

Table C-64: Rose Creek Drainage Water Quality
2010 QA/QC Duplicates - Pit Lakes - General Parameters

Station	Date	Sample Type	Acid(pH4.5) mg/L	Acid(pH8.3) mg/L	ALK mg/L	ALKPP mg/L	CaCO3 mg/L	CaCO3-d mg/L	Cl-d mg/L	CO3 mg/L	COND µmho/cm	HCO3 mg/L	NH3 mg/L	NO2 mg/L	NO2/3 mg/L	NO3 mg/L	OH mg/L	oPO4 mg/L	P mg/L	pH	SO4-d mg/L	TDS mg/L	TSS mg/L
FL-1	7/14/2010	M	<0.5	41.80	74.00	<0.5	612.00	674.00	1.40	<0.5	1250.00	90.00	0.91	0.01	0.51	0.50	<0.5	<0.005	<0.005	7.57	600.00	970.00	<1
FL-1	7/14/2010	DUP	<0.5	34.30	80.00	<0.5	619.00	680.00	1.20	<0.5	1260.00	97.00	1.00	0.01	0.49	0.48	<0.5	<0.005	<0.005	7.64	620.00	1000.00	2.00
RPD (%)			N/A	19.71	7.79	N/A	1.14	0.89	15.38	N/A	0.80	7.49	9.42	10.53	4.00	4.08	N/A	N/A	N/A	0.07	3.28	3.05	N/A
Comments																							
Action																							
Result																							
FL-3	9/8/2010	M	<0.5	34.70	81.00	<0.5	641.00	681.00	1.50	<0.5	1320.00	99.00	1.10	0.01	0.51	0.50	<0.5	<0.005	<0.005	7.72	690.00	1100.00	<1
FL-3	9/8/2010	DUP	<0.5	31.20	78.00	<0.5	652.00	667.00	1.40	<0.5	1310.00	95.00	1.30	0.01	0.50	0.49	<0.5	<0.005	<0.005	7.74	660.00	1100.00	<1
RPD (%)			N/A	10.62	3.77	N/A	1.70	2.08	6.90	N/A	0.76	4.12	16.67	9.52	1.98	2.02	N/A	N/A	N/A	0.02	4.44	0.00	N/A
Comments																							
Action																							
Result																							

RPD > 50%

Station	Date	Sample Type	Ag-d	Al-d	As-d	Ba-d	B-d	Be-d	Bi-d	Ca-d	Cd-d	Co-d	Cr-d	Cu-d	Fe-d	K-d	Li-d	Mg-d	Mn-d	Mo-d	Na-d	Ni-d	Pb-d	Sb-d	S-d	Se-d	Si-d	Sn-d	Sr-d	Ti-d	Tl-d	U-d	V-d	Zn-d	Zr-d	
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
FL-1	7/14/2010	M	0.02	3.80	0.20	16.30	<50	0.04	<0.005	146.00	16.00	53.40	<0.1	6.54	35.00	8.01	0.05	75.40	2990.00	0.56	19.00	129.00	2.75	0.26	249.00	0.13	3960.00	<0.01	620.00	<0.5	0.43	1.220	<0.2	18000.00	<0.1	
FL-1	7/14/2010	DUP	0.02	1.90	0.16	15.80	<50	0.04	<0.005	146.00	15.80	55.70	<0.1	6.71	23.00	7.69	0.05	76.40	2950.00	0.54	19.20	136.00	0.29	0.26	252.00	0.14	4000.00	<0.01	603.00	<0.5	0.44	1.210	<0.2	18400.00	<0.1	
RPD (%)			6.06	66.67	22.22	3.12	N/A	0.00	N/A	0.00	1.26	4.22	N/A	2.57	41.38	4.08	0.18	1.32	1.35	3.64	1.05	5.28	162.44	0.00	1.20	7.41	1.01	N/A	2.78	N/A	2.07	0.82	N/A	2.20	N/A	
Comments			Both values > PQL and correctly entered into emLine.											Both values > PQL and correctly entered into emLine.																						
Action			Let Value Stand											Request Retest																						
Result			Discrepancy between values remains.											Retest performed, see results below.																						
FL-1 Retest	7/14/2010	M																					3.94													
FL-1 Retest	7/14/2010	DUP																					0.33													
RPD (%)			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	N/A	N/A	N/A	169.09	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
Comments														Retest for July 14 FL-1 sample and duplicate. Both values > PQL and correctly entered into emLine.																						
Action														Let Value Stand																						
Result														New values entered into emLine.																						
FL-3	9/8/2010	M	<0.03	4.00	<0.1	14.90	<300	0.07	<0.03	143.00	15.70	51.60	<0.5	5.40	15.00	7.80	0.06	78.60	3060.00	0.60	18.70	136.00	0.22	0.20	238.00	<0.2	4050.00	<0.05	584.00	<3	0.41	0.970	<1	22200.00	<0.5	
FL-3	9/8/2010	DUP	<0.03	9.00	0.20	17.20	<300	<0.05	<0.03	142.00	16.40	51.60	<0.5	6.50	29.00	7.60	0.06	75.90	3040.00	0.50	18.20	131.00	1.23	0.30	233.00	<0.2	4010.00	<0.05	583.00	<3	0.44	0.910	<1	21800.00	<0.5	
RPD (%)			N/A	76.92	N/A	14.33	N/A	N/A	N/A	0.70	4.36	0.00	N/A	18.49	63.64	2.60	5.31	3.50	0.66	18.18	2.71	3.75	139.31	40.00	2.12	N/A	0.99	N/A	0.17	N/A	7.06	6.38	N/A	1.82	N/A	
Comments			Both values correctly entered into emLine; however, main sample value not > PQL. Therefore, RPD analysis not valid in this case.											Both values correctly entered into emLine; however, main sample value not > PQL. Therefore, RPD analysis not valid in this case.											Both values > PQL and correctly entered into emLine.											
Action			Let Value Stand											Let Value Stand											Request Retest											
Result			Discrepancy between values remains.											Discrepancy between values remains.											Retest performed, see results below.											
FL-3 Retest	9/8/2010	M																					0.28													
FL-3 Retest	9/8/2010	DUP																					1.43													
RPD (%)			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	N/A	N/A	N/A	134.50	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
Comments														Retest for September 8 FL-3 sample and duplicate. Both values > PQL and correctly entered into emLine.																						
Action														Let Value Stand																						
Result														New values entered into emLine.																						

