-12.3.6.7.8-HxCDF	-24
	•		13C-2,3,4,6,7,8-HxCDF	28 - 136
2,3,4,6,7,8-HKCDF	0.000000528		13C-1,2,3,7,8,9-HxCDF	81,7 29 - 147
1,2,3,7,8,9-HxCDF ND				28 - 143
1,2,3,4,6,7,8-HpCDF			ier est Sty	26-138
1,2,3,4,7,8,9-HpCDF ND	0.00000016 0.0000010		13C-0CDF	54.0 17.157 00 12.107
			* OVER OLD **	
Total PeCDD ND	0.00000114		Sample specific estimated detection limit Estimated maximum possible concentration.	
Total HxCDD ND Total HpCDD ND	0.00000124		c. Method detection limit. d. Lower control limit.	
	0.000000947			
Sin Control of the Co	. 5			
Total HpCDF ND				
The second secon	ساس جورت المستعددة والمستعددة والمستعددة والمستعددة والمستعددة والمستعددة والمستعددة والمستعددة والمستعددة والمستعددة		and the second s	

Analyst: RAS

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

Project 27409

OPR Results									EPA	EPA Method 1613	13
Matrix: Aq	Aqueous		OC Batch No	78	7831	Lab Sample:	ile:	0-OPR001			
Sample Size: 1.0	1.00 L		Date Extracted:		15-Mar-06	Date Ar	Date Analyzed DB-5: 16-Mar-06	16-Mar-06	Date Analyzed DB-225:	I DB-225:	ź
Analyte	S	Spike Conc. Conc.	Conc. (ng/mL)	ō	OPR Limits	Lab	Labeled Standard		%R	TOTTOT	
2,3,7,8-TCDD	Track.	° 0.01	68.6		6.7 - 15.8	18 13C	13C-2,3,7,8-TCDD		73.8	25164	
1,2,3,7,8-PeCDD		20.0	52.0		35 - 71	130	13C-1,2,3,7,8-PeCDD	aa	78.9	25 - 181	
1,2,3,4,7,8-HxCDD		\$0.0	49.4	tani Santa Santa	35 - 82	130	13C-1,2,3,4,7,8-HxCDD	CDD	717	32 - 141	
1,2,3,6,7,8-HxCDD		20.0	50.6		38 - 67	130	13C-1,2,3,6,7,8-HxCDD	KCDD	72.7	28 - 130	
1,2,3,7,8,9-HxCDD		20.0	49.0		32 - 81	130	13C-1,2,3,4,6,7,8-HpCDD	НрСОО	1.09	23 - 140	÷.
1,2,3,4,6,7,8-HpCDD	٩	50.0	49.6		35 - 70	130	3C-0CDD		45.3	17 - 157	
000		100	101		78 - 144	130	13C-2,3,7,8-TCDF		75.3	24 - 169	
2,3,7,8-TCDF		10.0	9.83	1, -	7.5 - 15.8	130	13C-1,2,3,7,8-PeCDF	DF	83.4	24 - 185	
1,2,3,7,8-PeCDE	area.	4 0.05	48.2		40 - 67	130	13C-2,3,4,7,8-PeCDF	a de	7.68 2.77	21 - 178	i i
2,3,4,7,8-PeCDF		20.0	49.3		34 - 80	130	3C-1,2,3,4,7,8-HxCDF	xCDF	72.8	26 - 152	
1,2,3,4,7,8-HxCDF		20.0	50.0		36 - 67	130	13C-1,2,3,6,7,8-HxCDF	ŤĢ,	78.4	26 - 123	er Per
1,2,3,6,7,8-HxCDF		50.0	49.7		42 - 65	130	13C-2,3,4,6,7,8-HxCDF	xCDF	76.6	28 - 136	•
2,3,4,6,7,8-HxCDF		50.0	49.5		35 - 78	261	13C-1,2,3,7,8,9-HXCDF	ģ	70.9	29 - 147	19 A 5 1 7
1,2,3,7,8,9-HxCDF		50.0	48.5		39 - 65	130	13C-1,2,3,4,6,7,8-HpCDF	HPCDF	62.2	28 - 143	<u> </u>
1,2,3,4,6,7,8-HpCDF		50.0	47.9	mana Malaka T	41 - 61	130	13C-1,2,3,4,7,8,9-HpCDR	HpCDB	63.7	26 - 138	***
1,2,3,4,7,8,9-HpCDF	*	50.0	48.1		39 - 69	130	3C-OCDF		~	17-157	
OCDR		100	91.4		63 - 170		CRS 17Cl-2,3,7,8-TCDD	D	95.5	35 - 197	

Analyst: DMS

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

EPA Method 1613	14-Mar-06 15-Mar-06 NA	Oualifiers							7 v.	**	y 6										1. s	3-2 3-3 3-3 3-35	• :	-	
PA Met	225	ŀ	す	81	4	30	9	57	6	85	78	52	23	36	47	43	38	57						./	
EI	Date Received: Date Extracted: Date Analyzed DB-225;	LCL-UCL ^d	25 - 164	25 - 181	32 - 141	28 - 130	23 - 140	17 - 157	24 - 169	24 - 185	21 - 178	26 - 152	26:123	28 - 136	29 - 147	28 - 143	26 - 138	17 - 157	n i				i de		
	Date Received: Date Extracted: Date Analyzed	%R	9.69	69.5	62.0	64.7	619	44.5	70.5	76.2	73.1	62.8	66.5	64.1	60.5	59.1	0.19	48.0 10.0						A parties of the second	-
	27409-001 7831 16-Mar-06						_			ž:						LL.	íz.	7		limit.	ntration	· · ·	, j 90	900 600 270	
	27409-001 7831 16-Mar-06	ard	8	CDD	HxCDD	НХСДД	8-HpCD		Š	SCD.	CDF	HXCDF	HXCDF	HxCDF	HXCDF	8-HpCD	9-HpCD	Ç	}	d detection	stible conce	per control	\	4 3	-
	ette DB-S:	Labeled Standard	13C-2,3,7,8-TCDD	13C-1,2,3,7,8-PeCDD	13C-1,2,3,4,7,8-HxCDD	3C-1,2,3,6,7,8-HxCDD	3C-1,2,3,4,6,7,8-HpCDD	COC	13C-2,3,7,8-TCDF	3C-1,2,3,7,8-PeCDF	3C-2,3,4,7,8-PeCDF	3C-1,2,3,4,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	3C-2,3,4,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	13C-OCDF	200	a. Sample specific estimated detection limit.	b. Estimated maximum possible concentration.	c. Method detection limit. d. Lower control limit - upper control limit.	evita.		-
	Laboratory Data Lab Sample: QC Batch No.: Date Analyzed DB-5:	Label	13C-2,	13C-1,	13C-1,	13C-1,	130-17	13C-0CDD	130.2	35. 1.	13C-2	130-1,	130-1	13C-2,	13C-1;	13C-1,	13C-1,	13C-OCDF	Footnotes	unple speci	stimated m	c. Method detection limit d. Lower control limit - u	5-45-		
	Lab QC Date	. <u>s</u> e	SI			·	- 	:-			ł Ś			·			8 2 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			1	-45	2 J			
	Aqueous 1.02 L	Qualifiers			200		. <i>14</i>	— ,	3	1			#14g. - 10		300 1 300 1 50 1 50 1	Ž				****	() () () ()		i i i i i i i i i i i i i i i i i i i	12. 12. 12. 13.	,
,					2847 2809 2010 2010 2010			7 × 1		. ,	- 00			1		4			100		7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	0.00000290			***************************************
	Sample Data Matrix Sample Size	EMPCb	07	84.	34	47	36	\$*** E		965	13%		487	452	512	685				8	7		965		
:		DF a	0.00000107	0.00000148	0.00000134	0.00000147	0.00000136			0.000000965	ND	0.00000115	0.000000487	0.000000452	0.000000512	\simeq		0.000000869		0.00000107	0.00000148	Alle Services	0.000000965		
*	vine	:				3		0204	322	я́: ж			4.		J.	***	00268	ND 0.00000847		-		0.00000157 0.0000405	17 (1888) 17 (1888) 18 (1888)	0.00000246	
	Del Mar Analytical, Irvine IPC1334 11-Mar-06 1040	(ng/L)	ON	2	2	2	2	0.0000204		오!	2	2	N	2	Ð	2	0.00000268		1	Q	P	0.0000015	99	0.0000024	
IPC1334-01	Del Mar Ana IPC1334 11-Mar-06 1040	Conc. (á			Ka Ka			260	· · · · · · · · · · · · · · · · · · ·			;							6 0 0 1	* *			- Commence
IPC	Del Mar IPC1334 11-Mar-6 1040	-		DD	CDD	CDD	O O	HPCDD		233 1		4	CDF	CDF	5-57			-HpCDF						**.;	
Sample ID:	Client Data Name: Project: Date Collected:	yte	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	ږ. ۵	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF OCDF	S	Total TCDD	Total PeCDD	Total HxCDD Total HpCDD	Total TCDF Total PeCDF	Total HxCDF Total HpCDF	
Samp	Client Data Name: Project: Date Collec	Analyte	2,3,7,	1,2,3,	1,2,3	12,3	123	1,2,3,	OCDD	2,3,7,	, , ,	2,3,4 4,6	1,2,3	1,2,3,	2,3,4	12,3	1,2,3,	1,2,3, OCD	Totals	Total	Tota	Total	Total Total	Total Total	

APPENDIX

Page 7 of 234

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



SENDING LABORATORY:

17461 Derlan Ave. Suita 190, Irvine, CA 92614

RECEIVING LABORATORY:

Ph (949) 251-1022 Fax (949) 251-1226

SUBCONTRACT ORDER - PROJECT # IPC1334

Del Mar Analytical, Irvine 17461 Derian Avenue. Suite Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele C	hamberlin	lata is requested	Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 Due Date: 3/27/06 Initials: MC						
Standard TAT is requested Analysis	a uniess specific due d Expiration	race is requested	Comments		PHILADS. 17				
Sample ID: IPC1334-01 Wa 1613-Dioxin-HR-Alta EDD + Level 4	oter Sampled: 03/ 03/18/06 10:40 04/08/06 10:40	711/06 10:40		s,no TEQ,ug/L,sub=Alta pm,Include Std logs for I	VI IV.				
Containers Supplied: 1 L Amber (IPC1334-01C) 1 L Amber (IPC1334-01D)	•		-						
	•								
			:						
		•							
		SAMPLE	INTEGRITY:		·				
All containers intact	,	ie labels/COC agree; es Preserved Properly;	☐ Yes ☐ No ☐ Yes ☐ No	Samples Received On Samples Received at (
Michieli Chal.	m <i>byli</i> v	Time 1	FLd.	Ex 3.13.09 Benedict	te , // Time a / =				
	,	4							
Released By roject 27409	Date	Time 1	Received By	Da	te Time Page 40 of 234				

SAMPLE LOG-IN CHECKLIST

Alta Project #: <u>67409</u>

Samples Arrival:	Date/Time		Initials	BSB	Location: WR-	ion: WR-7	
Logged In:	Date/Time		Initials	BLB	Location: UR-2		
Delivered By:	FedEx	UPS	Cal	Cal DHL Har		Other	
Preservation:	Tce	Blu	ie Ice	ce Dry Ice N			
Temp °C -0.3°C Time: O					Thermometer ID: DT-20		

					YES	NO	NA
Adequate Sample Volume Received?		•	•		V_{j}		
Holding Time Acceptable?					V		
Shipping Container(s) Intact?					1/		
Shipping Custody Seals Intact?					/		
Shipping Documentation Present?	V						
Airbill Trk# 792		1					
Sample Container Intact?	V	<u> </u>					
Sample Custody Seals Intact?						<u> </u>	1
Chain of Custody / Sample Documen	tation Pr	esent?		 	V		
COC Anomaly/Sample Acceptance F	orm com	pleted?				V	
If Chlorinated or Drinking Water Sam	ples, Acc	ceptable P	reservation?	•			V
Na ₂ S ₂ O ₃ Preservation Documented?		COC	San Cont	nple ainer	No	ne	
Shipping Container	Alta	Client	Retain	Re	turn	Disp	ose

Comments:

APPENDIX G

Section 88

Outfall 004, March 11, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MEC ^X		Package ID	B4DF35
12269 East Vassar Drive		Task Örder	
Aurora, CO 80014		SDG No.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
		of Analyses	1
Laboratory Aita		Date: April	
Reviewer K. Shadow	/light	Reviewer's	
Analysis/Method Dioxin/Fura		1 3 / 6	idonfit 1
- angunammagan daggan nagrupan gan daggan nagrupan gan daggan nagrupan gan daggan dagg		LIL CONV	
ACTION ITEMS			
. Case Narrative			
Deficiencies			
2. Out of Scope Analyses			
•			
			
3. Analyses Not Conducted			
4. Missing Hardcopy			
Deliverables			
Contract three contracts and the contract of t			
5. Incorrect Hardcopy			**************************************
Deliverables	***************************************		
6. Deviations from Analysis	Detects below the laborate	ory lower calibi	ation level were qualified
Protocol, e.g.,	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			
	·		

* Subcontracted analytical laboratory is not n	neeting contract and/or method remain	rements.	
^b Differences in protocol have been adopted			required.



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 004

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPC1334

Prepared by

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

Analysis:

1. INTRODUCTION

Task Order Title:

NPDES

Contract Task Order:

1261.001.01

Sample Delivery Group:

IPC1334

P. Costa

Project Manager:

Matrix:

Water

Analysis:

Dioxins/Furans

Level IV

QC Level:

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

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

1

NPDES - 3808

Project: SDG: Analysis:

NPDES IPC1334 D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 004	IPC1334-01	27409-001	Water	1613

D/F

Analysis:

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.

Project: SDG:

NPDES IPC1334

DATA VALIDATION REPORT

Analysis:

2.2.2 Mass Spectrometer Performance

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

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

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER 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.

Project:

SDG:

DATA VALIDATION REPORT

NPDES IPC1334 **Analysis** D/F

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No 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. 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	h00)	-					EPA M	EPA Method 1613
	Client Data				Sample Data		Laboratory Data				
	Name: Project	Del Mar Analytical, Irvine	tical, Irvine		Matrix	Aqueous	Lab Sample:	27409-001	Date Received.	ived.	14-Mar-06
Q.		11-Mar-06 1040			Sample Size:	1.02 L	QC Batch No.: Date Analyzed DB-5;	7831 16-Mar-06	Date Extracted	Date Extracted: Date Analyzed DB-225:	15-Mar-06 NA
. 3	Analyte	Conf. (u	(ug/L)	DI a	EMPCb	Qualifiers	Labeled Standard	ard	%R	וכוד-חכדק (Oualifiers
	2,3,7,8-TCDD		Ð	0.00000107	07		IS 13C-2,3,7,8-TCDD	QQ	9.69	25 - 164	
line by Quintersance	1,2,3,7,8-PeCDD	۵	Ð	0.00000148	%		13C-1,2,3,7,8-PeCDD	CDD	69.5	25 - 181	
	1,2,3,4,7,8-HxCDD	da:	S	0.00000134	34		13C-1,2,3,4,7,8-HxCDD	HxCDD	62.0	32 - 141	
ned Wilderickey,	1,2,3,6,7,8-HxCDD	DD	ę	0.00000147	47	•	13C-1,2,3,6,7,8-HxCDD	HxCDD	7.49	28 - 130	
<u>\$</u>		DD dd:	R	0.000001	36		13C-1,2,3,4,6,7,8-HpCDD	8-HpCDD	61.9	23 - 140	
3 2		СББ	0.0000204			٠,	13C-OCDD		44.5	17 - 157	
e mangin	0000 0000		0.000322				13C-2,3,7,8-TCDF	DF	70.5	24 - 169	
	2,3,7,8-TCDF		R	0.000000965	965		13C-1,2,3,7,8-PeCDF	eCDF	76.2	24 - 185	***************************************
anguatur paradom	1,2,3,7,8-PeCDF	(X.	2	0.00000113	13		13C-2,3,4,7,8-PeCDF	eCDF	73.1	21 - 178	
	2,3,4,7,8-PeCDF	£r.	ę	0.00000115	15		13C-1,2,3,4,7,8-HxCDF	HxCDF	62.8	26 - 152	
galgaria e e del parte	1,2,3,4,7,8-HxCDF	DF	S	0.000000487	487		13C-1,2,3,6,7,8-HxCDF	HxCDF	66.5	26 - 123	
	1,2,3,6,7,8-HxCDF	DF	Q.	0.000000	452		13C-2,3,4,6,7,8-HxCDF	HxCDF	64.1	28 - 136	•
	2,3,4,6,7,8-HxCDF	'DF	£	0.000000	512		13C-1,2,3,7,8,9-HxCDF	HxCDF	60.5	29 - 147	
بر دوند <u>:::م</u> ردد		DF	2	0.000000685	685		13C-1,2,3,4,6,7,8-HpCDF	8-HpCDF	59.1	28 - 143	
3_		CDF	0.00000268			} 2	13C-1,2,3,4,7,8,9-HpCDF	9-HpCDF	0.19	26 - 138	
makkaran dipaka	1,2,3,4,7,8,9-HpCDF	CDF	S	0.000000869	698	_	13C-OCDF	ı	48.0	17 - 157	
<u> </u>	OCDF		0.00000847			J	CRS 37CI-2,3,7,8-TCDD	QQ	101	35 - 197	
- workers on a constraint	Totals						Footnotes				
	Total TCDD		QN.	0.00000107	70		a. Sample specific estimated detection limit.	d detection limit.			
	Total PeCDD		S	0.00000148	48		b. Estimated maximum possible concentration.	ssible concentration.			
-41	Total HxCDD		0.00000157		0.00000290	06	c. Method detection limit.				
the Andrewson Services	Total HpCDD		0.0000405				d. Lower control limit - upper control limit.	per control limit.			***
Photography de aus	Total TCDF		Q	0.000000965	965						
	Total PeCDF		S	0.00000114	14						
	Total HxCDF		0.00000246			~					
and the second of the second	Total HpCDF		0.0000107								
adri quarif empera	Analyst: RAS	1	THE TREE TO SERVICE THE PROPERTY OF THE PROPER				Approved By:	William J. Luksemburg	semparg	17-Mar-2006 11:36	11:36

Project 27409

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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

Michele Chambersin

Project Manager



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

Sampled: 03/21/06

MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPC2199 Received: 03/21/06

Attention: Bronwyn Kelly

METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2199-01 (Outfall 00	04 - 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	



Pasadena, CA 91101

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Sampled: 03/21/06
Report Number: IPC2199 Received: 03/21/06

Attention: Bronwyn Kelly

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPC2199-01 (Outfall 00-	4 - 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	



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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	er				
EPA 300.0	2	03/21/2006 09:10	03/21/2006 20:30	03/21/2006 23:30	03/22/2006 01:25



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPC2199

Sampled: 03/21/06 Received: 03/21/06

Attention: Bronwyn Kelly

** METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C22059 Extracted: 03/22/06											
	_										
Blank Analyzed: 03/22/2006 (6C22059-B	LK1)				4						
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/22/2006 (6C22059-BS)	1)										
Mercury	7.16	0.20	0.050	ug/l	8.00		90	85-115			
Matrix Spike Analyzed: 03/22/2006 (6C2	2059-MS1)				Sou	rce: IPC2	120-17				
Mercury	7.15	0.20	0.050	ug/i	8.00	ND	89	70-130			
Matrix Spike Dup Analyzed: 03/22/2006	(6C22059-MS	D1)			Sour	rce: IPC2	120-17				
Mercury	7.18	0.20	0.050	ug/l	8.00	ND	90	70-130	0	20	
Batch: 6C22075 Extracted: 03/22/06	<u>-</u>										
Blank Analyzed: 03/22/2006 (6C22075-Bl	LK1)										
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l						•	
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 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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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

Attention: Bronwyn Kelly

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 6C22075 Extracted: 03/22/0											C
Matrix Spike Analyzed: 03/22/2006 (6C	22075-MS1)				Sou	rce: IPC2	111-01				
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	6 (6C22075-N	(SD1)			Sou	rce: IPC2	111-01				
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	



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2199

Sampled: 03/21/06 Received: 03/21/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C21047 Extracted: 03/21/06	•										
Blank Analyzed: 03/21/2006 (6C21047-Bl	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/21/2006 (6C21047-BS)	1)										
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-Bl	LK1)										
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	S-DUP1)				Sour	rce: IPC2	169-01				
Total Dissolved Solids	1120	10	10	mg/l		1100			2	10	
Batch: 6C23099 Extracted: 03/23/06	•										
Blank Analyzed: 03/23/2006 (6C23099-BI	LK1)										
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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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

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 (6C2309	9-DUP1)				Sou	rce: IPC2	307-02				
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C24046 Extracted: 03/24/06	•	÷									
Blank Analyzed: 03/24/2006 (6C24046-B	LK1)								-		
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/24/2006 (6C24046-BS)	1)										
Oil & Grease	18.0	5.0	0.94	mg/l	20.0		90	65-120			M-NR1
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	



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2199

Sampled: 03/21/06

Received: 03/21/06

Attention: Bronwyn Kelly

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Sampled: 03/21/06

Pasadena, CA 91101

Report Number: IPC2199

Received: 03/21/06

Attention: Bronwyn Kelly

DATA QUALIFIERS AND DEFINITIONS

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

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

M-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



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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 1 PC 2199 Tog 1 of 1

C 214 Page 1 of 1		Field readings:	Temp= 57.0		3,7 =Hq													Turn around Time: (check) 24 Hours 5 Days	48 Hours 10 Days Normal /	te Only 72 Ho	Metals Only 72 Hours	intenti
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ORM		<u></u>	(r.er p	٠ ٧٠	4크) e	& Greas SO4, NG	'-10 0!!			×	×	×					***************************************	Date/Time:	Date/Time:	Date/Time:		
Del Mar Analytical Version COVING CHAIN OF CUSTODY FORM			sietalv IT	e v	erabi	al Recov	Bottle .	X Y		28, 28	. 38 3€, 38	44, 48	5A. 58		-			Charles Mark			. 1	
IN OF C		FL NPDES	Stormwater at SRE		mber: 6691	er. 6515		0	HNO3	None	후	None	None					Reserved By	(Becalved By	Redained By		
ST/08 CHA	Project:	Boeing-SS	Routine O		Phone Number: (626) 568-6691	Fax Number. (626) 568-6515	Sampling Date/Time	3/2/166 00					>					Time. 1715	Time:	7 2 2 E		
Cal Version 0			ite 1200	Listensia de la constanta de l	¥e¥ ¥e¥	hir.	Container # of	-	Poty-1L 1	Glasse 2 Amber 2	Class-2 Amber 2	Poty-500 2	Poly-500 2		•			W2/66	Date/Time			
r Analyt	Address		adena e Avenue, Su	191101	ger. Bronw	rross, Ra	Sample Co Matrix	4	3	∄	छ १ ≽	<u>8</u> €	å E 3							\{\rangle = \rangle \rangle = \rangl		
Del Mai	Client Name/Address		MWH-Pasadena 300 North Lake Avenue, Suite 1200	Pasadena, CA 91101	Project Manager: Bronwyn Kelly	Sampler. Berress, Kaden	Sample	Outral 004	Outfall 004-Dup	Custali 004	Outfall 004	Outfall 004	Outfall 004					Relinquished By	Britished By	Remainshed By		



,2006

pject I.D.: 27455

:hele Chamberlin
: Analytical, Irvine
Perian Avenue, Suite 100
CA 92614

s. Chamberlin,

d are the results for the one aqueous sample received at Alta Analytical Laboratory on March 5 under your Project Name "IPC2199". This sample was extracted and analyzed using EPA 1613 for tetra-through-octa chlorinated dioxins and furans. A rush turnaround time was d for this work.

