MONTHLY ENVIRONMENTAL MONITORING REPORT
MARCH 2012
FARO MINE COMPLEX – FARO, YT

PREPARED FOR:

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Assessment and Abandoned Mines Branch
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March 30, 2012

Cover photo of Vangorda Pit.
Photo taken by Tracey Parkin, Senior Environmental Technologist.

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Appendices:

1 Introduction

The routine water quality monitoring program (Appendix B of the Care and Maintenance contract, 2010 revised), which lists sites and parameters to be monitored, was implemented as of September 1, 2010. The results of monitoring performed in March 2012 are reported in this monitoring report.

Data assessments for compliance with Effluent Water Quality Standards, and of March data under the Adaptive Management Plan are also included.

2 Data Reported

Table 2-1 shows the various monitoring activities that were undertaken along with the name of the attached section in which the data is reported.

Table 2-1: Care and Maintenance and Adaptive Management Plan Environmental Monitoring Program – March 2012

	Frequency	Comments
Surface Water Quality (Appendices 1 & 2)	Monthly: March 5, 6, 7 & 8 Bi-Monthly: February 6	Routine water quality monitoring continued through March.
Surface Water Flow Rates (Appendix 4)	Monthly: March 5, 6, 7, &8 Bi-Monthly: February 6	Routine flow monitoring continued through March.
Pit Elevations (Appendix 5)	Weekly: March 5, 12, 19 & 26 Bi-Monthly: March 12 & 26	Reported weekly through digital distribution list. Month end graphs included in Appendix 5.
Seepage Quality (Appendix 1 & 2)	Monthly: March 6, 7 & 8 Bi-Monthly: March 6 & 19	Routine water quality monitoring continued through March.
Seepage Flow Rates (Appendix 4)	Monthly: March 6, 7 & 8 Bi-Monthly: March 6 & 19 Weekly Weir: March 8, 15, 26 & 28	Routine flow monitoring continued through March.
Cross Valley Pond Monitoring and Assessment - Depth Profiles (Appendix 2)	Monthly Monitoring (at five locations in Pond): March 5	Profiles reported and reviewed internally on date of analysis.
Groundwater Quality (Appendix 2)	Monthly: March 5 Bi-Monthly: March 6 & 19	Routine water quality monitoring continued through March.

Table 2-1: Care and Maintenance and Adaptive Management Plan Environmental Monitoring Program – March 2012 (Cont'd)

	Frequency	Comments
Groundwater Flow Rates (Pumping Wells only)	Continuous Record (typically read on first day of following month) not read by DES for March (due to end of contract)	Routine monitoring continued through March.
Terrestrial Monitoring (Appendix 6)	Wildlife Sightings: Log for month of March	On-going log as reported by all site staff.
Meteorological	Continuous Record (typically read on first day of following month) not read by DES for March (due to end of contract)	March meteorological data reporting will be included in April report.
Geotechnical: Structures/Facilities Inspections (Appendix 7)	Monthly: March 26, 27 & 28	Routine inspections continued through March.
Geotechnical: Pit Stability: Crest Regression Monitoring (Appendix 7)	Monthly: March 14 - Pictures of pit walls Monthly Grum Slope Stability Measurements: March 5	Monitoring results reported to Klohn Crippen Berger for assessment.

3 Additional Environmental Monitoring Activities

In addition to routine monitoring activities, environment staff were involved with the following activity:

- Snow surveys were carried out on March 21 and 22 to monitor snowpack for the determination of spring inflow volumes across the site.

4 Discharge Compliance

Tables A-1 and A-2, included in the Compliance Section (Appendix A), show a comparison of discharge water quality with Water Quality Effluent Standards, as listed in Appendix B of the Care and Maintenance contract.

For all parameters tested, the discharge water quality was compliant with the Water Quality Effluent Standards for March 2012 except at X13. Both colour and the 96-hour LC-50 for rainbow trout at X13 did not meet compliance criteria in March. Colour, at 60 TCU on March 8, was the highest it has ever been in the history of the site (previous high was 40 TCU). In the 96-hour LC-50 for rainbow trout, there were two fish mortalities out of 10; the laboratory noted that "At test initiation the fish in 100% concentration were surfacing. For the remainder of the test all surviving fish appeared and behaved normally. The cumulative fish culture mortality in previous 7 days was 0.13%. The acceptability criteria for fish culture mortality is <2%".

5 Assessment under the Adaptive Management Plan

March water quality was assessed under the Adaptive Management Plan (AMP) Implementation Protocol. No new triggers were activated based on the March 2012 water quality assessment. The following provides a summary of the March AMP assessment, along with some discussion of the results.

5.1 AMP Event 2 – Degraded Water Quality in Vangorda Creek Downstream of Mine Facilities (V8)

The V8 TSS trigger was activated under the AMP in July 2011 following three consecutive results exceeding the threshold value of 8 mg/L, likely as a result of the landslide identified in 2010 in the West Fork of Vangorda Creek. This trigger was deactivated in October 2011, and has remained below the threshold value since, with a result in March 2012 of <1 mg/L. In addition, the trigger for statistically significant increasing trend for TSS at V8 that was deactivated in December 2011 remained deactivated through March 2012. TSS concentrations at V8 are shown in Figure 5-1.

The sulphate trigger for V8 has been deactivated since November 2011, and remained below the winter threshold (171 mg/L) in February 2012 with a result of 166 mg/L. The sulphate trigger at V8 has been activated on and off several times over the past few years and in 2011 sulphate concentrations were only below the threshold value four times: in January, June, November, and December. Sulphate concentrations at V8 are shown in Figure 5-2.

Zinc concentrations at V8 remained below the threshold value of 0.05 mg/L throughout 2011, and this has also been the case in 2012, with a total zinc result of 0.0123 mg/L in March 2012. Zinc concentrations at V8 are shown in Figure 5-3.

The total copper concentration in March 2012, 0.00081 mg/L, was well below the threshold limit of 0.023 mg/L.

Figure 5-1: TSS Concentrations at V8

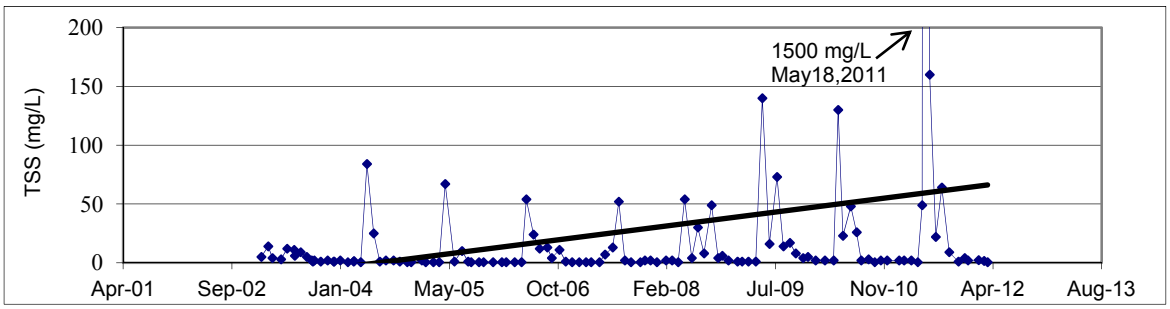


Figure 5-2: Sulphate Concentrations at V8

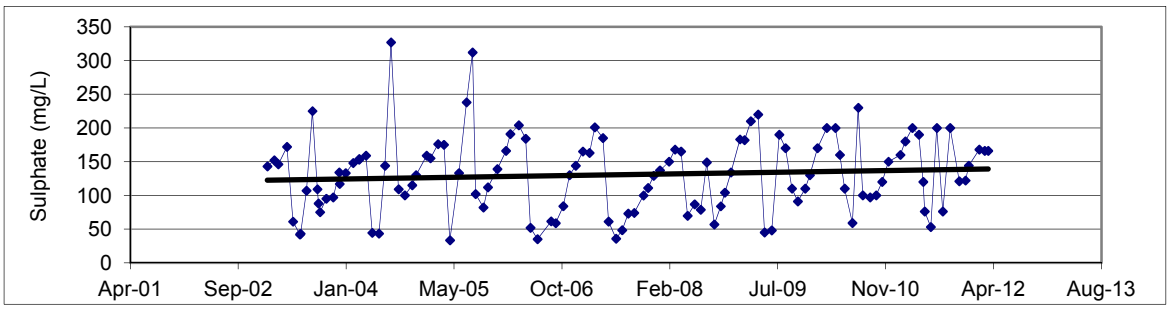
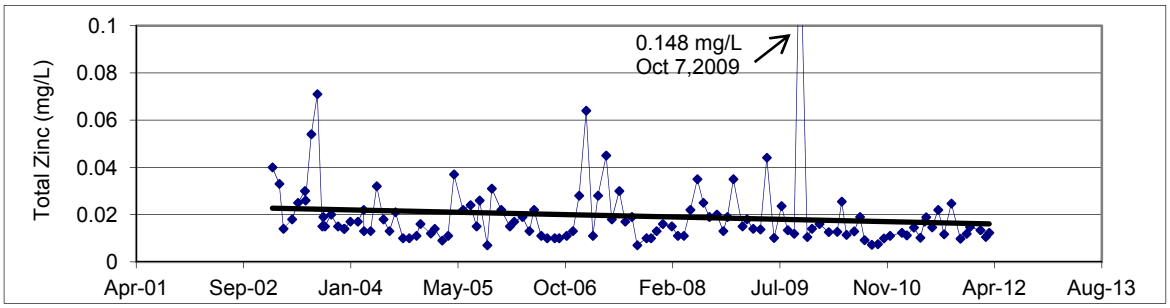


Figure 5-3: Zinc (Total) Concentrations at V8



5.2 AMP Event 3 – Degraded Water Quality in Rose Creek Downstream of Mine Facilities (X14)

The sulphate concentration at X14 in February 2012, 241 mg/L, exceeded the threshold value of 166 mg/L for the second consecutive month, despite no release of compliant discharge from the CVP. In addition, sulphate results continue to demonstrate a statistically significant increasing trend (expected exceedances beginning in April 2008) as a result of seasonally high winter concentrations, and high concentrations during release of compliant discharge from the Cross Valley Pond. For this reason, sulphate at X14 remains triggered under the AMP for increasing trend as of March 2012. Sulphate concentrations at X14 are shown in Figure 5-4.

