

APPENDIX A

Data Summary Report For 2007 Pond Water Treatment

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I. Introduction

This data summary report presents the results of monitoring conducted by the California Regional Water Quality Control Board, Lahontan Region (Water Board) during summer 2007 operation of the Pond 1 Lime Treatment Plant at Leviathan Mine, as described in the Work Plan for 2007 Site Work by the California Regional Water Quality Control Board, Lahontan Region. Also included in this report are operational records maintained by the Water Board's treatment plant operations contractor. The analytical results presented in this report were gathered following the objectives, procedures, and quality assurance and quality control standards documented in the June 2007 Sampling and Analysis Plan for Leviathan Mine Site Pond Water Treatment (PWT SAP). Overall site objectives and requirements are outlined in the 2002 Leviathan Mine Site Site-Wide Sampling and Analysis Plan. The following information is included in this data summary:

- Summary of laboratory analytical results for influent and effluent.
- Documentation of field records and measurements.
- Level A/B and Field Data Validation Checklists.

The PWT SAP, field notebook, and monitoring program records for this project are located at the Water Board offices in South Lake Tahoe, California. The Water Board will forward all laboratory analytical results to Atlantic Richfield Company for incorporation into the Leviathan Mine Site-Wide Database.

**Table A-1
2007 Daily Effluent Analytical Results**

	Sample Date	pH (SU)	Temp. (°C)	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Pb	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	Se	Q	TDS	Q	Sulfate	Q
Daily Max Discharge Criteria:		6-9	n/a	4.000		0.34		n/a		0.009		n/a		0.97		0.026		2.0		0.136		n/a		n/a		0.84		0.210		n/a		n/a		n/a	
Pit Clarifier	7/8/2007	7.70	27.3	0.7700		0.0062				0.0028	U			0.022		0.0032	U	0.0068	U	0.00023	U					0.032		0.0092	U	0.0021	J				
Pit Clarifier	7/9/2007	7.80	26.1	1.3000		0.0058				0.0028	U			0.0099	U	0.0032	U	0.0068	U	0.00023	U					0.03		0.02		0.0019	J				
Pit Clarifier	7/10/2007	7.60	17.3	1.0000		0.0056				0.0028	U			0.011		0.0032	U	0.0068	U	0.00023	U					0.02	J	0.0092	U	0.0018	J				
Pit Clarifier	7/11/2007	8.00	17.6	0.5700		0.0062		1100		0.0028	U	0.012	J	0.0099	U	0.0032	U	0.0068	U	0.00023	U	44		0.45		0.034		0.0098	J	0.0018	J	4000		2300	
Effluent to Creek	7/11/2007	7.13	16.2	0.0700	J	0.0033				0.0028	U			0.02	U	0.0064	U	0.014	U	0.00023	U					0.029	U	0.018	U	0.0021	J				
Effluent to Creek	7/12/2007	7.25	17.4	0.0630		0.0048				0.0028	U			0.0099	U	0.0032	U	0.0068	U	0.00023	U					0.014	U	0.0092	U	0.002	J				
Effluent to Creek (Duplicate)	7/12/2007	7.25	17.4	0.0720		0.0047				0.0028	U			0.0099	U	0.0032	U	0.0068	U	0.00023	U					0.014	U	0.0092	U	0.0023	J				
Effluent to Creek	7/13/2007	7.13	19.6	0.0990		0.0051				0.0028	U			0.0099	U	0.0053	J	0.0068	U	0.00023	U					0.0032	J	0.0092	U	0.002	J				
Effluent to Creek	7/14/2007	7.20	19.9	0.0750		0.0057				0.0028	U			0.0099	U	0.0043	J	0.0068	U	0.00023	U					0.0059	J	0.0092	U	0.0021	J				
Effluent to Creek	7/15/2007	7.25	19.3	0.0880		0.0056				0.0028	U			0.0099	U	0.0059	J	0.0068	U	0.00023	U					0.0043	J	0.0092	U	0.0018	J				
Effluent to Creek	7/16/2007	7.14	19.2	0.0630		0.0043		590		0.0028	U	0.0076	U	0.0099	U	0.0041	J	0.0068	U	0.00023	U	42		0.072		0.0024	J	0.0092	U	0.0023	J	2500		1900	
Effluent to Creek	7/17/2007	7.22	18.7	0.0434	J	0.0073		631		0.00025	U	0.0016	J	0.002	J	0.0012	J	0.015	U	0.0005	U	39		0.103		0.0171		0.0052	J	0.0032					
Effluent to Creek	7/18/2007	7.13	16.8	0.0212	J	0.0053				0.0028	J			0.0016	J	0.0012	J	0.015	U	0.0005	U					0.013		0.005	J	0.0038					
Effluent to Creek	7/19/2007	7.14	15.6	0.0221		0.0064				0.0028				0.0016		0.001		0.003	U	0.0001	U					0.0128		0.0041		0.0036					
Effluent to Creek (Duplicate)	7/19/2007	7.14	15.6	0.0230		0.0067				0.0028				0.0017		0.001		0.003	U	0.0001	U					0.0115		0.0053		0.0035					
Effluent to Creek	7/20/2007	7.20	16.0	0.0400	J	0.002	J			0.001	U			0.003	J	0.001	U	0.025	U	0.003	U					0.006	J	0.002	U	0.005	J				
Effluent to Creek	7/21/2007	7.10	17.6	0.0300	U	0.003	J			0.001	U			0.004	J	0.001	J	0.025	U	0.003	U					0.008	J	0.002	U	0.004	J				
Effluent to Creek	7/22/2007	7.14	20.6	0.0300	U	0.003	J			0.001	U			0.003	J	0.001	J	0.025	U	0.003	U					0.006	J	0.002	U	0.007	J				
Effluent to Creek	7/23/2007	7.05	18.8	0.0470	J	0.002	U	614		0.001	U	0.003	J	0.003	J	0.002	J	0.025	U	0.003	U	57		0.514		0.02		0.002	U	0.003	U	2660		1740	
Effluent to Creek	7/24/2007	6.97	19.4	0.0122		0.0035				0.00043				0.0013		0.0014		0.003	U	0.0001	U					0.0174		0.0049		0.002	U				
Effluent to Creek	7/25/2007	7.04	19.6	0.0135		0.0043		634		0.00058	J	0.0024	J	0.0015	J	0.0014	J	0.015	U	0.0005	U	55	0	0.324		0.0154		0.004	J	0.002	U	2620		1640	
Effluent to Creek	7/26/2007	7.03	17.4	0.0146		0.0052				0.00054	J			0.0014	J	0.0015	J	0.015	U	0.0005	U					0.0133		0.0065	J	0.0033	J				
Effluent to Creek	7/27/2007	7.01	17.5	0.0380	*	0.0041				0.00072	J			0.0016	J	0.0015	J	0.003	U	0.0005	U					0.0138		0.0062	J	0.0037	J				
Effluent to Creek (Duplicate)	7/27/2007	7.01	17.5	0.0161	*	0.0045				0.00054	J			0.0015	J	0.0016	J	0.003	U	0.0005	U					0.0138		0.0105		0.0046					
Effluent to Creek	7/28/2007	7.29	18.9	0.0160		0.0054				0.00041	J			0.0018	J	0.0017	J	0.003	U	0.0005	U					0.0133		0.0086		0.004					
Effluent to Creek	7/29/2007	7.37	22.0	0.0140		0.006				0.00041	J			0.0017	J	0.0014	J	0.003	U	0.0005	U					0.0155		0.0058	J	0.0031	J				
Effluent to Creek	7/30/2007	7.48	17.4	0.0116		0.0056		616		0.00029	J	0.002	J	0.0018	J	0.0015	J	0.003	U	0.0005	U	75		0.162		0.0108		0.0062	J	0.005	J	2610		1860	

Notes:

All values reported in milligrams/liter, except pH and temperature.

All parameters reported as dissolved, except Selenium reported as total recoverable.

n/a - not applicable, no discharge criteria exists for this parameter.

Qualifiers:

U - Analyte not detected at the given Method Detection Limit.

J - Analyte detected between the Method Detection Limit and the Reporting Limit

* - Relative Percent Difference outside of control limits

Table A-2
Effluent 4-Day Average Concentrations

	Sample Date	Al 4-day Average	As 4-day Average	Cd 4-day Average	Cr 4-day Average	Cu 4-day Average	Fe 4-day Average	Pb 4-day Average	Ni 4-day Average	Zn 4-day Average
4- Day Average Discharge Criteria:		2.0	0.15	0.004	0.31	0.016	1.00	0.005	0.094	0.21
Effluent to Creek	7/14/2007	0.0768	0.0047	0.0014	0.0062	0.0036	0.0043	0.0001	0.0077	0.0057
Effluent to Creek	7/15/2007	0.0813	0.0053	0.0014	0.0050	0.0043	0.0034	0.0001	0.0051	0.0046
Effluent to Creek	7/16/2007	0.0813	0.0052	0.0014	0.0050	0.0049	0.0034	0.0001	0.0040	0.0046
Effluent to Creek	7/17/2007	0.0674	0.0057	0.0011	0.0042	0.0039	0.0044	0.0001	0.0074	0.0048
Effluent to Creek	7/18/2007	0.0539	0.0056	0.0014	0.0034	0.0031	0.0055	0.0002	0.0092	0.0049
Effluent to Creek	7/19/2007	0.0374	0.0058	0.0018	0.0025	0.0019	0.0050	0.0002	0.0113	0.0047
Effluent to Creek	7/20/2007	0.0317	0.0053	0.0016	0.0021	0.0010	0.0073	0.0005	0.0122	0.0038
Effluent to Creek	7/21/2007	0.0212	0.0042	0.0017	0.0026	0.0009	0.0085	0.0008	0.0100	0.0028
Effluent to Creek	7/22/2007	0.0163	0.0036	0.0011	0.0029	0.0009	0.0098	0.0011	0.0082	0.0018
Effluent to Creek	7/23/2007	0.0225	0.0023	0.0005	0.0033	0.0011	0.0125	0.0015	0.0100	0.0010
Effluent to Creek	7/24/2007	0.0156	0.0026	0.0005	0.0028	0.0014	0.0098	0.0011	0.0129	0.0020
Effluent to Creek	7/25/2007	0.0186	0.0030	0.0005	0.0022	0.0015	0.0085	0.0008	0.0147	0.0027
Effluent to Creek	7/26/2007	0.0218	0.0035	0.0005	0.0018	0.0016	0.0073	0.0005	0.0165	0.0041
Effluent to Creek	7/27/2007	0.0196	0.0043	0.0006	0.0015	0.0015	0.0045	0.0002	0.0150	0.0054
Effluent to Creek	7/28/2007	0.0205	0.0048	0.0006	0.0016	0.0015	0.0045	0.0003	0.0140	0.0063
Effluent to Creek	7/29/2007	0.0207	0.0052	0.0005	0.0016	0.0015	0.0030	0.0003	0.0140	0.0068
Effluent to Creek	7/30/2007	0.0199	0.0053	0.0005	0.0017	0.0015	0.0015	0.0003	0.0134	0.0067

All values reported in milligrams/liter.

All parameters reported as dissolved, except Selenium reported as total recoverable.

Shaded areas indicate exceedences of the 4-Day Average criteria.