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

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

ly,

Who Maver

M. Maier
r of HRMS Services



Alia Analytical Labaratory 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 vertiten approval of ALTA



Section I: Sample Inventory Report

Date Received: 3/23/2006

Alta Lab. ID Client Sample ID

27455-001 IPC2199-01

Project 27455 PNPDES233828

SECTION II

Project 27455 PNEDES 233829

Matrix: Aqueous QC Banth No.: 7893 Lab Sample: ΦABD01 Sample Size: 1.00 L Date Extracted: 3-Apr-66 Date Analyzed DB-5: 4-Apr-66 Date Analyzed DB-25: NA Analyzed: Conc. (ag/L) DL de Extracted: 3-Apr-66 Date Analyzed DB-5: 4-Apr-66 Date Analyzed DB-25: NA Analyzed: Conc. (ag/L) DL de Extracted: 3-Apr-66 Date Analyzed DB-25: NA 2.3.7.8 F-CDD ND 0.000000744 15C-12.3.7.8 F-CDD 7.8 25: 164 1.2.3.6 F-CDD ND 0.00000103 13C-12.3.7.8 F-CDD 7.8 25: 181 1.2.3.6 F-CDD ND 0.00000116 13C-12.3.7.8 F-CDD 7.8 23: 181 1.2.3.6 F-CDD ND 0.00000116 13C-12.3.7.8 F-CDD 7.8 23: 181 1.2.3.6 F-CDF ND 0.00000012 13C-12.3.7.8 F-CDF 7.8 2.4: 183 2.3.4 F-CDF ND 0.00000002 13C-12.3.7.8 F-CDF 7.8 2.1: 18 2.3.3.6 F-CDF ND 0.00000003<	Method Blank						EPA Method 1613
1.00 L Date Extracted: 3-Apr-06 Date Analyzed DB-5: 4-Apr-06 Date Analyzed DB-223		snoant	QC Batch No.:	7893			
Cone. (ug/L) DL. a EMPC b Qualifiers Labeled Standard %R LCL-UCLd (A 25-164) ND 6.00000744 15 13C-2.3.7.8-TCDD 77.8 25-164 ND 0.00000247 13C-1.2.3.7.8-PCDD 46.4 25-164 DD ND 0.00000116 13C-1.2.3.7.8-PCDD 77.6 28-130 DD ND 0.00000116 13C-1.2.3.7.8-PCDD 77.6 28-130 DD ND 0.00000126 13C-1.2.3.7.8-PCDF 78.3 2-140 ND 0.00000126 13C-1.2.3.7.8-PCDF 80.8 25-1.23 F ND 0.000000127 13C-1.2.3.7.8-PCDF 80.8 25-1.23 F <th></th> <th>T.00 T</th> <th>Date Extracted:</th> <th>3-Apr-06</th> <th></th> <th>Date Ana</th> <th></th>		T.00 T	Date Extracted:	3-Apr-06		Date Ana	
ND 6,000,00744 IS 13C-2,3,7,8-TCDD 77.8 ND 0,000,00247 13C-1,2,3,7,8-PcDD 46.4 ND 0,000,00116 13C-1,2,3,7,8-PcDD 77.6 ND 0,000,00116 13C-1,2,3,6,7,8-HxCDD 77.6 ND 0,000,0012 13C-1,2,3,6,7,8-HxCDD 82.4 ND 0,000,0012 13C-0,2,3,4,7,8-HxCDD 82.4 ND 0,000,0018 13C-0,2,3,7,8-PcDF 78.0 ND 0,000,0018 13C-0,2,3,7,8-PcDF 77.4 ND 0,000,000,002 13C-1,2,3,7,8-PcDF 80.8 ND 0,000,000,003 13C-1,2,3,4,7,8-PcDF 80.8 ND 0,000,000,000 13C-1,2,3,4,6,7,8-HxCDF 84.6 ND 0,000,000,000 13C-1,2,3,4,6,7,8-	Analyte	Cone. (ug/L)	23	٩	Labeled Standard	%R	
ND 0.00000247 13C-1,23,7,8-PcDD 46.4 ND 0.00000116 13C-1,23,7,8-PcDD 77.6 ND 0.00000116 13C-1,23,6,7,8-HcDD 77.6 ND 0.00000126 13C-1,23,6,7,8-HcDD 78.3 ND 0.00000126 13C-1,23,6,7,8-HcDP 78.3 ND 0.00000078 13C-1,23,7,8-PcDF 78.3 ND 0.00000054 13C-1,23,7,8-PcDF 78.4 ND 0.00000054 13C-1,23,7,8-HcDF 80.8 ND 0.00000054 13C-1,23,7,8-HcDF 80.8 ND 0.0000053 13C-1,23,7,8-HcDF 80.8 ND 0.0000053 13C-1,23,7,8-HcDF 80.8 ND 0.000000476 13C-1,23,7,8-HcDF 80.8 ND 0.000000476 13C-1,23,7,8-HcDF 84.6 DF ND 0.000000474 a. Sumple specific estimated detection limit ND 0.0000016 a. Sumple specific estimated detection limit b. Inimit ND 0.00000188 a. Lower cancer cancer limit b. Low	2,3,7,8-TCDD	Ð	0.000000744			77.8	25 - 164
ND 0.00000116 13C-12,3,4,7,8-FtxCDD 77.6 ND 0.00000116 13C-12,3,4,7,8-FtxCDD 77.6 ND 0.00000126 13C-12,3,4,7,8-FtxCDD 82.4 ND 0.00000022 13C-2,3,4,7,8-FtxCDF 78.3 ND 0.00000026 13C-12,3,7,8-FtxCDF 77.4 ND 0.00000026 13C-12,3,7,8-FtxCDF 80.8 F ND 0.00000025 13C-12,3,7,8-FtxCDF 80.8 F ND 0.00000025 13C-12,3,7,8-FtxCDF 80.8 F ND 0.00000052 13C-12,3,7,8-FtxCDF 80.8 F ND 0.00000052 13C-12,3,6,7,8-HxCDF 80.8 F ND 0.00000052 13C-12,3,6,7,8-HxCDF 82.0 F ND 0.00000052 13C-12,3,6,7,8-HxCDF 82.0 ND 0.00000073 13C-12,3,6,7,8-HxCDF 84.6 ND 0.00000074 13C-12,3,7,8-HxCDF 84.6 ND 0.00000074 1 x-min 1 x-min ND <t< td=""><td>1,2,3,7,8-PeCDD</td><td>æ</td><td>0.00000247</td><td></td><td></td><td>46.4</td><td>25 - 181</td></t<>	1,2,3,7,8-PeCDD	æ	0.00000247			46.4	25 - 181
ND ND 0.00000116 13C-1,2,3,6,7,8-HxCDD 77.6 ND 6.00000134 13C-1,2,3,6,7,8-HxCDD 82.4 ND 0.000000202 13C-0,2,3,6,7,8-HxCDF 78.3 ND 0.000000203 13C-1,2,3,7,8-HxCDF 77.4 ND 0.000000203 13C-1,2,3,6,7,8-HxCDF 80.3 F ND 0.000000203 13C-1,2,3,6,7,8-HxCDF 80.3 F ND 0.000000203 13C-1,2,3,6,7,8-HxCDF 80.3 F ND 0.00000052 13C-1,2,3,6,7,8-HxCDF 82.0 F ND 0.00000052 13C-1,2,3,6,7,8-HxCDF 82.0 F ND 0.00000052 13C-1,2,3,6,7,8-HxCDF 82.0 F ND 0.00000052 13C-1,2,3,7,8-HxCDF 84.6 ND 0.00000052 13C-1,2,3,7,8-HxCDF 84.6 ND 0.00000052 13C-1,2,3,7,8-HxCDF 84.6 ND 0.00000074 13C-1,2,3,7,8-HxCDF 84.6 ND 0.00000016 13C-1,2,3,7,8-HxCDF 84.6 <td>1,2,3,4,7,8-HxCDI</td> <td></td> <td>0.00000119</td> <td></td> <td>13C-1,2,3,4,7,8-HxCDD</td> <td>80.7</td> <td>32-141</td>	1,2,3,4,7,8-HxCDI		0.00000119		13C-1,2,3,4,7,8-HxCDD	80.7	32-141
ND 0.00000126 13C-1,23,46,7,8-HpCDD 82.4 ND 0.00000126 13C-0,23,48,7,8-HpCDF 78.3 ND 0.000000292 13C-2,3,7,8-TCDF 78.3 ND 0.000000205 13C-1,2,3,7,8-PpCDF 80.8 ND 0.000000205 13C-1,2,3,7,8-HpCDF 80.8 ND 0.000000205 13C-1,2,3,7,8-HpCDF 80.3 ND 0.000000523 13C-1,2,3,7,8-HpCDF 80.3 ND 0.000000523 13C-1,2,3,7,8-HpCDF 80.3 ND 0.000000731 13C-1,2,3,7,8-HpCDF 80.3 ND 0.000000732 13C-1,2,3,7,8-HpCDF 84.6 ND 0.000000734 13C-1,2,3,7,8-HpCDF 84.6 ND 0.000000744 a. Sumple specific estimated detection limit 83.7 ND 0.000000744 a. Sumple specific estimated detection limit c. Method detection limit ND 0.00000016 c. Method detection limit c. Method detection limit d. Lower council limit ND 0.00000018 c. Method detection limit d. Lower council l	1,2,3,6,7,8-HxCDI		0.00000116		13C-1,2,3,6,7,8-HxCDD	77.6	28 - 130
TDD NB 0.00000126 13C-OCDD 65.0 NB 0.000000786 13C-2.3,7,8-PcDF 78.3 NB 0.000000786 13C-1,2,3,7,8-PcDF 57.4 NB 0.00000203 13C-1,2,3,7,8-PcDF 46.8 F NB 0.00000203 13C-1,2,3,7,8-PcDF 80.8 F NB 0.00000523 13C-1,2,3,7,8-PcDF 80.8 F NB 0.00000523 13C-1,2,3,7,8-PcDF 80.3 F NB 0.00000672 13C-1,2,3,7,8-PcDF 80.3 F NB 0.00000672 13C-1,2,3,7,8-PcDF 80.3 F NB 0.00000673 13C-1,2,3,7,8-PcDF 84.6 DF ND 0.00000674 13C-1,2,3,7,8-PcDF 84.6 DF ND 0.00000744 a. Sample specific estimated detection limit 6.00000247 b. Estimated maximum possible concentration. ND 0.000000126 c. Acthod detection limit c. Acthod detection limit c. Acthod detection limit d. Lower control limit ND 0.00000	1,2,3,7,8,9-HxCDI		0.00000113		13C-1,2,3,4,6,7,8-HpCDD	82.4	23 - 140
NID 6.00000292 13C-2,3,7,8-TCDF 78.3 ND 0.000000786 13C-1,2,3,7,8-PCDF 57.4 ND 0.000000205 13C-1,2,3,4,7,8-PCDF 46.8 ND 0.000000537 13C-1,2,3,4,7,8-PCDF 80.8 ND 0.000000532 13C-1,2,3,4,7,8-PCDF 80.8 ND 0.000000532 13C-1,2,3,4,7,8-PCDF 80.8 ND 0.000000532 13C-1,2,3,4,8-P-HCDF 80.3 ND 0.000000731 13C-1,2,3,7,8-P-HCDF 82.0 ND 0.00000073 13C-1,2,3,7,8-P-HCDF 84.6 ND 0.00000074 13C-1,2,3,7,8-P-HCDF 84.6 ND 0.00000046 13C-1,2,3,7,8-P-HCDF 84.6 ND 0.0000014 xmple specific estimated maximum possible concentration, xmple specific estimated detection limit. ND 0.0000016 xmple specific estimated maximum possible concentration, xmple specific estimated maximum possible concentration, ND 0.00000018 xmple specific estimated maximum possible concentration, xmple specific estimated maximum possible concentration,	1,2,3,4,6,7,8-HpCI		0.00000126		13C-OCDD	65.0	17 - 157
ND 0.000000786 13C-1,2,3,7,8-PeCDF 57.4 ND 0.00000205 13C-2,3,4,7,8-PeCDF 46.8 ND 0.0000023 13C-1,2,3,4,7,8-PeCDF 80.8 ND 0.000000523 13C-1,2,3,4,7,8-PeCDF 74.4 ND 0.000000523 13C-1,2,3,4,7,8-PhCDF 74.4 ND 0.000000531 13C-1,2,3,4,8,9-PhCDF 82.0 NF ND 0.00000073 13C-1,2,3,4,8,9-PhCDF 79.6 ND 0.00000074 13C-1,2,3,4,8,9-PhCDF 84.6 ND 0.00000074 13C-0CDF 84.6 ND 0.00000074 a. Sample specific estimated detection limit. 68.7 ND 0.00000074 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000074 a. Sample specific estimated detection limit. c. Method detection limit. ND 0.00000016 c. Method detection limit. c. Method detection limit. ND 0.000000786 c. Method detection limit. d. Lower control limit. ND 0.000000186	OCDD	2	0.00000292		13C-2,3,7,8-TCDF	78.3	24 - 169
NID 0.00000186 13C-2,3,4,7,8-PeCDF 46.8 NID 0.00000263 13C-1,2,3,4,7,8-HxCDF 80.8 NID 0.000000523 13C-1,2,3,4,7,8-HxCDF 74.4 NID 0.000000572 13C-1,2,3,4,6,7,8-HxCDF 80.3 NID 0.000000731 13C-1,2,3,7,8,9-HxCDF 82.0 NID 0.00000073 13C-1,2,3,4,8,9-HyCDF 79.6 NID 0.00000074 13C-0CDF 84.6 NID 0.000000744 a. Sample specific estimated detection limit. 68.7 NID 0.000000744 a. Sample specific estimated detection limit. 95.1 NID 0.000000744 a. Sample specific estimated detection limit. c. Method detection limit. NID 0.000000744 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. NID 0.00000016 c. Method detection limit. c. Method detection limit. NID 0.000000786 c. Method detection limit. d. Lower control limit. NID 0.000000186 c. Method detection limit. d. Lower control limit.	2,3,7,8-TCDF	2	0.000000786		13C-1,2,3,7,8-PeCDF	57.4	24 - 185
ND 0.0000205 13C-1,2,3,4,7,8-HxCDF 80.8 ND 0.000000523 13C-1,2,3,6,7,8-HxCDF 74.4 ND 0.000000523 13C-2,3,4,6,7,8-HxCDF 80.3 ND 0.000000731 13C-1,2,3,4,8,9-HxCDF 82.0 F ND 0.00000073 13C-1,2,3,4,8,9-HxCDF 84.6 F ND 0.00000074 13C-0,2,3,4,8,9-HxCDF 84.6 F ND 0.00000074 13C-0,2,3,4,7,8,-HxCDF 84.6 ND 0.00000074 13C-0,2,3,7,8-TCDD 95.1 ND 0.00000074 a. Sample specific estimated detection limit. ND 0.000000786 c. Method detection limit. ND 0.000000786 d. Lower counted limit.	1,2,3,7,8-PeCDF	Q	0.00000186		13C-2,3,4,7,8-PeCDF	46.8	21-178
NB 6.00000547 13C-1,23,6,7,8-HxCDF 74.4 ND 0.000000523 13C-2,3,4,6,7,8-HxCDF 80.3 ND 0.000000731 13C-1,2,3,4,6,7,8-HxCDF 82.0 F ND 0.000000731 13C-1,2,3,4,6,7,8-HxCDF 82.0 F ND 0.000000476 13C-1,2,3,4,7,8-HxCDF 84.6 F ND 0.000000478 23.4	2,3,4,7,8-PeCDF	2	0.00000205		13C-1,2,3,4,7,8-HxCDF	80.8	26 - 152
ND 0.000000523 13C-2,3,4,6,7,8-HxCDF 80.3 ND 0.000000731 13C-1,2,3,7,8,9-HxCDF 82.0 F ND 0.000000731 79.6 F ND 0.000000476 84.6 F ND 0.000000448 CKS 37C1,2,3,4,7,8,9-HpCDF 84.6 ND 0.0000001448 CKS 37C1-2,3,4,7,8,9-HpCDF 84.6 ND 0.000000744 a. Sample specific estimated detection limit. 68.7 ND 0.00000116 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000126 a. Lower control limit. d. Lower control limit. ND 0.000000786 d. Lower control limit. d. Lower control limit. ND 0.000000588 d. Lower control limit. d. Lower control limit.	1,2,3,4,7,8-HxCDF		0.000000547		13C-1,2,3,6,7,8-HxCDF	74.4	26-123
ND 6.000000731 13C-1,2,3,7,8,9-HxCDF 82.0 F ND 0.000000731 79.6 F ND 0.000000476 79.6 F ND 0.000000478 84.6 F ND 0.000000148 CRS 37Cl-2,3,4,7,8,9-HpCDF 84.6 F ND 0.000000744 a. Sample specific estimated detection limit. 95.1 ND 0.00000116 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000116 c. Method detection limit. d. Lower control limit. ND 0.000000786 d. Lower control limit. d. Lower control limit. ND 0.000000588 d. Lower control limit. d. Lower control limit. ND 0.000000588 d. Lower control limit. d. Lower control limit.	1,2,3,6,7,8-HxCDI		0.000000523		13C-2,3,4,6,7,8-HxCDF	80.3	28 - 136
ND 0.000000731 13C-1,2,3,4,5,7,8-HpCDF 79,6 ND 0.000000476 13C-1,2,3,4,7,8,9-HpCDF 84,6 ND 0.000000428 CRS 13C-0CDF 68.7 ND 0.000000444 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. ND 0.00000116 c. Method detection limit. ND 0.00000126 c. Method detection limit. ND 0.000000786 c. Method detection limit. ND 0.000000786 d. Lower control limit - upper control limit. ND 0.000000788 d. Lower control limit - upper control limit. ND 0.000000588 d. Lower control limit - upper control limit. ND 0.000000588 d. Lower control limit - upper control limit.	2,3,4,6,7,8-HxCDF		0.000000572		13C-1,2,3,7,8,9-HxCDF	82.0	29-147
NID 0.000000476 13C-1,2,3,4,7,8,9-HpCDF 84,6 ND 0.000000528 CRS 37Cl-2,3,7,8-TCDD 95.1 ND 0.00000744 a. Sample specific estimated detection limit. ND 0.00000116 c. Method detection limit. ND 0.00000126 d. Lower control limit. ND 0.00000136 d. Lower control limit. ND 0.00000038 d. Lower control limit. ND 0.000000588 d. Lower control limit. ND 0.000000588 d. Lower control limit.	1,2,3,7,8,9-HxCDF		0.000000731	A TOTAL CONTRACTOR OF THE PROPERTY OF THE PROP	13C-1,2,3,4,6,7,8-HpCDF	9.62	28 - 143
IpCDF NID 0.000000528 13C-OCDF 68.7 NID 0.00000144 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. NID 0.00000116 c. Method detection limit. NID 0.000000786 d. Lower control limit. NID 0.000000588 d. Lower control limit. NID 0.000000588 d. Lower control limit.	1,2,3,4,6,7,8-HpCI		0.000000476		13C-1,2,3,4,7,8,9-HpCDF	84.6	26- 138
NE 0.00000148 Footnotes 95.1 ND 0.000000744 a. Sample specific estimated detection limit. ND 0.00000247 b. Estimated maximum possible concentration. ND 0.00000116 c. Method detection limit. ND 0.000000126 d. Lower control limit. ND 0.000000136 d. Lower control limit. ND 0.000000195 d. Lower control limit. ND 0.000000188 d. Lower control limit. ND 0.000000188 d. Lower control limit.	1,2,3,4,7,8,9-HpCI		0.000000528	SECTION OF THE LABOR PRESENTATION OF THE PROPERTY OF THE PROPE	13C-OCDF	68.7	17 - 157
ND 0.000000744 ND 0.00000116 ND 0.00000126 ND 0.000000126 ND 0.000000136 ND 0.000000588 ND 0.000000588	PCDF	QN	0.00000148		CRS 37Cl-2,3,7,8-TCDD	1.36	35 - 197
NB 0.000000744 NB 0.00000247 ND 0.00000116 ND 0.00000126 ND 0.000000136 ND 0.000000786 ND 0.000000588 ND 0.000000588	Totals				Footnotes		
ND 0.00000116 ND 0.00000126 ND 0.000000786 ND 0.000000788 ND 0.000000588 ND 0.000000588 ND 0.000000588	Total TCDD	£	0.000000744		a. Sample specific estimated detection limit.		
ND 0.00000116 ND 0.00000126 ND 0.000000786 ND 0.000000588 ND 0.000000588	Total PcCDD	2	0.00000247		b. Estimated maximum possible concentration.		
ND 6.00000126 ND 0.000000786 ND 0.000000588 ND 6.000000588	Total HxCDD	R	0.00000116		c. Method detection limit.		
ND 0.000000786 ND 0.000000195 ND 0.000000588 ND 0.000000500	Total HpCDD	CN	0,00000126		d Lower control limit - upper control limit.		
ON ON ON	Total TCDF	R	0.000000786			A V a service approach distributions of a label to	· · · · · · · · · · · · · · · · · · ·
QQ QQ	Total PeCDF	QX	0.00000195				
A.	Total HxCDF	21	0.000000588				
	Total np. Dr.		DISTRIBUTED TO				

OPR Results					EPAI	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:	DB-225: NA
Analyte	Spike Conc. Conc. (ng/	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	rcrncr
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	10000	42.4	25 - 181
1,2,3,4,7,8-HxCDD	90.0	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	\$'19	23 - 140
1,2,3,4,6,7,8-HpCDD	50.0	51.8	35 - 70	13C-OCDD	52.7	17 - 157
6 600	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	29-04	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	7.69	26 - 152
1,2,3,4,7,8-HxCDF	20.0	49.5	29-98	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	20.0	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	62.9	28 - 143
1,2,3,4,6,7,8-HpCDF	20.0	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	20.0	48.6	39 - 69	13C-OCDF	56.1	17-157
OCDF	100	102	63-170	CRS 37Ct-2,3,7,8-TCDD	6'26	35 - 197

Analyst: JMH

Martha M. Maier 05-Apr-2006 09:28 Approved By:

Sample ID: IPC2199-01	-						AB.	EPA Method 1613
Data			Sample Data		Laboratory Data			
Name: Del Mar A	Del Mar Analytical, Irvine		Matrix:	Aqueous	Lab Sample: 27455-001	001	Date Received:	23-Mar-06
llected;	. ~		Sample Size:	1.01 L	QC Batch No.: 7893 Date Analyzed DB-5: 4. Avr. OK	2	Date Extracted: Date Analyzed DB-225:	
	(ug/L)	DI a	EMPC	Qualifiers	andard		%R LCL-UCL ^d	On
2,3,7,8-TCDD	ND	0.000000653	63		18 13C-2.3.7.8-TCDD			
1,2,3,7,8-PeCDD	Ð	0.00000294	4					
1,2,3,4,7,8-HxCDD	ON.	0.00000170			13C-1,2,3,4,7,8-HxCDD			
1,2,3,6,7,8-HxCDD	2	0.00000168	∞		13C-1,2,3,6,7,8-HxCDD		*	
1,2,3,7,8,9-HxCDD	W	0.00000163	30 30 30 30 30		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	
ocon	9000000				13C-2,3,7,8-TCDF		62.3 24-169	
2,3,7,8-TCDF	2	0.000000880	80	-	13C-1,2,3,7,8-PeCDF			
1,2,3,7,8-PeCDF	WD	0.00000162	geri		13C-2,3,4,7,8-PeCDF		40.0 21-178	
2,3,4,7,8-PeCDF	S	0.00000185	53		13C-1,2,3,4,7,8-HxCDF			
1,2,3,4,7,8-HxCDF	QV	0.00000113	n		13C-1,2,3,6,7,8-HxCDF			
1,2,3,6,7,8-HxCDF	Q	0.00000139	<u>6</u>		13C-2,3,4,6,7,8-HxCDF			
2,3,4,6,7,8-HxCDF	QN	0.00000126	ý,		13C-1,2,3,7,8,9-HxCDF		68.6 29-147	
1,2,3,7,8,9-HxCDF	Ð	0.00000142	2		13C-1,2,3,4,6,7,8-HpCDF		}	
1,2,3,4,6,7,8-HpCDF	6,00000271			7	13C-1,2,3,4,7,8,9-HpCDF			
1,2,3,4,7,8,9-HpCDF	Ą	0.000000955	55		13C-OCDF			
OCDF	0.00000856			1	CRS 3701-2,3,7,8-TCDD			
Totals			-		Footnotes			
Total TCDD	2	0.000000653	53		a. Sample specific estimated detection limit	mit.		
Total ReCDD	Q	0,00000294	¥		b. Estimated maximum possible concentration	tration		
Total HxCDD	0.00000153				c. Method detection limit.			
Total HpCDD	0.0000482				d. Lower control limit - upper control limit	iii		
Total TCDF	2	0.000000880	083					
Total ReCDF	ON.	0,00000173	9					
Total HxCDF	2	0.00000129	Ş.					
Total HpCDF	0,00000271		0.00000757	757				
A marija meta					The state of the s			