The total zinc concentration at X14 in March of 0.0322 mg/L was below the threshold value of 0.08 mg/L. An increasing trend for zinc is observed at the site, in part due to the periods of release of compliant discharge; however, as of March 2012 this trend is not significant. Total zinc concentrations at X14 are shown in Figure 5-5.

The total copper concentration at X14 in March 2012 (0.00104 mg/L) was well below the threshold value of 0.022 mg/L, as has been the case for the past several years.

Figure 5-4: Sulphate Concentrations at X14 (Monthly Averages of Weekly Samples)

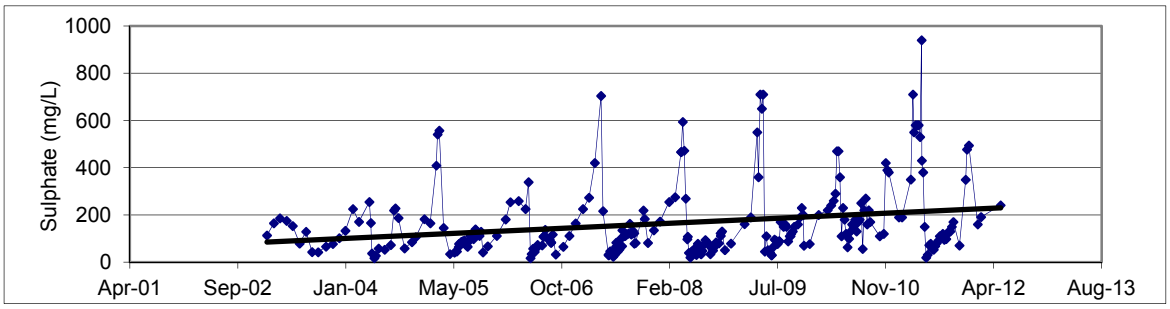
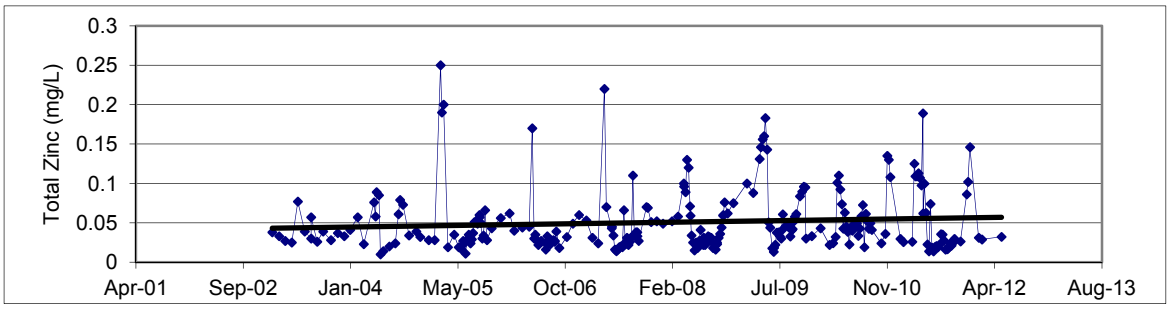


Figure 5-5: Zinc (Total) Concentrations at X14 (Monthly Averages of Weekly Samples)



5.3 AMP Event 4 – Degraded Seepage Quality from the Grum Rock Dump (V2)

Water seeping from the Grum Waste Rock pile is collected upgradient at V15 and flows are directed to Moose Pad Pond, via a drainage ditch. The flows at V2 represent water that flows from areas around / under the V15 area and collection ditch, including lower Grum Creek, and Tributary A.

V2 sulphate concentrations continue to exceed the threshold level of 553 mg/L with a concentration of 1010 mg/L in March 2012. In addition, there is a significant increasing trend for sulphate at V2. As a result, the trigger for sulphate concentrations above the threshold value remains activated, in addition to the trigger for significant increasing trend.

In March 2012 the total zinc concentration was 0.0269 mg/L, well below the threshold value of 0.5 mg/L. Zinc concentrations are increasing at V2, but not significantly.

The copper concentration at V2 in February 2012 of 0.0009 mg/L was also well below the threshold value of 0.031 mg/L.

Figures 5-6 and 5-7, below, show the sulphate and zinc concentrations at V2, respectively.

Figure 5-6: Sulphate Concentrations at V2 (Monthly Averages of Twice Monthly Samples)

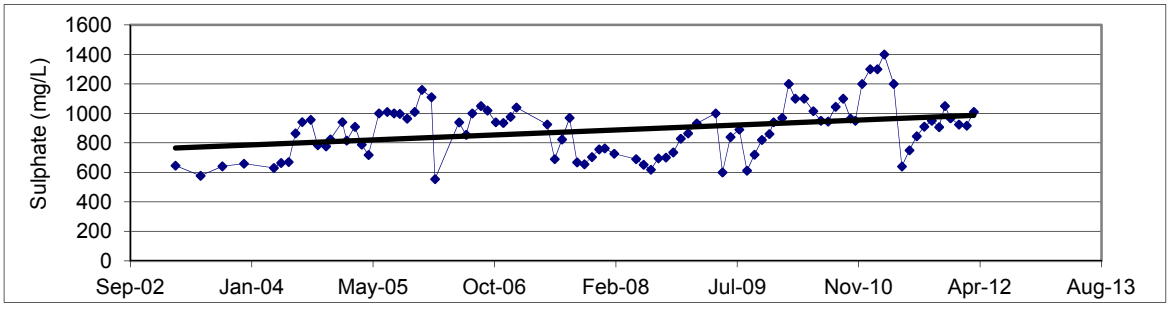
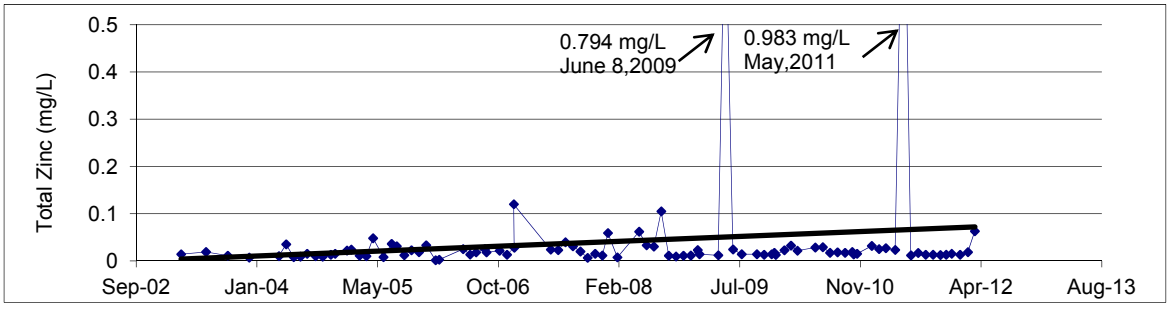


Figure 5-7: Zinc (Total) Concentrations at V2 (Monthly Averages of Twice Monthly Samples)



Early remediation work to cover the Grum Dump sulphide cells commenced in June 2010 and was implemented in part to reduce flows through the cells' downgradient areas, including via

V15 and V2. Weekly monitoring of zinc concentrations and TSS was undertaken throughout the construction phase of the project at V15, and twice-monthly monitoring has continued in the post-construction phase. In addition, weekly monitoring of TSS and zinc concentrations at V15 and Grum Creek Weir, with analysis through the Faro Mine Complex Lab, was carried out in 2011 from April 25 through October 11.

Figures 5-8 to 5-11 show the dissolved zinc concentrations at V15, V2A, Moose Seep, and SRK05-9 (Moose Well 2) (note that the scale, y-axes only – of Figures 5-10 and 5-11 are compressed with respect to 5-8 and 5-9). At V2A in March 2012, no sample was collected as the site was frozen.

An additional monthly monitoring site, SRK GD01, was added as of December 2010 to monitor water quality in Grum Creek where it emerges from the waste rock dump. In March 2012, sulphate and dissolved zinc at SRK GD01 were 1720 mg/L and 1.10 mg/L, respectively.

Moose Seep and SRK05-9 are located along the infiltration flow path from Moose Pond to Vangorda Creek. March dissolved zinc at SRK05-9 averaged 0.0460 mg/L for the twice monthly samples, while at Moose Seep the result was 0.0292 mg/L. While the Moose Seep result was within range of historical values, the result from March 6 for SRK05-9 (0.0864 mg/L) was the highest concentration observed at the site to date; however, by the second sampling event the dissolved zinc concentration had returned to a value typical of the site.