**Table A-3
2007 Untreated Influent**

	Sample Date	pH	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Pb	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	Se	Q	TDS	Q	Sulfate	Q	
Daily Max Discharge Criteria:		n/a	n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		
Influent	7/9/2007	2.50	530		6.3		360		0.091		3.40		1.50		2.3		880		0.0008	J	72		15.0		8.7		1.50		0.0018		9600		7500		
Influent	7/10/2007	2.50																																	
Influent	7/11/2007	2.60																																	
Influent	7/12/2007	2.50																																	
Influent	7/13/2007	2.43																																	
Influent	7/14/2007	2.42																																	
Influent	7/15/2007	2.34																																	
Influent	7/16/2007	2.48	530		7.3		350		0.054		3.60		1.90		2.3		800		0.0005	J	75		16.0		9.0		1.60		0.0023		10000		8500		
Influent	7/17/2007	2.45																																	
Influent	7/18/2007	2.41																																	
Influent	7/19/2007	2.32																																	
Influent	7/20/2007	NS																																	
Influent	7/21/2007	2.31																																	
Influent	7/22/2007	2.36																																	
Influent	7/23/2007	2.39	768		11.2		503		0.131		4.97		2.31		3.4		997		0.0740	J	105		21.0		12.9		2.46		0.0030	U	12100		11000		
Influent	7/24/2007	2.41																																	

Notes:

All values reported in milligrams/liter, except pH.

All parameters reported as dissolved, except Selenium reported as total recoverable.

n/a - not applicable, no discharge criteria exists for this parameter.

NS - Not sampled

Qualifiers:

U - Analyte not detected at the given Method Detection Limit.

J - Analyte detected between the Method Detection Limit and the Practical Quantitation Limit, therefore, result is an estimated concentration

**Table A-4
2007 Sludge Analytical Results**

Regulatory Criteria	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn																			
STLC (mg/L)	NP	15	5	100	0.75	1	560	80	25	NP	5	0.2	350	20	1	5	7	24	250																			
TTLc (mg/kg)	NP	500	500	10000	75	100	2500	8000	2500	NP	1000	20	3500	2000	100	500	700	2400	5000																			
Pit Clarifier Sample Date and Testing Procedure	Al	Q	Sb	Q	As	Q	Ba	Q	Be	Q	Cd	Q	Cr	Q	Co	Q	Cu	Q	Fe	Q	Pb	Q	Hg	Q	Mo	Q	Ni	Q	Se	Q	Ag	Q	Tl	Q	V	Q	Zn	Q
09/06/2007 (A)																																						
STLC (mg/L)	1120	QM-4X	0.04	J	1.00		0.2	U	0.04		0.12		2.68		8.45		5.30		570	QM-4X	0.10		0.007	U	0.02	U	19.0		0.04	U		0.02	U	0.02	U	0.25	4.07	
TTLc (mg/kg dry)	69900		4.3	J	875	QM-4X	6.4	J	2.1	J	11.8		204		418		307		82600	QM-4X	10.7		0.2	U	3.6	U	1030		1.8	U, QM-05.Z-02	2.8	U	3.6	U	40.6	J	209	
28.1*																																						
09/06/2007 (B)																																						
STLC (mg/L)	545	QM-4X	0.02	U	0.83		0.2	U	0.02		0.06		1.8		5.60		3.06		416	QM-4X	0.06	J	0.02		0.02	U	13.2		0.04	U		0.02	U	0.02	U	0.23	2.76	
TTLc (mg/kg dry)	46800	QM-4X	4.0	J	880	QM-4X	2.4	J	1.6	J	9.0		157		302		198		76100	QM-4X	8	J	0.2	U	4.0	U	762		2.0	U, QM-05.Z-02	3.2	U	4	U	35.2	J	146	
25.0*																																						
09/06/2007 (C)																																						
STLC (mg/L)	1100	QM-4X	0.04	J	0.76		0.2	U	0.04		0.13		3.16		9.15		4.95		745	QM-4X	0.10		0.007	U	0.02	U	21.4		0.04	U		0.02	U	0.02	U	0.34	4.37	
TTLc (mg/kg dry)	63300	QM-4X	3.3	J	821	QM-4X	5.2	J	2	J	11.1		195		382		283		79500	QM-4X	9.1		0.2	U	3.3	U	958		1.6	U, QM-05.Z-02	2.6	U	3.3	U	38.4	J	194	
30.7*																																						

Notes:

* percent solids

NP: None promulgated.

Shaded cells indicate concentrations that exceed hazardous waste criteria.

Qualifiers:

U - Analyte not detected at the given Method Detection Limit.

J - Analyte detected between the Method Detection Limit and the Practical Quantitation Limit.

QM-4X - The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration.

The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptable limits.

Z-02 - The batch QC sample was post-spiked resulting in a recovery of 77.8%

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/08/2007 13:00	160	3.20	3.21	--	8.35	8.20	--	8.00	20.20	ND	ND
07/08/2007 14:00	140	3.20	3.21	--	8.35	8.66	--	8.30	20.50	ND	ND
07/08/2007 15:00	100	3.20	3.26	--	8.25	8.22	--	8.01	22.10	ND	ND
07/08/2007 16:00	--	--	--	--	--	--	--	--	--	ND	ND
07/08/2007 17:00	--	3.20	3.22	--	8.40	8.71	--	--	23.10	ND	ND
07/08/2007 18:00	100	3.20	3.23	--	8.40	8.42	--	8.25	22.00	ND	ND
07/08/2007 19:00	--	3.20	3.22	--	8.40	3.39	--	8.17	21.80	ND	ND
07/08/2007 20:00	100	3.20	3.22	--	8.40	3.39	--	8.10	20.40	ND	ND
07/08/2007 21:00	--	3.20	3.20	--	8.40	8.45	--	8.10	20.40	ND	ND
07/08/2007 22:00	100	3.20	3.27	--	8.40	8.32	--	8.12	20.30	ND	ND
07/08/2007 23:00	--	3.20	3.21	--	8.40	8.43	--	8.10	20.10	ND	ND
07/09/2007 00:00	100	3.20	3.22	--	8.40	8.30	--	8.05	20.00	ND	ND
07/09/2007 01:00	--	3.20	3.22	--	8.40	8.27	--	8.10	20.50	ND	ND
07/09/2007 02:00	100	3.20	3.22	--	8.40	8.32	--	8.14	19.00	ND	ND
07/09/2007 03:00	--	3.20	3.25	--	8.40	8.41	--	8.17	20.10	ND	ND
07/09/2007 04:00	100	3.20	3.29	--	8.40	8.38	--	8.45	18.10	ND	ND
07/09/2007 05:00	--	3.20	3.24	--	8.40	8.43	--	8.25	17.50	ND	ND
07/09/2007 06:00	100	3.20	3.20	--	8.40	8.37	--	8.17	18.40	ND	ND
07/09/2007 07:00	--	3.20	3.24	--	8.40	8.27	--	8.11	17.60	ND	ND
07/09/2007 08:00	100	3.20	3.21	--	8.40	8.30	--	7.98	18.50	ND	ND
07/09/2007 09:00	--	3.20	3.21	--	8.45	8.39	--	0.00	0.00	ND	ND
07/09/2007 10:00	126	3.20	3.19	--	8.45	8.26	--	8.25	18.40	ND	ND
07/09/2007 11:00	--	3.20	3.19	--	8.45	8.33	--	8.25	18.80	ND	ND
07/09/2007 12:00	126	3.20	3.22	--	8.45	8.36	--	8.30	18.90	ND	ND
07/09/2007 13:00	--	3.20	3.22	--	8.30	8.25	--	8.21	19.80	ND	ND
07/09/2007 14:00	126	3.20	3.21	--	8.20	8.30	--	8.25	20.40	ND	ND
07/09/2007 15:00	--	3.20	3.21	--	8.20	8.19	--	8.15	21.50	ND	ND
07/09/2007 16:00	126	3.20	3.20	--	8.20	8.20	--	8.21	21.30	ND	ND
07/09/2007 17:00	--	3.20	3.16	--	8.20	8.03	--	8.20	21.50	ND	ND
07/09/2007 18:00	126	3.20	3.14	--	8.20	8.27	--	8.39	22.30	ND	ND
07/09/2007 19:00	--	3.20	3.12	--	8.15	8.16	--	8.39	22.00	ND	ND
07/09/2007 20:00	125	3.20	3.05	--	8.15	8.48	--	8.41	22.10	ND	ND
07/09/2007 21:00	--	3.20	3.00	--	8.15	8.18	--	8.49	23.00	ND	ND
07/09/2007 22:00	125	3.20	3.21	--	8.10	8.09	--	8.54	22.20	ND	ND
07/09/2007 23:00	--	3.20	3.24	--	8.10	8.03	--	8.21	20.60	ND	ND
07/10/2007 00:00	125	3.20	3.24	--	8.10	8.22	--	8.26	21.60	ND	ND
07/10/2007 01:00	--	3.20	3.26	--	8.10	8.20	--	8.39	21.00	ND	ND
07/10/2007 02:00	125	3.20	3.28	--	8.05	8.16	--	8.25	20.10	ND	ND
07/10/2007 03:00	--	3.20	3.27	--	8.05	8.03	--	8.28	19.50	ND	ND
07/10/2007 04:00	125	3.20	3.24	--	8.00	7.87	--	8.39	19.10	ND	ND
07/10/2007 05:00	--	3.20	3.24	--	8.00	7.88	--	8.24	18.50	ND	ND
07/10/2007 06:00	125	3.20	3.26	--	8.00	8.00	--	8.25	17.70	ND	ND
07/10/2007 07:00	--	3.20	3.27	--	8.00	7.87	--	8.27	17.40	ND	ND
07/10/2007 08:00	126	3.20	3.25	--	8.00	8.09	--	8.09	17.40	ND	ND
07/10/2007 09:00	--	3.20	3.25	--	8.00	8.10	--	8.16	17.40	ND	ND
07/10/2007 10:00	126	3.20	3.24	--	8.10	8.21	--	8.31	17.60	ND	ND
07/10/2007 11:00	--	3.20	3.23	--	8.10	8.15	--	8.35	18.10	ND	ND