Analyst: JMH

Martha M. Maier 05-Apr-2006 09:28 Approved By:

APPENDIX

Project 27455 Project 23**5833**

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E	The reported value exceeds the calibration range of the instrument.
Н	The signal-to-noise ratio is greater than 10:1.
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



SENDING LABORATORY:

Del Mar Analytical - Irvine

1 L Amber (IPC2199-01D)

17461 Derian Avenue. Suite 100

17461 Derian Ave. Suite 100, irvine, CA 92614 1814 E. Cooley Dr., Suite A, Colton, CA 92824

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123

Alta Analytical - SUB 1104 Windfield Way)44 Ph (48

Fax (909) 370-1046

rh (619) 505-9596

Ph (949) 261-1022

Fax (619) 505-9689

(702) 798-3620 Fex (702) 798-3

SUBCONTRACT ORDER - PROJECT # IPC2199

Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Miche	le Chamberlin	El Dorado Hills, CA 95762 Phone :(916) 933-1640 Fax: (916) 673-0106
-	ested unless specific due date is reques	
Analysis	Expiration	Comments
Sample ID: IPC2199-01 1613-Dioxin-HR-Alta EDD + Level 4	Water Sampled: 03/21/06 09:10 03/28/06 09:10 04/18/06 09:10	J flags, 17 congeners, no TEQ, ug/L, sub=Alta Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IPC2199-01)	O)	

			TY:	INTEGRIT	SAMPLE				
Date Time Received By Date 1	es 🗆 No	amples Received On Ice:: Yes	□ No S	☐ Yes	Sample labels/COC agree;	□ No	∕es □		Il containers intact:
leased By Date Time Received By Date 1	***************************************	amples Received at (temp):	□ No S	☐ Yes	Samples Preserved Properly:	□ No	/es 🛚		ustody Seals Present:
Released By Date Date	************							······································	
Date Time Received By Date 1		**							-
		3.22.06					-30-		
Court College 12 12/20 hr									
	Time				Time I				(clessed by E
Silving Trouvedity 4000	Time	Date T	1		Time				cleared By

Project 27455

Pa**ndeloff6£13**836

SAMPLE LOG-IN CHECKLIST

Alta Project #:	77455		
Samples Arrival:	Date/Time 0830	Initials:	Location: WR-

Samples Arrival:	3/23/06	5 (JY50	1 Và	90	L	UK-	5
Logged In:	Date/Time	6	0931	Initials	BUB	Location:	W	R-D
Delivered By:	FedEx		UPS	Cal	DHL	Han Delive		Other
Preservation:	ice	$\supset I$	Blue	Ice	Dry I	ice	No	ne
Temp °C (. ()		Tin	ne: 08	50		Thermom	eter ID	: DT-20

						YES	NO	NA
Adequate Sample Volume	Received'	?	•			V /		
Holding Time Acceptable?						V		
Shipping Container(s) Intac	V							
Shipping Custody Seals Intact?								
Shipping Documentation P	resent?					/		
Airbill Trk	# 796	269	<u>301 </u>	<u> 2660 </u>		/		
Sample Container Intact?								
Sample Custody Seals Inta	ct?							V
Chain of Custody / Sample	Documer	ntation P	resent?			1		
COC Anomaly/Sample Acc	eptance l	orm cor	npleted?				V	<u> </u>
If Chlorinated or Drinking V	Vater San	nples, Ac	ceptable P	reservation?		,		\checkmark
Na ₂ S ₂ O ₃ Preservation Documented? COC San Cont								ne
Shipping Container		Alta	Client) Retain	Ref	um	Disp	ose

APPENDIX G

Section 90

Outfall 004, March 21, 2006 AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID B4DF64 12260 East Vassar Drive Task Order 1261.001D.01 SDG No. <u>IPC2199</u> Smite 500 Lakewood, CO 80226 No. of Analyses 1 Date: April 12, 2006 Laboratory Alta Analytical Reviewer E. Wessling Reviewer's Signature Analysis/Method Dioxins/Furans by 1613 ACTION ITEMS* Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy Deliverables 6. Deviations from Analysis Qualifications were assigned for the following: - results between the RL and the MDL were estimated Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS * 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: IPC2199

Prepared by

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

Project: SDG: NPDES IPC2199 D/F

DATA VALIDATION REPORT

SDG: Analysis:

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:

4

No. of Reanalyses/Dilutions:

0

No. of Reanalyses/Dilutions: 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.

Project: SDG: Analysis:

NPDES IPC2199

D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 004	IPC2199-01	27455-001	Water	1613

DATA VALIDATION REPORT

NPDES IPC2199 Analysis:

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.

Project: SDG: Analysis: NPDES IPC2199

D/F

DATA VALIDATION REPORT

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

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

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7893-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.

84DF64

Project:

NPDES IPC2199

DATA VALIDATION REPORT

SDG: Analysis:

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.

INTERNAL STANDARDS 2.8

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.

4	1	ALTA

Clarib Del Mark Analysical, Irvine Name	Del Mar Analytical, Irvine Processor		
Atalyte Cone. (ug/L) DL * EMPC** Qualifiers Labeled Standard %R LCL-UCL** 2,37,8-TCDD ND 0,000000633 18 13C-1,37,8-PcCDD 67.2 25·164 1,23,7,8-PcCDD ND 0,00000063 13C-1,23,7,8-PcCDD 60.9 22·164 1,23,4,7-PcCDD ND 0,00000168 13C-1,23,7,8-PcCDD 60.9 22·164 1,23,4,8-PcCDD ND 0,00000169 13C-1,23,4,8-PcCDD 60.9 22·164 1,23,4,8-PcCDD ND 0,0000016 13C-1,23,4,8-PcCDD 52.3 23·16 2,3,3,8-PcCDF ND 0,0000018 13C-1,23,4,8-PcCDF 47.3 2-186 2,3,3,8-PcCDF ND 0,0000018 13C-1,23,4,8-PcCDF 47.3 2-186 2,3,3,8-PcCDF ND 0,0000018 13C-1,23,4,8-PcCDF 43.2 26·185 2,3,4,6,8-BrCDF ND 0,0000018 13C-1,23,4,8-PcCDF 43.2 26·18 2,3,4,6,8-BrCDF ND 0,00000126 13C-1,23,4,8-PcCDF 43.2 26·18	Analyte Cont. (ug/L) DL. * EMPC* Qualifiers 2.3.7.8-TCDD ND 0.00000053 1.2.3.4.7.8-PcCDD 1.2.3.4.7.8-PcCDD ND 0.00000170 1.2.3.4.7.8-PcCDD 1.2.3.4.7.8-PcCDD ND 0.00000163 1.2.3.4.7.8-PcCDD 2.3.7.8-PcCDD ND 0.00000163 1.2.3.4.7.8-PcCDD 2.3.7.8-PcCDF ND 0.00000162 1.2.3.4.7.8-PcCDF 2.3.7.8-PcCDF ND 0.00000162 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.00000133 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.00000133 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.00000133 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.00000133 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.000000126 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.000000126 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.000000422 1.2.3.4.7.8-PcCDF 2.3.4.7.8-PcCDF ND 0.000000422 1.2.3.4.7.8-PcCDF <tr< th=""><th>7893 4-Apr-06</th><th>)B-235</th></tr<>	7893 4-Apr-06)B-235
2.3.7.8-TCDD ND 0.000000653 18 13C-23.7.8-TCDD 67.2 1.2.3.7.8-PeCDD ND 0.00000294 13C-12.3.7.8-PeCDD 44.3 1.2.3.7.8-PeCDD ND 0.00000170 13C-12.3.6.7.8-HCDD 60.8 1.2.3.6.7.8-HCDD ND 0.00000163 13C-12.3.6.7.8-HCDD 60.8 1.2.3.6.7.8-HCDD ND 0.00000163 13C-12.3.6.7.8-HCDD 60.8 0.000 0.0000018 13C-12.3.4.6.7.8-HCDD 62.3 62.3 0.000 0.0000018 13C-12.3.7.8-HCDF 62.3 1.2.3.7.8-PCDF ND 0.00000185 13C-12.3.7.8-HCDF 47.3 1.2.3.7.8-PCDF ND 0.00000185 13C-12.3.7.8-HCDF 47.3 1.2.3.7.8-PCDF ND 0.00000185 13C-12.3.7.8-HCDF 43.4 1.2.3.7.8-HCDF ND 0.00000185 13C-12.3.7.8-HCDF 53.4 1.2.3.7.8-HCDF ND 0.00000185 13C-12.3.7.8-HCDF 53.4 1.2.3.7.8-HCDF ND 0.00000185 13C-12.3.7.8-HCDF 53.4 1.2.3.7.8-HCDF </th <th>2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDP 1.2.3.7.8-PeCDF /th> <th>XX.</th> <th>1-UCL^d Qualifiers</th>	2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDD 1.2.3.7.8-PeCDP 1.2.3.7.8-PeCDF	XX.	1-UCL ^d Qualifiers
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1,2,3,4,7,8 HkCDD ND 0,00000170 13C-1,2,3,4,7,8-HkCDD 60.9 1,2,3,4,7,8-HkCDD ND 0,00000168 13C-1,2,3,6,7,8-HkCDD 59.1 1,2,3,4,8,4-HkCDD 0,0000018 13C-1,2,3,4,7,8-HkCDD 59.1 2,2,3,4,8-HkCDD 0,0000018 13C-1,2,3,4,7,8-HkCDD 53.1 0,23,4,7,8-HkCDF ND 0,0000018 13C-2,3,4,7,8-HkCDF 47.3 1,2,3,4,8-HkCDF ND 0,0000018 13C-1,2,3,4,8-HkCDF 47.3 1,2,3,4,8-HkCDF ND 0,0000018 13C-1,2,3,4,8-HkCDF 45.2 1,2,3,4,8-HkCDF ND 0,0000012 13C-1,2,3,4,8-HkCDF 45.2 1,2,3,4,8-HkCDF ND 0,0000012 13C-1,2,3,4,8-HkCDF 45.2 1,2,3,4,8-HkCDF ND 0,0000012 13C-1,2,3,4,8-HkCDF 45.2 1,2,3,4,8,9-HkCDF ND 0,0000012 13C-1,2,3,4,8-HkCDF 45.2 1,2,3,4,8,9-HkCDF ND 0,0000012 13C-1,2,3,4,8-HkCDF 45.2 1,2,3,4,8,9-HkCDF ND 0,00000024 1,8-1,2,4,4,8-HkCDF 41.2,3,4,4,8-HkCDF	123,47,8-HxCDD ND 0,00000170 123,67,8-HxCDD ND 0,00000168 123,7,8-HxCDD ND 0,00000163 123,7,8-HxCDD ND 0,00000180 123,7,8-PcCDF ND 0,00000183 123,7,8-PcCDF ND 0,00000183 123,7,8-PcCDF ND 0,00000133 123,4,8-PcCDF ND 0,00000133 1,23,4,7,8-HxCDF ND 0,00000139 1,23,4,6,7,8-HxCDF ND 0,000000139 1,23,4,6,7,8-HxCDF ND 0,000000139 1,23,4,6,7,8-HxCDF ND 0,000000139 1,23,4,6,7,8-HxCDF ND 0,000000133 1,23,4,6,7,8-HxCDF ND 0,000000133 1,23,4,7,8,9-HxCDF ND 0,0000000830 1,23,4,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,	S4 54	
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1,2,3,7,8,9-HxCDD ND 0,00000163 13C-1,2,3,4,7,8,4pCDD 60.8 2,1,2,4,6,7,8-HyCDD 0,0000018 13C-1,2,4,4,7,8-HyCDD 53.1 OCCDD 0,0000018 13C-1,2,7,8-PeCDF 47.3 1,2,3,7,8-PeCDF ND 0,00000185 13C-1,2,4,7,8-PeCDF 40.0 1,2,3,7,8-PeCDF ND 0,00000185 13C-1,2,4,7,8-PeCDF 43.2 1,2,3,7,8-PeCDF ND 0,00000139 13C-1,2,3,4,7,8-PeCDF 61.8 1,2,3,7,8-PeCDF ND 0,00000139 13C-1,2,3,4,7,8-PeCDF 68.6 1,2,3,7,8-PeCDF ND 0,00000126 13C-1,2,3,4,7,8-PeCDF 68.6 1,2,3,6,7,8-HyCDF ND 0,00000129 13C-1,2,3,4,7,8-PhCDF 68.6 1,2,3,7,8-PhCDF ND 0,00000126 13C-1,2,3,4,7,8-PhCDF 68.6 1,2,3,4,6,7,8-HyCDF ND 0,00000126 13C-1,2,3,4,7,8-PhCDF 68.6 1,2,3,4,6,7,8-HyCDF ND 0,00000129 13C-1,2,3,4,7,8-PhCDF 68.6 1,2,3,4,6,7,8-HyCDF ND 0,00000020 13C-1,2,3,4,7,8-PhCDF 68.6	1.2.3.7.8.9-HxCDD 0.00000163 1.2.3.4.6.7.8-HpCDD 0.0000018 0.0000018 0.0000018 0.0000018 0.0000018 0.0000018 0.00000182 1.2.3.4.7.8-PeCDF ND 0.0000013 0.0000013 1.2.3.4.7.8-HxCDF ND 0.0000013 0.00000126 1.2.3.4.6.7.8-HxCDF ND 0.000000126 1.2.3.4.6.7.8-HxCDF ND 0.000000126 1.2.3.4.6.7.8-HxCDF ND 0.000000126 1.2.3.4.6.7.8-HxCDF ND 0.0000000013 1.2.3.4.6.7.8-HxCDF ND 0.0000000013 1.2.3.4.6.7.8-HxCDF ND 0.0000000013 1.2.3.4.6.7.8-HxCDF ND 0.00000000013 1.2.3.4.6.7.8-HxCDF ND 0.0000000000000000000000000000000000	7.05	8-130
L123.46,7,8-HpCDD G0000218 1 13C-CCDD 53.1 OCDD 0,000306 13C-2,3,7,8-TCDF 62.3 2,3,7,8-TCDF ND 0,00000183 13C-1,2,3,7,8-PCDF 47.3 1,2,3,7,8-PCDF ND 0,00000183 13C-1,2,3,7,8-PCDF 61.8 2,3,7,8-PCDF ND 0,00000183 13C-1,2,3,7,8-PCDF 61.8 2,3,7,8-PCDF ND 0,0000013 13C-1,2,3,7,8-PCDF 61.8 1,2,3,7,8-PCDF ND 0,00000126 13C-1,2,3,7,8-PCDF 61.8 1,2,3,7,8-PCDF ND 0,00000126 13C-1,2,3,7,8-PCDF 61.8 1,2,3,7,8-PCDF ND 0,00000126 13C-1,2,3,7,8-PCDF 63.8 1,2,3,7,8-PCDF ND 0,00000126 13C-1,2,3,7,8-PCDF 63.8 1,2,3,4,7,8-PHCDF ND 0,00000026 13C-1,2,3,7,8-PCDF 63.6 1,2,3,4,7,8-PHCDF ND 0,00000026 13C-1,2,3,7,8-PCDF 63.1 1,2,3,4,7,8-PHCDF ND 0,00000026 1,2,3,4,7,8,PHCDF 63.1 1,2,3,4,7,8-PHCDF	1,23,4,6,7,6-HpCDD 0,0000306 2,3,7,8-TCDF ND 0,00000162 2,3,7,8-PeCDF ND 0,00000162 2,3,4,7,8-HxCDF ND 0,00000113 1,2,4,7,8-HxCDF ND 0,00000126 1,2,4,7,8-HxCDF ND 0,00000126 1,2,4,6,7,8-HxCDF ND 0,00000126 1,2,3,4,7,8-HpCDF ND 0,00000126 1,2,3,4,7,8-HpCDF ND 0,00000126 1,2,3,4,7,8-HpCDF ND 0,00000126 1,2,3,4,7,8-HpCDF ND 0,00000012 1,2,3,4,7,8-HpCDF ND 0,00000012 1,2,3,4,7,8-HpCDF ND 0,00000012 1,2,3,4,7,8-HpCDF ND 0,00000012 1,2,3,4,7,8-HpCDF ND 0,00000013 1,2,3,4,7,8-HpCDF ND 0,0000013 1,2,3,4,7,8-HpCDF ND 0,00000013	3	3.16
OCDD 0.000306 13C-2,3,7,8-TCDF 62.3 2,3,7,8-TCDF ND 0.00000162 13C-1,2,3,7,8-PcDF 47.3 1,2,3,7,8-PcDF ND 0.00000162 13C-1,2,3,7,8-PcDF 47.3 1,2,3,7,8-PcDF ND 0.0000013 13C-1,2,3,7,8-PcDF 61.8 1,2,3,7,8-PcDF ND 0.0000013 13C-1,2,3,7,8-PcDF 61.8 1,2,3,6,7,8-HxCDF ND 0.00000126 13C-1,2,3,7,8-HxCDF 68.6 1,2,3,6,7,8-HxCDF ND 0.00000126 13C-1,2,3,4,7,8-HxCDF 68.6 1,2,3,6,7,8-HxCDF ND 0.00000126 13C-1,2,3,4,7,8-HxCDF 68.6 1,2,3,4,6,7,8-HxCDF ND 0.00000126 13C-1,2,3,4,7,8-HxCDF 68.6 1,2,3,4,6,7,8-HxCDF ND 0.00000126 13C-1,2,3,4,7,8-HxCDF 68.6 1,2,3,4,6,7,8-HxCDF ND 0.00000085 1 13C-1,2,3,4,7,8-HxCDF 68.6 1,2,3,4,8,9-HyCDF ND 0.00000085 1 1 1 1 1,2,3,4,8,9-HyCDF ND 0.00000085 1	OCDD 0.000306 2.3.7.8-TCDF ND 0.00000880 1.2.3.7.8-PeCDF ND 0.00000162 2.3.4.7.8-PeCDF ND 0.0000013 1.2.3.4.7.8-HxCDF ND 0.00000126 1.2.3.4.6.7.8-HyCDF ND 0.00000126 1.2.3.4.6.7.8-HyCDF ND 0.00000126 1.2.3.4.7.8.9-HyCDF ND 0.00000126 1.2.3.4.6.7.8-HyCDF ND 0.0000013 1.2.3.4.6.7.8-HyCDF ND 0.00000142 1.2.3.4.6.7.8-HyCDF ND 0.000000553 1.2.3.4.6.7.8-HyCDF ND 0.000000053	ที่	7-151
2.3.7.8-TCDF ND 0.000000880 13C-1.23.7.8-PcCDF 47.3 1.2.3.7.8-PcCDF ND 0.00000162 13C-2.3.4.7.8-PcCDF 40.0 2.3.4.7.8-PcCDF ND 0.00000185 13C-1.2.3.4.7.8-PcCDF 61.8 1.2.3.4.7.8-PcCDF ND 0.00000199 13C-1.2.3.4.7.8-PcCDF 61.8 1.2.3.4.7.8-PcCDF ND 0.00000126 13C-1.2.3.4.7.8-PcCDF 68.6 1.2.3.4.7.8-PcCDF ND 0.00000126 13C-1.2.3.4.7.8-PcCDF 68.6 1.2.3.4.6.7.8-HxCDF ND 0.00000126 13C-1.2.3.4.7.8-PcCDF 68.6 1.2.3.4.6.7.8-HxCDF ND 0.000000126 13C-1.2.3.4.7.8-PcCDF 68.6 1.2.3.4.6.7.8-HxCDF ND 0.000000126 13C-1.2.3.4.7.8-PcCDF 68.6 1.2.3.4.6.7.8-HxCDF ND 0.00000000000000000000000000000000000	2.3.7.8-TCDF ND 0.000000880 1.2.3.7.8-PeCDF ND 0.00000162 2.3.4.7.8-PeCDF ND 0.0000013 1.2.3.6.7.8-HxCDF ND 0.00000126 1.2.3.6.7.8-HxCDF ND 0.00000126 1.2.3.46.7.8-HpCDF ND 0.00000126 1.2.3.46.7.8-HpCDF ND 0.00000126 1.2.3.46.7.8-HpCDF ND 0.00000126 1.2.3.46.7.8-HpCDF ND 0.00000055 OCDF 0.000000856 1 Total TCDD ND 0.000000653 Total HcCDD 0.000000880 Total HcCDF ND 0.000000880 Total PcCDF ND 0.000000880	3	4-169
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Total TCDD ND 0.000000653 Total PeCDD ND 0.00000294 Total HxCDD 0.00000153 0.00000182 Total TCDF ND 0.00000180 Total TCDF ND 0.00000173 Total HxCDF ND 0.00000129 Total HxCDF ND 0.00000129 Total HxCDF 0.00000271 0.00000757	ND 0.00000653 ND 0.00000294 0.00000153 0.0000482 ND 0.00000080 ND 0.00000173	786	61.5
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Total HxCDD 0.00000153 Total HpCDD 0.00000482 Total TCDF ND 0.00000173 Total HxCDF ND 0.00000129 Total HxCDF ND 0.00000129 Total HpCDF 0.00000271 0.00000757	0.00000153 0.00000482 ND 0.000000880 ND 0.00000173	n possible concentration.	
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Total HpCDF 0.00000271	2		
	Total HpCDF 0.0000271		

Project 27455

NPDES - 3846

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, I 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

IPC2826-01

Outfall 004

Water

Reviewed By:

Del Mar Analytical - Irvine

Michile Chamberger

Michele Chamberlin Project Manager



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Sampled: 03/28/06

Attention: Bronwyn Kelly

Report Number: IPC2826

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 - V	Vater)								
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	





Project ID: Routine Outfall 004

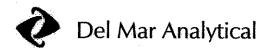
300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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 0	04 - 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	
a posses in temporarismus in the state of	LIA 100.2	0027072	10	10	1473	*	03/27/00	U31431UU	



17461 Derian Ave., Suite 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 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPC2826

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 004 (IPC2826-01) - Water	r				•
EPA 300.0	2	03/28/2006 08:30	03/28/2006 18:15	03/28/2006 20:00	03/28/2006 21:27



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29072 Extracted: 03/29/06											
·											
Blank Analyzed: 03/29/2006 (6C29072-Bl	•										
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 (6C29	0072-MS1)				Soui	rce: IPC2	718-01				
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
Matrix Spike Dup Analyzed: 03/29/2006	6C29072-MSI) 1)			Soui	rce: IPC2	718-01				
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-BI	.K1)										
Antimony	ND	2.0	0.050	ug/l	. <i>3</i> 1						
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/I	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



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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 (6C2	9080-MS1)				Sou	rce: IPC2	585-01			•	
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-M	SD1)			Sou	rce: IPC2	585-01				
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	



Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	I 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-Bl	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 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 (6C28	8055-MS1)				Sour	ce: IPC2	694-01				
Sulfate	18.8	0.50	0.45	mg/l	10.0	8.7	101	80-120			
Matrix Spike Dup Analyzed: 03/28/2006 (6C28055-MSD	1)			Sour	ce: IPC2	694-01				
Sulfate	18.7	0.50	0.45	mg/l	10.0	8.7	100	80-120	1	20	
Batch: 6C29047 Extracted: 03/29/06	e										£
) - (1)											
Blank Analyzed: 03/29/2006 (6C29047-BL	•										
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-BL	K1)										
Total Dissolved Solids	ND	10	10	mg/l							

Del Mar Analytical - IrvineMichele Chamberlin
Project Manager



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: 6C29077 Extracted: 03/29/00					20101	1400 1121	, und	2,7444113	M D	z z z z z z z z z z z z z z z z z z z	Quanners
LCS Analyzed: 03/29/2006 (6C29077-BS	1)	•									
Total Dissolved Solids	994	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/29/2006 (6C2907	7-DUP1)				Sou	rce: IPC2	817-01				
Total Dissolved Solids	240	10	10	mg/l		240			0	10	
Batch: 6C29092 Extracted: 03/29/06	<u> </u>										
Blank Analyzed: 03/29/2006 (6C29092-B	LKI)										
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/29/2006 (6C29092-BS	1)										
Total Suspended Solids	953	10	10	mg/l	1000		95	85-115			
Duplicate Analyzed: 03/29/2006 (6C2909	2-DUP1)			•	Sour	rce: IPC2	722-01				
Total Suspended Solids	22.0	10	10	mg/l		21		. *	5	10	



MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC2826

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

Attention: Bronwyn Kelly

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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
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



17461 Derian Ave., Suite 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 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

M-3

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.