In addition to the Grum Dump cover installation, a pump and pipeline system to pump water from the V15 collection pond to the Vangorda Pit has been constructed. It is expected that this system will be operational later this year.

Figure 5-8: Zinc (Dissolved) Concentrations at V15

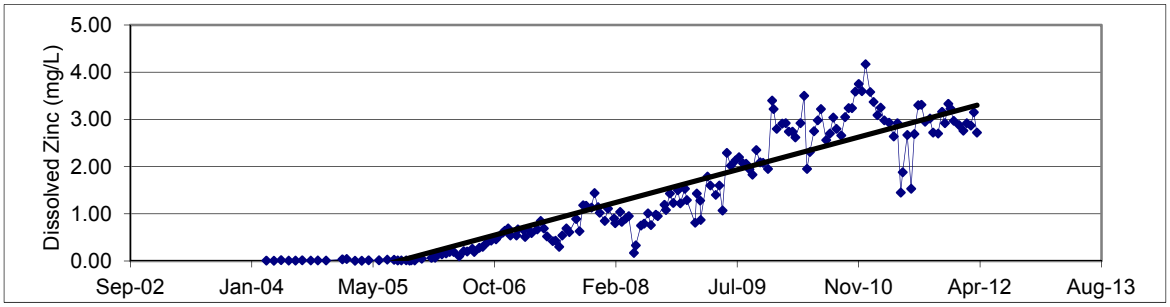


Figure 5-9: Zinc (Dissolved) Concentrations at V2A

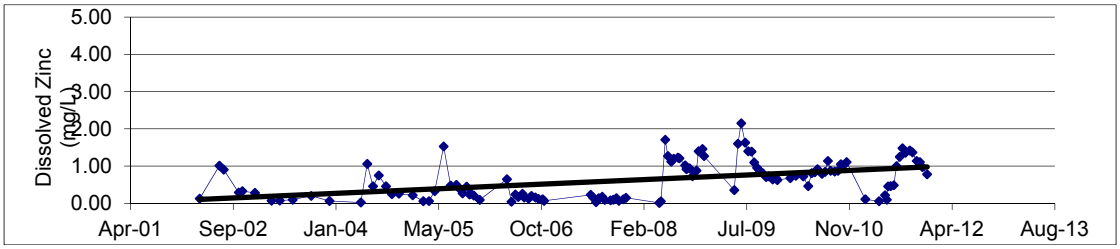


Figure 5-10: Zinc (Dissolved) Concentrations at Moose Seep

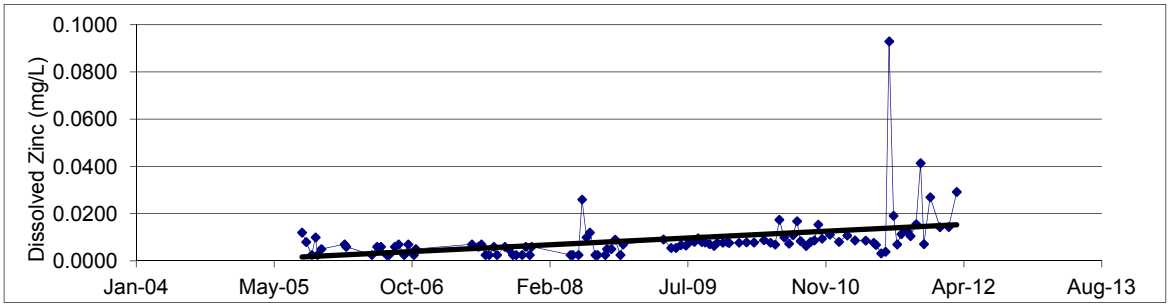
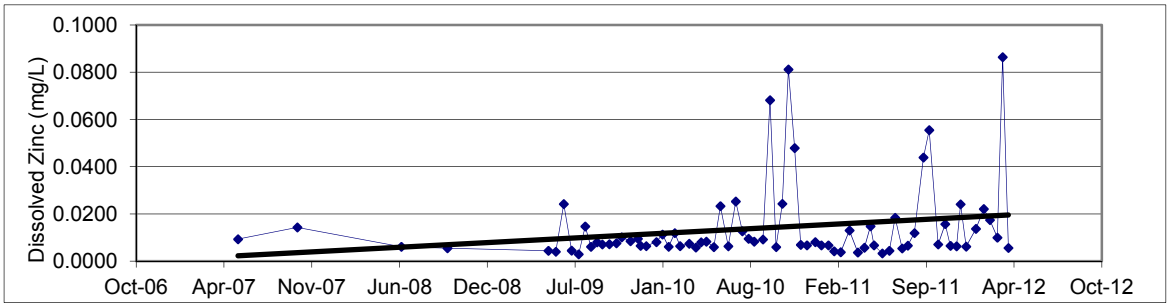


Figure 5-11: Zinc (Dissolved) Concentrations at SRK05-9 (Moose Well 2)

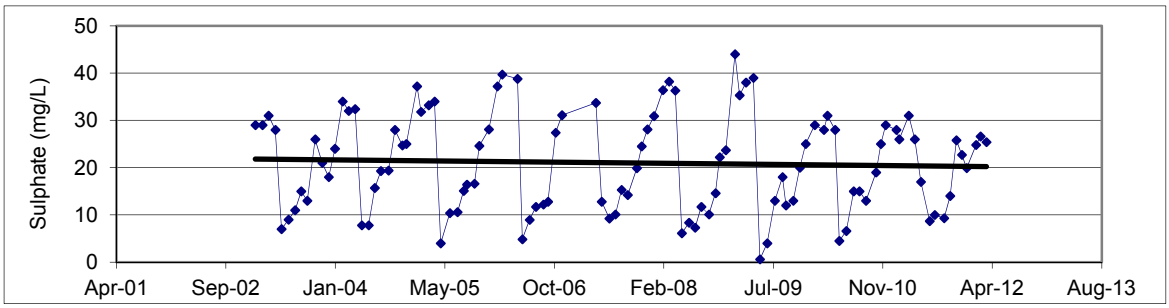


5.4 AMP Event 5 – Degraded Water Quality in the North Fork of Rose Creek (X2)

An AMP trigger was activated in the past based on increasing zinc concentrations at X2. In response, a trench and groundwater pumping system were installed in the S-Wells area. Pumping wells, commissioned in late February 2009, were installed to intercept groundwater prior to recharging to the North Fork of Rose Creek.

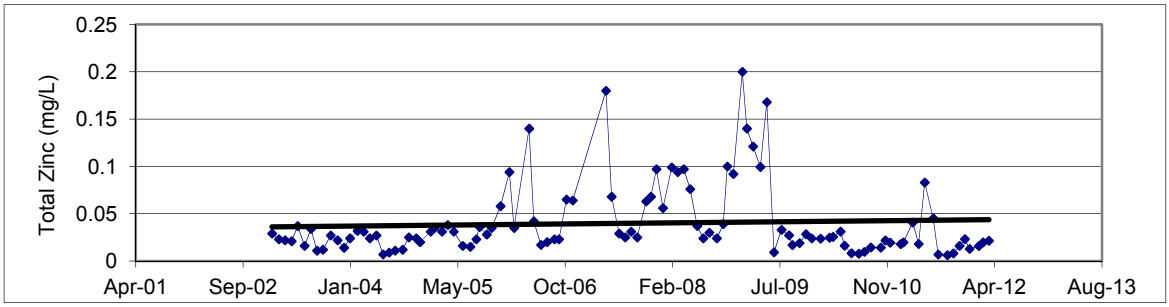
The sulphate concentration at X2 in March 2012, 25.4 mg/L, was below the winter season threshold value of 29.5 mg/L. Figure 5-12 shows sulphate concentrations at X2.

Figure 5-12: Sulphate Concentrations at X2



Zinc concentrations decreased to below the threshold value of 0.06 mg/L in June 2009, after the commissioning of the seepage interception and pumping system and remained below the threshold value, until May 2011 (0.083 mg/L). Since May, zinc concentrations have again remained below the threshold value, including for March 2012 in which the zinc result was 0.0214 mg/L. As with sulphate at this site, the trigger for zinc under the AMP is not activated as of March 2012. Zinc concentrations at X2 are shown in Figure 5-13.

Figure 5-13: Zinc (Total) Concentrations at X2



5.5 AMP Event 6 – Water Level in Grum Pit Reaches Maximum Desired Elevation

On October 11, 2011 the water level elevation reached 1210.849 masl, exceeding the trigger elevation of 1210.800 masl and triggering AMP Event 6. This trigger remains activated through March 2012, with an elevation of 1211.846 masl as of March 26th.