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/10/2007 12:00	126	3.20	3.22	--	8.10	8.11	--	8.35	18.00	ND	ND
07/10/2007 13:00	--	3.20	3.27	--	8.10	8.03	--	8.30	18.50	ND	ND
07/10/2007 14:00	126	3.20	3.26	--	8.10	8.11	--	8.39	19.30	ND	ND
07/10/2007 15:00	--	3.20	3.21	--	8.05	8.01	--	8.41	19.30	ND	ND
07/10/2007 16:00	126	3.20	3.26	--	8.00	7.98	--	8.57	20.10	ND	ND
07/10/2007 17:00	--	3.20	3.24	--	8.00	7.92	--	8.31	20.20	ND	ND
07/10/2007 18:00	126	3.20	3.26	--	8.00	7.94	--	8.39	20.20	ND	ND
07/10/2007 19:00	--	3.20	3.27	--	8.00	7.84	--	8.39	20.10	ND	ND
07/10/2007 20:00	126	3.20	3.26	--	8.00	7.96	--	8.26	19.60	ND	ND
07/10/2007 21:00	--	3.20	3.25	--	8.00	7.84	--	8.32	18.90	ND	ND
07/10/2007 22:00	126	3.20	3.20	--	8.00	7.93	--	8.21	18.10	ND	ND
07/10/2007 23:00	--	3.20	3.25	--	8.00	8.06	--	8.28	18.40	ND	ND
07/11/2007 00:00	126	3.20	3.25	--	8.00	8.00	--	8.14	18.30	ND	ND
07/11/2007 01:00	--	3.20	3.23	--	8.05	7.98	--	8.25	17.90	ND	ND
07/11/2007 02:00	126	3.20	3.21	--	8.05	7.90	--	8.23	17.90	ND	ND
07/11/2007 03:00	--	3.20	3.23	--	8.10	7.88	--	8.28	16.50	ND	ND
07/11/2007 04:00	126	3.20	3.23	--	8.10	8.02	--	8.30	16.70	ND	ND
07/11/2007 05:00	--	3.20	3.23	--	8.15	8.03	--	8.32	17.10	ND	ND
07/11/2007 06:00	126	3.20	3.17	--	8.15	7.96	--	8.34	17.20	ND	ND
07/11/2007 07:00	--	3.20	3.20	--	8.15	8.17	--	8.35	16.40	ND	ND
07/11/2007 08:00	128	3.20	3.19	--	8.15	7.96	--	8.11	15.60	ND	ND
07/11/2007 09:00	--	3.20	2.81	--	8.15	8.09	--	8.05	15.90	ND	ND
07/11/2007 10:00	128	3.20	2.97	--	8.15	8.04	--	8.18	16.10	ND	ND
07/11/2007 11:00	--	3.20	3.22	--	8.15	8.25	--	8.16	17.60	ND	ND
07/11/2007 12:00	128	3.20	3.24	--	8.15	8.19	--	8.21	17.10	ND	ND
07/11/2007 13:00	--	3.20	3.20	--	8.15	8.22	--	8.16	17.60	ND	ND
07/11/2007 14:00	160	3.20	3.24	--	8.25	8.30	--	8.29	17.70	7.09	16.40
07/11/2007 15:00	--	3.20	3.20	--	8.35	8.22	--	8.17	19.30	7.61	17.70
07/11/2007 16:00	160	3.20	3.23	--	8.35	8.39	--	8.19	20.10	7.79	17.90
07/11/2007 17:00	--	3.20	3.24	--	8.35	8.36	--	--	--	7.57	19.00
07/11/2007 18:00	160	3.20	3.00	--	8.40	8.15	--	8.25	20.70	7.68	19.30
07/11/2007 19:00	--	3.20	3.24	--	8.40	8.25	--	8.31	21.00	7.69	19.30
07/11/2007 20:00	160	3.20	3.20	--	8.40	7.84	--	7.65	21.50	7.54	19.90
07/11/2007 21:00	--	3.20	3.24	--	8.50	7.64	--	7.86	20.70	7.67	19.30
07/11/2007 22:00	160	3.20	3.22	--	8.50	8.53	--	8.40	21.20	7.83	19.30
07/11/2007 23:00	--	3.20	3.25	--	8.50	7.82	--	7.69	18.40	7.65	17.70
07/12/2007 00:00	160	3.20	3.19	--	8.50	8.15	--	8.02	19.40	7.76	18.10
07/12/2007 01:00	--	3.20	3.20	--	8.50	8.06	--	8.20	19.40	7.74	18.20
07/12/2007 02:00	160	3.20	3.25	--	8.60	8.40	--	8.50	18.70	7.84	17.50
07/12/2007 03:00	--	3.20	3.27	--	8.50	8.41	--	8.25	18.60	7.84	17.50
07/12/2007 04:00	160	3.20	3.19	--	8.55	8.48	--	8.11	15.50	7.74	14.90
07/12/2007 05:00	--	3.20	3.33	--	8.55	8.65	--	7.76	17.00	7.75	15.60
07/12/2007 06:00	160	3.20	3.20	--	8.60	8.18	--	8.30	15.80	7.78	16.00
07/12/2007 07:00	--	3.20	3.22	--	8.60	8.45	--	8.16	15.50	7.75	16.20
07/12/2007 08:00	162	3.20	3.15	--	8.60	8.20	--	7.58	16.10	6.86	15.90
07/12/2007 09:00	--	3.20	3.07	--	8.60	8.35	--	7.20	15.40	7.21	17.50
07/12/2007 10:00	160	3.20	3.00	--	8.60	8.34	--	7.82	16.10	7.56	18.60

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/12/2007 11:00	--	3.20	2.90	--	8.60	8.40	--	8.02	17.90	7.91	18.60
07/12/2007 12:00	160	3.20	2.68	--	8.60	8.39	--	8.11	19.40	8.12	19.20
07/12/2007 13:00	--	3.20	2.41	--	8.60	8.83	--	8.17	20.90	8.20	20.90
07/12/2007 14:00	161	3.20	3.18	--	8.60	8.00	--	8.15	20.30	8.18	20.90
07/12/2007 15:00	--	3.20	3.18	--	8.60	8.13	--	8.09	20.20	8.11	20.90
07/12/2007 16:00	162	3.20	3.09	--	8.60	8.14	--	8.00	24.00	7.88	21.40
07/12/2007 17:00	--	3.20	3.09	--	8.60	7.63	--	7.93	24.40	7.64	22.40
07/12/2007 18:00	162	3.20	3.14	--	8.60	7.44	--	7.45	25.80	7.26	22.30
07/12/2007 19:00	--	3.20	3.13	--	8.20	8.27	--	8.21	24.90	7.89	22.50
07/12/2007 20:00	160	3.20	3.08	--	8.20	8.21	--	8.23	24.80	7.77	22.10
07/12/2007 21:00	--	3.20	3.01	--	8.20	8.06	--	8.35	23.20	8.00	21.50
07/12/2007 22:00	160	3.20	2.95	--	8.20	8.18	--	8.20	22.50	7.99	21.30
07/12/2007 23:00	--	3.20	2.99	--	8.20	8.05	--	8.26	22.80	7.88	21.40
07/13/2007 00:00	160	3.20	3.03	--	8.20	8.17	--	8.27	21.30	7.89	20.30
07/13/2007 01:00	--	3.20	2.96	--	8.20	8.20	--	8.25	20.80	7.80	20.80
07/13/2007 02:00	160	3.20	2.54	--	8.20	8.10	--	8.22	19.90	7.77	19.80
07/13/2007 03:00	--	3.20	2.93	--	8.20	8.24	--	8.16	19.10	8.04	19.60
07/13/2007 04:00	160	3.20	2.96	--	8.20	8.10	--	8.21	18.10	7.98	19.60
07/13/2007 05:00	--	3.20	2.94	--	8.20	8.03	--	8.01	17.20	7.87	19.10
07/13/2007 06:00	160	3.20	3.23	--	8.20	7.97	--	8.72	16.70	8.31	18.50
07/13/2007 07:00	--	3.20	3.22	--	8.20	8.08	--	8.57	16.50	8.22	18.60
07/13/2007 08:30	163	3.20	3.25	15.60	8.20	7.84	16.40	7.54	16.60	7.37	19.40
07/13/2007 09:30	--	3.20	3.22	16.10	8.20	8.18	16.60	7.98	16.60	7.75	19.60
07/13/2007 10:30	162	3.20	3.25	17.20	8.20	8.08	17.40	8.11	17.50	7.84	19.30
07/13/2007 11:30	--	3.20	3.26	18.30	8.20	8.13	18.00	8.13	18.40	7.79	19.50
07/13/2007 12:30	165	3.20	3.23	20.10	8.20	8.14	19.10	8.28	19.50	7.86	20.20
07/13/2007 13:30	--	3.20	3.21	20.40	8.15	8.08	20.10	8.31	19.70	7.71	20.40
07/13/2007 14:30	165	3.20	3.06	23.00	8.15	8.25	21.60	8.28	21.80	7.79	20.80
07/13/2007 15:30	--	3.20	2.81	23.90	8.15	7.99	23.10	8.28	23.40	7.94	21.80
07/13/2007 16:30	165	3.20	2.86	25.30	8.10	8.16	24.20	8.11	24.30	7.48	22.30
07/13/2007 17:30	--	3.20	2.74	25.90	8.10	8.20	25.10	8.43	22.00	7.88	21.50
07/13/2007 18:30	162	3.20	2.85	26.50	8.00	8.02	26.10	8.30	25.30	7.65	23.10
07/13/2007 19:30	--	3.20	2.74	26.20	8.00	8.05	26.50	8.40	25.10	7.75	22.70
07/13/2007 20:30	160	3.20	3.00	25.30	8.00	7.97	26.30	7.07	23.30	7.17	21.40
07/13/2007 21:30	--	3.20	2.69	24.80	8.30	8.36	26.10	8.00	23.40	7.89	21.70
07/13/2007 22:30	160	3.20	2.64	23.90	8.30	8.15	25.40	8.04	22.70	7.94	21.40
07/13/2007 23:30	--	3.20	2.81	23.10	8.30	8.36	24.40	8.13	22.10	7.78	21.10
07/14/2007 00:30	160	3.20	2.95	21.80	8.30	8.44	23.70	8.27	21.60	7.41	20.90
07/14/2007 01:30	--	3.20	3.38	20.40	8.30	8.47	22.10	8.33	20.10	7.44	20.30
07/14/2007 02:30	160	3.20	3.22	19.20	8.30	8.18	21.40	8.14	19.60	7.33	20.40
07/14/2007 03:30	--	3.20	3.26	18.20	8.30	8.07	20.30	7.72	18.50	8.23	19.80
07/14/2007 04:30	160	3.20	3.24	17.10	8.30	8.20	19.20	7.56	18.60	7.30	20.80
07/14/2007 05:30	--	3.20	3.23	16.80	8.30	8.15	18.40	7.53	17.10	7.51	19.50
07/14/2007 06:30	160	3.20	3.27	15.20	8.30	8.15	17.10	7.64	15.80	7.61	18.90
07/14/2007 07:30	--	3.20	3.22	14.50	8.30	8.37	16.20	7.70	16.60	7.58	15.10
07/14/2007 08:30	163	3.20	3.21	14.70	8.30	8.01	15.70	7.58	16.40	7.45	19.50
07/14/2007 09:30	--	3.20	3.27	15.60	8.30	8.26	15.80	7.64	16.30	7.55	19.40