RPD > 50%
 RPD > 100%

Table C-66: Rose Creek Drainage Water Quality
2010 QA/QC Duplicates - Pit Lakes - Total Metals

Station	Date	Sample Type	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr		
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	ug/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
FL-1	7/14/2010	M	0.01	11.60	0.22	<50	16.60	0.06	<0.005	121.00	16.30	52.20	<0.1	12.70	155.00	7.71	0.06	75.50	2920.00	0.48	18.30	129.00	1.67	239.00	0.25	0.12	3460.00	0.02	592.00	<0.5	0.42	1.260	<0.2	18200.00	<0.1		
FL-1	7/14/2010	DUP	0.02	12.10	0.22	<50	16.90	0.06	<0.005	123.00	16.20	53.50	<0.1	9.16	149.00	7.74	0.06	75.80	2920.00	0.52	18.50	132.00	1.65	240.00	0.26	0.14	3630.00	<0.01	597.00	<0.5	0.44	1.260	<0.2	18400.00	<0.1		
		RPD (%)	6.90	4.22	0.00	N/A	1.79	0.00	N/A	1.64	0.62	2.46	N/A	32.39	3.95	0.39	0.72	0.40	0.00	8.00	1.09	2.30	1.20	0.42	3.92	15.38	4.80	N/A	0.84	N/A	4.41	0.00	N/A	1.09	N/A		
		Comments																																			
		Action																																			
		Result																																			
FL-3	9/8/2010	M	<0.03	11.00	0.20	<300	15.60	<0.05	<0.03	139.00	17.10	48.20	<0.5	6.60	172.00	7.50	0.06	71.20	2850.00	0.60	17.50	121.00	1.70	221.00	0.90	<0.2	3640.00	<0.05	585.00	8.0	0.43	1.120	<1	19700.00	<0.5		
FL-3	9/8/2010	DUP	<0.03	12.00	0.20	<300	16.30	<0.05	<0.03	137.00	17.30	50.80	<0.5	6.80	169.00	7.90	0.06	75.40	2970.00	0.60	18.60	130.00	1.84	254.00	0.30	<0.2	3830.00	<0.05	597.00	10.0	0.47	1.090	2.00	20300.00	<0.5		
		RPD (%)	N/A	8.70	0.00	N/A	4.39	N/A	N/A	1.45	1.16	5.25	N/A	2.99	1.76	5.19	3.57	5.73	4.12	0.00	6.09	7.17	7.91	13.89	100.00	N/A	5.09	N/A	2.03	22.22	8.89	2.71	N/A	3.00	N/A		
		Comments																							Both values > PQL and correctly entered into emLine.												
		Action																								Let Value Stand											
		Result																								Discrepancy between values remains.											