1 – COMPLIANCE

Table A-1. Faro Side: Comparison with Effluent Quality Standards*

Parameter	Effluent Quality Standard	X13
		2012.03.08
Total Suspended Solids	≤ 15 mg/L	13.8
pH	≥ 6.5 pH Units	6.93
Colour	≤ 20 Colour Units	60
Turbidity**	≤ 15 NTU	3.69
Ammonia (as N)	≤ 1.30 mg/L	0.84
Antimony	≤ 0.10 mg/L	<0.0001
Arsenic	≤ 0.05 mg/L	0.0025
Barium	≤ 1.00 mg/L	0.0446
Cadmium	≤ 0.02 mg/L	0.00033
Copper	≤ 0.20 mg/L	<0.0003
Cyanide	≤ 0.05 mg/L	<0.005
Lead	≤ 0.20 mg/L	0.00013
Mercury	≤ 0.005 mg/L	<0.00001
Molybdenum	≤ 0.50 mg/L	0.0007
Nickel	≤ 0.50 mg/L	0.052
Selenium	≤ 0.05 mg/L	<0.0002
Silver	≤ 0.10 mg/L	<0.00003
Zinc	≤ 0.50 mg/L	0.0239
Oil or Grease	Any visible or floating	No
Bioassay	Pass 100% 96-hour LC_{50} (%v/v)	80%

* Standards as listed in Appendix B of Care and Maintenance Contract.
Units in mg/L with the exception of pH Units, NTU, and Colour Units.
** Turbidity measured by the Faro Mine Complex Lab

Table A-2. Vangorda Side: Comparison with Effluent Quality Standards*

Parameter	Effluent Quality Standard	V2	V25BSP
		2012.03.06	2012.03.06
Total Suspended Solids	≤ 15 mg/L	<1	<1
pH	≥ 6.5 pH Units	7.98	7.4
Colour	≤ 20 Colour Units	5	<5
Turbidity**	≤ 15 NTU	0.27	<0.10
Ammonia (as N)	≤ 1.30 mg/L	0.023	0.021
Antimony	≤ 0.10 mg/L	0.0002	0.00011
Arsenic	≤ 0.05 mg/L	0.0013	0.0002
Barium	≤ 1.00 mg/L	0.0704	0.0245
Cadmium	≤ 0.02 mg/L	0.00023	0.000211
Copper	≤ 0.20 mg/L	0.0009	0.00139
Cyanide	≤ 0.05 mg/L	-	-
Lead	≤ 0.20 mg/L	0.00038	0.000039
Mercury	≤ 0.005 mg/L	<0.00005	<0.00001
Molybdenum	≤ 0.50 mg/L	0.0021	0.00047
Nickel	≤ 0.50 mg/L	0.002	0.00085
Selenium	≤ 0.05 mg/L	0.0008	0.00069
Silver	≤ 0.10 mg/L	<0.00003	<0.000005
Zinc	≤ 0.50 mg/L	0.0629	0.0868
Oil or Grease	Any visible or floating	No	No
Bioassay	Pass 100% 96-hour LC_{50} (%v/v)	100%	100%

* Standards as listed in Appendix B of Care and Maintenance Contract.
Units in mg/L with the exception of pH Units, NTU, and Colour Units.
** Turbidity measured by the Faro Mine Complex Lab

2 – WATER QUALITY

CVP Profiles

Cross Valley Pond Water Quality Profile
March 5, 2012

Method of Analysis: ICP-OES

Site: NC

Δh	t	T	pH	EC (µS/cm)	Lab pH	Zn-T	Zn-D
-0.5	10:29 AM	0.0	7.81	2179		0.113	
-1.0	10:30 AM	0.0	7.05	2136		0.104	
-1.5	10:32 AM	0.0	6.63	2318		0.168	
-2.0	10:37 AM	0.5	6.26	2568		0.294	
-3.0	10:39 AM	2.9	6.08	2757			
-4.0	10:43 AM	3.5	6.23	2779		0.109	
-5.0	10:44 AM	3.0	5.81	2824			
-6.0	10:46 AM	3.4	5.65	2858		0.195	
-7.0							
-8.0							
-9.0							
-10.0							

Bottom @6.8m; 90 cm ice thickness

Site: Middle

Δh	t	T	pH	EC (µS/cm)	Lab pH	Zn-T	Zn-D
-0.5	11:00 AM	0.0	7.85	2092		0.125	
-1.0	11:11 AM	0.0	7.73	2102		0.128	
-1.5	11:12 AM	0.7	7.23	2358		0.240	
-2.0	11:14 AM	1.2	6.79	2558		0.182	
-3.0	11:17 AM	2.8	6.70	2772			
-4.0	11:18 AM	3.4	6.62	2828		0.211	
-5.0	11:21 AM	3.7	6.36	2914			
-6.0	11:23 AM	3.5	6.38	2923		0.163	
-7.0							
-8.0							
-9.0							
-10.0							

Bottom @ 6.9m; 90cm ice thickness

Site: SC

Δh	t	T	pH	EC (µS/cm)	Lab pH	Zn-T	Zn-D
-0.5	12:35 PM	0.0	7.9	781		0.054	
-1.0	12:40 PM	0.0	7.3	1929		0.142	
-1.5	12:44 PM	0.4	7.0	2413		0.351	
-2.0	12:46 PM	1.5	6.6	2546		0.093	
-3.0	12:48 PM	2.0	6.6	2742			
-4.0	12:50 PM	3.0	6.55	2710		0.153	
-5.0	12:52 PM	3.7	6.42	2866			
-6.0							
-7.0							
-8.0							
-9.0							
-10.0							

Bottom @5.2m; 90 cm ice thickness

Site: NC-30

Δh	t	T	pH	EC (µS/cm)	Lab pH	Zn-T	Zn-D
-0.5							
-1.0							
-1.5							
-2.0							
-3.0							
-4.0							
-5.0							
-6.0							
-7.0							
-8.0							
-9.0							
-10.0							

Site: WC

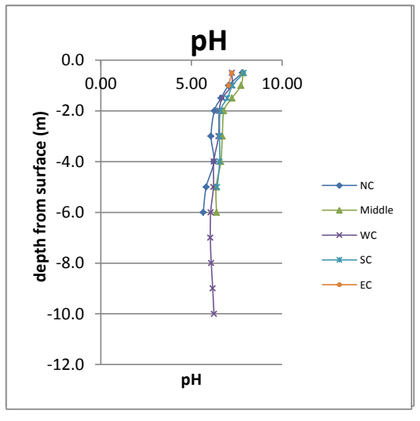
Δh	t	T	pH	EC (µS/cm)	Lab pH	Zn-T	Zn-D
-0.5	11:48 AM	0.3	7.23	2073		0.154	
-1.0	11:49 AM	0.2	7.21	2152		0.169	
-1.5	11:51 AM	0.9	6.70	2417		0.167	
-2.0	11:53 AM	1.2	6.53	2607		0.170	
-3.0	11:55 AM	2.5	6.49	2773			
-4.0	11:57 AM	3.2	6.23	2844		0.167	
-5.0	11:59 AM	3.8	6.21	2858			
-6.0	12:02 PM	3.0	6.06	2909		0.182	
-7.0	12:06 PM	3.3	6.04	2970			
-8.0	12:08 PM	3.5	6.09	3017		0.173	
-9.0	12:10 PM	3.6	6.17	3027			
-10.0	12:12 PM	3.5	6.24	2978		0.169	

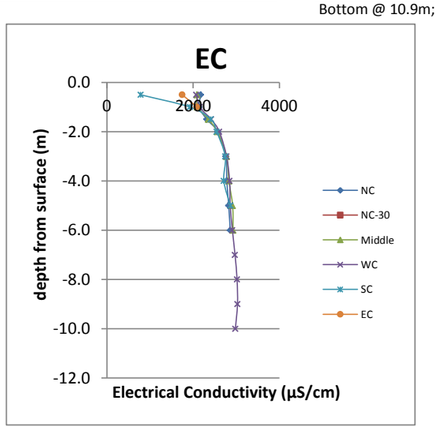
Bottom @ 10.9m; 90 cm ice thickness

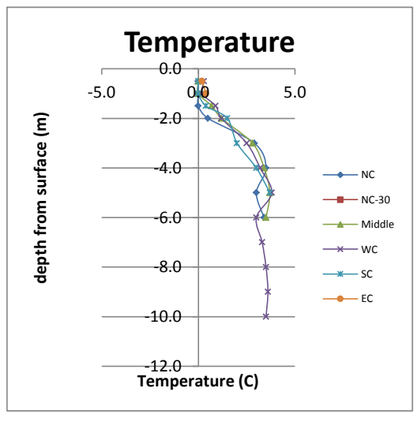
Site: EC

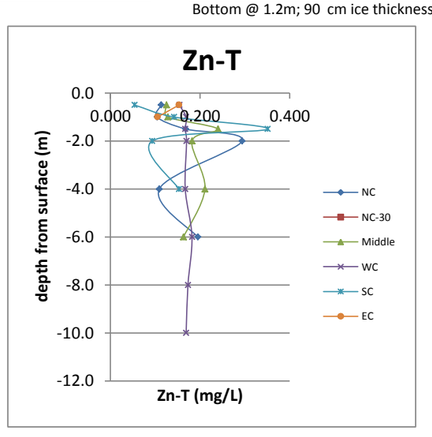
Δh	t	T	pH	EC (µS/cm)	Lab pH	Zn-T	Zn-D
-0.5	1:05 PM	0.2	7.22	1747		0.153	
-1.0	1:06 PM	0.4	7.05	2087		0.105	
-1.5							
-2.0							
-3.0							
-4.0							
-5.0							
-6.0							
-7.0							
-8.0							
-9.0							
-10.0							