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/14/2007 10:30	162	3.20	3.03	17.50	8.30	8.25	16.80	7.83	17.70	7.65	19.50
07/14/2007 11:30	--	3.20	3.26	20.00	8.30	8.15	18.20	7.96	18.50	7.66	20.20
07/14/2007 12:30	162	3.20	3.25	21.20	8.30	8.21	19.60	8.04	19.60	7.61	20.20
07/14/2007 13:30	--	3.20	3.23	21.60	8.40	8.37	20.40	8.11	20.40	7.72	20.50
07/14/2007 14:30	163	3.20	3.22	22.20	8.40	8.49	21.80	8.23	21.90	7.78	21.10
07/14/2007 15:30	--	3.20	3.25	22.70	8.40	8.54	22.60	8.35	22.40	7.77	21.40
07/14/2007 16:30	165	3.20	3.25	23.10	8.30	8.46	23.20	8.26	23.20	7.76	21.50
07/14/2007 17:30	--	3.20	3.27	23.30	8.30	8.17	23.40	8.35	23.40	7.84	21.50
07/14/2007 18:30	164	3.20	3.23	23.30	8.30	8.19	23.80	8.04	23.20	7.79	21.50
07/14/2007 19:30	--	3.20	3.26	23.20	8.30	8.26	23.70	8.15	23.20	7.67	21.50
07/14/2007 20:30	160	3.20	3.24	22.60	8.30	8.32	23.60	8.10	22.40	7.73	21.20
07/14/2007 21:30	--	3.20	3.23	21.80	8.30	8.33	23.20	8.34	22.40	7.65	21.00
07/14/2007 22:30	160	3.20	3.23	21.20	8.30	8.28	22.60	8.54	22.10	8.07	21.30
07/14/2007 23:30	--	3.20	3.24	20.70	8.25	8.40	21.90	8.42	21.20	8.01	20.50
07/15/2007 00:30	160	3.20	3.22	20.40	8.25	8.28	21.50	8.33	20.70	7.92	20.20
07/15/2007 01:30	--	3.20	3.26	20.00	8.25	8.33	20.70	8.19	20.20	7.86	19.40
07/15/2007 02:30	160	3.20	3.23	19.70	8.25	8.28	20.70	8.25	19.70	7.98	19.70
07/15/2007 03:30	--	3.20	3.01	19.10	8.25	8.91	20.10	8.22	19.50	7.94	19.30
07/15/2007 04:30	160	3.20	3.14	18.60	8.25	8.29	20.00	8.86	19.50	8.04	19.40
07/15/2007 05:30	--	3.20	3.24	18.20	8.25	8.31	19.60	8.41	18.80	8.19	18.80
07/15/2007 06:30	160	3.20	3.22	17.70	8.25	8.24	19.10	8.08	18.50	7.92	18.90
07/15/2007 07:30	--	3.20	3.24	17.40	8.25	8.36	19.00	7.54	19.60	7.90	18.80
07/15/2007 08:30	160	3.20	3.18	17.40	8.30	8.21	18.30	8.09	18.00	7.87	18.20
07/15/2007 09:30	--	3.20	3.19	17.70	8.35	8.36	18.20	8.21	18.50	7.92	19.20
07/15/2007 10:30	160	3.20	3.20	18.40	8.35	8.40	18.40	8.17	18.90	7.83	19.20
07/15/2007 11:30	--	3.20	3.16	19.60	8.25	8.26	19.10	8.00	19.40	7.81	19.70
07/15/2007 12:30	158	3.20	3.07	21.20	8.25	8.26	20.30	7.87	20.80	7.71	20.10
07/15/2007 13:30	--	3.20	2.97	22.20	8.35	8.39	21.20	7.75	21.10	7.45	20.50
07/15/2007 14:30	158	3.20	3.01	23.40	8.35	8.26	22.60	8.52	22.80	7.62	20.90
07/15/2007 15:30	--	3.20	2.96	24.30	8.20	8.30	23.40	8.82	23.10	7.81	21.00
07/15/2007 16:30	159	3.20	2.97	24.90	8.20	8.21	24.40	8.35	23.70	7.83	21.60
07/15/2007 17:30	--	3.20	2.92	25.30	8.20	8.21	25.20	8.55	24.80	7.85	21.70
07/15/2007 18:30	158	3.20	2.93	25.70	8.20	8.19	25.80	8.50	25.40	7.79	22.00
07/15/2007 19:30	--	3.20	3.10	25.90	8.20	8.22	25.90	8.43	25.50	7.77	22.10
07/15/2007 20:30	156	3.20	2.01	20.50	8.20	8.06	25.70	8.47	23.00	7.19	21.30
07/15/2007 21:30	--	3.20	8.35	20.00	8.20	8.08	25.40	8.47	23.00	7.19	21.30
07/15/2007 22:30	156	3.20	2.74	22.40	8.20	7.96	24.70	8.16	22.40	7.80	20.00
07/15/2007 23:30	--	3.20	2.85	18.20	8.20	8.01	23.90	8.31	21.20	7.95	19.50
07/16/2007 00:30	156	3.20	2.85	17.10	8.20	7.88	23.10	8.27	19.90	7.90	18.80
07/16/2007 01:30		3.20	2.85	19.40	8.20	7.89	21.90	7.96	20.50	7.21	19.80
07/16/2007 02:30	156	3.20	2.85	18.30	8.20	8.02	20.70	7.41	17.90	7.12	19.10
07/16/2007 03:30		3.20	3.15	13.90	8.20	7.92	19.60	6.65	17.50	6.52	18.40
07/16/2007 04:30	158	3.20	3.22	16.70	8.20	8.23	18.70	6.80	17.00	6.85	18.00
07/16/2007 05:30	--	3.20	3.27	12.50	8.35	8.27	17.80	6.43	16.60	6.38	18.50
07/16/2007 06:30	--	3.20	--	--	8.35	8.29	17.20	5.87	18.10	5.73	18.90
07/16/2007 13:05	--	--	--	--	8.35	8.51	20.70	8.42	20.10	--	--
07/16/2007 13:30	--	--	--	--	8.35	8.60	21.90	8.35	20.40	--	--

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/16/2007 14:30	--	--	--	--	8.35	8.49	23.40	8.27	21.40	7.70	21.00
07/16/2007 15:30	--	--	--	--	8.35	8.57	24.40	8.87	22.50	7.86	22.00
07/16/2007 16:30	--	--	--	--	8.20	8.40	25.90	8.54	24.70	7.85	22.50
07/16/2007 17:30	--	--	--	--	8.20	8.59	26.80	8.59	26.40	7.73	22.70
07/16/2007 18:30	--	--	--	--	8.20	8.43	27.30	8.54	26.80	7.72	22.60
07/16/2007 19:30	--	--	--	--	8.20	8.36	27.10	8.42	26.70	7.68	22.60
07/16/2007 20:30	162	3.20	2.69	20.20	8.20	8.34	25.90	7.99	23.10	7.42	22.30
07/16/2007 21:30	--	3.20	2.73	18.80	8.30	8.37	24.70	8.36	23.20	7.70	22.10
07/16/2007 22:30	162	3.20	2.74	18.00	8.30	8.21	23.70	8.35	22.70	7.79	21.80
07/16/2007 23:30	--	3.20	2.44	16.80	8.30	8.29	22.50	8.44	21.40	7.76	21.50
07/17/2007 00:30	162	3.20	2.29	16.00	8.30	8.21	21.60	8.28	20.90	7.78	21.20
07/17/2007 01:30	--	3.20	2.39	15.40	8.30	8.37	20.70	8.31	20.50	7.74	21.00
07/17/2007 02:30	160	3.20	2.48	14.40	8.25	8.19	19.80	8.06	19.60	7.62	20.60
07/17/2007 03:30	--	3.20	2.43	13.80	8.25	8.10	19.10	8.15	18.10	7.60	20.30
07/17/2007 04:30	160	3.20	2.52	13.10	8.25	8.22	18.30	8.16	18.00	6.76	20.00
07/17/2007 05:30	--	3.20	2.61	12.60	8.25	8.29	17.60	8.27	17.70	7.74	19.70
07/17/2007 07:30	162	3.20	2.77	11.00	8.25	8.28	16.30	8.25	16.80	7.71	19.10
07/17/2007 08:30	162	3.20	2.83	11.10	8.25	8.22	15.60	8.56	15.80	7.67	18.80
07/17/2007 09:30	--	3.20	2.86	12.50	8.25	8.29	15.60	8.28	16.00	7.70	18.80
07/17/2007 10:30	161	3.20	2.85	15.10	8.25	8.18	16.80	8.80	19.70	7.40	19.00
07/17/2007 11:30	--	--	--	--	--	--	--	--	--	--	--
07/17/2007 12:30	159	3.20	2.71	20.60	8.25	8.42	20.80	8.70	21.80	7.43	19.70
07/17/2007 13:30	--	3.20	2.55	23.10	8.25	8.29	24.70	8.58	22.80	7.59	21.40
07/17/2007 14:30	160	3.20	2.52	23.70	8.25	8.07	25.60	8.78	25.30	7.46	20.60
07/17/2007 15:30	--	3.20	2.44	24.10	8.25	8.67	27.70	8.60	24.70	7.02	21.10
07/17/2007 16:30	161	3.20	2.43	24.20	8.25	8.19	27.80	8.66	27.30	7.46	21.50
07/17/2007 17:30	--	3.20	2.46	23.70	8.25	8.38	28.00	8.61	26.40	7.49	21.80
07/17/2007 18:30	130	3.20	2.54	22.60	8.25	8.22	27.80	8.63	24.20	7.47	22.10
07/17/2007 19:30	--	3.20	2.49	22.40	8.25	8.37	27.20	8.59	24.00	7.51	22.30
07/17/2007 20:30	130	3.20	2.58	19.40	8.25	8.40	26.20	8.33	25.40	7.70	22.00
07/17/2007 21:30	--	3.20	2.59	17.50	8.25	8.15	24.50	8.10	24.10	7.45	21.80
07/17/2007 22:30	130	3.20	2.66	16.00	8.25	8.21	22.80	8.09	23.00	7.77	21.40
07/17/2007 23:30	--	3.20	2.72	14.90	8.25	8.17	21.30	7.65	21.30	7.65	20.90
07/18/2007 00:30	130	3.20	2.76	13.90	8.25	8.22	20.00	8.16	21.00	7.79	20.60
07/18/2007 01:30	--	3.20	2.69	13.20	8.25	8.33	20.00	6.43	19.00	7.10	20.10
07/18/2007 02:30	130	3.20	2.61	12.30	8.30	8.26	17.80	6.95	18.60	7.10	19.70
07/18/2007 03:30	--	3.20	2.58	11.90	8.35	8.30	17.20	6.94	17.20	7.10	19.10
07/18/2007 04:30	130	3.20	2.59	11.40	8.35	8.31	16.60	7.16	16.30	7.20	18.80
07/18/2007 05:30	--	3.20	2.61	11.10	8.35	8.37	16.10	7.94	16.20	7.78	18.30
07/18/2007 06:30	130	3.20	2.66	10.40	8.35	8.38	15.60	8.12	15.70	7.79	17.80
07/18/2007 07:30	--	3.20	2.70	9.90	8.35	8.41	15.10	7.91	15.50	7.68	17.60
07/18/2007 08:30	--	--	--	--	8.35	8.30	14.50	6.98	14.90	7.05	16.30
07/18/2007 11:30	--	3.20	3.24	14.80	8.35	8.50	16.00	7.13	16.40	7.08	17.30
07/18/2007 16:30	128	3.20	2.96	20.80	8.25	8.36	24.10	9.19	23.00	7.91	19.50
07/18/2007 17:30	--	3.20	2.97	20.40	8.25	8.40	23.90	8.76	23.90	7.87	20.30
07/18/2007 18:30	--	3.20	3.21	19.90	8.25	8.48	24.30	8.79	23.90	7.88	19.80
07/18/2007 19:30	--	--	--	--	8.25	8.29	24.10	8.78	23.40	7.73	19.60