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

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

Relative Percent Difference RPD





MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC2826

Sampled: 03/28/06

Received: 03/28/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed:

1613-Dioxin-HR-Alta

Samples: IPC2826-01

Analysis Performed: EDD + Level 4

Samples: IPC2826-01

TP(2626 Page 1 of 1

2626 Page 1 of 1	(ED	Field readings.	***	Temp=57	7	/ '/ =Hd		Comments													Turn around Time: (check) 24 Hours 5 Days	48 Hours 10 Days		Perchlorate Only 72 Hours	Metals Only 72 Hours	Sample Integrity: (Check) On loe:
X)	ANALYSIS REQUIRED						SST,	SOT		managara da ma				×								188	3/00 00/2			
FORM				/ 413 Ideue	/d3	all e (Cd, Cu,	GOT 8 liO			×	×	×								Date/Time:	J2806	Date lime:	Date/Time:		man ala de la companya de la compan
Del Mar Analytical version contros CHAIN OF CUSTODY FORM		DES		steM	3p 6	319	l Recov	eservative Bottle +	S	03 1B X	ne 2A, 2B	3A, 3B	ne 4A, 4B	ne 5A, 58	The state of the s						Received By	SOLPer	A The Management of the Manage	Received By		ter den de s'en en den deste de ser en en en en de ser en
SATIOG CHAIN C	Project:	Boeing-SSFL NPDES	Routine Outfall 004	Stormwater at SRE	Phone Number:	(626) 568-6691	Fax Number. (626) 568-6515	Sampling Pr Date/Time	*		None	꾸	None	None	AND THE PROPERTY OF THE PROPER						Date/Time: Re	887 E	1815			
alytical version o	, S;			ie, Suite 1200	ronwyn Kelly	•	Q.	e Container # of	Poly-11	Poly-1L 1	Class-2 Amber 2	Glass- 2	Poly-500 2	Poly-500 2	mandidatum manaka da		-	Manufacture of Control of Particular Control of Control			Date 3254.		TARK.) Date		en de en de este en en este en este en este en
Del Mar An	Client Name/Address		MWH-Pasadena	300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager: Bronwyn Kelly	-	Sampler: 1/2 17874, K.	Sample Sample Description Matrix	F	Outfall 004-Dup W	Outfall 004 W	Outfall 004 W	Outfall 004 W	Outfall 004 W							Relinquished By		To Constitute of the Constitut	Relinquished By		AMERICAN PARTIES AND



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

Martha M. Maier 03-Apr-2006 11:49

Approved By:

Method Blank					RP4 Mathad 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)	(ug/L)	DL a E	EMPC b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	QN	0.000000977		IS 13C-2.3.7.8-TCDD	200
1,2,3,7,8-PeCDD	R	0.00000135			
1,2,3,4,7,8-HXCDD	QN	6160000000		13C-1,2,3,4,7,8-HxCDD	
1,2,3,6,7,8-HxCDD	ę	0.000000964		13C-1,2,3,6,7,8-HxCDD	
1,2,3,7,8,9-HxCDD	Q	0,00000013		13C-1,2,3,4,6,7,8-HpCDD	
1,2,3,4,6,7,8-HpCDD	Q	0.000000944		13C-OCDD	
	2	0.00000222		13C-2,3,7,8-TCDF	79.1 24~169
2,3,7,8-TCDF	Q	0.000000845		13C-1,2,3,7,8-PeCDF	
1,2,3,7,8-PeCDF	QN	0.0000010		13C-2,3,4,7,8-PeCDF	
2,3,4,7,8-PeCDF	Ð	0.00000101		13C-1,2,3,4,7,8-HxCDF	26-
1.2.3.4.7.8-HXCDF	Q	0.000000457		13C-1,2,3,6,7,8-HxCDF	-36-
1,2,3,6,7,8-HxCDF	g	0.000000415		13C-2,3,4,6,7,8-HxCDF	
2,3,4,6,7,8-HxCDF	Ą	0.000000487		13C-1,2,3,7,8,9-HxCDF	
1,2,3,7,8,9-HxCDF	g	0.000000630		13C-1,2,3,4,6,7,8-HpCDF	
1,2,3,4,6,7,8-HpCDF	QN	0.000000489		13C-1,2,3,4,7,8,9-HpCDF	
1,2,3,4,7,8,9-HpCDF	Ą	0,000000435		13C-OCDF	17 -
OCDF	QN	0.00000220		CRS 37CI-2,3,7,8-TCDD	81.3 35-197
Totals	A PARTY OF THE PAR			Footnotes	
Total TCDD	N ON	0.000000077		a. Sample specific estimated detection limit.	
Total PeCDD	Q	0,00000135		b. Estimated maximum possible concentration.	
Total HxCDD	B	0.000000932		c. Method detection limit.	
Total HpCDD	9	0.0000000944		d. Lower control limit - upper control limit.	
Total TCDF	Ð	0.000000845			
Total PeCDF	Q	0.00000106			
Total HxCDF	£	0.000000491	The state of the s		
Total HpCDF	QN	0.000000463			
Amafunt. The Fr					

Analyst: JMH

Analyst: - Safroject 27500

OPR Results					EPA	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:	d DB-225: NA
Analyte	Spike Conc. Conc. (ng/m	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	0.69	25-164
1,2,3,7,8-PeCDD	50.0	59.5	35 - 71	000	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 - [4]
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	90.0	54.5	32 - 81	13C-1.2.3,4,6,7,8-HnCDD	52.6	23 - (40
1,2,3,4,6,7,8-HpCDD	50.0	26.0	35 - 70	13C-OCDD	31.1	17 - 157
ango o	100	113	78 - 144	13G-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-PeCIDF	50.0	53.9	40 - 67	13C-2,3,4,7,8-PeCDF	68.4	21 - 178
2,3,4,7,8-PeCDF	90.0	54.9	34 - 80	13C-1,2,3,4,7,8-HxCDF	63.4	26 - 152
1.2.3.4.7.8-HXCDF	20.0	3. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	29 - 98	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	0.00	55.0	3578	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	0.03	54.8	41-61	13C-1,2,3,4,7,8,9-HpCDF	564	26 - 138
1,2,3,4,7,8,9-HpCDF	50.0	55.6	39 - 69	13C-OCDF	37.9	17 - 157
-t036	100	901	63 - 170	CRS 37CI-2,3,7,8-TCDD	78.6	161-57

Martha M. Maier 03-Apr-2006 11:49 Approved By:

Analyst: JMH

Sample ID: IPC2.	IPC2826-01			250,000	and in			EPAM	EPA Method 1613
Data			Sample Data		Laboratory Data				
Name: Del Mar	Del Mar Analytical, Irvine	••••	Matrix:	Aqueous	Lab Sample: 2750	27500-001	Date Received:	eived:	30-Mar-06
flected: allected:	28-Mar-06 0830		Sample Size:	0.997 L	QC Batch No.: 7886 Date Analyzed DB-5: 1-Am	7886 1-4 pr-06	Date Extracted:	Date Extracted: Date Analyzed DR225:	31-Mar-06
Analyte	Conc. (ug/L)	DL a	EMPCb	Oualifiers	andard		%R	-	Onalifiers
2,3,7,8-TCDD	W	0.000000956	26		IS 11C-23 7 8-TCPIN		~	100	
1.2.3.7.8-PeCDD	Ę	0.00000139	o				2 C		
1,2,3,4,7,8-HXCDD	ÎN.	0.00000156	· •		13C-1 2 2 4 7 8 HWOM		7.10	25 - 181	
1,2,3,6,7,8-HxCDD	Ą	0.00000157	7		13C-123678-HxCDD		617	28 - 130	
1,2,3,7,8,9-HxCDD	QN	0.00000152	5		13C-1.2.3 4.6.7.8-HnCTN	e	88	061 - 26	
1,2,3,4,6,7,8-HpCDD	0.0000153			-	13C-OCDD		34.3	17 - 157	
GCDD	0.000240				13C-2,3,7,8-TCDF		009	24-169	
2,3,7,8-TCDF	£	0.00000000	90		13C-1,2,3,7,8-PeCDF		6.99	24 - 185	
1,2,3,7,8-PeCDF	A.	0.00000170	0		13C-2,3,4,7,8-PeCDF		62.6	21-178	
2,3,4,7,8-PeCDF	R	0.00000170	0		13C-1,2,3,4,7,8-HxCDF		62.6	26 - 152	
1,2,3,4,7,8-HxCDF	92	0,000000474	7		13C-1,2,3,6,7,8-HxCDF		6.59	26+123	
1,2,3,6,7,8-HxCDF	2	0.000000435	35		13C-2,3,4,6,7,8-HxCDF		62.9	28 - 136	
2,3,4,6,7,8-HxCDF	2	0.0000000492	22		13C-1,2,3,7,8,9-HxCDF		64.0	29-147	
1,2,3,7,8,9-HxCDF	Q	0.000000635	35		13C-1,2,3,4,6,7,8-HpCDF	Ŧ	61.0	28 - 143	
1,2,3,4,6,7,8-HpCDF	0.00000237				13C-1,2,3,4,7,8,9-HpCDF	6	65.0	26-138	
1,2,3,4,7,8,9-HpCDF	8	0.0000005	1562		13C-OCDF		40.7	17 - 157	
Jaco	0.00000560				CRS 37CI-2,3,7,8-TCDD		87.7	35-197	
Totals					Footnotes				
Total TCDD	R	0.000000956	99		a. Sample specific estimated detection limit	ı limit.			
Total PecDD	P	0.00000139	o.		b. Estimated maximum possible concentration	entration			
Total HxCDD	2	0.00000155	5		c. Method detection limit,				
Total HpCDD	0.0000297				d. Lower control limit - upper control	Simil			
Total TCDF	R	0.00000000	90						
Total PeCDF	M	0.00000170							
Total HxCDF Total HpCDF	0.00000132		0.00000198	86					
Analyst: JMH					Approved By: Marth	Martha M. Maier		03-Apr-2006 11:49	

Martha M. Maier 03-Apr-2006 11:49 Approved By:

Analyst:
- Sanalyst:
- Sanalyst:
- Sanalyst:
- Cotail H

APPENDIX

Project 27500

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	
State of California – NELAP Primary AA	Reciprocity through CA 02102CA
State of Colorado	02102CA
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



SENDING LABORATORY:

Del Mar Analytical - Irvine

Project 27500

17461 Derian Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Suite A, Colton, CA 92324

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

Fax (949) 261-1228 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 2520 E. Sunset. Rd., Sults #3, Las Vegas, NV 89120

RECEIVING LABORATORY:

Ph (480) 785-0043 Ph (702) 798-3820

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

SUBCONTRACT ORDER - PROJECT # IPC2826

Alta Analytical - SUB

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
Standard TAT is requested unless specific due date is reques Analysis Expiration	sted => Due Date: <u>45/06</u> Initials:
Sample ID: IPC2826-01 Water Sampled: 03/28/06 08:30 1613-Dioxin-HR-Alta 04/04/06 08:30 EDD + Level 4 04/25/06 08:30	J flags,17 congeners,no TEQ,ug/L,sub=Alta Excel EDD email to pm,Include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IPC2826-01C) 1 L Amber (IPC2826-01D)	
·	
·	LE INTEGRITY:
All containers intact:	<u> </u>
3 kg/66 ()	Bettini of Benedict 3/3906 0900
Reflexed By 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	0900	Initials;	SB	Locat	ion: WR- ion:	2	
Logged In:	Date/Time	1122	Initials:	BUB	Locat	ion:WR	>	
Delivered By:	FedEx	UPS	Cal	DHL	1	Hand elivered	Ot	her
Preservation:	(Ice)	Blue	lce ·	Dry l	се	No	one	
Temp °C (). 3	Ti	ime: /O	23_		Thern	nometer ID	: DT-	·20
						VE-0	110	NI A
					,	YES	NO	NA
Adequate Sample	Volume Receive	ed?	*.					
Holding Time Acce	eptable?							
Shipping Containe	er(s) Intact?					<i>\\\\</i>		
Shipping Custody	Seals Intact?				•			
Shipping Documer						V		
Airbill	Trk# 7		591	2912	•	~		
Sample Container	Intact?							<u> </u>
Sample Custody S								V
Chain of Custody		nentation Pr	esent?			1		
COC Anomaly/Sa							V	
If Chlorinated or E		- <u> </u>		reservatio	on?			K
Na ₂ S ₂ O ₃ Preserva				coc	. [.	Sample Container	(No	ne

Client

Alta

Retain

Shipping Container

Comments:

Return

Dispose

APPENDIX G

Section 92

Outfall 004, March 28, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4DF60</u> 12260 East Vassar Drive Task Order 1261.001D.01 Suite 500 SDG No. IPC2826 Lakewood, CO 80226 No. of Analyses 1 Laboratory Alta Analytical Date: April 10, 2006 Lebruary 17, 2006 Reviewer's Signature Reviewer E. Wessling Analysis/Method Dioxins/ Furans by Method 1613 **ACTION ITEMS**^a Case Narrative **Deficiencies** 2. Out of Scope Analyses **Analyses Not Conducted** 4. Missing Hardcopy **Deliverables** 5. Incorrect Hardcopy **Deliverables** 6. Deviations from Analysis Qualifications were assigned for the following: - results between the RL and the MDL were estimated and annotated "DNQ" 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

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

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

SDG: Analysis:

NPDES IPC2826

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:

Reviewer:

E. Wessling

Date of Review:

April 10, 2006

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

Project: SDG:

NPDES IPC2826

Analysis:

D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 004	IPC2826-01	27500-001	Water	1613

DATA VALIDATION REPORT

D/F

Analysis:

2. DATA VALIDATION FINDINGS

SAMPLE MANAGEMENT 2.1

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.

Revision 0

Project: SDG:

NPDES IPC2826

DATA VALIDATION REPORT

Analysis:

D/F

2.2.2 Mass Spectrometer Performance

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

2.3 **CALIBRATION**

2.3.1 Initial Calibration

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

2.3.2 Continuing Calibration

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

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

2.4 **BLANKS**

One method blank (0-7886-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.

B4DF60 Revision 0

Project: SDG: Analysis: NPDES IPC2826

D/F

DATA VALIDATION REPORT

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

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

2.7.2 Field Duplicates

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

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

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

Martha M. Maicr 03-Apr-2006 11:49



	Sample ID:	IPC2826-01	Outfall	900 JU	7		***************************************				EPA	EPA Method 1613
	Cilent Data				Sample Data	Í.a.	Laboratory Data	/ Data				
	Name: Project	Del Mar Analytical, Irvine	tical, Irvine		Matrix:	Aqueous	Lab Sample:	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	27500-001	Date Received:	ceived:	20.Mar.06
Ø,	Date Collected:	28-Mar-06 0830			Sample Size:		QC Batch No.: Date Analyzed DB-5:	lo.: ed DB-5:	7886	Date Extracted:	Date Extracted:	31-Mar-06
d V Ç	Analyte	Conc. (u	(ug/L)	DL a	EMPCb	Onsliffere		oholod Standand	ON-INTER	470	p 15.1	1
he miletary as						1	3		ופוע	/0.K	LALMOLL	Cuamiers
	4,5,7,8-1CUD	:	2 ;	0.000000956	356		13C	3C-2,3,7,8-TCDD	QQ	61.8	25 - 164	
	1,2,3,7,8-PeCDD	<u> </u>	9	0.00000139	<u>3</u> 0		130	3C-1,2,3,7,8-PeCDD	cDD	61.2	25 - 181	**
	1,2,3,4,7,8-HxCDD	00	2	0.00000156	26		130	3C-1,2,3,4,7,8-HxCDD	HxCDD	62.5	32 - 141	
	1,2,3,6,7,8-HxCDD	aa.	S	0.00000157	57		13C-	13C-1,2,3,6,7,8-HxCDD	HxCDD	61.7	28 - 130	
	1,2,3,7,8,9-HxCDD	90	2	0.00000152	22		130	I3C-1,2,3,4,6,7,8-HpCDD	8-HpCDD	65.8	23 - 140	
5 O	1,2,3,4,6,7,8-HpCDD	00	0.0000153	:		m	130-	3C-OCDD	•	34.3	17-157	
	0000		0.000240				130	3C-2,3,7,8-TCDF	DF.	0.09	24 - 169	
	2,3,7,8-TCDF		2	0.000000000	906		130-	3C-1,2,3,7,8-PeCDF	CDF	6.99	24 - 185	
	1,2,3,7,8-PeCDF	Cr.,	S	0.00000170	92		130-	3C-2,3,4,7,8-PeCDF	S.D.F.	62.6	21 - 178	
	2,3,4,7,8-PeCDF	tr.	N Q	0.00000170	70		13C-	3C-1,2,3,4,7,8-HxCDF	HxCDF	62.6	26-152	: .
	1,2,3,4,7,8-HxCDF	DF	ON ON	0.000000474	174		130	3C-1.2,3,6,7,8-HxCDF	HxCDF	6.59	26-123	
	1,2,3,6,7,8-HxCDF	DF	<u>R</u>	0.000000435	135		130	3C-2.3.4.6.7.8-HxCDF	HxCDF	6.29	28 136	:
	2,3,4,6,7,8-HxCDF	DF	Q.	0.000000492	192		130	13C-1,2,3,7,8,9-HxCDF	HXCDF	26	29 - 147	
	1,2,3,7,8,9-HxCDF	DF	Q.	0.000000635	335		130	3C-1.2.3.4.6.7.8-HnCDF	8-HnCDF	61.0	28 . 143	
23 24 X	1,2,3,4,6,7,8-HpCDF	CDF	0.00000237	i.			13.	3C-12.3.4.7.8.9-HnCDF	9-HnCDF	9.19	26 - 138	
-	1,2,3,4,7,8,9-HpCDF	CDF	2	0.000000562	299		130	3C-OCDF	1	40.7	17. 157	
	OCDF		0.00000560				S	37CI-2,3,7,8-TCDD	DD	87.7	35 - 197	
	Totals						Footnotes					
	Total TCDD		S	0.000000056	356		a. Sample so	ecific estimate	a. Sample specific estimated detection limit			
	Total PeCDD		2	0.00000139	61		b. Estimated	maximum pos	b. Estimated maximum possible concentration			
	Total HxCDD		Q.	0.00000155	55		c. Method de	c. Method detection limit				:
	Total HpCDD		0.0000297				d. Lower con	ntrol Jimit - 1102	d. Lower control limit - maser control limit			
	Total TCDF		ND	0.00000000	90						-	
	Total PeCDF		2	0.00000170	9							
Z	Total HxCDF		0.00000132		0.00	0.00000198						٠.
	Total HpCDF		0.00000926								-	
	Analyst: JMH						Appr	Approved By:	Martha M. Maier		03-Anr-2006 11:49	01
		:					:		CTAMESTER ATTS STATE		ディイ ついつりしてい	

Project 27500

PM 4/11/64

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APPENDIX G

Section 93

Outfall 005, March 29, 2006

Del Mar Analytical Laboratory Report



LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

Project: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

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

CLIENT ID

MATRIX

IPC2951-01

Outfall 005

Water

Reviewed By:

Del Mar Analytical - Irvine Michele Chamberlin

Michele Chamberlin

Project Manager



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-T022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly 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 - V	Vater)								
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	



17461 Derian Ave., Suite 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 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

Sampled: 03/29/06

300 North Lake Avenue, Suite 1200

Attention: Bronwyn Kelly

Pasadena, CA 91101

Report Number: IPC2951

Received: 03/29/06

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17461 Derian Ave., Suite 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 S1st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

Sampled: 03/29/06

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC2951

Received: 03/29/06

Attention: Bronwyn Kelly

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	er				
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) - V	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



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

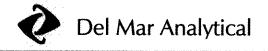
Received: 03/29/06

METHOD BLANK/QC DATA

METALS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C29141 Extracted: 03/29/06	_										
Blank Analyzed: 03/30/2006 (6C29141-B	LK1)										
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/I							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/i							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 03/30/2006 (6C29141-BS)	l)										
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 (6C29	9141-MS1)				Sour	ce: IPC2	844-01				
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 (6C29	141-MS2)				Sour	ce: IPC29	011-01				
Antimony	84.6	2.0	0.050	ug/l	80.0	ND	106	70-130			
Cadmium	81.9	1.0	0.025	ug/I	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-MSE	1)			Sourc	e: IPC28	44-01				
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		70-130	8	20	
Thallium	80.9	1.0	0.15	ug/l	80.0	ND	101	70-130	7	20	

Del Mar Analytical - IrvineMichele Chamberlin
Project Manager



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

Sampled: 03/29/06

Pasadena, CA 91101

Report Number: IPC2951

Received: 03/29/06

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

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-B	LK1)										
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/30/2006 (6C30065-BS	I)										
Mercury	7.87	0.20	0.050	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/30/2006 (6C3	0065-MS1)				Sou	rce: IPC2	2857-01				
Mercury	8.16	0.20	0.050	ug/l	8.00	ND	102	70-130			
Matrix Spike Dup Analyzed: 03/30/2006	(6C30065-M	SD1)			Sou	rce: IPC2	857-01				
Mercury	8.19	0.20	0.050	ug/l	8.00	ND	102	70-130	0	20	



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

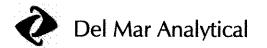
Received: 03/29/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 6C29054 Extracted: 03/29/06		241111	AVA.0 M2	Carro	220,01	icesur.	/GRADIC	Milites	ACC 10	Littare	Qualifici 3
Daten. 0027034 Extracted. 03/25/00	-					•					
Blank Analyzed: 03/29/2006 (6C29054-B	LK1)										
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-BS)	l)										
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 (6C2	9054-MS1)				Sou	rce: IPC28	868-01				
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-MS	D 1)			Sour	ce: IPC28	368-01				
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-BI	LK1)										
Oil & Grease	ND	5.0	0.94	mg/I							
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