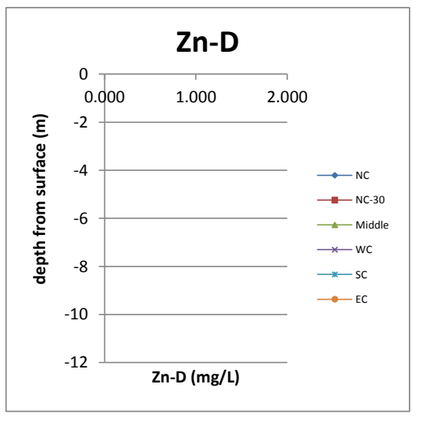
Bottom @ 1.2m; 90 cm ice thickness











Water Quality

Denison Environmental Services

Table A-3: March 2012 Water Quality
General Chemistry

Faro Mine Closure

Rose Creek Drainage

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	Chloride mg/L	CN 4500 mg/L	CO3 mg/L	Colour TCU	COND µmho/cm	CONDF µS/cm	DOC mg/L	HCO3 mg/L as CaCO3	Ion Balance (blank)	LC50 %v/v	NH3 mg/L	NO2 mg/L	NO2/3 mg/L	NO3 mg/L	OH mg/L	ORP mV	pH (blank)	pHF (blank)	SO4-d mg/L	TDS mg/L	TEMP-F °C	TOC mg/L	TSS mg/L	TURB NTU
A30	07/03/2012	Seepage	<0.5	7.5	22.20	<0.5		81.4	<0.5		<0.5		206.0	241.0		27.1	1.00						<0.5	247	7.08	6.80	68.80		1.4		66.5	
ETA Combined	05/03/2012	Surface			25.80	<0.5	4320.0	4430.0	12.0		<0.5		7850.0	8380.0		31.5	0.95		0.890	0.015	0.024	<0.02	<0.5		5.51	6.25	7860.00	####	3.5		200.0	
FAROCR	06/03/2012	Surface			44.90	<0.5	46.3	48.4	<0.5		<0.5		106.0	99.0	1.11	54.8	1.00		0.010	<0.005	0.090	0.090	<0.5		7.84	8.13	5.85	62	0.0	1.01	<1.0	0.62
FCS-4	05/03/2012	Surface			21.50	<0.5	4350.0	4600.0	14.0		<0.5		7300.0	7040.0		26.2	0.97		0.610	0.013	0.027	<0.02	<0.5		5.67	6.94	7110.00	9780	0.7		220.0	
FD-40	07/03/2012	Seepage	<0.5	133.0	<0.5	<0.5		704.0	<0.5		<0.5		1420.0	1640.0		<0.5	1.00						<0.5	282	4.86	5.58	820.00		0.6		13.7	
GDHSECK	05/03/2012	Surface			210.00	<0.5	697.0	700.0	2.0		<0.5		1190.0	1292.0		256.0	1.00		0.010	<0.005	<0.02	<0.02	<0.5		8.13	7.97	470.00	902	0.3		<1.0	
NF2	06/03/2012	Surface			127.00	<0.5	143.0	147.0	<0.5		<0.5		290.0	254.0	1.99	155.0	1.00		0.013	<0.005	0.292	0.292	<0.5		7.86	7.40	21.60	172	0.0	1.45	<1.0	0.80
NFRC SC-1	06/03/2012	Surface			128.00	<0.5	150.0	142.0	<0.5		<0.5		289.0	262.0	1.46	156.0	1.00		0.025	<0.005	0.296	0.296	<0.5		7.93	7.69	20.20	160	<0.0	1.45	<1.0	0.88
NFRC SC-2	06/03/2012	Surface			130.00	<0.5	145.0	144.0	0.7		<0.5		293.0	261.0	1.10	159.0	0.99		0.013	<0.005	0.287	0.287	<0.5		7.97	8.28	21.50	150	<0.0	1.28	<1.0	0.97
NFRC SC-3	06/03/2012	Surface			131.00	<0.5	147.0	144.0	<0.5		<0.5		294.0	270.0	1.81	160.0	0.98		0.009	<0.005	0.284	0.284	<0.5		7.89	7.70	21.60	154	<0.0	2.02	1.3	2.25
NFRC SC-4	06/03/2012	Surface			131.00	<0.5	147.0	146.0	<0.5		<0.5		295.0	274.0	0.99	159.0	0.99		0.008	<0.005	0.282	0.282	<0.5		8.00	8.52	24.00	178	0.0	0.96	<1.0	0.96
R10	06/03/2012	Surface			127.00	<0.5	146.0	154.0	<0.5		<0.5		284.0	262.0	1.83	155.0	1.10		0.025	<0.005	0.291	0.291	<0.5		8.08	7.65	19.00	172	0.0	1.43	<1.0	0.82
R7	06/03/2012	Surface			127.00	<0.5	131.0	140.0	<0.5		<0.5		264.0	241.0	1.53	156.0	1.00		0.023	<0.005	0.180	0.180	<0.5		8.08	7.84	8.52	146	0.2	1.10	<1.0	1.14
R8	06/03/2012	Surface			124.00	<0.5	131.0	145.0	<0.5		<0.5		258.0	237.0	1.29	152.0	1.10		0.022	<0.005	0.177	0.177	<0.5		8.08	7.88	8.44	152	0.1	1.21	<1.0	0.82
R9	06/03/2012	Surface			126.00	<0.5	147.0	147.0	<0.5		<0.5		285.0	260.0	0.63	154.0	1.10		0.011	<0.005	0.290	0.290	<0.5		8.08	7.89	18.80	156	0.0	1.48	<1.0	0.71
SRK08-SPW1	05/03/2012	Ground	<0.5	102.0	297.00	<0.5		557.0	2.6		<0.5		1130.0	1048.0		362.0	0.96						<0.5		6.41	6.13	341.00		3.1		19.0	
SRK08-SPW2	05/03/2012	Ground	<0.5	289.0	203.00	<0.5		2690.0	3.8		<0.5		4150.0	3466.0		248.0	0.92						<0.5		6.47	6.21	3030.00		2.6		17.7	
SRK08-SPW3	05/03/2012	Ground	<0.5	503.0	198.00	<0.5		3890.0	5.3		<0.5		5680.0	5870.0		242.0	0.90						<0.5		6.61	6.06	4700.00		4.6		3.7	
Weir 3	08/03/2012	Seepage	<0.5	10.1	328.00	<0.5		1130.0	1.9		<0.5		2050.0	1230.0		400.0	0.91						<0.5	161	7.50	6.86	988.00		2.1		5.1	
X10	05/03/2012	Surface			138.00	<0.5	169.0	161.0	<0.5		<0.5		322.0	329.0	1.95	169.0	1.00		0.017	<0.005	0.282	0.282	<0.5		8.12	8.03	29.10	180	0.1	0.91	1.4	1.05
X11	08/03/2012	Seepage	<0.5	17.6	377.00	<0.5		1890.0	2.7		<0.5		3090.0	1990.0		460.0	0.96						<0.5	161	7.41	6.83	1700.00		2.8		17.9	
X12	08/03/2012	Seepage	<0.5	3.8	268.00	<0.5		998.0	1.5		<0.5		1800.0	1060.0		327.0	0.94						<0.5	148	7.73	7.32	823.00		0.6		1.6	
X13	08/03/2012	Seepage	<0.5	11.8	352.00	<0.5		1580.0	2.3	<0.005	<0.5	60.0	2540.0	1780.0		429.0	1.00		0.840				<0.5	156	7.62	6.93	1310.00		2.7		13.8	3.69
X13	08/03/2012	Seepage												1780.0				80						156		6.93			2.7			
X14	05/03/2012	Surface			183.00	<0.5	437.0	440.0	0.9		<0.5		830.0	771.0	1.87	224.0	1.10		0.120	<0.005	0.226	0.226	<0.5		8.07	7.90	241.00	566	0.0	1.08	2.2	5.55
X2	05/03/2012	Surface			133.00	<0.5	151.0	148.0	<0.5		<0.5		306.0	305.0	1.21	162.0	0.98		0.010	<0.005	0.279	0.279	<0.5		8.02	7.69	25.40	170	0.1	0.83	<1.0	1.13
X22b	05/03/2012	Surface			80.50	<0.5	700.0	728.0	1.8		<0.5		1330.0	1357.0		98.2	1.00		0.860	<0.005	0.526	0.526	<0.5		7.55	7.27	714.00	1030	0.2		<1.0	
X3	05/03/2012	Surface			130.00	<0.5	153.0	153.0	<0.5		<0.5		304.0	308.0	1.25	159.0	1.00		0.017	<0.005	0.272	0.272	<0.5		8.11	7.79	27.80	174	0.1	1.16	<1.0	0.88
X3A	05/03/2012	Surface			131.00	<0.5	148.0	151.0	<0.5		<0.5		305.0	311.0	1.57	160.0	0.99		0.015	<0.005	0.270	0.270	<0.5		8.08	7.84	28.20	162	0.2	1.16	<1.0	0.90
X4	05/03/2012	Surface			33.40	<0.5	653.0	637.0	2.3		<0.5		1340.0	1235.0		40.7	1.00		0.190	0.006	0.123	0.117	<0.5		6.26	6.67	761.00	1140	0.2		20.5	
X5P	05/03/2012	Surface			346.00	<0.5	1350.0	1330.0	2.2		<0.5		2160.0	2191.0		423.0	0.96		0.890	<0.005	0.175	0.175	<0.5		7.71	7.15	1110.00	1910	0.2		3.6	
X5P	08/03/2012	Surface												1390.0				100								6.91			0.2			