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/18/2007 20:30	165	3.20	3.07	17.70	8.15	8.03	23.40	8.44	21.30	7.52	19.67
07/18/2007 21:30	--	3.20	3.23	17.50	8.15	8.07	23.10	9.12	20.50	7.88	18.80
07/18/2007 22:30	165	3.20	3.22	15.60	8.15	8.07	21.40	8.92	20.20	7.87	18.50
07/18/2007 23:30	--	3.20	3.26	14.20	8.05	7.99	20.20	9.02	19.00	7.76	18.30
07/19/2007 00:30	165	3.20	3.24	12.90	8.05	8.03	19.10	9.36	17.50	7.85	17.40
07/19/2007 01:30	--	3.20	3.25	12.20	8.05	7.91	17.90	8.42	17.10	7.89	17.50
07/19/2007 02:30	165	3.20	3.24	11.70	8.05	8.00	16.90	8.50	16.50	7.85	17.00
07/19/2007 03:30	--	3.20	3.27	11.10	8.05	7.98	16.20	8.34	15.90	7.84	17.10
07/19/2007 04:30	165	3.20	3.26	12.40	8.05	8.09	15.60	8.24	15.60	7.76	16.70
07/19/2007 05:30	--	3.20	3.22	9.80	8.05	7.91	14.90	8.05	14.80	7.69	16.40
07/19/2007 06:30	165	3.20	3.23	9.20	8.15	8.22	14.30	8.02	14.50	7.71	16.10
07/19/2007 07:30	--	3.20	3.21	8.50	8.25	7.97	13.80	8.06	14.30	7.78	16.40
07/19/2007 08:30	167	3.20	3.25	8.80	8.25	8.04	13.40	8.25	13.80	7.61	16.00
07/19/2007 12:30	130	3.20	3.26	16.50	8.25	6.75	16.20	6.94	16.90	7.41	16.90
07/19/2007 13:30	--	3.20	3.22	19.30	8.25	8.56	18.40	7.61	18.10	7.73	17.30
07/19/2007 14:30	130	3.20	3.21	21.70	8.25	8.47	20.70	8.34	21.30	7.78	18.00
07/19/2007 15:30	--	3.20	3.21	23.30	8.25	8.33	23.10	8.19	23.00	7.96	18.60
07/19/2007 16:30	130	3.20	3.26	23.60	8.25	8.13	24.90	7.85	24.90	7.74	19.30
07/19/2007 17:30	--	3.20	3.28	24.10	8.25	8.55	25.80	8.23	25.30	7.67	20.10
07/19/2007 18:30	147	3.20	3.21	22.60	8.25	8.26	26.30	8.02	25.20	7.86	20.10
07/19/2007 19:30	--	3.20	3.22	21.60	8.25	8.21	26.30	8.14	25.20	7.77	20.10
07/19/2007 20:30	125	3.20	3.22	18.90	8.25	8.35	25.50	8.17	23.80	7.55	19.90
07/19/2007 21:30	--	3.20	3.26	17.30	8.25	8.13	24.00	8.26	23.10	7.80	19.80
07/19/2007 22:30	125	3.20	3.25	15.70	8.25	8.17	22.50	8.35	20.60	7.78	19.10
07/19/2007 23:30	--	3.20	3.24	14.20	8.25	8.04	21.10	8.23	20.00	7.72	18.70
07/20/2007 00:30	165	3.20	3.21	12.70	8.25	8.08	18.90	8.30	17.90	7.77	18.50
07/20/2007 01:30	--	3.20	3.28	10.90	8.25	8.23	17.10	6.88	16.10	7.22	18.40
07/20/2007 02:30	--	3.20	3.29	10.10	8.25	5.36	16.40	--	--	--	--
07/20/2007 03:30	--	--	--	--	--	--	--	--	--	--	--
07/20/2007 04:30	165	3.20	3.08	8.90	8.25	8.31	15.10	8.79	14.30	7.91	16.80
07/20/2007 05:30	--	3.20	3.04	8.80	8.25	8.17	14.40	--	--	--	--
07/20/2007 06:30	165	3.20	3.26	7.20	8.25	8.13	13.30	8.48	13.50	7.92	16.10
07/20/2007 07:30	--	3.20	3.25	6.60	8.25	8.18	12.40	8.39	14.00	7.74	16.50
07/20/2007 12:30	161	3.20	2.89	11.60	8.25	8.14	12.40	8.20	13.50	7.63	16.80
07/20/2007 13:30	--	3.20	3.03	16.30	8.25	8.09	16.20	8.18	16.60	7.71	17.60
07/20/2007 14:30	161	3.20	2.83	18.70	8.25	8.17	18.30	8.26	18.40	7.72	18.70
07/20/2007 15:30	--	--	--	--	8.25	8.21	19.60	8.21	19.30	7.76	18.80
07/20/2007 16:30	161	3.20	2.86	20.20	8.25	8.42	21.40	8.29	21.40	7.88	18.90
07/20/2007 17:30	--	3.20	2.73	21.40	8.25	8.30	23.70	8.28	21.80	7.98	19.40
07/20/2007 18:30	161	3.20	2.78	21.40	8.25	8.20	24.70	8.35	24.50	7.87	19.90
07/20/2007 19:30	--	3.20	2.81	20.90	8.25	8.32	24.80	8.45	24.20	7.89	19.90
07/20/2007 20:30	165	3.20	2.84	19.90	8.25	8.27	24.60	7.92	21.70	7.88	19.00
07/20/2007 21:30	--	3.20	2.85	18.90	8.25	8.23	24.00	8.42	21.90	7.62	19.70
07/20/2007 22:30	165	3.20	2.85	17.70	8.25	8.25	22.70	8.36	21.20	7.71	19.20
07/20/2007 23:30	--	3.20	2.84	16.90	8.25	8.21	22.00	8.18	19.90	7.70	19.00
07/21/2007 00:30	165	3.20	2.83	15.60	8.25	8.27	20.80	8.36	19.40	7.74	18.50
07/21/2007 01:30	--	3.20	2.79	14.80	8.25	8.31	20.10	8.08	19.20	7.70	18.30

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/21/2007 02:30	165	3.20	2.80	13.70	8.25	8.23	19.10	8.33	17.60	7.75	17.90
07/21/2007 03:30	--	3.20	2.82	12.80	8.25	8.19	18.10	8.41	16.60	7.83	17.30
07/21/2007 04:30	165	3.20	2.84	12.00	8.25	8.24	16.50	8.38	16.90	7.72	17.70
07/21/2007 05:30	--	3.20	2.84	11.10	8.25	8.29	16.20	8.38	15.70	7.69	16.90
07/21/2007 06:30	165	3.20	2.85	10.40	8.25	8.26	15.90	8.33	15.20	7.73	16.50
07/21/2007 07:30	--	3.20	2.87	9.80	8.25	8.27	14.60	8.17	14.40	7.71	16.90
07/21/2007 08:30	170	3.20	2.83	9.70	8.25	7.98	14.10	8.17	14.70	7.44	16.90
07/21/2007 09:30	--	3.20	2.61	9.90	8.25	8.21	13.90	8.10	15.40	7.39	17.00
07/21/2007 10:30	172	3.20	2.65	11.70	8.25	8.48	14.60	8.01	16.20	7.47	17.30
07/21/2007 11:30	--	--	--	--	8.25	8.02	15.40	8.24	16.80	7.57	17.50
07/21/2007 12:30	170	--	--	--	8.25	7.98	16.40	8.00	17.40	7.52	17.50
07/21/2007 13:30	--	--	--	--	8.25	8.23	18.30	7.75	19.10	7.51	18.00
07/21/2007 14:30	170	3.20	2.34	21.20	8.25	8.20	19.70	8.10	19.80	7.53	18.30
07/21/2007 15:30	--	3.20	2.45	22.70	8.25	8.36	21.20	8.17	21.70	7.76	19.00
07/21/2007 16:30	170	3.20	2.41	23.80	8.25	8.34	22.30	8.14	22.10	7.78	19.20
07/21/2007 17:30	--	3.20	2.43	24.80	8.25	8.37	23.50	8.05	23.80	7.72	20.00
07/21/2007 18:30	170	3.20	2.29	25.00	8.25	8.31	24.40	8.11	24.20	7.75	20.20
07/21/2007 19:30	--	3.20	2.25	24.70	8.30	8.40	24.80	7.71	24.90	7.53	20.70
07/21/2007 20:30	175	3.20	2.50	23.30	8.30	8.35	24.60	8.83	23.20	7.86	20.60
07/21/2007 21:30	--	3.20	2.53	23.20	8.30	8.33	24.10	8.79	23.00	7.85	20.50
07/22/2007 00:30	105	3.20	3.15	21.60	8.30	8.24	23.20	8.80	20.90	7.67	19.00
07/22/2007 01:30	--	3.20	3.19	20.40	8.30	8.36	22.40	8.48	19.90	7.75	19.00
07/22/2007 02:30	130	3.20	3.17	19.50	8.30	8.33	20.40	8.33	19.60	7.68	18.80
07/22/2007 03:30	--	3.20	3.20	18.40	8.30	8.36	20.30	8.30	19.50	7.42	18.60
07/22/2007 04:30	130	3.20	3.20	17.50	8.30	8.33	19.40	8.26	18.40	7.71	18.30
07/22/2007 05:30	--	3.20	3.24	16.40	8.30	8.22	17.40	8.25	16.80	7.68	17.90
07/22/2007 06:30	115	3.20	3.31	15.50	8.30	8.31	17.10	8.23	16.90	7.69	17.90
07/22/2007 08:30	165	3.20	2.79	15.30	8.30	7.05	15.90	7.45	16.90	7.30	18.00
07/22/2007 10:30	165	3.20	2.79	16.20	8.30	8.10	16.20	7.23	18.10	7.42	17.20
07/22/2007 11:30	--	3.20	2.80	18.00	8.30	7.70	16.80	7.38	17.80	7.23	18.40
07/22/2007 16:30	160	3.20	2.66	22.20	8.30	7.90	16.90	8.44	20.70	7.33	20.80
07/22/2007 17:30	--	3.20	2.50	23.90	8.30	8.29	19.00	8.45	22.60	7.40	21.40
07/22/2007 18:30	165	3.20	2.50	25.30	8.30	8.00	21.40	8.15	21.50	7.50	22.30
07/22/2007 19:30	--	3.20	2.58	25.20	8.30	8.44	21.90	8.85	25.20	7.43	21.40
07/22/2007 20:30	--	3.20	2.78	25.10	8.30	8.39	20.30	8.50	22.10	7.31	21.20
07/22/2007 21:30	--	3.20	2.70	24.20	8.30	8.40	20.10	8.47	22.00	7.29	21.00
07/22/2007 22:30	169	3.20	2.75	24.00	8.30	8.30	21.80	8.57	22.40	7.20	21.40
07/23/2007 03:30	--	3.20	2.88	18.30	8.30	8.34	16.50	8.11	16.20	7.31	15.90
07/23/2007 04:30	168	3.20	2.94	17.50	8.30	8.81	15.80	8.10	16.90	7.85	15.70
07/23/2007 05:30	--	3.20	2.91	17.10	8.40	8.61	15.10	8.21	16.40	7.72	15.40
07/23/2007 06:30	168	3.20	3.07	15.90	8.80	8.33	14.20	7.05	17.70	7.30	19.70
07/23/2007 07:30	--	3.20	3.01	15.90	8.80	8.63	14.80	7.73	17.90	7.46	18.70
07/23/2007 08:30	165	3.20	3.07	15.60	8.40	8.40	13.10	8.00	17.20	7.74	19.20
07/23/2007 09:30	--	3.20	3.10	16.00	8.40	8.32	12.90	7.50	17.40	7.54	19.20
07/23/2007 13:30	--	2.20	3.04	20.90	8.50	8.30	15.90	8.10	19.60	7.40	19.90
07/23/2007 14:30	160	3.20	3.01	21.90	8.50	8.26	16.80	7.16	20.40	7.28	20.70
07/23/2007 15:30	--	3.20	2.94	23.40	8.50	8.70	18.90	8.20	22.10	7.62	21.10