RPD > 50%
 RPD > 100%

Table C-67: Rose Creek Drainage Water Quality
2010 QA/QC Splits - Pit Lakes - General Parameters

Station	Date	Sample Type	Acid(pH4.5) mg/L	Acid(pH8.3) mg/L	ALK mg/L	ALKPP mg/L	CaCO3 mg/L	CaCO3-d mg/L	Cl-d mg/L	CO3 mg/L	COND µmho/cm	HCO3 mg/L	NH3 mg/L	NO2 mg/L	NO2/3 mg/L	NO3 mg/L	OH mg/L	oPO4 mg/L	P mg/L	pH	SO4-d mg/L	TDS mg/L	TSS mg/L
FL-1	8/12/2010	M	<0.5	28.80	77.00	<0.5	695.00	590.00	1.60	<0.5	1250.00	94.00	1.10	0.01	0.50	0.50	<0.5	<0.005	<0.005	7.60	610.00	1000.00	<1
FL-1	8/12/2010	SPLIT	<0.5	20.60	76.00	<0.5	690.00	598.00	1.10	<0.5	1190.00	93.00	1.00	0.01	0.51	0.50	<0.5	<0.005	<0.005	7.63	650.00	1000.00	<1
RPD (%)			N/A	33.20	1.31	N/A	0.72	1.35	37.04	N/A	4.92	1.07	9.52	75.00	1.98	0.00	N/A	N/A	N/A	0.03	6.35	0.00	N/A
Comments			Both values correctly entered into emLine; however, neither value > PQL. Therefore RPD analysis not valid in this case. In addition, lab noted that "Samples arrived to laboratory past recommended hold time."																				
Action			Let Value Stand																				
Result			Discrepancy between values remains.																				

RPD > 50%

Table C-68: Rose Creek Drainage Water Quality
 2010 QA/QC Splits - Pit Lakes - Dissolved Metals

Station	Date	Sample Type	Ag-d µg/L	Al-d µg/L	As-d µg/L	Ba-d µg/L	B-d µg/L	Be-d µg/L	Bi-d µg/L	Ca-d mg/L	Cd-d µg/L	Co-d µg/L	Cr-d µg/L	Cu-d µg/L	Fe-d µg/L	K-d mg/L	Li-d mg/L	Mg-d mg/L	Mn-d µg/L	Mo-d µg/L	Na-d mg/L	Ni-d µg/L	Pb-d µg/L	Sb-d µg/L	S-d mg/L	Se-d µg/L	Si-d µg/L	Sn-d µg/L	Sr-d µg/L	Ti-d µg/L	Tl-d µg/L	U-d µg/L	V-d µg/L	Zn-d µg/L	Zr-d µg/L				
FL-1	8/12/2010	M	<0.03	3.00	0.20	16.30	<300	<0.05	<0.03	127.00	16.60	50.80	<0.5	5.60	10.00	7.10	0.06	66.30	2940.00	0.50	16.20	131.00	0.41	0.30	212.00	<0.2	2880.00	<0.05	570.00	<3	0.45	1.100	<1	20600.00	<0.5				
FL-1	8/12/2010	SPLIT	<0.03	3.00	0.30	16.20	<300	<0.05	<0.03	129.00	15.90	50.50	<0.5	5.50	13.00	7.10	0.06	67.40	2950.00	0.50	16.60	129.00	0.53	0.20	226.00	<0.2	2750.00	<0.05	557.00	<3	0.47	1.100	<1	20700.00	<0.5				
RPD (%)			N/A	0.00	40.00	0.62	N/A	N/A	N/A	1.56	4.31	0.59	N/A	1.80	26.09	0.00	1.71	1.65	0.34	0.00	2.44	1.54	25.53	40.00	6.39	N/A	4.62	N/A	2.31	N/A	4.35	0.00	N/A	0.48	N/A				
Comments																																							
Action																																							
Result																																							

RPD > 50%
 RPD > 100%

Table C-69: Rose Creek Drainage Water Quality
2010 QA/QC Splits - Pit Lakes - Total Metals

Station	Date	Sample Type	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr			
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	ug/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
FL-1	8/12/2010	M	<0.03	10.00	<0.1	<300	17.40	<0.05	<0.03	148.00	18.20	53.10	<0.5	7.40	47.00	8.20	0.06	79.10	3150.00	0.50	19.10	138.00	0.85	260.00	0.20	<0.2	4530.00	<0.05	631.00	<3	0.47	0.920	<1	21900.00	<0.5			
FL-1	8/12/2010	SPLIT	<0.03	8.00	<0.1	<300	17.30	0.06	<0.03	148.00	17.50	52.60	<0.5	7.30	51.00	8.10	0.06	77.70	3050.00	0.50	18.70	135.00	0.80	252.00	0.20	<0.2	4580.00	<0.05	627.00	<3	0.50	0.950	<1	21700.00	<0.5			
RPD (%)			N/A	22.22	N/A	N/A	0.58	N/A	N/A	0.00	3.92	0.95	N/A	1.36	8.16	1.23	1.57	1.79	3.23	0.00	2.12	2.20	6.06	3.13	0.00	N/A	1.10	N/A	0.64	N/A	6.19	3.21	N/A	0.92	N/A			
Comments																																						
Action																																						
Result																																						

RPD > 50%
 RPD > 100%