Vangorda Creek Drainage

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	Chloride mg/L	CN 4500 mg/L	CO3 mg/L	Colour TCU	COND µmho/cm	CONDF µS/cm	DOC mg/L	HCO3 mg/L as CaCO3	Ion Balance (blank)	LC50 %v/v	NH3 mg/L	NO2 mg/L	NO2/3 mg/L	NO3 mg/L	OH mg/L	ORP mV	pH (blank)	pHF (blank)	SO4-d mg/L	TDS mg/L	TEMP-F °C	TOC mg/L	TSS mg/L	TURB NTU
MOOSE SEEP	06/03/2012	Seepage	<0.5	5.1	346.00	<0.5		1470.0	1.0		<0.5		2130.0	300.0		422.0	1.00						<0.5	108	8.12	7.87	1080.00		0.4		<1.0	
SRK GD01	06/03/2012	Seepage	<0.5	30.4	538.00	<0.5		2460.0	1.5		<0.5		3210.0	2824.0		656.0	1.10						<0.5	177	8.14	7.65	1720.00		2.1		1.2	
SRK05-9	06/03/2012	Ground	<0.5	11.4	335.00	<0.5		1420.0	0.9		<0.5		2040.0	750.0		409.0	1.00						<0.5		7.97	7.55	1010.00		1.1		173.0	
SRK05-9	19/03/2012	Ground	<0.5	9.1	323.00	<0.5		1310.0	1.1		<0.5		2010.0	2800.0		394.0	0.97						<0.5		7.81	7.67	1010.00		2.4		24.7	
V1	07/03/2012	Surface			47.40	<0.5	49.9	51.6	<0.5		<0.5		121.0	113.0	<0.5	57.9	1.00		0.023	<0.005	0.137	0.137	<0.5		7.84	7.71	11.90	84	0.0	0.65	<1.0	0.10
V15	06/03/2012	Seepage	<0.5	53.3	516.00	<0.5		2690.0	1.7		<0.5		3480.0	2220.0		629.0	1.10						<0.5	126	7.76	7.00	1850.00		0.1		<1.0	
V15	19/03/2012	Seepage	<0.5	30.4	510.00	<0.5		2620.0	1.7		<0.5		3510.0	4110.0		622.0	1.10						<0.5	147	7.45	7.23	1840.00		1.0		<1.0	
V2	06/03/2012	Surface			333.00	<0.5	1360.0	1440.0	1.3		<0.5	<5.0	2020.0	1844.0	2.00	406.0	1.00		0.023	<0.005	5.100	5.100	<0.5		8.19	7.98	1010.00	1710	0.2	2.41	<1.0	0.27
V2	06/03/2012	Surface												1844.0				100								7.98			0.2			
V22	06/03/2012	Surface			<0.5	<0.5	812.0	844.0	<0.5		<0.5		2130.0	1970.0		<0.5	0.96		0.430				<0.5		4.38	5.61	1430.00	2130	0.4		39.9	
V23	06/03/2012	Surface			168.00	<0.5	590.0	633.0	0.7		<0.5		1070.0	987.0		206.0	1.10		0.049				<0.5		8.09	8.04	447.00	786	0.6		<1.0	
V25BSP	06/03/2012	Surface			69.80	<0.5	592.0	643.0	<0.5		<0.5	<5.0	1060.0	965.0		85.1	1.10		0.021	<0.005	0.134	0.134	<0.5		7.78	7.40	519.00	802	0.4		<1.0	0.10
V25BSP	06/03/2012	Surface												965.0				100								7.40			0.4			
V27	07/03/2012	Surface			119.00	<0.5	293.0	303.0	<0.5		<0.5		613.0	291.0	<0.5	145.0	0.95		0.029	<0.005	0.818	0.818	<0.5		8.10	8.65	200.00	416	0.0	1.69	<1.0	0.10
V4	07/03/2012	Surface			322.00	<0.5	368.0	397.0	<0.5		<0.5		710.0	691.0	2.19	393.0	1.00		0.056	<0.005	0.174	0.174	<0.5		8.25	8.10	80.70	442	0.0	3.94	<1.0	1.20
V5	07/03/2012	Surface			281.00	<0.5	403.0	409.0	2.2		<0.5		770.0	771.0	1.51	343.0	0.97		0.027	<0.005	0.220	0.220	<0.5		8.26	8.23	146.00	506	0.2	2.54	1.3	0.55
V8	07/03/2012	Surface			228.00	<0.5	378.0	379.0	1.4		<0.5		729.0	833.0	1.36	278.0	0.97		0.015	<0.005	0.455	0.455	<0.5		8.28	8.32	166.00	492	0.0	2.53	<1.0	0.22