**Table A-5
Summary of 2007 Operators Log**

Date / Time	Influent Flowrate (gpm)	R-1 Set-point	R-1 pH	R-1 temp	R-2 Set-point	R-2 pH	R-2 temp	Clarifier Pit pH	Clarifier Pit Temp (°C)	Discharge Weir pH	Discharge Weir Temp (°C)
07/23/2007 16:30	163	3.20	3.03	24.20	8.50	8.81	20.10	8.60	22.70	7.63	21.50
07/23/2007 17:30	--	3.20	3.25	24.60	8.50	8.79	21.20	8.30	24.10	7.60	21.90
07/23/2007 18:30	163	3.20	3.25	24.30	8.50	8.67	21.60	8.10	24.70	7.40	22.00
07/23/2007 19:30	--	3.20	3.21	24.00	8.50	8.40	21.60	7.75	24.60	7.42	22.00
07/23/2007 20:30	162	3.20	3.24	23.70	8.60	8.71	21.40	8.10	24.20	7.51	21.70
07/23/2007 21:30	--	3.20	3.17	22.90	8.60	8.57	21.10	7.96	23.40	7.60	21.20
07/23/2007 22:30	164	3.20	3.24	21.40	8.60	8.48	20.10	8.01	22.70	7.48	20.40
07/23/2007 23:30	--	3.20	3.28	21.10	8.60	8.64	20.00	8.14	22.40	7.64	20.20
07/24/2007 00:30	165	3.20	3.13	19.80	8.80	8.79	18.20	7.67	20.90	7.34	18.70
07/24/2007 01:30	--	3.20	3.19	19.40	9.00	9.10	18.00	7.70	20.20	7.46	18.40
07/24/2007 02:30	165	3.20	3.15	18.70	9.00	9.23	16.90	7.72	19.30	7.51	18.20
07/24/2007 03:30	--	3.20	3.22	18.60	9.00	9.20	16.70	7.81	18.70	7.49	18.10
07/24/2007 04:30	163	3.20	3.17	18.10	9.00	9.12	15.90	7.72	18.40	7.53	18.20
07/24/2007 05:30	--	3.20	3.20	18.20	9.00	9.10	15.10	7.71	18.20	7.49	18.30
07/24/2007 06:30	165	3.20	3.16	16.60	9.20	9.17	14.80	7.71	18.00	7.45	19.80
07/24/2007 07:30	--	3.20	3.18	16.30	9.20	9.27	14.70	7.84	17.80	7.53	19.60
07/24/2007 08:30	165	3.20	3.17	16.50	8.50	8.40	14.10	7.70	17.90	6.80	19.50
07/24/2007 09:30	--	3.20	3.23	18.30	8.70	8.90	14.60	9.10	18.30	7.70	19.40
07/24/2007 10:30	165	3.20	3.22	19.80	8.50	8.43	15.30	8.70	18.80	7.40	19.40
07/24/2007 11:30	--	3.20	3.23	22.10	8.50	8.53	16.80	8.51	20.60	7.66	19.60
07/24/2007 12:30	155	3.20	3.25	24.60	8.50	8.43	18.60	8.52	22.10	7.52	19.80
07/24/2007 13:30	--	3.20	3.25	26.90	8.50	8.22	21.00	8.60	24.00	7.41	20.10
07/24/2007 14:30	155	3.20	3.23	28.60	8.20	8.18	23.30	8.44	26.10	7.38	20.60
07/24/2007 16:30	105	3.20	3.21	26.30	8.20	8.33	24.80	8.41	27.10	7.36	21.40

ND = No discharge (to creek)
 -- = Not recorded or not applicable

Table A-6
Daily Summary of Discharge Volumes

Daily Average Flow and Discharge Calculations			
Date	avg flow (gpm)	minutes	daily flow (gallons)
7/11/2007	160.90	570	91713
7/12/2007	160.90	1440	231696
7/13/2007	160.90	1440	231696
7/14/2007	160.90	1440	231696
7/15/2007	150.90	1440	217296
7/16/2007	98.90	1440	142416
7/17/2007	160.80	1440	231552
7/18/2007	160.80	1440	231552
7/19/2007	160.80	1440	231552
7/20/2007	150.90	1440	217296
7/21/2007	141.30	1440	203472
7/22/2007	150.90	1440	217296
7/23/2007	141.30	1440	203472
7/24/2007	141.30	1440	203472
7/25/2007	98.90	1440	142416
7/26/2007	35.70	1440	51408
7/27/2007	13.90	1440	20016
7/28/2007	6.23	1440	8971.2
7/29/2007	4.40	1440	6336
7/30/2007	4.40	660	2904
Total Discharge:			3,118,228
Note: Last day of treatment system operation was 7/25/2007			

Attachment A-1

Confirmation Sample Tracking Form

Sample ID Number	Date Collected	staff Initials	Project Description	Lab	Comments
078PWT000					
078PWT001	7-8-07	DSC	Tot + Dis Metals	CLS	Pit Clarifier
078PWT002	7-9-07	SW, LS	"	CLS	Pit Clarifier
078PWT003	7-10-07	SW, LS	"	CLS	Effluent Pit Clarifier
078PWT004	7-10-07	SW, LS	"	CLS	FMB
078PWT005	7-11-07	SW, LS	Tot & Dis Metals, TDS, SO ₄	CLS	Pit Clarifier
078PWT006	7-11-07	LS	Tot + Dis. Metals, TDS, SO ₄	CLS	Pit Clarifier Influent
078PWT007	7-11-07	DSC	Tot + Dis Metals	CLS	Effluent - first discharge of season - <i>underdrain only</i>
078PWT008	7-12-07	SW	Tot + Dis Metals	CLS	Effluent
078PWT009	7-12-07	SW	Tot + Dis Metals	CLS	Effluent Duplicate
078PWT010	7-13-07	SW, LS	"	"	Effluent (Underdrain only)
078PWT011	7-13-07	SW, LS	"	"	Equipment Rinse Blank
078PWT012	7-14-07	SW	"	"	Eff (Underdrain only)
078PWT013	7-15-07	LS	"	"	Eff (Underdrain only)
078PWT014	7-16-07	LS, SW	Tot + Dis Metals, TDS, SO ₄	"	Eff (Underdrain only)
078PWT015	7-16-07	LS, SW	"	"	Inf
078PWT016	7-17-07	LS	Tot & Dis Metals	Basic	Eff (Underdrain only)
078PWT017	7-17-07	LS	"	Basic	grab near Picolo in PE ¹
078PWT018	7-17-07	LS	"	Basic	FMB
078PWT019	7-18-07	SW	"	Basic	Eff (Underdrain only)
078PWT020	7-19-07	SW	"	Basic	Eff (Underdrain only)
078PWT021	7-19-07	SW	"	Basic	Eff - D
078PWT022	7-20-07	SW, LS	"	Basic	Eff (Underdrain only)
078PWT023	7-20-07	SW, LS	"	"	ERB
078PWT024	7-21-07	SW	"	"	Eff (Underdrain only)
078PWT025	7-22-07	LS	"	"	Eff (Underdrain only)

Sample ID Number	Date Collected	staff Initials	Project Description	Lab	Comments
078PWT026	7-23-07	SW	Tot. + Dis. Metals, TDS, SO ₄	Basic	EFF (underdrawn only)
078PWT027	7-23-07	SW	"	"	Inf
078PWT028	7-24-07	SW	Tot. + Dis. Met.	"	EFF (last day of treatment)
078PWT029	7-24-07	SW	"	"	FMB
078PWT030	7-25-07	SW	Tot & Dis Met., TDS, SO ₄	"	EFF (plant shutdown)
078PWT031	7-25-07	SW	"	"	P.C. (near picolo)
078PWT032	7-26-07	LS	Tot & Dis Metals	"	EFF
078PWT033	7-27-07	LS, SW	"	"	EFF
078PWT034	7-27-07	"	"	"	EFF Dup
078PWT035	7-28-07	SW	"	"	EFF
078PWT036	7-29-07	DSC	"	"	EFF
078PWT037	7-30-07	LS	Tot & Diss Metals, TDS, SO ₄		EFF
078PWT038					
078PWT039					
078PWT040					
078PWT041					
078PWT042					
078PWT043					
078PWT044					
078PWT045					
078PWT046					
078PWT047					
078PWT048					
078PWT049					
078PWT050					

Handwritten initials or marks in the bottom left corner.

Attachment A-2

2007 Water Board Field Lab Data Sheets

2007 Daily Chemistry for: Effluent

metals in mg/l

UR = Under Range

Metals reported as: preliminary result (PR) x dilution factor (DF) = final result (FR); if no dilution factor used record only final result.

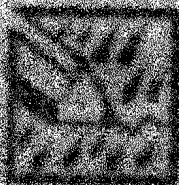
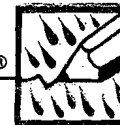
Date	Time	pH	Temp. (°C)	Al		Fe		Sample ID # / Comments
				PR x DF =	FR	PR x DF =	FR	
7-8-07	16:40	7.7	27.3					078PWT001 sample collected from pit clarifier floor/bottom No discharge to L. Creek
7-9-07	11:00	7.8	26.5		0.11		.001	pit clarifier (8.5 pH @ influent to P.C.)
7-9-07	12:20	7.8	26.1					078PWT002
7-10-07	9:40	7.8	17.3		0.29		UR	078PWT003
7-11-07	11:30	8.0	17.6		0.13		0.000	078PWT005
7-11-07	14:45	7.13	16.2	—	—	—	—	078PWT007 Effluent to L. Creek (underdrain only) First discharge sample for season
7-12-07	09:20	7.25	17.4		.01		UR	078PWT008 Effluent (Underdrain only)
7-13-07	12:15	7.13	19.6		.01		.009	078PWT010 Eff (Underdrain only) (8.4 pH @ inf. to P.C.)
7-14-07	13:05	7.20	19.9		.01		0.000	078PWT012 Eff (Und. only) (8.13 pH, 18°C @ inf. to P.C.)
7-15-07	11:45	7.25	19.3		.01		0.000	078PWT013 Eff (Underdrain only) (7.97 pH @ inf. to P.C.)
7-15-07	13:00	7.3	19.8	—	—	—	—	(7.7 pH @ Inf. to P.C., 21°C)
7-16-07	10:40	7.14	19.2		.01		0.003	(7.6 pH @ P.C., 20°C) 078PWT014 Eff (Underdrain only)
7-17-07	10:50	7.22	18.7		.01		0.000	078PWT016-Eff (pH 8.78, 17.8°C @ Inf. to P.C.)
7-17-07	12:00	8.31	20.4	—	—	—	—	grab from P.C. near Picolo 078PWT017
7-18-07	10:00	7.13	16.8		.01		0.000	078PWT019-Eff (11:10, pH 8.40, 16.4°C @ Inf to P.C.) (underdrain only)
7-18-07	12:10	7.1						pH 7.6, Inf to P.C. agrees w/ operators' pH - trying to lower pH
7-19-07	10:05	7.14	15.6		.01		0.000	078PWT020-Eff (pH 9.46, 14.3°C @ Inf to P.C.; calibration off?)
7-20-07	11:10	7.20	16.0		.00		0.000	078PWT022-Eff (sys. down for generator & compressor maintenance) so no P.C. influent