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

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source	%REC	%REC Limits	RPD	RPD Limit	Data
•		Limit	WIDL	Unrs	Levei	Kesuit	70RE/C	Limits	Krij	LIMI	Qualifiers
Batch: 6C30050 Extracted: 03/30/06	<u>-</u>										:
Blank Analyzed: 03/30/2006 (6C30050-B	LK1)										*
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Batch: 6C30063 Extracted: 03/30/06	_										
Blank Analyzed: 03/30/2006 (6C30063-B.	LK1)										
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/30/2006 (6C30063-BS)	1)										
Total Dissolved Solids	990	10	10	mg/l	1000		99	90-110			
Duplicate Analyzed: 03/30/2006 (6C3006)	3-DUP1)				Sou	rce: IPC2	961-01				
Total Dissolved Solids	295	10	10	mg/l		300			2	10	
Batch: 6C30086 Extracted: 03/30/06	•										
Blank Analyzed: 03/30/2006 (6C30086-Bl	L K D	10 mg		N. 7		100	e y V			1.7	
Total Suspended Solids	ND	10	10	mg/l							•
LCS Analyzed: 03/30/2006 (6C30086-BS1	1)										
Total Suspended Solids	987	10	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 03/30/2006 (6C30086	5-DUP1)				Sour	rce: IPC2	670-01				
Total Suspended Solids	216	10	10	mg/l		230			6	10	

Del Mar Analytical - Irvine Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

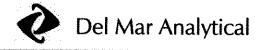
Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2951

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPC2951

Sampled: 03/29/06

Received: 03/29/06

DATA QUALIFIERS AND DEFINITIONS

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

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

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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

Sampled: 03/29/06

Pasadena, CA 91101

300 North Lake Avenue, Suite 1200

Report Number: IPC2951

Received: 03/29/06

Attention: Bronwyn Kelly

Certification Summary

Del Mar Analytical - Irvine

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

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

Subcontracted Laboratories

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

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed:

1613-Dioxin-HR-Alta

Samples: IPC2951-01

Analysis Performed: EDD + Level 4

Samples: IPC2951-01

Del Mar Analytical - Irvine Michele Chamberlin Project Manager

ANALYSIS REQUIRED		pH= 7.C										7		\$\frac{1}{1} \rightarrow \frac{1}{1} \rightarrow \frac{1} \rightarrow \frac{1}{1} \rightarrow \frac{1}			Tum around Time: (check) 24 Hours 5 Days	48 Hours 10 Daw		Perchlorate Only 72 Hours
ANAL		881 ,							×									1600		
		- Gresse (EPA 	.,				×	×							+		me:	a	.: E	me:
		O (and all con				×							1	1	1		Date/Time	3	Jane /	Date/Time:
Client Name/Address: Project:	Metals: iT ,t	l Recoverable Cd, Cu, Pb, Hg	Total Sb, (S	×	×													3/2		
-			Bottle *	1. A	#	82 \$	38,38	₹	85 A2									Trail la	P	
	PDES 1005 SDF-1		Preservative	HNO3	HNO3	None	호	None	None								Received By	37	Received 15y	Received By
	Boeing-SSFL NPDES Routine Outfall 005 Stormwater at FSDF-	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	pling	1,					10.15					and the second s				000	ì	
Project:	Boeing Routi n Stormv	Phone Numb (626) 568-66 Fax Number: (626) 568-65	Sampling Date/Time	\$0,57,0					70.h.z.k								evTime:	7		e/Time:
			\$ \$		_	6	2	~	N								Date/Time.		5 0 0	Date/Time:
	MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager. Bronwyn Kelly Sampler. メアバラ・バ	Confainer	ì				ļ	Poly-500			***************************************		ŀ				*	J.	
żó	6 9 2	Project Manager: Bro Sampler: メババス・バ	Sample	1	3	≩	3	3	*								Relinquished By	14 8 11		ڇ
Client Name/Address:	MWH-Pasadena 300 North Lake Avenu Pasadena. CA 91101	ं हैं।		4		•		ı	i	, [- 1	1	- 1		1	1	Z	1/8	- X	2



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 escept 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

Page 2 of 226

SECTION II

Page 3 of 226

Method Blank							EPA Me	EPA Method 1613
Matrix: Aqueous		QC Batch No.:		7889	Lab Sample: 0-MR001			***************************************
Sample Size: 1.00 L		Date Extracted:	-	1-Apr-06	ed DB-5:	Date A	Date Analyzed DB-225:	A Z
Analyte Conc. (ug/L)	g/L)	DF a	EMPC b	Qualifiers	Labeled Standard	%R	CLUCL	Oualifiers
2,3,7,8-TCDD	S	0.00000128			IS 13C-2.3.7.8-TCDD	69.5	1	
1,2,3,7,8-PeCDD	ND	0.00000135				75.3	25 - 181	
1,2,3,4,7,8-HxCDD	ON	0.00000138			13C-1,2,3,4,7,8-HxCDD	74.1	32 - 141	
	ND	0.00000142			13C-1,2,3,6,7,8-HxCDD	76.8	28 - 130	
	QN Q	0.00000135	:1		13C-1,2,3,4,6,7,8-HpCDD	76.9	23 - 140	
,7,8-HpCDD	Q.	0.000000972			13C-OCDD	37.5	17 - 157	
	Q	0.00000275			13C-2,3,7,8-TCDF	7.07	24 - 169	
		0.00000102			13C-1,2,3,7,8-PeCDF	75.7	24 - 185	
	Q	0.00000106			13C-2,3,4,7,8-PeCDF	78.6	21 - 178	M.
		0.00000103			13C-1,2,3.4,7,8-HxCDF	74.4	26 - 152	
*	: . : .	0.000000440			13C-1,2,3,6,7,8-HxCDF	76.7	26 - 123	
1,2,3,6,7,8-HxCDF	Q.	0.000000410		-	13C-2,3,4,6,7,8-HxCDF	76.4	28 - 136	
	2	0.000000469			13C-1,2,3,7,8,9-HxCDF	76.1	29 - 147	
	Q Q	0.000000599			13C-1,2,3,4,6,7,8-HpCDF	62.9	28 - 143	
1,2,3,4,6,7,8-HpCDF	Q	0.000000722			13C-1,2,3,4,7,8,9-HpCDF	7.97	26 - 138	. 155 . 155 . 2
S,9-HpCDF	Q	****			13C-OCDF	47.0	17-157	
OCDE	QN	0.00000405			CRS 37CI-2,3,7,8-TCDD	83.8	35-197	-
Totals					Footnotes			
Total TCDD	ND				a. Sample specific estimated detection limit.			
Total PeCDD	N Q				b Estimated maximum possible concentration.			Ç!
	£	0.00000138			c. Method detection limit.			
	£	0.000000972			d. Lower control limit - upper control limit.	\$ 		
Total TCDF	Q.	0.00000102						
Total PeCDF	2	0.00000104						
Total HxCDF	Q.	0.000000474						
Total HpCDF	ON	0.000000692					:	
Analyst: DMS					Approved By: Martha M. Maier	aier 04-7	04-Apr-2006 14:04	

OPR Results				EPA	EPA Method 1613	
Matrix: Aqueous Sample Size 1.00 L	QC Batch No.: Date Extracted.	7889 1-Apr-06	Lab Sample: 0-OPR001 Date Analyzed DB-5: 3-Apr-06	Date Analyzed DB-225:	ed DB-225: NA	_
Analyte Spii	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	8 %	rchcr	
	10.0 10.4	6.7 - 15.8	LS 13C-2,3,7,8-TCDD	62.4	25 - 164	T
	50.0 50.4	35-71	13C-1,2,3,7,8-PeCDD	65.4	25 - 181	
	50.0 50.5	35 * 82	13C-1,2,3,4,7,8-HxCDD	0.09	32 - 141	
N		38 - 67	13C-1,2,3,6,7,8-HxCDD	8.09	28 - 130	
	50.0 52.0	32 - 81	13C-1,2,3,4,6,7,8-HpCDD	57.0	23 - 140	
1,2,3,4,0,7,8-HpCDD	50.0 53.4	35-70	13C-OCDD	30.1	17 - 157	
		78 - 144	13C-2,3,7,8-TCDF		24 - 169	
2,3,7,8-1,1,2	10.0	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	65.3	24 - 185	
1,2,3,7,6-FC[D]	50.0 49.9	40-67	13C-2,3,4,7,8-PeCDF	0.89	21 - 178	
		34 - 80	13C-1,2,3,4,7,8-HxCDF	56.2	26 - 152	
12247.0-HXCDF 97858 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		36-67	13C-1,2,3,6,7,8-HkCDF	58.4	26 - 123	
1,4,7,0,7,0,0,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1		42 - 65	13C-2,3,4,6,7,8-HxCDF	2009	28 - 136	• ,
2,3,4,0,7,0-1XCDF	20,0 51.6	35 + 78	13C-1,2,3,7,8,9-HxCDF	58.6	29 - 147	
1,2,5,7,0,7-HXCDF	50.0 52.0	39-65	13C-1,2,3,4,6,7,8-HpCDF	51.0	28 - 143	
7,2,5,4,0,7,6*HDCUF	50.0 49.9	41-61	13C-1,2,3,4,7,8,9-HpCDF	60.3	26 - 138	g - 1
	50.0 50.7	39~69	13C-OCDF	37.3	17 - 157	
	× 100 × 98.2	63 - 170	CRS 37CI-2,3,7,8-TCDD	75.6	35 - 197	

Approved By: Martha M. Maier 04-Apr-2006 14:04

Analyst: DMS

Sample 1D: IPC2951-01				fersky damilik fram a popular na natury projekty kanonikkon	e de la companya de l	ATT THE PROPERTY OF THE PROPER		EPA N	EPA Method 1613
Data			Sample Data		Luburntory Data		The state of the s		
Name: Del Mar Analytical, Irvine	tical, Irvine		Matrix	Aqueous	Lab Sample:	27506-001	Date Received	ived.	31-Mar-06
offected			Sample Size:	1.03 L	QC Batch No.	7889	Date Extracted:	acted:	1-Apr-06
Time Collected 1015					Date Analyzed DB-5:	3-Apr-06	Date Anal	Date Analyzed DB-225	- ×
Analyte Conc. (ug	(ug/L)	DI ^a	EMPCb	Qualifiers	Labeled Standard	lard	%R 1	רכוריתכוק	Oualifiers
2,3,7,8-TCDD	ND	0.00000140	0		IS 13C-2,3,7,8-TCDD	QQ	55.4	25 - 164	
1,2,3,7,8-PeCDD	Q.	0.00000168			13C-1,2,3,7,8-PeCDD	eCDD	61.4	25 - 181	-
1,2,3,4,7,8-HxCDD	2	0.00000174			13C-1,2,3,4,7,8-HxCDD	HXCDD	58.7	32 - 141	
1,2,3,6,7,8-HxCDD	Q	0.00000177			13C-1,2,3,6,7,8-HxCDD	HxCDD	9.69	28 - 130	
1,2,3,7,8,9-HxCDD	S	0.00000170			13C-1.2,3,4,6,7,8-HpCDD	8-HpCDD	60.4	23 - 140	
1,2,3,4,6,7,8-HpCDD	0.00000594			-	13C-OCDD		35.4	17-157	-
OCDO	0.0000798				13C-2,3,7,8-TCDF	DF	51.3	24 - 169	
	2	0.00000157			13C-1,2,3,7,8-PeCDF	eCDF	57.3	24 - 185	
	NO.	0.00000166	\$		13C-2,3,4,7,8-PeCDF	eCDF	58.5	21 - 178	
2,3,4,7,8-PeCDF	Q	0.00000157			13C-1,2,3,4,7,8-HxCDF	HxCDF	58.0	26 - 152	
1,2,3,4,7,8-HxCDF	Ð	0.000000174	74		13C-1,2,3,6,7,8-HxCDF	HxCDF	59.2	26 - 123	
1,2,3,6,7,8-HxCDF	Q	0.000000163	53		13C-2,3,4,6,7,8-HxCDF	HxCDF	60.5	28 - 136	
2,3,4,6,7,8-HxCDF	2	0.000000172	72	- N - N - N - N - N - N - N - N - N - N	13C-1,2,3,7,8,9-HxCDF	HxCDF	60.7	29 - 147	
1,2,3,7,8,9-HxCDF	S	0.0000000244	4	:	13C-1.2,3,4,6,7,8-HpCDF	8-HpCDF	54.5	28 - 143	
1,2,3,4,6,7,8-HpCDF	Q.	0.000000333	33		13C-1,2,3,4,7,8,9-HpCDF	9-HpCDF	64.1	26 - 138	3
PCD PCD		0.000000283	83		13C-OCDF	·	42.2	17 - 157	
OCDF	Q	0.00000381	8		CRS 37Cl-2,3,7,8-TCDD	dd	76.3	35 - 197	
Totals					Footnotes				
		0.00000140			a Sample specific estimated detection limit.	d detection limit.			
	N	0.00000168			b. Estimated maximum possible concentration.	sible concentration.			
Total HxCDD	ND OR O	0.00000174		(C) (C) (M)	c. Method detection limit.				
	Q	0.00000157							
Total PeCDF	Q	0.00000162					7. 4.3 4.3 5.8		
٠ ١٩ ١٩	Q	0.000000186	98				٠	:	
	QN	0.000000308	98						
Analyst: DMS					Approved By:	Martha M. Maier	ier 04-A	04-Apr-2006 14:04	

Project 27506

APPENDIX

Project 27506

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.
Н	The signal-to-noise ratio is greater than 10:1.
1	Chemical interference
J.	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
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.
ЕМРС	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



SENDING LABORATORY:

Project 27506

17461 Derien Ave. Suite 100, Irvine, CA 92614 1014 E. Cookey Dr., Suite A. Colton, CA 92324 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 9830 South 51st Street, Suba 6-126, Pricerix, AZ 65044

Ph (949) 261-1022 Fax (949) 261-1228 Ph (909) 370-4867 Fax (909) 370-1046

RECEIVING LABORATORY:

Ph (480) 785-0043 Fax (480) 786-0851

SUBCONTRACT ORDER - PROJECT # IPC2951

Del Mar Analytical - Ir 17461 Derian Avenue. Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Miche	Suite 100 cle Chamberlin cested unless specific d	lue date is request		95762 10 2.0°	DS C
Analysis	Expiration		Comments		
Sample ID: IPC2951-01 1613-Dioxin-HR-Alta EDD + Level 4	Water Samples 04/05/06 10:15 04/26/06 10:15	l: 03/29/06 10:15	Instant Notication J flags, 17 congeners, no TE Excel EDD email to pm, Inc		
Containers Supplied: 1 L Amber (IPC2951-01 1 L Amber (IPC2951-01					
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			•	44	
		•			
indeplement by the first control of the second seco	······································	SAMPI	E INTEGRITY:		
All containers intact: Custody Seals Present:	Yes II No	Sample labels/COC agree: Samples Preserved Properl		Samples Received On Icen: Samples Received at (temp):	☐ Yes ☐ No
Am	ma 3/30/6		Bettma V. Bene	edict 3/31/01	6 0905
elEaded(By () ∨	Date	Time	Received By	Daté	Time
eleased By	Date	Time	Received By	Date	Time

Pageso boris

SAMPLE LOG-IN CHECKLIST

Alta Project #: 2506

Samples Arrival:	Date/Time 3/3/100	0904	Initials	18	Location:	۲- <u>ک</u>
Logged In:	Date/Time	; 105	\(\) Initials	BUB	Location: W	ez
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	(Ice	Bli	ue Ice	Dry l	ce N	lone
Temp°C 2.0	* C	Time: (7935		Thermometer I	D: DT-20

					YES,	NO	NA
Adequate Sample Volume Received?					V/	•	
Holding Time Acceptable?					V		
Shipping Container(s) Intact?					V		
Shipping Custody Seals Intact?					1/		
Shipping Documentation Present?		· · · · · · · · · · · · · · · · · · ·			V		
Airbill Trk# 790	3 76	1347	144	,	/		
Sample Container Intact?				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>		
Sample Custody Seals Intact?							V
Chain of Custody / Sample Documen	itation Pro	esent?			V	ļ.,	
COC Anomaly/Sample Acceptance F						V	
If Chlorinated or Drinking Water Sam			reservation?				1
Na ₂ S ₂ O ₃ Preservation Documented?			COC	r	nple ainer	, (No	one
Shipping Container	Alta	(Client)	Retain	Re	turn)	Dis	oose
Comments:							

L:/QA/Forms/SampleControl/Sample Login 12/2005 page 11 of 226

APPENDIX G

Section 94

Outfall 005, March 29, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4DF62</u> Task Order <u>1261.001D.01</u> 12260 East Vassar Drive Suite 500 SDG No. IPC2951 No. of Analyses 1 Lakewood, CO 80226 Date: April 10, 2006February 17, 2006 Laboratory Alta Analytical Reviewer's Signature / Reviewer E. Wessling Analysis/Method Dioxins/ Furans by Method 1613 **ACTION ITEMS*** Case Narrative **Deficiencies** 2. Out of Scope Analyses **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

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

Project: SDG: NPDES IPC2951

D/F

DATA VALIDATION REPORT

SDG: Analysis:

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:

Leveliv

No. of Reanalyses/Dilutions:

ń

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.

Project: SDG: NPDES IPC2951

D/F

DATA VALIDATION REPORT

SDG: Analysis:

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 005	IPC2951-01	27506-001	Water	1613

D/F

SDG: Analysis:

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.

Revision 0

Project: SDG: Analysis: NPDES IPC2951 D/F

DATA VALIDATION REPORT

2.2.2 Mass Spectrometer Performance

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

2.3 CALIBRATION

2.3.1 Initial Calibration

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

2.3.2 Continuing Calibration

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

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

2.4 BLANKS

One method blank (0-7889-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.