Denison Environmental Services

Table A-4: March 2012 Water Quality
Dissolved Metals

Faro Mine Closure

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	Hg-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
Rose Creek Drainage																																			
A30	**07/03/2012**	**Seepage**	<0.02	11.10	<0.1	18.2	<50.0	<0.1	<1.0	16.70	2.13	<0.5	<1.0	6.44	<5.0		0.68	0.0083	9.67	4.00	<1.0	2.24	13.30	1.530	<0.5	25.3	0.13	5860	<5.0	70.5	<5.0	<0.05	<0.1	<5.0	4030.0	<0.5
ETA Combined	**05/03/2012**	**Surface**	<0.3	397.00	25.00	12.0	<3000.0	0.60	<0.3	508.00	13.50	1140.00	<5.0	8.00	1240000		15.00	0.1370	769.00	96800.00	<3.0	73.00	974.00	<0.3	<1.0	2430.0	<2.0	16500	<10.0	4120.0	<30.0	0.300	4.700	<10.0	510000.0	<5.0
FAROCR	**06/03/2012**	**Surface**	<0.005	9.10	0.42	28.7	<50.0	<0.01	<0.005	14.00	0.03	0.02	<0.1	0.58	16		0.45	0.0041	3.25	0.76	1.20	2.49	1.09	0.362	0.09	<10.0	0.76	7500	<0.2	65.8	<0.5	0.004	1.140	<0.2	7.5	<0.1
FCS-4	**05/03/2012**	**Surface**	<0.3	19.00	4.00	11.0	<3000.0	<0.5	<0.3	529.00	13.20	958.00	<5.0	4.00	918000		15.00	0.1370	797.00	94000.00	<3.0	73.00	884.00	<0.3	<1.0	2310.0	<2.0	13500	<10.0	3990.0	<30.0	0.300	5.800	<10.0	422000.0	<5.0
FD-40	**07/03/2012**	**Seepage**	0.109	5910.00	0.54	11.0	<130.0	5.30	<2.5	129.00	116.00	133.00	<2.5	701.00	31		2.77	0.0380	92.50	5670.00	<2.5	5.31	266.00	15.800	<1.3	304.0	0.32	16900	<13.0	380.0	<13.0	<0.13	4.190	<13.0	82400.0	<1.3
GDHSECK	**05/03/2012**	**Surface**	<0.005	2.80	0.30	46.6	<50.0	<0.01	0.008	196.00	1.08	0.09	<0.1	1.43	13		4.48	0.0079	51.10	21.40	0.28	9.09	4.20	1.030	0.29	179.0	0.13	6200	<0.2	707.0	<0.5	0.020	2.680	<0.2	1110.0	<0.1
NF2	**06/03/2012**	**Surface**	<0.005	3.20	0.37	72.8	<50.0	<0.01	<0.005	43.50	0.02	0.15	<0.1	0.40	46		1.14	0.0081	9.19	32.60	0.79	3.24	0.45	0.249	0.06	<10.0	0.48	6270	<0.2	175.0	<0.5	<0.002	2.540	<0.2	19.6	<0.1
NFRC SC-1	**06/03/2012**	**Surface**	<0.005	3.50	0.36	73.8	<50.0	<0.01	<0.005	41.90	0.02	0.16	<0.1	0.35	59		1.14	0.0079	9.18	35.60	0.82	3.30	0.50	0.242	0.06	<10.0	0.43	5950	<0.2	179.0	<0.5	0.003	2.670	<0.2	19.5	<0.1
NFRC SC-2	**06/03/2012**	**Surface**	<0.005	5.80	0.42	74.1	<50.0	<0.01	0.017	42.30	0.03	0.18	0.2	0.58	137		1.14	0.0079	9.34	44.50	0.83	3.32	1.09	3.120	0.08	<10.0	0.43	5900	<0.2	182.0	<0.5	0.005	2.590	<0.2	25.6	<0.1
NFRC SC-3	**06/03/2012**	**Surface**	<0.005	2.90	0.30	69.9	<50.0	<0.01	<0.005	42.10	0.03	0.15	<0.1	0.50	73		1.14	0.0080	9.33	42.50	0.84	3.30	0.57	0.366	0.06	<10.0	0.47	6000	<0.2	178.0	<0.5	<0.002	2.570	<0.2	22.0	<0.1
NFRC SC-4	**06/03/2012**	**Surface**	<0.005	3.40	0.31	69.3	<50.0	<0.01	<0.005	42.80	0.02	0.21	<0.1	0.29	74		1.12	0.0079	9.42	57.80	0.82	3.26	0.61	0.142	0.06	<10.0	0.46	6020	<0.2	180.0	<0.5	<0.002	2.590	<0.2	22.4	<0.1
R10	**06/03/2012**	**Surface**	<0.005	3.30	0.44	68.5	<50.0	<0.01	<0.005	46.70	0.02	0.04	<0.1	0.40	33		1.08	0.0078	8.98	14.20	0.85	3.27	0.41	0.328	0.07	<10.0	0.47	6690	<0.2	178.0	<0.5	<0.002	2.560	<0.2	9.9	<0.1
R7	**06/03/2012**	**Surface**	<0.005	2.90	0.39	71.8	<50.0	<0.01	<0.005	43.10	0.01	0.02	<0.1	0.25	30		1.02	0.0082	7.99	9.42	0.91	3.23	0.18	0.149	0.06	<10.0	0.46	6500	<0.2	175.0	<0.5	<0.002	2.460	<0.2	2.2	<0.1
R8	**06/03/2012**	**Surface**	<0.005	3.30	0.42	68.0	<50.0	<0.01	<0.005	45.00	0.01	0.02	<0.1	0.31	38		1.01	0.0075	7.82	11.20	0.86	3.21	0.28	0.220	0.05	<10.0	0.46	6820	<0.2	161.0	<0.5	<0.002	2.290	<0.2	2.4	<0.1
R9	**06/03/2012**	**Surface**	<0.005	2.40	0.36	68.1	<50.0	<0.01	<0.005	44.10	0.01	0.02	<0.1	0.28	25		1.06	0.0077	8.87	11.80	0.88	3.15	0.25	0.043	0.06	<10.0	0.49	6350	<0.2	179.0	<0.5	<0.002	2.610	<0.2	0.9	<0.1
SRK08-SPW1	**05/03/2012**	**Ground**	<0.02	29.00	3.90	13.5	<50.0	0.85	<1.0	137.00	0.08	9.69	<1.0	0.76	24200		4.58	0.0601	52.10	1340.00	<1.0	9.66	23.60	0.270	<0.5	137.0	<0.1	15200	<5.0	621.0	<5.0	<0.05	0.770	<5.0	1350.0	<0.5
SRK08-SPW2	**05/03/2012**	**Ground**	<0.08	<12.0	<0.4	17.1	<200.0	<0.4	<4.0	251.00	42.70	273.00	<4.0	2.24	3890		8.11	0.0910	501.00	41500.00	<4.0	22.40	906.00	<0.8	<2.0	1150.0	<0.4	11700	<20.0	1080.0	<20.0	<0.2	3.520	<20.0	166000.0	<2.0
SRK08-SPW3	**05/03/2012**	**Ground**	<0.2	<30.0	<1.0	15.0	<500.0	<1.0	<10.0	318.00	138.00	574.00	<10.0	5.10	3870		9.72	0.1190	752.00	77600.00	<10.0	26.20	1760.00	<2.0	<5.0	1700.0	<1.0	12700	<50.0	1360.0	<50.0	<0.5	4.400	<50.0	327000.0	<5.0
Weir 3	**08/03/2012**	**Seepage**	<0.03	3.00	0.40	45.9	<300.0	<0.05	<0.03	335.00	0.22	8.57	<0.5	<0.3	1080		5.50	0.0110	71.30	19000.00	0.80	29.60	37.40	0.100	<0.1	307.0	<0.2	7010	<1.0	851.0	<3.0	0.020	10.900	<1.0	11.5	<0.5
X10	**05/03/2012**	**Surface**	<0.005	4.30	0.16	70.4	<50.0	<0.01	0.016	46.50	0.02	0.04	<0.1	0.50	37		1.26	0.0065	10.90	20.20	0.73	3.28	0.78	0.151	0.06	11.0	0.43	5810	<0.2	199.0	0.6	<0.002	2.820	<0.2	30.6	<0.1
X11	**08/03/2012**	**Seepage**	<0.03	4.00	3.10	38.6	<300.0	<0.05	<0.03	556.00	0.27	52.80	<0.5	<0.3	7640		7.80	0.0230	122.00	39100.00	0.40	35.50	66.30	0.090	<0.1	577.0	<0.2	8560	<1.0	1410.0	<3.0	0.040	7.310	<1.0	18.2	<0.5
X12	**08/03/2012**	**Seepage**	<0.005	1.60	0.41	44.0	<50.0	<0.01	<0.005	289.00	0.02	0.41	<0.1	0.35	292		7.39	0.0082	67.20	900.00	0.45	24.20	1.65	0.066	0.03	308.0	0.18	5510	<0.2	846.0	<0.5	<0.002	17.300	<0.2	4.0	<0.1
X13	**08/03/2012**	**Seepage**	<0.03	5.00	2.50	44.6	<300.0	<0.05	<0.03	457.00	0.33	35.10	<0.5	<0.3	5650	<0.01	7.10	0.0190	106.00	31600.00	0.70	33.70	52.00	0.130	<0.1	491.0	<0.2	7610	<1.0	1200.0	<3.0	0.040	7.450	<1.0	23.9	<0.5
X14	**05/03/2012**	**Surface**	<0.005	2.40	0.35	65.5	<50.0	<0.01	<0.005	127.00	0.09	4.24	<0.1	0.28	439		2.46	0.0091	29.70	4710.00	0.75	9.74	8.61	0.207	0.07	104.0	0.40	6320	<0.2	382.0	1.8	0.008	3.620	<0.2	28.8	0.30
X2	**05/03/2012**	**Surface**	<0.005	3.70	0.26	69.9	<50.0	<0.01	0.009	42.40	0.02	0.23	<0.1	0.34	61		1.14	0.0083	10.10	77.10	0.83	3.36	0.73	0.289	0.06	<10.0	0.49	5950	<0.2	181.0	<0.5	<0.002	2.540	<0.2	24.0	<0.1
X22b	**05/03/2012**	**Surface**	<0.03	36.00	0.40	16.4	<300.0	0.15	<0.03	152.00	21.70	58.50	<0.5	24.00	75		8.00	0.0620	84.50	3410.00	0.50	19.10	152.00	2.280	0.20	243.0	<0.2	4830	<1.0	647.0	<3.0	0.510	0.850	<1.0	25400.0	<0.5
X3	**05/03/2012**	**Surface**	<0.005	2.90	0.25	66.8	<50.0	<0.01	<0.005	45.10	0.02	0.12	<0.1	0.32	50		1.21	0.0070	9.81	56.30	0.74	3.29	0.60	0.185	0.05	<10.0	0.43	5990	<0.2	187.0	<0.5	0.003	2.570	<0.2	17.3	<0.1
X3A	**05/03/2012**	**Surface**	<0.005	5.70	0.26	69.0	<50.0	<0.01	0.022	44.20	0.02	0.12	0.3	0.35	57		1.22	0.0068	9.99	65.10	0.75	3.24	0.58	0.456	0.07	<10.0	0.41	5700	<0.2	194.0	<0.5	0.003	2.670	<0.2	17.3	<0.1
X4	**05/03/2012**	**Surface**	<0.03	4.00	0.30	16.1	<300.0	<0.05	0.040	191.00	2.08	76.90	<0.5	0.60	78800		4.00	0.0150	38.80	18200.00	<0.3	10.70	62.60	0.610	<0.1	252.0	<0.2	6020	<1.0	611.0	<3.0	0.370	0.840	<1.0	10300.0	<0.5
X5P	**05/03/2012**	**Surface**	<0.03	8.00	0.50	47.7	<300.0	<0.05	0.060	374.00	0.19	32.50	<0.5	0.70	590		7.40	0.0180	95.50	18900.00	1.10	32.60	36.50	0.450	0.20	368.0	<0.2	8440	<1.0	1000.0	<3.0	0.130	10.800	<1.0	150.0	<0.5
Vangorda Creek Drainage																																			
MOOSE SEEP	**06/03/2012**	**Seepage**	<0.03	3.00	1.60	32.9	<300.0	<0.05	<0.03	272.00	0.22	0.08	<0.5	1.20	41		3.30	0.0070	193.00	7.50	2.90	10.60	1.10	0.380	0.20	378.0	0.70	5030	<1.0	761.0	<3.0	<0.01	30.100	<1.0	29.2	<0.5
SRK GD01	**06/03/2012**	**Seepage**	<0.03	5.00	5.40	28.9	<300.0	<0.05	<0.03	380.00	0.60	0.80	<0.5	1.90	27		7.90	0.0220	368.00	19.90	2.10	12.60	194.00	1.560	1.10	629.0	0.70	3860	<1.0	1420.0	<3.0	0.190	66.100	<1.0	1100.0	0.80
SRK05-9	**06/03/2012**	**Ground**	<0.03	3.00	1.00	34.9	<300.0	<0.05	<0.03	266.00	0.26	0.19	<0.5	1.80	62		3.50	0.0090	184.00	11.30	1.30	9.80	2.60	0.400	0.30	354.0	0.90	5010	<1.0	789.0	<3.0	0.020	28.500	<1.0	86.4	<0.5
SRK05-9	**19/03/2012**	**Ground**	<0.005	3.10	0.70	33.2	<50.0	<0.01	<0.005	249.00	0.20	0.07	0.3	1.45	4		3.41	0.0083	168.00	16.90	1.22	9.18	1.24	0.321	0.19	354.0	0.86	4820	0.30	788.0	<0.5	0.005	28.700	<0.2	5.6	<0.1
V1	**07/03/2012**	**Surface**	<0.005	6.00	0.30	40.9	<50.0	<0.01	<0.005	16.00	0.01	0.01	<0.1	0.37	6		0.59	0.0013	2.84	0.19	0.70	2.15	0.20	1.150	0.05	<10.0	0.20	4560	<0.2	83.2	<0.5	<0.002	1.510	<0.2	2.9	<0.1
V15	**06/03/2012**	**Seepage**	<0.03	3.00	0.50	36.8	<300.0	<0.05	<0.03	430.00	1.66	0.04	<0.5	2.20	10		6.50	0.0150	392.00	0.50	1.00	14.80	123.00	0.300	<0.1	725.0	1.40	6190	<1.0	1340.0	<3.0	<0.01	61.300	<1.0	3150.0	<0.5
V15	**19/03/2012**	**Seepage**	<0.03	5.00	0.50	39.8	<300.0	<0.05	<0.03	417.00	1.48	0.07	<0.5	4.30	13		6.70	0.0220	384.00	1.90	1.00	14.40	111.00	0.430	<0.1	715.0	1.20	5830	<1.0	1350.0	<3.0	<0.01	59.500	<1.0	2720.0	<0.5
V2	**06/03/2012**	**Surface**	<0.03	3.00	1.00	69.9	<300.0	<0.05	<0.03	308.00	0.18	0.04	<0.5	0.70	6	<0.05	2.60	0.0040	162.00	1.70	2.30	11.10	1.60	0.230	0.20	343.0	0.80	6160	<1.0	816.0	<3.0	<0.01	27.300	<1.0	20.3	<0.5
V22	**06/03/2012**	**Surface**	<0.08	286.00	1.85	17.6	<200.0	<0.4	<4.0	182.00	112.00	584.00	<4.0	180.00	124000		2.68	0.0390	94.50	39800.00	<4.0	5.27	453.00	<0.8	<2.0	535.0	<0.4	5700	<20.0	1050.0	<20.0	1.730	1.070	<20.0	173000.0	<2.0
V23	**06/03/2012**	**Surface**	<0.005	1.40	1.40	45.5	<50.0	<0.01	<0.005	128.00	2.29	5.80	<0.1	2.75	12		3.32	0.0247	76.00	139.00	2.65	11.40	120.00	0.513	3.43	171.0	1.56	3510	<0.2	774.0	<0.5	1.870	12.800	<0.2	4540.0	<0.1
V25BSP	**06/03/2012**	**Surface**	<0.005	3.00	0.21	24.9	<50.0	<0.01	<0.005	198.00	0.21	0.02	<0.1	1.28	4	<0.01	1.77	0.0091	35.90	2.20	0.53	7.23	0.79	0.042	0.12	203.0	0.68	6450	<0.2	557.0	<0.5	0.021	3.520	<0.2	89.4	<0.1
V27	**07/03/2012**	**Surface**	<0.005	5.90	0.46	52.4	<50.0	<0.01	0.007	70.90	0.06	0.01	<0.1	0.60	12		0.92	0.0028	30.60	0.40	0.78	3.50	0.79	1.250	0.12	70.0	0.47	4630	<0.2	247.0	<0.5	0.008	6.590	<0.2	30.0	<0.1
V4	**07/03/2012**	**Surface**	<0.005	4.40	0.53	88.4	<50.0	<0.01	0.015	98.80	0.02	0.05	<0.1	0.73	36		1.36	0.0058	36.60	48.60	1.09	4.12	0.64	0.483	0.10	30.0	0.88	5390	<0.2	400.0	<0.5	<0.002	15.900	<0.2	5.4	<0.1
V5	**07/03/2012**	**Surface**	<0.005	2.30	0.45	80.0	<50.0	<0.01	<0.005	95.60	0.05	0.05	<0.1	0.61	9		1.48	0.0058	41.50	13.20	2.37	4.88	1.43	0.209	0.15	54.0	2.56	4870	<0.2	369.0	<0.5	<0.002	6.670	<0.2	3.3	<0.1
V8	**07/03/2012**	**Surface**	<0.005	2.50	0.52	71.5	<50.0	<0.01	<0.005	86.10	0.05	0.04	<0.1	0.60	11		1.38	0.0058	39.80	3.49	1.36	4.77	1.54	0.221	0.14	65.0	1.40	4380	<0.2	348.0	<0.5	0.004	8.790	<0.2	11.1	<0.1