Attachment A-3

2007 Water Board Field Lab Book

"Rite in the Rain"®

ALL-WEATHER WRITING PAPER



Rite in the Rain
ALL-WEATHER
FIELD
NOTEBOOK

Name LAURIE SCRIBE

Address _____

Phone _____

Project 2007 Pond Water Treatment

"Rite in the Rain" - a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

a product of

J. L. DARLING CORPORATION
TACOMA, WA 98424-1017 USA
www.RiteintheRain.com

2

7-9-07 Monday

LS
SWArrive 9:45
Depart 1310

3 pt. pH calibration OK

<u>Sample ID</u>	<u>Loc</u>	<u>Time</u>	<u>Analysis</u>	<u>Preserv.</u>
078PWT002	P.C.	12:20	Tot + Dis metals Full suite	HNO ₃ -metals
078PWT003	Int	12:50	Full suite	HNO₃-metals

~~Full suite = Tot + Dis metals, TDS, SO₄~~going to collect Full Suite sample
on ~~wednesday~~ when discharge to creek
begins

3

7-10-07 Tuesday

LS
SWArrive 0900
Depart 1230

3 pt pH calibration OK

<u>Sample ID</u>	<u>Loc</u>	<u>Time</u>	<u>Analysis</u>	<u>Preservative</u>
078PWT003	P.C.	9:40	Tot + Dis Metals	HNO ₃ -metals
078PWT004	FMB	11:20	Tot + Dis Metals	HNO ₃ -metals

4

7-11-07
LS/DSCArrive 1045
Dept. 1310

3-pt pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
078PWT005	P.C.	11:30	Tot + Dis Met	-HNO ₃
"	"	"	TDS/SO ₄	cold
078PWT006	Inf	11:45	Tot + Dis Met	HNO ₃
			TDS/SO ₄	cold
078PWT007	Eff	1445	Tot + Dis Met	HNO ₃
	(underdrain only)			cold

5

7-12-07 Thursday
SWArrive 0850
Depart 1200

3pt. pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
078PWT008	Eff	0920	Tot + Dis Met	HNO ₃
	(underdrain only)			
078PWT009	Eff	0925	Tot + Dis Met	HNO ₃
	(underdrain only)			

6

7.13.07 Friday
SW, LSArrive: 1100
Depart: 14:20

3 pt. pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
078PWT010-EFF	(Underdrain only)	12:15	Tot & Diss. Met.	HNO ₃
078PWT011-ERB		14:05	"	"

performed acid bath on labware
at 13:30

7

7.14.07 Saturday
SWArrive: 12:15
Depart: 14:35

3pt pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
078PWT012	*EFF	13:05	Tot-Diss. Met.	HNO ₃

*Underdrain Only

8

7-15-07 Arrive 11:15
 LS Dept. 13:45

3 pt pH calibration OK

Sample ID	Loc	Time	Analysis	Prescr
078PWT013	EFF	11:45	Tot + Dis Metal	H ₂ O ₂

Discharging thru underdrain only

9

7-16-07 Arrive 9:45
 SW, LS Dept. 12:55

3pt. pH calibration OK

Sample ID	Loc	Time	Analysis	Prescr
078PWT014	*EFF	10:40	Tot. + Dis. Met. ^{SO₄, NO₃}	H ₂ O ₂ ^{NO₃}
078PWT015	Inf	10:45	"	"

*Underdrain Only

System breakdown last night, clog betw. R2 & CL2 caused overflow. Operators shut down system. Also transfer pump at pond 25 broke down. Recirc'ing to Pd 1 when we arrived at 9:45. Operators stopped discharge to creek last night. DSC opened discharge to creek at 10:30 AM.
 12:00 Operators still having problems w/ pH in R2, still recirc to Pd 1

10

7-17-07

LS

Arrive 10:15

Dept. 12:45

3 pt. pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
07BPWT016	-EFF	10:50	Tot + Dis Metals	H ₂ O ₂
07BPWT017	-P.C. (near piccolo)	12:00	"	"
07BPWT018	FMB	12:25	"	"

Collected sample 07 from surface of P.C. near the piccolo, to compare w/ eff from PC underdrain

3

11

7-18-07, Wednesday

Sw

Arrive 0920

Depart 1235

3 pt. pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
07BPWT019	*EFF	10:00	Tot + Dis Metals	HNO ₃

*Underdrain only

System not running at 10:05. Waiting on Influent sample. Sending water to P.C. again at 11:10.

12

7-19-07, Thursday Arrive: 0940
 SW Depart: 1245

3 pt. pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT020-Eff		10:05	Tot + Diss. Met.	HNO ₃
078PWT021-Eff Dup		10:10	"	"

Measured pH of Inf to PC at 9.46 at ~10:15. Told operator, re-calibrated pH meter, went to measure pH again @ 10:40 but already re-circing again to Pond 1. Stopped re-circing around 11:30±15.

13

7-20-07, Friday Arrive: 0915
 SW, LS Depart: 1345

3 pt. pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT022-Eff		11:10	Tot & Dis metals	HNO ₃

078PWT023-ERB

9:30 - system down for ^{weekly} generator & air compressor maintenance. We went and checked/repared cattle fence from Stall 6 to Aspen Gate, still discharging to creek.
 11:00 - system still down for maintenance; grabbed Effluent sample from weir box, no influent sample
 \$ system back on around 12:00
 12:30 - acid bath labware

|||||

14

7-21-07, Saturday
 SW Arrive: 13:30
 Depart: 15:15

3 pt. pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT024 - Eff		13:50	Tot. + Dis. Met.	HNO ₃

15

7-22-07 Sunday
 LS Arrive 1545
 Depart. 1735

3-pt pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT025 - Eff		16:10	Tot + Dis Met.	HNO ₃

Operators stated that system was down from approx 12:00 - 3:00 pm because R2 pH controller ^{had} failed. They replaced w/ one of the controllers from R1. Also, the lime tank (T5) has a leaking fitting that they are working on. All the AMD in Pond 2S has been transferred to Pond 1 and remaining Pond 2W AMD is being transferred.

16

7-23-07, Monday
SWArrive: 9:20
Depart: 11:50

3 pt. pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT026	EFF	10:00	Tot. + Dis. Met. TDS, SO ₄	HNO ₃ COLD
078PWT027	Inf	10:10	Tot. + Dis. Met. TDS, SO ₄	HNO ₃ COLD

pH reading 7.15 from Inf to P.C. Operator stated that they were trying to bring pH up.
10:45 - operators closed down system.

17

7-24-07, Tuesday
SWArrive: ~9:15
Depart: 15:25

3 pt. pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT028	EFF	9:55	Tot. + Dis. Met.	HNO ₃
078PWT029	FMB	10:35	"	"

pH reading from weir box 6.97, but Inf to P.C. 9.0. Operators had tried to bring pH up since it was running low, but overshoot 8.2-8.3.

18

7-25-07, Wednesday Arrive: 9:30
 SW Depart: 14:25

3 pt. pH calibration OK

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT030	EFF	10:05	Tot+Dis met. TDS + SO ₄	HNO ₃ Cold
078PWT031	P.I. (recom from piccolo)	10:10	Tot+Dis met. TDS + SO ₄	HNO ₃ Cold

Treatment Plant is finished treating
 water for this year.
 Cleaned lab today.

19

7-26-07 Thurs. Arrive 9:45
 LS Dept. 11:15

3 pt pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv
078PWT032	EFF	10:15	Tot+Dis met.	HNO ₃

~~last of the samples for~~

20 7-27-07, Friday Arrive: 9:55
SW, LS Depart: 11:15

3 pt. pH calibration

Sample ID	Loc.	Time	Analysis	Preserv.
078PWT033	- Eff	10:30	Tot. + Dis. Met	HNO ₃
078PWT034	- Eff Dup	10:35	"	"

generator shut down, so no power to trailers. Therefore no fume hood and no acid baths.

7-28-07, Saturday Arrive: 12:40 21
Depart: 13:55

3 pt. pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
078PWT035	- Eff	13:10	Tot. + Dis. Met	HNO ₃

Cleaned pH probe.
Lab filter not working (?) so used syringe w/ filter for Dissolved Metals Sample bottle.

22

7.29.07 Sunday

Arrive: 1320

Depart: 1410

DSC

3pt calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
078PWT036-Eff		1345	Tot & Dis Met	HNO ₃

7.30-07

23

Arrive 10:30

LS

3pt pH calibration OK

Sample ID	Loc	Time	Analysis	Preserv.
078PWT037-Eff		11:15	Tot & Dis Met TDS & SO ₄	HNO ₃ acid

last effluent sample for the season,
discharge out of weir box is
less than 5 gallons per minute.

Attachment A-4

2007 Level A/B and Field Data Validation Checklists

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: CQG0423
 Sample Date: 7/11-12/2007
 Client/Lab: Water Board/CLS
 Sample Matrix: AQ
 Sample Location(s): Effluent, Effluent Duplicate

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: CQG0544
 Sample Date: 7/13-16/2007
 Client/Lab: Water Board/CLS
 Sample Matrix: AQ
 Sample Location(s): Effluent, Influent, Equipment Rinsate Blank

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

Leviathan Mine
Data Validation Checklist for Field Quality Control
For 2007 Pond 1 Lime Treatment Plant Monitoring

Site: Leviathan Mine	Report No.: CQG0544	Laboratory: CLS
Project: Pond Water Treatment	Sample Matrix: AQ	Analyses: Tot. Recov. Se;
Sample Dates: 7/13-16/2007	Analysis Dates: see below	Dis: Al, As, Ca, Cd, Cr, Cu,
Data Validator: LS	Validation Dates: 2/20/2007	Co, Fe, Mg, Mn, Ni, Pb, Zn;
		TDS; Sulfate

1. Holding Times

Analyte	Matrix	Method	Collection date	Analysis date	Affected data flagged? (Y/N)
Total Recoverable Selenium	AQ	200.8	7/13-16/07	7/18/07	NA
Dissolved Metals	AQ	200.7	7/13-16/07	7/18/07	NA
Dissolved Metals	AQ	200.8	7/13-16/07	7/18/07	NA
Total Dissolved Solids	AQ	SM2450C	7/13-16/07	7/18/07	NA
Sulfate	AQ	300.0	7/13-16/07	7/18/07	NA

2. Field QC Samples

Field Blanks

Were field blanks submitted as specified in the Sampling & Analysis Plan? Y__X_ N____
 Were any data qualified because of field blank problems? Y____ N__X_

Field Duplicates

Were field duplicates submitted as specified in the Sampling & Analysis Plan? Y__X_ N____
 Were any data qualified because of field duplicate results? Y____ N____
 Not Applicable
 Were results for field duplicates within the target control limits in the QAPP? Y____ N____
 Not Applicable

Note: No Field Duplicates were analyzed with this report. As per SAP, field duplicates were collected once per week.