Revision 0

Project: SDG: Analysis: NPDES IPC2951 D/F

DATA VALIDATION REPORT

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

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

2.7.2 Field Duplicates

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

2.8 INTERNAL STANDARDS

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

2.9 COMPOUND IDENTIFICATION

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

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

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



Class Data Data Numers Class Data Data Data Data Analysical, Irvine Process Assistable Data Data Analysical, Irvine Process Laboration Data Data Data Analysical, Irvine Process Laboration Data Data Data Data Data Data Data Dat	Sample ID:	IPC2951-01	0	是是	500					EPA N	EPA Method 1613
Delication Del	Client Data				Sample Data		Laboratory Data				
Date Analyzed December 29-Mari-ole Sumple Size 103 L Date Analyzed December Date Occupation Date Date Analyzed December Date Occupation Date Date Occupation D	Name: Project:	Del Mar Analyti IPC2951	cal, Irvine		Matrix:	Aqueous	Lab Sample:	27506-001	Date Rece	ived:	31-Mar-06
Analyte Cont. (ug/l.) DL. a EMPC ^b Qualifiers Labeled Standard %R LCL-UCLd 2.3.7.8-TCDD ND 0.00000144 E 13C-2.3.7.8-TCDD 55.4 25 - 164 1.2.3.7.8-HCDD ND 0.00000174 13C-1.2.3.7.8-HCDD 58.7 25 - 161 1.2.3.7.8-HCDD ND 0.00000177 13C-1.2.3.7.8-HCDD 58.7 25 - 161 1.2.3.7.8-HCDD ND 0.00000177 13C-1.2.3.7.8-HCDD 58.7 25 - 161 1.2.3.7.8-HCDD ND 0.00000177 13C-1.2.3.7.8-HCDD 58.2 21.4 1.2.3.7.8-HCDP ND 0.00000177 13C-1.2.3.7.8-HCDD 53.4 17 - 157 0.000 CCDD 13C-0.2.3.7.8-TCDF 51.3 24 - 185 23 - 149 1.2.3.7.8-HCDF ND 0.00000157 13C-1.2.3.7.8-HCDF 58.2 21 - 185 1.2.3.7.8-HCDF ND 0.00000167 13C-1.2.3.7.8-HCDF 58.2 21 - 185 1.2.3.7.8-HCDF ND 0.000000167 13C-1.2.3.7.8-HCDF 58.2 28 -	Date Collected:	29-Mar-06 1015			Sample Size:	1.03 L	QC Batch No.: Date Analyzed DB-5;	7889 3-Apr-06	Date Extra Date Analy	icted: raed DB-225:	1-Apr-06
2.3.7.8-TCDD NB 0.00000140 IS 13C-23.7.8-TCDD 55.4 1.2.3.7.8-PCDD ND 0.00000174 13C-12.3.7.8-PCDD 61.4 1.2.3.4.7.8-HCDD ND 0.00000177 13C-12.3.4.7.8-HCDD 58.7 1.2.3.4.7.8-HCDD ND 0.00000177 13C-12.3.4.7.8-HCDD 58.6 1.2.3.4.8-HCDD 0.00000179 13C-12.3.4.7.8-HCDD 58.7 1.2.3.4.8-HCDP ND 0.00000157 13C-12.3.4.8-HCDP 57.3 2.3.4.8-HCDF ND 0.00000157 13C-12.3.4.8-HCDF 58.5 2.3.4.7.8-HCDF ND 0.00000157 13C-12.3.4.8-HCDF 58.5 1.2.3.4.7.8-HCDF ND 0.00000157 13C-12.3.4.8-HCDF 58.5 1.2.3.4.7.8-HCDF ND 0.00000157 13C-12.3.4.8-HCDF 58.5 1.2.3.4.7.8-HCDF ND 0.00000101 13C-12.3.4.8-HCDF 58.5 1.2.3.4.7.8-HCDF ND 0.0000001024 13C-12.3.4.8-HCDF 58.5 1.2.3.4.7.8-HCDF ND 0.0000000103 13C-12.3.4.8-HCDF 54.5 <th>Analyte</th> <th></th> <th>(L)</th> <th>1</th> <th>EMPCb</th> <th>Qualifiers</th> <th>Labeled Standa</th> <th>rd</th> <th></th> <th>PTON-TO</th> <th>Oualifiers</th>	Analyte		(L)	1	EMPCb	Qualifiers	Labeled Standa	rd		PTON-TO	Oualifiers
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1.2,3,4,6,7,8-HpCDD 0,00000594 J 13C-OCDD 35.4 0CDD 0,00000798 13C-2,3,7,8-PcDF 51.3 2,3,7,8-PcDF ND 0,00000157 13C-1,2,3,7,8-PcDF 58.5 1,2,3,7,8-PcDF ND 0,00000157 13C-1,2,3,7,8-PcDF 58.5 2,3,4,7,8-PcDF ND 0,00000157 13C-1,2,3,7,8-PcDF 58.5 1,2,3,7,8-PcDF ND 0,00000172 13C-1,2,3,7,8-PcDF 58.5 1,2,3,7,8-PcDF ND 0,00000163 13C-1,2,3,7,8-PcDF 58.5 2,3,4,7,8-PkCDF ND 0,00000172 13C-1,2,3,7,8-PkCDF 60.5 1,2,3,4,6,7-BhCDF ND 0,00000033 13C-1,2,3,7,8-PkCDF 60.7 1,2,3,4,6,7-BhCDF ND 0,00000038 13C-1,2,3,7,8-PkCDF 64.1 1,2,3,4,6,7-BhCDF ND 0,00000038 13C-1,2,3,7,8-PkCDF 64.1 1,2,3,4,6,7-BhCDF ND 0,00000038 13C-1,2,3,7,8-PkCDF 64.1 1,2,3,4,6,7-BhCDF ND 0,00000038 12C-1,2,3,7,8-PkCDF 64.1			2	0.0000017	70		13C-1,2,3,4,6,7,8	-HpCDD	60.4	23 - 140	
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TCDF ND 0.00000157 13C-12.3.7,8-PeCDF 57.3 8-PeCDF ND 0.00000166 13C-2.3,47,8-PeCDF 58.5 8-PeCDF ND 0.00000174 13C-12.3,47,8-PeCDF 58.0 7.8-HXCDF ND 0.00000174 13C-12.3,47,8-HXCDF 59.2 7.8-HXCDF ND 0.00000172 13C-12.3,47,8-HXCDF 60.5 8.9-HXCDF ND 0.00000024 13C-12.3,4,6,7,8-HyCDF 60.7 8.9-HXCDF ND 0.00000283 13C-12.3,4,6,7,8-HyCDF 60.7 7.8.9-HyCDF ND 0.00000283 CRS 37C1-2,3,7,8-HyCDF 64.1 7.8.9-HyCDF ND 0.00000140 4.5 sumple specific estimated detection limit. 42.2 CDD ND 0.00000140 4.5 sumple specific estimated detection limit. 5.00000140 A.5 sumple specific estimated detection limit. CDF ND 0.00000116 C. Method detection limit. A. Lower control limit. A. Lower control limit. CDF ND 0.000000186 C. Method detection limit. A. Lower control limit. A. L	OCDO	.T.	0.0000798				13C-2,3,7,8-TCD		51.3	24 - 169	
8-PeCDF ND 0.00000166 13C-2,3,4,7,8-PeCDF 58.5 8-PeCDF ND 0.00000157 13C-1,2,3,4,7,8-PeCDF 58.0 7,8-PeCDF ND 0.00000174 13C-1,2,3,4,7,8-PeCDF 59.2 7,8-PeCDF ND 0.00000163 13C-1,2,3,4,7,8-PeCDF 60.5 7,8-PeCDF ND 0.00000172 13C-1,2,3,4,5,7,8-PeCDF 60.5 7,8-PeCDF ND 0.00000244 13C-1,2,3,4,6,7,8-PeCDF 60.7 8,9-HpCDF ND 0.00000283 13C-1,2,3,4,7,8-PeCDF 64.1 7,8-PeCDF ND 0.00000283 13C-1,2,3,4,7,8-PeCDF 64.1 7,8-PeCDF ND 0.00000283 13C-1,2,3,4,7,8-PeCDF 64.1 7,8-PeCDF ND 0.00000188 Peoptnotes 64.1 CDD ND 0.00000140 a. Sumple specific estimated detection limit. a. Sumple concentration. ECDF ND 0.00000174 a. Sumple specific estimated maximum possible concentration. c. Method detection limit. CDF ND 0.000000162 0.000000162<	2,3,7,8-TCDF		Q	0.000001	2.2		13C-1,2,3,7,8-Pec	CDF	57.3	24 - 185	
8-PeCDF ND 0.00000157 13C-1,2,3,4,7,8-HxCDF 58.0 7,8-HxCDF ND 0.00000174 13C-1,2,3,6,7,8-HxCDF 59.2 7,8-HxCDF ND 0.00000172 13C-1,2,3,4,6,7,8-HxCDF 60.5 7,8-HxCDF ND 0.00000172 13C-1,2,3,4,6,7,8-HyCDF 64.1 8,9-HxCDF ND 0.00000033 13C-1,2,3,4,6,7,8-HyCDF 64.1 7,8-HpCDF ND 0.000000383 CRS 37C1-2,3,4,8,9-HpCDF 64.1 7,8-HpCDF ND 0.00000183 CRS 37C1-2,3,7,8-TCDD 76.3 7,8-HpCDF ND 0.00000184 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. CDD ND 0.00000140 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. CDF ND 0.00000157 c. Method detection limit. d. Lower control limit. CDF ND 0.00000162 c. Method detection limit. d. Lower control limit. CDF ND 0.00000186 c. Method detection limit. CDF <th< td=""><td>1,2,3,7,8-PeCDF</td><td></td><td>2</td><td>0.0000014</td><td>99</td><td></td><td>13C-2,3,4,7,8-Pet</td><td>CDF</td><td>58.5</td><td>21 - 178</td><td></td></th<>	1,2,3,7,8-PeCDF		2	0.0000014	99		13C-2,3,4,7,8-Pet	CDF	58.5	21 - 178	
7,8-HxCDF ND 0.000000174 F3C-1,2,3,6,7,8-HxCDF 59.2 7,8-HxCDF ND 0.000000152 13C-2,3,4,6,7,8-HxCDF 60.5 7,8-HxCDF ND 0.000000244 13C-1,2,3,7,8,9-HxCDF 60.7 8,9-HxCDF ND 0.000000233 13C-1,2,3,4,6,7,8-HpCDF 64.1 8,9-HpCDF ND 0.000000283 CRS 37C1-2,3,4,7,8,9-HpCDF 64.1 7,8,9-HpCDF ND 0.00000140 a. Sample specific estimated detection limit. 42.2 CDD ND 0.00000140 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. cCDD ND 0.00000174 c. Method detection limit. d. Lower control limit. cCDF ND 0.00000157 c. Method detection limit. d. Lower control limit. cCDF ND 0.00000162 d. Lower control limit. d. Lower control limit. cCDF ND 0.00000186 a. Sumple specific estimated detection limit. cCDF ND 0.00000186 a. Sumple specific estimated detection limit.	2,3,4,7,8-PeCDF		Q	0.000001	57		13C-1,2,3,4,7,8-H	[xCDF	58.0	26 - 152	· · · · · ·
7,8-HxCDF ND 0.00000163 13C-2,3,4,6,7,8-HxCDF 60.5 7,8-HxCDF ND 0.00000172 13C-1,2,3,4,6,7,8-HpCDF 6.7 8,9-HxCDF ND 0.000000244 13C-1,2,3,4,6,7,8-HpCDF 64.1 8,9-HxCDF ND 0.000000283 13C-1,2,3,4,7,8,9-HpCDF 64.1 7,8-HpCDF ND 0.000000283 CRS 37C1-2,3,7,8-HpCDF 64.1 7,8-HpCDF ND 0.00000140 a. Sample specific estimated detection limit. 42.2 CDD ND 0.00000140 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. kCDD ND 0.00000140 a. Sample specific estimated detection limit. d. Lower control limit. cCDF ND 0.00000154 c. Method detection limit. d. Lower control limit. cCDF ND 0.00000162 d. Lower control limit upper control limit. cCDF ND 0.00000186 d. Lower control limit upper control limit.	1,2,3,4,7,8-HxCI		2	0.00000	174		13C-1,2,3,6,7,8-H	IXCDF	59.2	26 - 123	
7,8-HxCDF ND 0.000000172 13C-1,2,3,7,8,9-HxCDF 60.7 29 8,9-HxCDF ND 0.00000244 13C-1,2,3,4,6,7,8-HpCDF 54.5 28 8,9-HxCDF ND 0.000000283 13C-1,2,3,4,7,8,9-HpCDF 64.1 26 7,8,9-HpCDF ND 0.000000283 CRS 37C1-2,3,7,8-TCDD 76.3 35 CDD ND 0.00000140 a. Sample specific estimated detection limit. b. Estimated detection limit. cCDD 76.3 35 CDD ND 0.00000140 a. Sample specific estimated detection limit. c. Method detection limit. d. Lower control limit. <t< td=""><td>1,2,3,6,7,8-HxCI</td><td>٠</td><td>Q.</td><td>0.000000</td><td>163</td><td></td><td>13C-2,3,4,6,7,8-H</td><td>[xCDF</td><td>60.5</td><td>28 - 136</td><td></td></t<>	1,2,3,6,7,8-HxCI	٠	Q.	0.000000	163		13C-2,3,4,6,7,8-H	[xCDF	60.5	28 - 136	
8,9-HxCDF ND 0.000000244 13C-1,2,3,4,7,8,9-HpCDF 54.5 28 6,7,8-HpCDF ND 0.000000283 13C-1,2,3,4,7,8,9-HpCDF 64.1 26 7,8,9-HpCDF ND 0.00000283 CRS 37C1-2,3,4,7,8,9-HpCDF 64.1 26 7,8,9-HpCDF ND 0.000001381 CRS 37C1-2,3,7,8-TCDD 76.3 35 CDD ND 0.00000140 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. c. Method detection limit. c. Method detection limit. CDF ND 0.00000174 d. Lower control limit. d. Lower control limit. d. Lower control limit. CDF ND 0.00000157 d. Lower control limit. d. Lower control limit. d. Lower control limit. CDF ND 0.00000162 d. Lower control limit. d. Lower control limit.	2,3,4,6,7,8-HxCI		9	0.000000	172	·	13C-1,2,3,7,8,9-H	KCDF	60.7	29 - 147	
6,7,8-HpCDF ND 0.000000333 13C-12,34,7,8,9-HpCDF 64.1 26 7,8,9-HpCDF ND 0.000000283 CRS 37C-2,3,4,7,8,9-HpCDF 42.2 17 7,8,9-HpCDF ND 0.00000381 CRS 37C-2,3,7,8-TCDD 76.3 35 CDD ND 0.00000140 a. Sample specific estimated detection limit. b. Estimated maximyan possible concentration. c. Method detection limit. c. Method detection limit. kCDD ND 0.00000174 c. Method detection limit. d. Lower control limit. d. Lower control limit. cDF ND 0.00000157 d. Lower control limit. d. Lower control limit. cCDF ND 0.00000162 d. Lower control limit. d. Lower control limit. cCDF ND 0.00000186 d. Lower control limit. d. Lower control limit.	1,2,3,7,8,9-HxCI		Q	0.000000	244		13C-1,2,3,4,6,7,8	-HpCDF	54.5	28 - 143	
7,8,9-HpCDF ND 0,00000283 13C-OCDF 42.2 17 CDD ND 0,00000140 a. Sample specific estimated detection limit. b. Estimated maximum possible concentration. CDD ND 0,00000144 b. Estimated maximum possible concentration. c. Method detection limit. CDF ND 0,00000174 c. Method detection limit. d. Lower control limit. CDF ND 0,00000157 d. Lower control limit. d. Lower control limit. CDF ND 0,00000162 d. Lower control limit. d. Lower control limit. CDF ND 0,00000185 d. Lower control limit. d. Lower control limit.	1,2,3,4,6,7,8-Hp(Q	0.000000	133		13C-1,2,3,4,7,8,9	-HpCDF	20	26 - 138	
CDD ND 0.00000381 Footnotes 76.3 35 CDD ND 0.00000140 a. Sample specific estimated detection limit. CDD ND 0.00000168 b. Estimated maximum possible concentration. CDD ND 0.00000174 c. Method detection limit. CDF ND 0.00000157 d. Lower control limit. CDF ND 0.00000162 d. Lower control limit. ACDF ND 0.00000186 d. Lower control limit. CDF ND 0.00000186 d. Lower control limit.	1,2,3,4,7,8,9-Hp(£	0.000000	283		13C-OCDF		42.2	17 - 157	
CDD ND 0.00000140 eCDD ND 0.00000168 kCDD ND 0.00000174 CDF ND 0.00000157 eCDF ND 0.00000162 kCDF ND 0.00000186 pCDF ND 0.000000186	OCDF		Q	0.0000038	3.1		CRS 37CI-2,3,7,8-TCL	ð	76.3	35-197	
ND 0.00000140 ND 0.00000168 ND 0.00000174 0.0000110 ND 0.00000157 ND 0.00000162 ND 0.00000186 ND 0.000000186	Totals						Footnotes				
ND 0.00000168 ND 0.00000174 0.0000110 ND 0.00000162 ND 0.000000186 ND 0.000000308	Total TCDD		Q	0.000001	94		a. Sample specific estimated	detection limit			
ND 0.0000174 0.0000110 ND 0.00000157 ND 0.00000162 ND 0.00000186 ND 0.000000308	Total PeCDD		2	0.0000016			b. Estimated maximum possi	ble concentration	٠		
0.0000110 ND 0.00000157 ND 0.00000162 ND 0.00000186 ND 0.000000308	Total HxCDD		<u>R</u>	0.0000017	7.		c. Method detection limit.				
ND 0.00000157 ND 0.00000162 ND 0.000000186 ND 0.000000308	Total HpCDD	·	0.0000110	-		•	d. Lower control limit - uppe	r control limit.			
ON ON ON	Total TCDF		QN	0.000001	7.5						
ON ON	Total PeCDF	,,,,,	Ð	0.0000016	73						
QN	Total HxCDF	,	QN	0.000000	981						
	Total HpCDF		Q	0.000000	808						

Martha M. Maier 04-Apr-2006 14:04 Approved By:

Project 27506

3 3 3

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ML			Package ID:					
				1261.001D.01				
Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates		The second secon	IPC2951					
,	269 East Vassar Drive Irora, CO 80014 Laboratory: Del Mar Analytical Reviewer: P. Meeks Analysis/Method: General Minerals CTION ITEMS* Case Narrative Deficiencies Out of Scope Analyses Analyses Not Conducted Missing Hardcopy Deliverables Incorrect Hardcopy Deliverables Deviations from Analysis Reanalysis rejected in Protocol, e.g., Holding Times GC/MS Tune/Inst. Performance Calibration Method blanks	the contract of the contract o	of Analyses:					
			Date: April 12, 2006					
	Reviewer: P. Meeks		Reviewer & S	gnature				
	Analysis/Method: General	Minerals	I KINO	7				
AC	TION ITEMS*							
+	Case Narrative							
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2.	Out of Scope Analyses							
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	Deliverables							
	and the second s							
5.	Incorrect Hardcopy							
	Deliverables							
6.	Deviations from Analysis	Reanalysis rejected in favor	of original result.					
	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			A CONTRACTOR OF THE PROPERTY O				
i.	System Performance							
CO	MMENTS ⁹			and a string to the control of the c				
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	subcontracted analytical laboratory is not							
, C	differences in protocol have been adopte	d by the laboratory but no action again	est the laboratory is n	squired.				



DATA VALIDATION REPORT

NPDES Sampling Outfall 005

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPC2951

Prepared by

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

Project SDG: Analysis: Gen. Min.

NPDES IPC2951

DATA VALIDATION REPORT

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 April 12, 2006

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

Date of Review:

The sample listed in Table 1 was validated based on the guidelines outlined in the MECX Data Validation Procedure for General Minerals (DVP-6, Rev. 0), USEPA Methods for Chemical Analysis of Water and Wastes 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

estimated value were not denoted by a qualification code since the data had already been rejected.

SDG:

Analysis: Gen. Min.

DATA VALIDATION REPORT

Table 1. Sample Identification

Client ID: Linbourdon ID Blatis COC Method	CERTIC	Laurauryiu	reduit.	COO MEDICO
	Client ID	Laboratory ID	Matrix	COC Method

The Mark Mark Control of the Control

IPC2951 **Analysis** Gen. Min.

2. DATA VALIDATION FINDINGS

21 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

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

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and 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.

CALIBRATION 2.2

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.

23 **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.

BLANK SPIKES AND LABORATORY CONTROL SAMPLES 2.4

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.

B4WC52

Revision 0

Project: NI SDG: IPC

Analysi

NPDES IPC2951

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

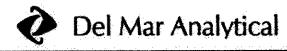
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

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.



17461 Derian Ave., Suite 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. Surset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Sampled: 03/29/06

Pasadena, CA 91101

Report Number: IPC2951

Received: 03/29/06

	ICS

er og er	12.5		MDL		7	Dilution	e de la francia de la companya de l	Date	Data
Analyte	Method	Batch	Limit	Limit	Result	Factor	Extracted	Analyzed	7.7
Sample ID: IPC2951-01 (Outfall 005 Reporting Units: mg/l	- Water) - cont.								Ray Q
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 Reporting Units: mg/l	005 - Water)			;		2	•		
Nitrate/Nitrite-N	EPA 300.0	6C30050	0.80	1.5	46	10	03/30/06	03/30/06	RII

* Analysis With Validakol

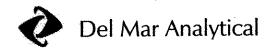
Del Mar Analytical - Irvine Michele Chamberlin Project Manager

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



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

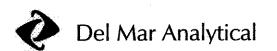
Report Number: IPC0166

Sampled: 03/01/06

Received: 03/01/06

METALS

		£	yır. I A	LO					
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	



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Attention: Bronwyn Kelly

Pasadena, CA 91101

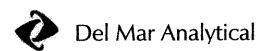
Report Number: IPC0166

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	



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9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 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

SHORT HOLD TIME DETAIL REPORT

	Hold Time	Date/Time	Date/Time	Date/Time	Date/Time
	(in days)	Sampled	Received	Extracted	Analyzed
Sample ID: Outfall 006 (IPC0166-01) - Water EPA 300.0	2	03/01/2006 07:40.	03/01/2006 19:00	03/02/2006 08:00	03/02/2006 12:02



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0166

Sampled: 03/01/06

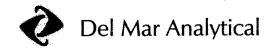
Received: 03/01/06

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Data Qualifiers
Batch: 6C02097 Extracted: 03/02/06							÷				-
Blank Analyzed: 03/02/2006 (6C02097-B		0.00	0.000								
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/02/2006 (6C02097-BS	1)	4									
Mercury	7.88	0.20	0.050	ug/l	8.00		98	85-115			
Matrix Spike Analyzed: 03/02/2006 (6C0	2097-MS1)				Sou	rce: IPB2	608-01				
Mercury	7.84	0.20	0.050	ug/l	8.00	ND	98	70-130			
Matrix Spike Dup Analyzed: 03/02/2006	/6C02097MS	SD1)			Son	rce: IPB2	608-01				
Mercury	7.88	0.20	0.050	ug/l	8.00	ND	98	70-130	1	20	
•		0.20	0.050	-B.	0.00	112			-		
Batch: 6C04030 Extracted: 03/04/06	- -										
Blank Analyzed: 03/07/2006 (6C04030-B	LK1)										
Antimony	ND	2.0	0.050	ug/l			٠.				
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-BS)	l)										
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 (6C0-	4030-MS1)				Sou	rce: IPC0	303-01		•		
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			
Соррег	80.2	2.0	0.25	ug/l	0.08	0.45	100	70-130			
Lead	77.8	1.0	0.040	ug/l	80:0	0.044	97	70-130			

Del Mar Analytical - IrvineSushmitha Reddy For Michele Chamberlin
Project Manager



MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Report Number: IPC0166

Sampled: 03/01/06

Received: 03/01/06

Attention: Bronwyn Kelly

METHOD BLANK/OC 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	<u>.</u>				-						
Matrix Spike Analyzed: 03/07/2006 (6C0	4030-MS2)				Sou	rce: IPC0	303-02				
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	0.08	0.15	97	70-130			
Matrix Spike Dup Analyzed: 03/07/2006	(6C04030-M	(SD1)			Sou	rce: IPC0	303-01				
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	



Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0166

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	RPD	RPD Limit	Data Qualifiers
•											,
Batch: 6C02051 Extracted: 03/02/06	•							. "			
Blank Analyzed: 03/02/2006 (6C02051-Bl	LK1)				•						
Chloride	ND.	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l	-						
Sulfate	ND	0:50	0.45	mg/l							
LCS Analyzed: 03/02/2006 (6C02051-BS1	1)										
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 (6C0)	2051-MS1)	•			Sour	ce: IPC(165-01				*
Chloride	27.1	0.50	0.15	mg/l	5.00	22	102	80-120			
Sulfate	17.0	0.50	0.45	mg/I	10.0	6.7	103	80-120			
Matrix Spike Dup Analyzed: 03/02/2006	6C02051-MS	D1)			Sour	ce: IPC0	165-01				
Chloride	26.2	0.50	0.15	mg/l	5.00	22	84	80-120	J. 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				, ,				* * * * * * * * * * * * * * * * * * *			•
Date: 000000 Date: 000000	•										
Blank Analyzed: 03/06/2006 (6C06069-BI	LK1)										
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	D-DUP1)				Sour	ce: IPC0	087-01				
Total Dissolved Solids	865	10	10	mg/l		860			1	10	

Del Mar Analytical - IrvineSushmitha Reddy For Michele Chamberlin
Project Manager



Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0166

Sampled: 03/01/06

Received: 03/01/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C07078 Extracted: 03/07/00	<u>5</u> .										
Blank Analyzed: 03/07/2006 (6C07078-B	LKI)										•
Total Suspended Solids	ND	10	10	mg/l							
LCS Analyzed: 03/07/2006 (6C07078-BS	1)										
Total Suspended Solids	966	10	10	mg/l	1000		97	85-115			
Duplicate Analyzed: 03/07/2006 (6C0707	/8-DUP1)				Sou	rce: IPC	093-01				
Total Suspended Solids	ND	10	10	mg/l		ND				10	
Batch: 6C09045 Extracted: 03/09/06	<u> </u>										
Blank Analyzed: 03/09/2006 (6C09045-B	LK1)										
Oil & Grease	ND	5.0	0.94	mg/l							•
LCS Analyzed: 03/09/2006 (6C09045-BS	1)										M-NR1
Oil & Grease	17.8	5.0	0.94	mg/l	20.0		89	65-120			
LCS Dup Analyzed: 03/09/2006 (6C0904	5-BSD1)							. *			
Oil & Grease	17.3	5.0	0.94	mg/l	20.0		86	65-120	3	20	



Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0166

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.

						Compliance
LabNumber	Analysis	Analyte	Units	Result	MRL	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



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC0166

Sampled: 03/01/06

Received: 03/01/06

DATA QUALIFIERS AND DEFINITIONS

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

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

Duplicate.

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

RPD Relative Percent Difference



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Attention: Bronwyn Kelly

Pasadena, CA 91101

Report Number: IPC0166

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	\mathbf{X}
EPA 245.1	Water	X	X
EPA 300.0	Water	X	X
EPA 413.1	Water	X	\mathbf{X}^{c}
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 990)clI.

	Field readings. Temp = $52,2$	pH= ; f):																oheck) 5 Days	10 Days	Normal	Hours
	Field	¥	······································									- Annual Control of the Control of t			(*)	24 Hours 5 Days	48 Hours	72 Hours	Perchlorate Only 72 Hours
ANALYSIS REQUIRED																			£			
ANA		881 ,							×									-		2		me:
		SO4, NO3+N			·		×	×												2 5		ine
and the same and t	(Seueus)	O (and all cor	JOT			×													Date/Time:	Oste/Time:		Date/Time:
		il Recoverable Cd, Cu, Pb, H		×	×						-								-	1/2		
			Boffle *	14	18	2A, 2B	34, 38	4A, 48	5A, 58										+		5	
	DES 006 SDF-2		Preservativ e	HNO3	HN03	None	Ð	None	None										Received B	Received By	L	Received By
Client Name/Address: Project:	Boeing-SSFL NPDES Routine Outfall 006 Stormwater at FSDF-2	Phone Number: (626) 568-6691 Fax Number: (626) 568-6515	Sampling	21160 0216					>										Date/Time:	Date/Time:	1900	Date/Time:
-			Çout Cout			8	64	2	est.											Da	1/00	ā
28.	MWH-Pasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager: Bronwyn Kelly Sampler: ディイダバー	Container	Poly-1L	Poly-11	Glass- Amber	Glass- Amber	Poly-500 mi	Poly-500 ml												3/1/8	
.1. 1473	MWH-Pasadena 300 North Lake Avenu Pasadena, CA 91101	Project Manager. Bronwyr Sampler: 元バルタイプ	Sample	×	×	*	3	3	*										Relinguished By	Refinaulshed By	P	Relinquished By
Client Name/Address:	S & X	<u> </u>					ł .	ı	1	1		ıÍ	ı	- [- 1	- 1	1	ľ	8 T	MI S	1	12



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,

Iller Office

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

Page 3 of 278

Martha M. Maier 08-Mar-2006 14:52

Approved By:

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 Analyte Cont. (ug/L) DL a EMPC b Qualifiers Labeled Standard 2.3.7.8-TCDD ND 0.00000119 1S 13C-2.3.7.8-TCDD 1.2.3.7.8-HxCDD ND 0.00000170 13C-1.2.3.7.8-HxCDD 1.2.3.7.8-HxCDD ND 0.00000170 13C-1.2.3.7.8-HxCDD 1.2.3.7.8-HxCDD ND 0.00000161 13C-1.2.3.7.8-HxCDD 1.2.3.7.8-HxCDD ND 0.00000161 13C-1.2.3.4.7.8-HxCDF 1.2.3.7.8-HxCDD ND 0.00000138 13C-1.2.3.4.7.8-HxCDF 1.2.3.7.8-HxCDF ND 0.00000136 13C-1.2.3.7.8-HxCDF 1.2.3.7.8-HxCDF ND 0.00000026 13C-1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF ND 0.00000067 13C-1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF ND 0.00000067 13C-1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF ND 0.00000067	Method Blank				EPA Method 1613	d 1613
1.00 L Date Extracted: 5-Mar-06 Date Extracted: 5-Mar-06 Date Extracted: 5-Mar-06 Date		QC Batch No.:	7807			
Conc. (ug/l.) ND 0.00000119 ND 0.00000161 CDD ND 0.00000161 CDD ND 0.00000167 CDD ND 0.00000167 ND 0.00000188 ND 0.00000188 ND 0.000000883 CCDF ND 0.000000890 HpCDF ND 0.000000890 HpCDF ND 0.000000890 ND 0.000000890 ND 0.000000188		Date Extracted			Date Analyzed DB-225: NA	¥.
DD ND 0.00000119 CCDD ND 0.00000161 CCDD ND 0.00000161 CCDD ND 0.00000161 CCDD ND 0.00000167 ND 0.00000188 ND 0.00000126 DF ND 0.00000126 DF ND 0.00000023 CCDF ND 0.000000627 CCDF ND 0.000000637 ND 0.00000119 ND 0.00000164 ND 0.00000167 ND 0.00000167 ND 0.00000167 ND 0.00000167 ND 0.00000167 ND 0.00000120 ND 0.00000120 ND 0.00000120 ND 0.00000120		TO		Labeled Standard	"R LCL-UCL ^d Ou	Oualifiers
ND 0.00000161 ND 0.00000161 ND 0.00000161 ND 0.00000167 ND 0.00000188 ND 0.00000138 ND 0.00000138 ND 0.00000627 ND 0.000000627 ND 0.000000627 ND 0.000000951 ND 0.000000139 ND 0.000000139 ND 0.000000164 ND 0.00000164 ND 0.00000167 ND 0.00000167 ND 0.00000167 ND 0.00000167 ND 0.00000167 ND 0.00000120 ND 0.00000120 ND 0.00000120 ND 0.00000120					82.1 25 - 164	
ND 0.00000161 ND 0.00000170 ND 0.00000161 ND 0.00000167 ND 0.00000126 ND 0.00000126 ND 0.00000623 ND 0.00000623 ND 0.000000890 ND 0.000000890 ND 0.000000890 ND 0.00000018 ND 0.00000184 ND 0.00000184 ND 0.00000164 ND 0.00000164 ND 0.00000167 ND 0.00000167 ND 0.00000120	:		4	13C-1,2,3,7,8-PeCDD	84.5 25 - 181	
DD ND 0.00000161 DD ND 0.00000161 DD ND 0.00000167 ND 0.00000126 ND 0.00000115 ND 0.00000623 OF ND 0.000000890 OF ND 0.000000119 ND 0.00000119 ND 0.00000118 ND 0.00000118 ND 0.00000118 ND 0.00000118 ND 0.00000118 ND 0.00000120 ND 0.00000120 ND 0.000000120 ND 0.000000120				13C-1,2,3,4,7,8-HxCDD	82.1 32 - 141	*.
DD ND 0.00000161 ND 0.00000167 ND 0.00000138 ND 0.00000126 ND 0.000000623 OF ND 0.000000697 OF ND 0.000000890 OF ND 0.000000890 OF ND 0.00000119 ND 0.00000119 ND 0.00000164 ND 0.00000164 ND 0.00000167 ND 0.00000167 ND 0.00000167 ND 0.00000120 ND 0.00000120	;			13C-1,2,3,6,7,8-HxCDD	81.9 28 - 130	
DD ND 0.00000167 ND 0.00000138 ND 0.00000115 ND 0.00000115 ND 0.00000657 ND 0.00000657 ND 0.00000053 ND 0.00000053 ND 0.00000033 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000120				13C-1,2,3,4,6,7,8-HpCDD	79.4 23 - 140	2. 2.
ND 0.00000138 ND 0.00000115 ND 0.00000115 ND 0.00000623 ND 0.00000623 ND 0.000006890 ND 0.000000890 ND 0.00000119 ND 0.00000119 ND 0.00000164 ND 0.00000164 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000120 ND 0.00000120 ND 0.00000120 ND 0.00000120	_			13C-0CDD	54.4 17 - 157	
ND 0.00000138 ND 0.00000115 ND 0.00000623 ND 0.000006623 ND 0.000000890 ND 0.000000890 ND 0.000000119 ND 0.00000119 ND 0.00000138 ND 0.000000138 ND 0.000000138		Color Sales Sales		13C-2,3,7,8-TCDF	85.8 24 - 169	,
ND 0.00000126 ND 0.00000677 ND 0.00000623 ND 0.00000687 ND 0.000000851 ND 0.000000890 ND 0.000000780 ND 0.00000139 ND 0.00000164 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000138 ND 0.00000128 ND 0.00000128 ND 0.00000128 ND 0.00000128	, ,	0.00000		13C-1,2,3,7,8-PeCDF	89.7 24 - 185	
ND 0.00000115 ND 0.000006577 ND 0.000000623 ND 0.000000890 ND 0.000000890 ND 0.000000119 ND 0.00000119 ND 0.00000118 ND 0.00000118 ND 0.00000138 ND 0.00000120 ND 0.00000120 ND 0.000000128 ND 0.000000128 ND 0.000000128			(1) (2) (2) (2) (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	13C-2,3,4,7,8-PeCDF	92.9 21 - 178	
ND 0.00000623 ND 0.00000623 ND 0.000000890 ND 0.000000890 ND 0.000000119 ND 0.00000119 ND 0.00000154 ND 0.00000138 ND 0.00000138 ND 0.00000120 ND 0.00000120 ND 0.00000120 ND 0.000000120 ND 0.000000120 ND 0.000000120	*			13C-1,2,3,4,7,8-HxCDF	82.7 26 - 152	
ND 0.00000623 ND 0.00000697 ND 0.000000890 ND 0.000000780 ND 0.00000119 ND 0.00000136 ND 0.00000136 ND 0.00000138 ND 0.00000138 ND 0.00000120 ND 0.00000120 ND 0.00000120 ND 0.000000120 ND 0.000000120	.	, ' \	i ş	13C-1,2,3,6,7,8-HxCDF	82.0 26 - 123	
ND 0.00000697 ND 0.000000951 ND 0.000000780 ND 0.00000119 ND 0.00000119 ND 0.00000164 ND 0.00000167 ND 0.00000120 ND 0.00000120 ND 0.00000120 ND 0.000000120 ND 0.000000120 ND 0.000000120				13C-2,3,4,6,7,8-HxCDF	83.9 28 - 136	
ND 0.00000951 ND 0.000000890 ND 0.000000780 ND 0.00000119 ND 0.00000119 ND 0.00000164 ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.00000120 ND 0.000000125 ND 0.00000025				13C-1,2,3,7,8,9-HxCDF	77.1 29 - 147	
ND 0.00000890 ND 0.000000780 ND 0.00000119 ND 0.00000130 ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.000000120 ND 0.000000120 ND 0.000000120		· .		13C-1,2,3,4,6,7,8-HpCDF	71.7 28 - 143	
ND 0.00000780 ND 0.00000119 ND 0.00000130 ND 0.00000164 ND 0.00000167 ND 0.00000138 ND 0.00000138 ND 0.00000130 ND 0.000000138				13C-1,2,3,4,7,8,9-HpCDF	80.8 26 - 138	i i
ND 0.00000119 ND 0.00000119 ND 0.00000164 ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.00000120 ND 0.00000022				13C-OCDF	59.4 17 - 157	
ND 0.00000119 ND 0.00000130 ND 0.00000164 ND 0.00000138 ND 0.00000138 ND 0.00000120 ND 0.00000725		ar in its 1		CRS 37CI-2,3,7,8-TCDD	90.3 35 - 197	
ND 0.00000119 ND 0.00000164 ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.00000725 ND 0.00000836	Totals			Footnotes		
ND 0.00000164 ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.000000725 ND 0.000000736			Mark 1	Sample specific estimated detection limit. Estimated maximum possible concentration	\$2.00	
ND 0.00000167 ND 0.00000138 ND 0.00000120 ND 0.000000725 ND 0.000000836				c. Method detection limit.		٠.
O O O				d. Lower control limit - upper control limit.	in a line of the second of the	
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Analyst: JMH

OPR Results				STATE OF THE PROPERTY OF THE P	EPA	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:	1 DB-225: NA
Analyte	Spike Conc.	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	rcrncr
2,3,7,8-TCDD	10.0	-	6.7 - 15.8	1S 13C-2,3,7,8-TCDD	77.8	25 - 164
1,2,3,7,8-PeCDD	20.0	56.7	35-71	13C-1,2,3,7,8-PeCDD	81.0	25 - 181
1,2,3,4,7,8-HxCDD	20.0	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	\$0.0	\$2.4	32-81	13C-1,2,3,4,6,7,8-HpCDD	74.2	23 - 140
1,2,3,4,6,7,8-HpCDD	20.0	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	20.0	55.2	40 - 67	13C-2,3,4,7,8-PeCDF	87.3	21 - 178
2,3,4,7,8-PeCDF	20.0	56.1	34 - 80	13C-1,2,3,4,7,8-HxCDF	76.8	26 - 152
1,2,3,4,7,8-HxCDF	20.0	55.2	36-67	13C-1,2,3,6,7,8-HxCDF	6'92	26 - 123
1,2,3,6,7,8-HxCDF	50.0	29.7	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	9.69	29 - 147
1,2,3,7,8,9-HxCDF	20.0	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	20.0	55.0	39 - 66	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 14:52

Sample ID: IPC0166-01				EP	EPA Method 1613
Client Data	Sample Data		Laboratory Data		
Name Del Mar Analytical, Irvine	Магтх	Aqueous	Lab Sample: 27366-001	Date Received:	3-Mar-06
llected.	Sample Size	1.00 L	QC Batch No.: 7807 Date Analyzed DB-5: 8-Mar-06	Date Extracted: Date Analyzed DB-225	
Analyte Conc. (ug/L) DL	a EMPC ^b	Qualifiers	Labeled Standard	%R LCL-UCL ^d	d Qualifiers
2,3,7,8-TCDD 0.00	0.00000117		IS 13C-2,3,7,8-TCDD	90.7 25 - 164	
1,2,3,7,8-PeCDD ND 0.00	0.00000107		13C-1,2,3,7,8-PeCDD	95.9 25 - 181	
1,2,3,4,7,8-HxCDD ND 0.00	00000170		13C-1,2,3,4,7,8-HxCDD		
1,2,3,6,7,8-HxCDD ND 0.00	0.00000175		13C-1,2,3,6,7,8-HxCDD	88.3 28 - 130	
1,2,3,7,8,9-HxCDD ND 0.00	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	
70	000000892		13C-1,2,3,7,8-PeCDF	101 24-185	
1,2,3,7,8-PeCDF 0.00	0.000000958		13C-2,3,4,7,8-PeCDF	102 21 - 178	
N	0.000000922		13C-1,2,3,4,7,8-HxCDF	88.1 26-152	
N NO	0.000000387	William Control	13C-1,2,3,6,7,8-HxCDF	89.8 26 123	
1,2,3,6,7,8-HxCDF ND 0.00	0.000000343		13C-2,3,4,6,7,8-HxCDF	85.5 28 - 136	
2,3,4,6,7,8-HxCDF 0.00	0.000000387		13C-1,2,3,7,8,9-HxCDF	86.5 29 147	
1,2,3,7,8,9-HxCDF ND 0.00	0.000000495	3	13C-1,2,3,4,6,7,8-HpCDF	87.6 28 - 143	
1,2,3,4,6,7,8-HpCDF ND 0.00	296000000		13C-1,2,3,4,7,8,9-HpCDF	92.9 26 - 138	1:
HpCDF ND 0.0		3	13C-OCDF	70.2 17 - 157	
OCDF ND	00000313		CRS 37CI-2,3,7,8-TCDD %	93.0 35-197	
Totals			Footnotes		
	0.00000117		a. Sample specific estimated detection limit.		
Total PeCDD 0.00	0.00000107		b. Estimated maximum possible concentration.		
Total HxCDD ND 0.00	0.00000171		c. Method detection limit.		
Total HpCDD 0.00000800			d. Lower control limit - upper control limit.		
Total TCDF ND 0.00	0.000000892				
Total PeCDF 0.00	0,000000940				
Total HxCDF 0.00	0.000000398				
Total HpCDF 0.00	000000925	4.			

Analyst: JMH

Approved By: Martha M. Maier 08-Mar-2006 14:52

APPENDIX

Page 7 of 278

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
Đ	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
E.	The reported value exceeds the calibration range of the instrument.
Н	The signal-to-noise ratio is greater than 10:1.
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



17451 Derian Ava. Suite 190, Invine, CA 52614 1014 E. Cooley Dr., Suite A. Cohon, CA 52324 seapeate Drive, Suite 805, San Diego, CA 52122

71 (909) 370-4667 Fax. 71 (619) 505-9596 Fax.

Fax (509) 370-1046 Fax (619) 505-9689 Fax (480) 785-0851

U South 5162 Street, Suite B-120, Phoenic, AZ 85044 2520 E. Sunest Rd., Suite K3, Lee Vegas, NV 89120

SUBCONTRACT ORDER - PROJECT # IPC0166

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
Standard TAT is requested unless specific due date is request Analysis Expiration	ed => Due Date: Initials: Comments
Sample ID: IPC0166-01 Water Sampled: 03/01/06 07:40 1613-Dioxin-HR-Alta 03/08/06 07:40 EDD + Level 4 03/29/06 07:40	Instant Nefication J flags, 17 congeners, no TEQ, ug/L, sub=Alta Excel EDD email to pm, Include Std logs for Lvl IV
Containers Supplied: 1 L Amber (IPC0166-01C) 1 L Amber (IPC0166-01D)	

				****	<u></u>		
		SAMPLE	INTEGR	ITY:	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
All containers intact:		le labels/COC agree: les Preserved Properly:	☐ Yes	□ No	Samples Received		☐ Yes ☐ No
Stuff				Fea	- E×	3.5	-09
Reladed by	Date	Time	Received B	~ / //	nediel (Date 3/3/06	Time OUSS
Released By	Date	Time	Received E	у		Date	Time

Project 27366

PaggeOlosi278

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27366

Samples Arrival:	Date/Time 3/3/010	0855	Initials:	18	Location: WR-J				
Logged In:	Date/Time	/305	Initials:	B	Location: \mathcal{WR}	-2-			
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other			
Preservation:	lce	Blu	e Ice	Dry I	ce N	lone			
Temp °C 0.4		Time:	1000		Thermometer !	D: DT-20			

					YES	NO	NA
Adequate Sample Volume Received?					/		
Holding Time Acceptable?					V		
Shipping Container(s) Intact?					V		
Shipping Custody Seals Intact?							V
Shipping Documentation Present?					V		
Airbill Trk # 792	0 32	239 5	7438		1		
Sample Container Intact?			•			ļ	
Sample Custody Seals Intact?							<u> </u>
Chain of Custody / Sample Documen	tation Pr	resent?				<u> </u>	
COC Anomaly/Sample Acceptance F	orm con	npleted?				V	
If Chlorinated or Drinking Water Sam	ples. Ac	ceptable P	reservation?				/
Na ₂ S ₂ O ₃ Preservation Documented?			coc		nple <u>ain</u> er	(No	ne
Shipping Container	Alta	(Client)	Retain	Re	turn	Dis	oose

APPENDIX G

Section 96

Outfall 006, March 1, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Package ID <u>B4DF45</u>

12	269 East Vassar Drive			Task Order	1261.001D.01
Au	rora, CO 80014			SDG No.	IPC0166
	*			of Analyses	1
	Laboratory Alta			Date: April	
	Reviewer K. Shadow	light		Reviewer's	
	Analysis/Method Dioxin/Fura	an by Method 1613		KSC	iadord
					<u> </u>
AC	TION ITEMS*				
•	Case Narrative				
	Deficiencies				
			·		
2.	Out of Scope Analyses				
		+			
					
3.	Analyses Not Conducted		····	·	
		·			
4.	Missing Hardcopy Deliverables				
	Deliverables				
5.	Incorrect Hardcopy				
٠.	Deliverables	***************************************			
				· · · · · · · · · · · · · · · · · · ·	
6.	Deviations from Analysis	Detects below the lab	orato	y lower calibra	tion level were qualified
	Protocol, e.g.,	as estimated.			
	Holding Times				
	GC/MS Tune/Inst. Performance				
	Calibration	<u> </u>			
	Method blanks				·
	Surrogates				
	Matrix Spike/Dup LCS				
	Field QC			-	
	Internal Standard Performance				
	Compound Identification				
	Quantitation				
	System Performance				
COI	MENTS ^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.

 MEC^{X}



DATA VALIDATION REPORT

NPDES Monitoring Program Routine Outfall 006

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPC0166

Prepared by

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

SDG: Analysis:

NPDES IPC0166 D/F

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:

Reviewer:

K. Shadowlight

Date of Review:

April 2, 2006

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

NPDES IPC0166

Project: SDG: Analysis:

D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 006	IPC0166-01	27366-001	Water	1613

DATA VALIDATION REPORT

D/F

SDG: Analysis:

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 reauired.

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.

Project: SDG:

NPDES IPC0166

D/F

Analysis:

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

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER 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.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE 2.6

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

D/F

SDG: Analysis:

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. 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.

Date Received: 3-Mar-06 Date Extracted: 5-Mar-06 Date Analyzed DB-225: NA	%R LCL-UCL ^d Oualiffers			61.5 17 - 157 89.8 24 + 169	101 24 - 185 	88.1 26 - 152 89.8 26 = 123			70.2 17 - 157 93.0 38 - 197						Maier 08-Mar-2006 14:52
Laboratory Data Lab Sample: 27366-001 QC Batch No.: 7807 Date Analyzed DB-5: 8-Mar-06	Labeled Standard	S. 13G-2,3,7,8-TCDD 13C-1,2,3,7,8-PcCDD 13C-1,2,3,4,7,8-HkCDD	13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDD	13C-OCDD 13C-2,37,8-TCDF	13C-1,2,3,7,8-PeCDF	13C-1,2,3,4,7,8-HxCDF 13G-1,2,3,67,8-HxCDF	13C-2,34,6,7,8-HxCDF	13C.1,2,3,4,6,7,8-HpCDF 13C.1,2,3,4,7,8,9-HpCDF	13C-OCDF CRS -370[-2,3,7,8-1CDD	Footnotes	a. Sample specific estimated detection limit. b. Bettmated maximum possible concentration	c. Method detection limit. d'Lover control limit upper control limit			Approved By: Martha M. Maier
Sample Data Matrix: Aqueous Sample Size: 1.00 L	, a EMPC ^b Qualifiers	0.00000177 0.00000107 0.00000170	0.00000175 0.00000167		0.000000892	0.000000922	0.000000343	0.000000495	0.000000878		0.00000117		0.00000892 0.00000940	0.000000398 0.000000925	· 一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个
IPC0166-01 Chul-fal () Chul-f	Cone. (ug/L) DL	A ON ON	足足	8-HpCDD 0.00000350	ON ON	ON CANA	Q	8	ON ON		ON THE ON	ODV 0 008000000 0	£ 2	ON ON	JMH
Sample D: Clent Data Name: Project: Date Collected: Time Collected:	Analyte	2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCBD	1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDL OCDD	2,3,7,8-TCDF 1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,7,8 OCDF	Totals	Total TCDD Total PeCDD	Total HxCDD Total HpCDD	Total TCDF Total Pecipit	Total HxCDF Total HpCDF	Analyst: J

NPDES - 3953

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

ME	.c ^x			Package ID:	B4MT44
122	269 East Vassar Drive				1261.001D.01
Aur	rora, CO 80014			SDG No.:	
			No	. of Analyses:	1
	Laboratory: Del Mar /	Analytical		Date: April 10	0, 2006
	Reviewer: P. Meeks				
	Analysis/Method: Metals		(minophysiola)	Roviewe S	And the second s

AC	TION ITEMS ^a				
	Case Narrative				
	Deficiencies				
	and the second s				
2.	Out of Scope Analyses				
					
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3.	Analyses Not Conducted			· interest · · · · · · · · · · · · · · · · · · ·	
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5.	Incorrect Hardcopy				
u.	Deliverables				
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6.	Deviations from Analysis	A - Electron marked for			
U.		Qualifications applied fo	f a ux	ank detect and a	detect below the
4	Protocol, e.g.,	reporting limit.			
	Holding Times		-		
	GC/MS Tune/Inst. Performance		**************************************		
	Calibration				
	Method blanks				
	Surrogates				
	Matrix Spike/Dup LCS	- and the fact, the fact of the second secon	nnonentakiinasi		
	Field QC				
	Internal Standard Performance				
	Compound Identification				
	Quantitation				
ئىسىنىدىنىدى	System Performance				
COI	MMENTS"		,		
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***************************************		<u> Andrew State (Andrew Andrew State) and Andrew And</u>		· · · · · · · · · · · · · · · · · · ·	
* St	ubcontracted analytical laboratory is not r	meeting contract and/or method	require	ments.	The property of the state of th
D)	ifferences in protocol have been adopted	by the laboratory but no action-	agains	at the laboratory is re-	outred.

MECX



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

NPDES

SDG: Analysis: IPC0166 Metals

DATA VALIDATION REPORT

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:

No. of Reanalyses/Dilutions:

0 P. Meeks Reviewer:

1

Date of Review:

April 10, 2006

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

NPDES

SDG:

IPC0166 Metals

Analysis:

Table 1. Sample Identification

			·
Client ID	Laboratory ID	Matrix	COC Method
Outfall 006	IPC0166-01	Water	200.8

DATA VALIDATION REPORT

NPDES

SDG: Analysis: IPC0166 Metals

DATA VALIDATION REPORT

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 $0.027~\mu g/L$; therefore, cadmium detected in Outfall 006 was qualified as an estimated nondetect, "UJ." No further qualifications were required.

NPDES IPC0166

SDG:

Analysis:

Metals

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

DATA VALIDATION REPORT

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 methodspecified control limits of 60-125%. No qualifications were required.

2.11 SAMPLE RESULT VERIFICATION

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

B4MT44

NPDES

SDG: Analysis: IPC0166 Metals

DATA VALIDATION REPORT

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.