Field Reference Materials

Were field Reference Materials or Performance Evaluation Samples submitted as specified in the Sampling & Analysis Plan? Y____ N____
 Not Applicable
 Were the results within the manufacturer's control limits? Y____ N____
 Not Applicable

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: 7070635
 Sample Date: 7/17/2007
 Client/Lab: Water Board/Basic Lab
 Sample Matrix: AQ
 Sample Location(s): Effluent, Field Method Blank, Pit Clarifier

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

Leviathan Mine
Data Validation Checklist for Field Quality Control
For 2007 Pond 1 Lime Treatment Plant Monitoring

Site: Leviathan Mine	Report No.:7070635	Laboratory: Basic Lab
Project: Pond Water Treatment	Sample Matrix: AQ	Analyses: Tot. Recov. Se,
Sample Dates: 7/17/2007	Analysis Dates: see below	Dis: Al, As, Cd, Cr, Cu,
Data Validator: LS	Validation Dates: 2/20/2007	Fe, Ni, Pb, Zn

1. Holding Times

Analyte	Matrix	Method	Collection date	Analysis date	Affected data flagged? (Y/N)
Total Recoverable Selenium	AQ	200.8	7/17/07	7/18/07	NA
Dissolved Metals	AQ	200.7	7/17/07	7/19/07	NA
Dissolved Metals	AQ	200.8	7/17/07	7/19/07	NA

2. Field QC Samples

Field Blanks

Were field blanks submitted as specified in the Sampling & Analysis Plan? Y__X_ N____
 Were any data qualified because of field blank problems? Y____ N__X_

Field Duplicates

Were field duplicates submitted as specified in the Sampling & Analysis Plan? Y__X_ N____
 Were any data qualified because of field duplicate results? Y____ N____
 Not Applicable
 Were results for field duplicatess within the target control limits in the QAPP? Y____ N____
 Not Applicable

Note: No Field Duplicates were analyzed with this report. As per SAP, field duplicates were collected once per week.

Field Reference Materials

Were field Reference Materials or Performance Evaluation Samples submitted as specified in the Sampling & Analysis Plan? Y____ N____
 Not Applicable
 Were the results within the manufacturer's control limits? Y____ N____
 Not Applicable

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: 7070681
 Sample Date: 7/18/2007
 Client/Lab: Water Board/Basic Lab
 Sample Matrix: AQ
 Sample Location(s): Effluent

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: 7070719
 Sample Date: 7/19/2007
 Client/Lab: Water Board/Basic Lab
 Sample Matrix: AQ
 Sample Location(s): Effluent, Effluent Duplicate

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

Leviathan Mine
Data Validation Checklist for Field Quality Control
For 2007 Pond 1 Lime Treatment Plant Monitoring

Site: Leviathan Mine	Report No.:7070719	Laboratory: Basic Lab
Project: Pond Water Treatment	Sample Matrix: AQ	Analyses: Tot. Recov. Se,
Sample Dates: 7/19/2007	Analysis Dates: see below	Dis: Al, As, Cd, Cr, Cu,
Data Validator: LS	Validation Dates: 2/20/2007	Fe, Ni, Pb, Zn

1. Holding Times

Analyte	Matrix	Method	Collection date	Analysis date	Affected data flagged? (Y/N)
Total Recoverable Selenium	AQ	200.8	7/19/07	7/23/07	NA
Dissolved Metals	AQ	200.7	7/19/07	7/23/07	NA
Dissolved Metals	AQ	200.8	7/19/07	7/23/07	NA

2. Field QC Samples

Field Blanks

Were field blanks submitted as specified in the Sampling & Analysis Plan? Y__X__N__
 Were any data qualified because of field blank problems? Y___N___
 Not Applicable

Note: No field blanks were analyzed with this report. As per SAP, field blanks were collected once per week.

Field Duplicates

Were field duplicates submitted as specified in the Sampling & Analysis Plan? Y__X__N__
 Were any data qualified because of field duplicate results? Y___N__X__
 Were results for field duplicates within the target control limits in the QAPP? Y__X__N__

Field Reference Materials

Were field Reference Materials or Performance Evaluation Samples submitted as specified in the Sampling & Analysis Plan? Y___N___
 Not Applicable
 Were the results within the manufacturer's control limits? Y___N___
 Not Applicable

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: 7070791
 Sample Date: 7/20-23/2007
 Client/Lab: Water Board/Basic Lab
 Sample Matrix: AQ
 Sample Location(s): Effluent, Influent, Equipment Rinsate Blank

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

**Leviathan Mine
Data Validation Checklist for Field Quality Control
For 2007 Pond 1 Lime Treatment Plant Monitoring**

Site: Leviathan Mine
Project: Pond Water Treatment
Sample Dates: 7/20-23/2007
Data Validator: LS

Report No.:7070791
Sample Matrix: AQ
Analysis Dates: see below
Validation Dates: 2/20/2007

Laboratory: Basic Lab
Analyses: Tot. Recov. Se,
Dis: Al, As, Ca, Cd, Cr, Cu,
Co, Fe, Mg, Mn, Ni, Pb, Zn;
TDS; Sulfate

1. Holding Times

Analyte	Matrix	Method	Collection date	Analysis date	Affected data flagged? (Y/N)
Total Recoverable Selenium	AQ	200.8	7/20-23/07	9/15,28/07	NA
Dissolved Metals	AQ	200.7	7/20-23/07	7/26/07	NA
Dissolved Metals	AQ	200.8	7/20-23/07	9/12,21/07	NA
Total Dissolved Solids	AQ	SM2540C	7/20-23/07	7/28/07	NA
Sulfate	AQ	300.0	7/20-23/07	7/26,31/07	NA

2. Field QC Samples

Field Blanks

Were field blanks submitted as specified in the Sampling & Analysis Plan? Y__X__N____
Were any data qualified because of field blank problems? Y____N__X__

Field Duplicates

Were field duplicates submitted as specified in the Sampling & Analysis Plan? Y__X__N____
Were any data qualified because of field duplicate results? Y____N____
Not Applicable
Were results for field duplicates within the target control limits in the QAPP? Y____N____
Not Applicable

Note: No field duplicates were analyzed with this report. As per SAP, field duplicates were collected once per week.

Field Reference Materials

Were field Reference Materials or Performance Evaluation Samples submitted as specified in the Sampling & Analysis Plan? Y____N____
Not Applicable
Were the results within the manufacturer's control limits? Y____N____
Not Applicable

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: 7070917
 Sample Date: 7/24-26/2007
 Client/Lab: Water Board/Basic Lab
 Sample Matrix: AQ
 Sample Location(s): Effluent, Field Method Blank, Pit Clarifier

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

**Leviathan Mine
Data Validation Checklist for Field Quality Control
For 2007 Pond 1 Lime Treatment Plant Monitoring**

Site: Leviathan Mine
Project: Pond Water Treatment
Sample Dates: 7/24-26/2007
Data Validator: LS

Report No.: 7070917
Sample Matrix: AQ
Analysis Dates: see below
Validation Dates: 2/20/2007

Laboratory: Basic Lab
Analyses: Tot. Recov. Se,
Dis: Al, As, Ca, Cd, Cr, Cu,
Co, Fe, Mg, Mn, Ni, Pb, Zn;
TDS; Sulfate

1. Holding Times

Analyte	Matrix	Method	Collection date	Analysis date	Affected data flagged? (Y/N)
Total Recoverable Selenium	AQ	200.8	7/24-26/07	9/13/07	NA
Dissolved Metals	AQ	6010B	7/24-26/07	8/8/07	NA
Dissolved Metals	AQ	200.8	7/24-26/07	8/22/07; 9/15/07	NA
Total Dissolved Solids	AQ	SM2540C	7/24-26/07	7/31/07	NA
Sulfate	AQ	300.0	7/24-26/07	8/1/07	NA

2. Field QC Samples

Field Blanks

Were field blanks submitted as specified in the Sampling & Analysis Plan? Y__X__N____
Were any data qualified because of field blank problems? Y____N__X__

Field Duplicates

Were field duplicates submitted as specified in the Sampling & Analysis Plan? Y__X__N____
Were any data qualified because of field duplicate results? Y____N____
Not Applicable
Were results for field duplicates within the target control limits in the QAPP? Y____N____
Not Applicable

Note: No field duplicates were analyzed with this report. As per SAP, field duplicates were collected once per week.

Field Reference Materials

Were field Reference Materials or Performance Evaluation Samples submitted as specified in the Sampling & Analysis Plan? Y____N____
Not Applicable
Were the results within the manufacturer's control limits? Y____N____
Not Applicable

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: 7080053
 Sample Date: 7/27-30/2007
 Client/Lab: Water Board/Basic Lab
 Sample Matrix: AQ
 Sample Location(s): Effluent, Effluent Duplicate

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	NA
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	Yes- per SAP
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

**Leviathan Mine
Level A/B Screening Checklist
For 2007 Pond 1 Lime Treatment Plant Monitoring**

I. General Information

Report: 7090393
 Sample Date: 5/30/07; 9/6/2007
 Client/Lab: Water Board/Basic Lab
 Sample Matrix: AQ
 Sample Location(s): Pit Clarifier Sludge

II. Screening Results

Data are:
 1) Unusable _____
 2) Level A _____
 3) Level B X

III. Level A Screening

Criteria	Yes/No
1. Sampling date	Yes- COC/field book
2. Sample team/or leader	Yes-COC/field book
3. Physical description of sample location	Yes- SAP
4. Sample depth (soils)	Yes- field book
5. Sample collection technique	Yes- SAP
6. Field preparation technique	Yes- SAP
7. Sample preservation technique	Yes- SAP/COC
8. Sample shipping records	Yes - COC

IV. Level B Screening

Criteria	Yes/No
1. Field instrumentation methods and standardization complete	Yes
2. Sample container preparation	Yes- per SAP
3. Collection of field replicates (1/20 minimum)	NA
4. Proper and decontaminated sampling equipment	Yes- per SAP
5. Field custody documentation	Yes- COC
6. Shipping custody documentation	Yes- COC
7. Traceable sample designation number	Yes- ID log
8. Field notebook(s), custody records in secure repository	Yes- Water Board office
9. Completed field forms	Yes- Water Board office

**Leviathan Mine
Data Validation Checklist for Field Quality Control
For 2007 Pond 1 Lime Treatment Plant Monitoring**

Site: Leviathan Mine
Project: Pond Water Treatment
Sample Dates: 5/30/07; 9/6/07
Data Validator: LS

Report No.:7090393
Sample Matrix: Sludge
Analysis Dates: see below
Validation Dates: 2/20/2007

Laboratory: Basic Lab
Analyses: TTLC&STLC: Al,
Sb, As, Ba, Be, Cd, Cr, Co,
Cu, Fe, Pb, Hg, Mo, Ni, Se,
Ag, Tl, V, Zn

1. Holding Times

Analyte	Matrix	Method	Collection date	Analysis date	Affected data flagged? (Y/N)
TTLC - metals (except Hg)	Sludge	6010B	5/30/07; 9/6/07	9/15/07	NA
TTLC - Hg	Sludge	7471A	5/30/07; 9/6/07	9/14/07	Y
STLC - Metals (except Hg)	Sludge	6010B	5/30/07; 9/6/07	9/19/07	NA
STLC - Hg	Sludge	7471A	5/30/07; 9/6/07	9/17/07	Y

2. Field QC Samples

Field Blanks

Were field blanks submitted as specified in the Sampling & Analysis Plan?
Were any data qualified because of field blank problems?

Y X N
Y N
Not Applicable

Note: No field blanks were analyzed with this report.

Field Duplicates

Were field duplicates submitted as specified in the Sampling & Analysis Plan?
Were any data qualified because of field duplicate results?

Y X N
Y N
Not Applicable

Were results for field duplicates within the target control limits in the QAPP?

Y N
Not Applicable

Note: No field duplicates were analyzed with this report.

Field Reference Materials

Were field Reference Materials or Performance Evaluation Samples submitted as specified in the Sampling & Analysis Plan?

Y N
Not Applicable

Were the results within the manufacturer's control limits?

Y N
Not Applicable