Pasadena, CA 91101

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Report Number: IPC0166

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

Attention: Bronwyn Kelly

METALS

Analyte	Method	Batch	MDL Limit		Sample Result		Date Extracted	Date Analyzed	Data d Qualifier		
Sample ID: IPC0166-01 (Outfall 0) Reporting Units: ug/l	06 - Water)								Rev Qua		Que
Antimony	EPA 200.8	6C04030	0.050	2.0	1.2	1	03/04/06	03/07/06	J	J	DNC
Cadmium	EPA 200.8	6C04030	0.025	1.0	0.033	1	03/04/06	03/07/06	UJ.	J	В
Copper	EPA 200.8	6C04030	0.25	2.0	8.5	1	03/04/06	03/07/06			_
cad	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	*		1

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

LEVEL | V

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

CLIENT ID

MATRIX

IPC1335-01

Outfall 006

Water

Reviewed By:

Del Mar Analytical - IrvineMichele Chamberlin

Michile Chamberdin

Project Manager



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

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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	



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

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	



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Project ID: Routine Outfall 006

Sampled: 03/11/06

Pasadena, CA 91101

Report Number: IPC1335

Received: 03/11/06

Attention: Bronwyn Kelly

SHORT HOLD TIME DETAIL REPORT

	Hold Time	Date/Time	Date/Time	Date/Time	Date/Time
	(in days)	Sampled	Received	Extracted	Analyzed
Sample ID: Outfall 006 (IPC1335-01) - Wate EPA 300.0	r 2	03/11/2006 10:20	03/11/2006 15:30	03/11/2006 16:15	03/11/2006 16:56



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

]	Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C14077 Extracted: 03/14/06	·										
Blank Analyzed: 03/14/2006 (6C14077-B	F 12:10										
·	•	0.20	0.050	#1							
Mercury	ND	0.20	0.050	ug/l							
LCS Analyzed: 03/14/2006 (6C14077-BS)	l)										
Mercury	8.30	0.20	0.050	ug/l	8.00		104	85-115			
Matrix Spike Analyzed: 03/14/2006 (6C1-	4077-MS1)				Sour	ce: IPC1	217-01				
Mercury	8.34	0.20	0.050	ug/l	8.00	ND	104	70-130			
Matrix Spike Dup Analyzed: 03/14/2006	(6C14077-MSI	D1)			Sour	ce: IPC1	217-01				
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-Bl	W1\										
Antimony	ND	2.0	0.050	1200/T							
Cadmium	ND	1.0	0.030	ug/l ug/l	1.						
Copper	ND	2.0	0.023	ug/i							•
Lead	ND	1.0	0.040	ug/i ug/l							
Thallium	ND	1.0	0.15	ug/l							
LCS Analyzed: 03/15/2006 (6C14081-BS1	`		****	~ ~							
· ·	•	2.0	0.050	. 8	00.0		0.5				
Antimony Cadmium	77.6	2.0	0.050	ug/l	80.0		97	85-115			
	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			

Del Mar Analytical - IrvineMichele Chamberlin
Project Manager



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

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C14081 Extracted: 03/14/06	-										
Matrix Spike Analyzed: 03/15/2006 (6C1	4081-MS1)				Seu	rce: IPC0	677-01				
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 (6C1	4081-MS2)				Sou	rce: IPC1	061-02				
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-MS	D 1)			Sou	rce: IPC0	677-01				
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/I	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	



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Project ID: Routine Outfall 006

Sampled: 03/11/06

Attention: Bronwyn Kelly

Report Number: IPC1335

Received: 03/11/06

METHOD BLANK/QC DATA

INORGANICS

		Reporting			Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	MDL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 6C11028 Extracted: 03/11/06	_										
Blank Analyzed: 03/11/2006 (6C11028-B	LK1)										
Chloride	ND	0.50	0.15	mg/l							
Nitrate/Nitrite-N	ND	0.15	0.080	mg/l							
Sulfate	ND	0.50	0.45	mg/l							
LCS Analyzed: 03/11/2006 (6C11028-BS)	1)										
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 (6C1	1028-MS1)				Soui	rce: IPC1	298-01				
Chloride	55.1	2.5	0.75	mg/l	5.00	51	82	80-120			
Matrix Spike Dup Analyzed: 03/11/2006	(6C11028-MSI	D1)			Sour	rce: IPC1	298-01				
Chloride	55.3	2.5	0.75	mg/l	5.00	51	86	80-120	0	20	
Batch: 6C16069 Extracted: 03/16/06					3						
Blank Analyzed: 03/16/2006 (6C16069-Bl	LK1)			. *							
Total Dissolved Solids	ND	10	10	mg/l							
LCS Analyzed: 03/16/2006 (6C16069-BS1	1)										
Total Dissolved Solids	1000	10	10	mg/l	1000		100	90-110			
Duplicate Analyzed: 03/16/2006 (6C16069	-DUP1)				Sour	rce: IPC1	296-01				
Total Dissolved Solids	325	10	10	mg/l		320			2	10	
Batch: 6C16125 Extracted: 03/16/06											
Blank Analyzed: 03/16/2006 (6C16125-BI	LK1)										
Total Suspended Solids	ND	10	10	mg/l							

Del Mar Analytical - Irvine Michele Chamberlin Project Manager



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (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: 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 Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6C16125 Extracted: 03/16/0	<u>6</u>										
LCS Analyzed: 03/16/2006 (6C16125-BS	61)										
Total Suspended Solids	921	10	10	mg/l	1000		92	85-115			
Duplicate Analyzed: 03/16/2006 (6C161)	25-DUP1)				Sou	rce: IPC1	288-01				
Total Suspended Solids	270	10	10	mg/l		260			4	10	
Batch: 6C21053 Extracted: 03/21/06	<u>6</u>										
Blank Analyzed: 03/21/2006 (6C21053-E	BLK1)										
Oil & Grease	ND	5.0	0.94	mg/l							
LCS Analyzed: 03/21/2006 (6C21053-BS	i 1)										M-NR1
Oil & Grease	17.2	5.0	0.94	mg/l	20.0		86	65-120			
LCS Dup Analyzed: 03/21/2006 (6C2105	3-BSD1)										
Oil & Grease	17.0	5.0	0.94	mg/I	20.0	:	85	65-120	1	20	

Del Mar Analytical - IrvineMichele Chamberlin
Project Manager



300 North Lake Avenue, Suite 1200

Project ID: Routine Outfall 006

Sampled: 03/11/06

Pasadena, CA 91101

Report Number: IPC1335

Received: 03/11/06

Attention: Bronwyn Kelly

Compliance Check

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

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
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



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

MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC1335

Sampled: 03/11/06

Received: 03/11/06

Attention: Bronwyn Kelly

DATA QUALIFIERS AND DEFINITIONS

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

M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

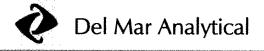
accepted based on acceptable recovery in the Blank Spike (LCS).

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



17461 Derian Ave., Suite 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, Łas Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPC1335

Sampled: 03/11/06

Received: 03/11/06

Certification Summary

Del Mar Analytical - Irvine

X
X
X
X
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

ANALYSIS REQUIRED	Metals, IT., g.	coverable nd all con nd all con	Preservativ Rotte otal Rec b, Cd, C	TO O TO	HNO3	None 2A, 2B X	HC: 3A, 3B	None 4A, 4B ×	None SA, 58					Received By Date/Time: One 2/1/1/2 124 Hours 5 Days	, octor #120 1111
Project: Boeing-SSFL Ni	200 Stormwater at FSDF-2		(626) 568-6515 # of Samoling	2/1/06		8	2	8	2					Date/Time: 3/1//66 12/5	Park (Tares)
CIIEM Name/Address:	MVVIT-Fasadena 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101	Project Manager. Bronwyn Kelly Sampler: スペンクラウ	Sample Sample Container	Matrix	. ≥	Outfall 006 W Amber	Outfall 006 W Glass	Outfall 006 W Poly-500	Outfall 006 W Poly-500					Relinquished By	•





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

the How

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

Page 3 of 225

Method Blank		With the same of t		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
Anslyte Conc. (ug/L)	DL a EMPC b	b Qualifiers	Labeled Standard	%R LCL-UCL ^d Qualifiers
2,3,7,8-TCDD	0.00000114		IS 13C-2,3,7,8-TCDD	84.5 25 164
	0.00000107		13C-1,2,3,7,8-PeCDD	89.5
1,2,3,4,7,8-HxCDD	0.00000125		13C-1,2,3,4,7,8-HxCDD	78.5 Level 32 - 141 Level 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2	,c		13C-1,2,3,6,7,8-HxCDD	28 - 130
2	0.00000122		13C-1,2,3,4,6,7,8-HpCDD	
1,2,3,4,6,7,8-HpCDD ND	0.00000151		13C-OCDD	
2 5	0.00000000		30-23, 7,8-1 CLPS	
12.3.7 RPCDF	**************************************		130-1,4,3,7,8-16001	24 - 185
	0.00000110		13C-4,5,4,7,10-18CDF	
12.3.4.7.8-HxCDF	0.000000529		13C1 23 6.7.8-HxCDF	
	0.000000483		13C-2.3.4.6.7.8-HxCDF	
2,3,4,6,7,8-HxCDF	0.00000528	十二大 北京 一十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二	13C1,2,3,7,8,9-HxCDF	
		1	13C-1,2,3,4,6,7,8-HpCDF	74.0 28 - 143
1,2,3,4,6,7,8-HpcDF ND	0.000000972		13G-1,2,3,4,7,8,9-HpCDF	79.7 26 - 138
14-6%	0.00000016		13C-OCDF	17-157
	6,00000319		CRS 37CI-2,3,7,8-TCDD	35 197
Totals			Footnotes	
Total PeCDD ND	0.00000114		a. Sample specific estimated detection limit. b. Estimated maximum, possible concentration.	
Total HxCDD ND	0.00000124	7 A	c. Method detection limit	
たいかい 一条線器を			e. Edwa ward inne-appel conto inne	
tr.	0.00000112		で で で で で で で で で で で で で で で で で で で	・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・
Total HxCDF ND Total HpCDF	0.000000560			
		The second secon	Approved By: William J. Luksemburg	ksemburg 17-Mar-2006 11:36

Matrix: Aqueous QC Batch No. Sample Size: 1.00 L Date Extracted. Analyte Spike Conc. Conc. (ng/mL) 2.3,7,8-TCDD 10.0 9.83 1.2,3,7,8-PeCDD 50.0 52.0 1.2,3,4,7,8-HxCDD 50.0 49.4	0	7831 15-Mar-06 OPR Limits	OPR001 -Mar-06	Date Analyzed DB-225:	DB-225: NA
CDD	0	R Limits		%B	
3D 50.0 CDD				# E .	TCIPACT
50.0		6.7 - 15.8		73.8	25 - 164
2005 COS	52.0	35-71	13C-1,2,3,7,8-reCDD	78.9	25 - 181
	*0	35 - 82	13C-1,2.3,4.7,8-HxCDD	71.7	32 - 141
50.0	9.06	38 - 67	13C-1,2,3,6,7,8-HxCDD		28 - 130
20.0	49.0	32-81	13C-1,2,3,4,6,7,8-HpCDD	.00	23 - 140
CDD 50.0	49.6	35-70	13C-OCDD	45.3	17-157
001	101	78-144	13C23,7,8-TCDF	75.3	24 - 169
2,3,7,8-TCDF	9.83	7.5 - 15.8	13C-1,2,3,7,8-PeCDF	83.4	24 - 185
20.0	48.2	40 - 67	13C-2,3,4,7,8-PeCDF	7.88	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
0.05	49.6	36.507	13C-1,2,3,6,7,8-HxCDF	79.4	26 123
20.0	49.7	42 - 65	13C-2,3,4,6,7,8-HxCDF	9.92	28 - 136
0.02	49.5	35 - 78	13C-1,2,3,7,8,9-HxCDF	70.9	29 - 147
20.0	48.5	39 - 65	13C-1,2,3,4,6,7,8-HpCDF	62.2	28 - 143
005	47.9	5.14	13C-1,2,3,4,7,8,9-HpCDF	63.7	26-138
HpCDF 50.0	48.1	39 - 66	13C-OCDF	51.1	17-157
OCDF	914	63-170	CRS 37CH2,3,7,8-TCDD	95.5	35-197

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

Analyst: DMS

Sample ID: IPC1335-01	THE REAL PROPERTY AND ADDRESS OF THE PERSON NAMED AND ADDRESS		And a second			EPA I	EPA Method 1613
Data	Sample Data		Laboratory Data			***************************************	
Name: Del Mar Analytical, Irvine Project: IPC1335	Matrix	Aqueous	Lab Sample:	27410-001	Date Received	pived	14-Mar-06
llected:	Sample Size	1.02 L	QC Batch No.: Date Analyzed DB-5:	7831 16-Mar-06	Date Extracted:	Date Extracted: Date Analyzed DB-225:	15-Mar-06
Analyte Conc. (ug/L) DL a	EMPCb	Qualifiers	Labeled Standard		%R	TCT-NCT _q	Ousliffers
2,3,7,8-TCDD 0.00000120	120		IS 13C-2,3,7,8-1CDD		64.8	25 - 164	
ON	140	•	13C-1,2,3,7,8-PeCDD	· 🖨	63.8	25 - 181	
1,2,3,4,7,8-HxCDD 0.0000175	175	1000 1000 1000 1000 1000 1000 1000 100	13C-1,2,3,4,7,8-HxCDD	000	58.2	32 - 141	
1,2,3,6,7,8-HxCDD ND 0.00000187	187		13C-1,2,3,6,7,8-HxCDD	adc	57.8	28 - 130	
1,2,3,7,8,9-HxCDD 0.00000176	176	September 1	13C-1,2,3,4,6,7,8-HpCDD	DCDD	57.8	23 - 140	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
1,2,3,4,6,7,8-HpCDD 0.00000735		-,	13C-OCDD		40.4	17 - 157	
OCDD 3 3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5			13C-2,3,7,8-TCDF		62.2	24 - 169	
2,3,7,8-TCDF ND 0.00000106	901	:	13C-1,2,3,7,8-PeCDF	<u></u>	65.6	24 - 185	
1,2,3,7,8-PeCDF			13C-2,3,4,7,8-PeCDP		64.6	21 - 178	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2,3,4,7,8-PeCDF ND 0.00000105	105		13C-1,2,3,4,7,8-HxCDF	点	59.0	26 - 152	
1,2,3,4,7,8-HxCDF 0.000000530	0530	1831121 141124 14114 14114 141	13C-1,23,6,7,8-HxCDF	OF	62.7	26 - 123	
2	0503		13C-2,3,4,6,7,8-HxCDF	ja.	61.2	28 - 136	
2,3,4,6,7,8-HxCDF ND 0,000000547	0547		13C1,2,3,7,8,9-HxCDF	Ä	58.4	58.4 29 - 147	
1,2,3,7,8,9-HxCDF ND 0,000000760	09/0		13C-1,2,3,4,6,7,8-Hu	PCDF	999	28 143	
1,2,3,4,6,7,8-HpCDF 0.00000903	0903		13C-12.3,4.7,8,9-HpCDF	Ğ	61.1	26 - 138	
, N	0830	3	13C-OCDF		45.6	17-157	1
Q	0.00000414	a constant of the constant of	CKS 37Cl-2,3,7,8-TCDD	î .	0.66	99.0 35 197	
Totals			Footnotes				
Total TCDD ND 0.00000120 Total PcCDD ND 0.00000140			a. Sample specific estimated detection limit. B. S.	ection limit.		A 7	が、 200 200 200 200 200 200 200 200 200 20
Total HxCDD 0,00000180			c. Method detection limit.				
Total HpCDD (0.0000167			d. Lower control limit - upper control limit,	patrol limit.	71- 85-11		
Total PCDF ND 0.00000107	106 107		· · · · · · · · · · · · · · · · · · ·				14 27 27 24 24 24 24 24 24 24 24 24 24 24 24 24
9	0576	S		. 7			
-1	0869		W. C.				
			-				

Analyst RAS

Approved By:

William J. Luksemburg 17-Mar-2006 11:36

APPENDIX

Project 27410

DATA QUALIFIERS & ABBREVIATIONS

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



SENDING I ABORATORY:

Del Mar Analytical, Irvine

Irvine, CA 92614

Project 27410

17461 Derian Avenue. Suite 100

17461 Devian Ave. Salte 100, Irvine, CA 8261 1014 E. Cooley Dr., Sulte A. Colton, CA 8233 9484 Chesepesia Drive, Sulte 805, San Diago, CA 9212 9630 South 51st Street, Sulte 8-120, Phoenix, AZ 8504

Alta Analytical - SUB

1104 Windfield Way

El Dorado Hills, CA 95762

RECEIVING LABORATORY:

Ph (948) 281-1022 Fax (949) 261-121
Ph (909) 370-4867 Fax (909) 370-104
Ph (619) 305-9586 Fax (619) 505-984
Ph (460) 785-0043 Fax (460) 785-084
Ph (709) 785-0045 Fax (709) 786-300

SUBCONTRACT ORDER - PROJECT # IPC1335

Phone: (949) 261-1022 Fax: (949) 261-1228				16) 933-164) 673-0106	0	-0.30	
roject Manager: Michele Cl	ham berlin		1 44 (510	7 075-0100			
standard TAT is requested		-		: 3/7	7/06	Initials:	MC
Analysis	Expiration		Comments				
sample ID: IPC1335-01 Was 1613-Dioxin-HR-Alta EDD + Level 4	ter Sampled: 03/ 03/18/06 10:20 04/08/06 10:20			-	Q,ug/L,sub=Alta lude Std logs fo		
ontainers Supplied: 1 L Amber (IPC1335-01C) 1 L Amber (IPC1335-01D)			· .	•			
				,			
		· · · · · · · · · · · · · · · · · · ·			. •		
			•				
					•		
							·
		•	·	· .			
		SAMPLE I	NTEGRITY:			*	
All containers intact: Yes Costody Seals Present: Yes	·	s labels/COC agree: s Preserved Property:			Samples Received C Samples Received a		□ No
Richelle Olas	ach Jaco		Fan	1. に.	2./3.00	2	
Ajipfill CNA	Date	Time (eccived By	1000	3.13.00 Suit	Date 1	Time
leased By	Date	Time R	Un C	Den	dut 3	114/06	09/5

Pageage of COS

SAMPLE LOG-IN CHECKLIST

Alta Project #: 27410

Samples Arrival:	Date/Time 3/14/00	091	initials	BSB	Location: W.R.	- 2-
Logged in:	Date/Time	_	3 Initials	BLB	Location: UR	-2-
Delivered By:	FedEx	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	(Ice) E	Blue Ice	Dry I	ice N	lone
Temp °C ~0.3	oc.	Time:	0935		Thermometer I	D: DT-20

			YES	NO	NA
Adequate Sample Volume Received?	*		V		
Holding Time Acceptable?			V		
Shipping Container(s) Intact?			1		
Shipping Custody Seals Intact?		r		·	
Shipping Documentation Present?			1		
Airbill Trk# 7920 4114 799	4		1		
Sample Container Intact?	·		V		
Sample Custody Seals Intact?				_ \	1
Chain of Custody / Sample Documentation Present?		4.	V		/
COC Anomaly/Sample Acceptance Form completed?				V	
If Chlorinated or Drinking Water Samples, Acceptable F	Preservation?				V
Na ₂ S ₂ O ₃ Preservation Documented?	coc		nple ainer	No	ne
Shipping Container Alta Client	Retain	Re	tum	Disp	ose

Comments:

APPENDIX G

Section 98

Outfall 006, March 11, 2006

AMEC Data Validation Reports

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX

MECX	Package ID B4DF36
12269 East Vassar Drive	Task Order 1261.001D.01
Aurora, CO 80014	SDG No. IPC1335
	No. of Analyses 1
Laboratory Alta	Date: April 3, 2006
Reviewer K. Shadow	dight Reviewer's Signature
Analysis/Method Dioxin/Fura	
ACTION ITEMS	
Case Narrative	
Deficiencies	
2 Out of Coope Analyses	
2. Out of Scope Analyses	
3. Analyses Not Conducted	
o. Mary ses not conducted	
4. Missing Hardcopy	
Deliverables	***************************************
5. Incorrect Hardcopy	
Deliverables	
6. Deviations from Analysis	Detects below the laboratory lower calibration level were qualified
Protocol, e.g.,	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	
⁴ Subcontracted analytical laboratory is not m	neeting contract and/or method requirements.
	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 DATA VALIDATION REPORT

Project: SDG: Analysis: NPDES IPC1335 D/F

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:

7

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.

Project: SDG: Analysis:

NPDES IPC1335 D/F

Table 1. Sample Identification

Client ID	Laboratory ID (Del Mar)	Laboratory ID (Alta)	Matrix	COC Method
Outfall 006	IPC1335-01	27410-001	Water	1613

DATA VALIDATION REPORT

SDG: Analysis:

NPDES IPC1335 D/F

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be 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.

Project:

NPDES

DATA VALIDATION REPORT

SDG: Analysis: IPC1335 D/F

2.2.2 Mass Spectrometer Performance

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

2.3 **CALIBRATION**

2.3.1 Initial Calibration

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

2.3.2 Continuing Calibration

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

WDM and isomer specificity compounds were added to the VER 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.

Project:

NPDES IPC1335

D/F

DATA VALIDATION REPORT

SDG: Analysis:

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. 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				
Name: Project:	Del Mar Analytical, Irvine	vine	Matrix:	Aqueous	Lab Sample: 27,	27410-001	Date Received:	ived:	14-Mar-06
Date Collected:	11-Mar-06 1020		Sample Size:	1.02 L	OC Batch No.: 7831 Date Analyzed DB-5: 16-IV	7831 16-Mar-06	Date Extracted: Date Analyzed I	Date Extracted: Date Analyzed DB-225:	15-Mar-06 NA
cole Analyte	Conc. (ug/L)	DI a	EMPCb	Qualifiers	Labeled Standard		%R	rcr-ncr _q	Oualifiers
2,3,7,8-TCDD	Q2	0.00000120	20		IS 13C-2.3.7.8-TCDD		64.8	1	
1,2,3,7,8-PeCDD	QN Q	0.00000140	40				63.8	25 - 181	
1,2,3,4,7,8-HxCDD	ON dd:	0.00000175	75		13C-1,2,3,4,7,8-HxCDD	Ö	58.2	32 - 141	
1,2,3,6,7,8-HxCDD	DN QQ	0.00000187	700		13C-1,2,3,6,7,8-HxCDD	Ö	57.8	28 - 130	
1,2,3,7,8,9-HxCDD	ON CO	0.00000176	76		13C-1,2,3,4,6,7,8-HpCDD	00	57.8	23 - 140	
1,2,3,4,6,7,8-HpCDD	CDD 0.00000735	0735		m	13C-OCDD		40.4	17 - 157	
OCDD	0.000103	103			13C-2,3,7,8-TCDF		62.2	24 - 169	
2,3,7,8-TCDF	QN	0.00000106	90		13C-1,2,3,7,8-PeCDF		65.6	24 - 185	
1,2,3,7,8-PeCDF	E E	0.00000109	60		13C-2,3,4,7,8-PeCDF		64.6	21 - 178	
2,3,4,7,8-PeCDF		0.00000105	0.5		13C-1,2,3,4,7,8-HxCDF	Ŧ	59.0	26 - 152	
1,2,3,4,7,8-HxCDF		0.000000530	530		13C-1,2,3,6,7,8-HxCDF	圧	62.7	26 - 123	
1,2,3,6,7,8-HxCDF		0.000000503	503		13C-2,3,4,6,7,8-HxCDF	표	61,2	28 - 136	
2,3,4,6,7,8-HxCDF		0.000000547	547		13C-1,2,3,7,8,9-HxCDF	뇬	58.4	29 - 147	
1,2,3,7,8,9-HxCDF		0.000000760	09/		13C-1,2,3,4,6,7,8-HpCDF	J.	9.99	28 - 143	
1,2,3,4,6,7,8-HpCDF	CDF ND	0.00000000	903		13C-1,2,3,4,7,8,9-HpCDF	ÜF	61.1	26 - 138	
1,2,3,4,7,8,9-HpCDF	CDF ND	0.000000830	830		13C-OCDF		45.6	17 - 157	
OCDF	ON	0.00000414	14		CRS 37CI-2,3,7,8-TCDD		0.66	35 - 197	
Totals					Footnotes				
Total TCDD	QN	0.00000120	20		a. Sample specific estimated detection limit.	ion limit.			
Total PeCDD	R	0.00000140	40		b. Estimated maximum possible concentration.	ncentration.			
Total HxCDD	QN	0.00000180	80		c. Method detection limit.				
Total HpCDD	0.0000167	191			d. Lower control limit - upper control limit.	rol limit.			
Total TCDF	QN	0.00000106	90		:				
Total PeCDF	Q	0.00000107	07						
Total HxCDF	QN	0.000000576	1576						
Total HpCDF	S	0.000000869	698						

Project 27410

APPENDIX G

Section 99

Outfall 006, March 21, 2006

Del Mar Analytical Laboratory Report