Denison Environmental Services

Table A-5: March 2012 Water Quality
Total Metals

Station	Date	Sample Type	Ag µg/L	Al µg/L	As µg/L	B µg/L	Ba µg/L	Be µg/L	Bi µg/L	Ca mg/L	Cd µg/L	Co µg/L	Cr µg/L	Cu µg/L	Fe µg/L	Hg µg/L	K mg/L	Li mg/L	Mg mg/L	Mn µg/L	Mo µg/L	Na mg/L	Ni µg/L	P mg/L	Pb µg/L	S mg/L	Sb µg/L	Se µg/L	Si µg/L	Sn µg/L	Sr µg/L	Ti µg/L	Tl µg/L	U µg/L	V µg/L	Zn µg/L	Zr µg/L
Rose Creek Drainage																																				
ETA Combined	**05/03/2012**	**Surface**	<0.3	1760.0	40.00	<3000.0	21.0	1.10	<0.3	489.0	12.80	1130.00	<5.0	10.00	1270000		15.00	0.1360	754.00	95300.00	<3.0	72.00	968.00		45.300	2240.0	<1.0	<2.0	15800	<10.0	4240.0	<30.0	0.300	5.200	<10.0	500000.0	<5.0
FAROCR	**06/03/2012**	**Surface**	<0.005	24.1	0.45	<50.0	28.5	<0.01	<0.005	13.3	0.03	0.03	<0.1	0.61	34		0.45	0.0040	3.16	0.82	1.14	2.44	1.17		0.874	<10.0	0.09	0.79	7060	<0.2	61.6	1.0	0.005	1.080	<0.2	6.2	<0.1
FCS-4	**05/03/2012**	**Surface**	<0.3	1150.0	26.00	<3000.0	13.0	<0.5	<0.3	497.0	13.20	908.00	<5.0	10.00	960000		14.00	0.1280	756.00	89000.00	<3.0	69.00	847.00		48.000	1990.0	<1.0	<2.0	14200	<10.0	4080.0	<30.0	0.300	6.500	<10.0	410000.0	<5.0
GDHSECK	**05/03/2012**	**Surface**	<0.005	2.5	0.25	<50.0	46.1	<0.01	<0.005	196.0	1.04	0.08	<0.1	1.29	12		4.51	0.0078	50.50	19.30	0.28	8.70	3.61		1.160	181.0	0.29	0.11	6040	<0.2	715.0	<0.5	0.018	2.510	<0.2	1060.0	<0.1
NF2	**06/03/2012**	**Surface**	<0.005	6.3	0.48	<50.0	74.9	<0.01	<0.005	41.4	0.02	0.15	<0.1	0.26	117		1.14	0.0079	9.60	33.00	0.87	3.39	0.48		0.221	<10.0	0.06	0.46	5700	<0.2	186.0	<0.5	<0.002	2.500	<0.2	16.8	<0.1
NFRC SC-1	**06/03/2012**	**Surface**	<0.005	5.8	0.48	<50.0	74.9	<0.01	<0.005	44.2	0.02	0.16	<0.1	0.28	138		1.15	0.0083	9.60	38.60	0.84	3.32	0.46		0.264	<10.0	0.06	0.47	5990	<0.2	183.0	<0.5	<0.002	2.530	<0.2	15.8	<0.1
NFRC SC-2	**06/03/2012**	**Surface**	<0.005	5.9	0.50	<50.0	73.9	<0.01	<0.005	42.2	0.03	0.17	<0.1	0.38	181		1.16	0.0082	9.61	44.50	0.88	3.38	0.95		0.381	<10.0	0.06	0.47	5800	<0.2	185.0	<0.5	<0.002	2.530	<0.2	20.8	<0.1
NFRC SC-3	**06/03/2012**	**Surface**	<0.005	9.3	0.96	<50.0	74.7	<0.01	<0.005	43.3	0.03	0.18	0.2	0.36	579		1.12	0.0085	9.56	47.50	0.86	3.30	0.61		0.475	<10.0	0.06	0.49	5970	<0.2	182.0	<0.5	<0.002	2.540	<0.2	21.2	<0.1
NFRC SC-4	**06/03/2012**	**Surface**	<0.005	10.8	0.49	<50.0	78.8	<0.01	0.051	42.8	0.04	0.23	<0.1	0.69	202		1.15	0.0082	9.78	60.80	0.87	3.43	0.74		2.040	<10.0	0.08	0.45	5830	<0.2	193.0	<0.5	<0.002	2.640	<0.2	38.0	<0.1
R10	**06/03/2012**	**Surface**	<0.005	6.7	0.50	<50.0	73.4	<0.01	<0.005	43.3	0.02	0.05	<0.1	0.34	98		1.11	0.0079	9.21	15.60	0.91	3.31	0.35		0.406	<10.0	0.07	0.53	6050	<0.2	182.0	<0.5	<0.002	2.500	<0.2	9.4	<0.1
R7	**06/03/2012**	**Surface**	<0.005	10.4	0.48	<50.0	76.5	<0.01	<0.005	39.6	0.01	0.03	<0.1	0.33	111		1.01	0.0076	7.85	10.40	0.82	3.13	0.44		0.160	<10.0	0.06	0.44	5880	<0.2	168.0	<0.5	<0.002	2.290	<0.2	2.2	<0.1
R8	**06/03/2012**	**Surface**	<0.005	8.2	0.55	<50.0	75.3	<0.01	<0.005	39.2	0.01	0.02	<0.1	0.28	107		1.02	0.0077	8.00	11.40	0.87	3.23	0.31		0.167	<10.0	0.06	0.47	5820	<0.2	166.0	0.6	<0.002	2.180	<0.2	1.7	<0.1
R9	**06/03/2012**	**Surface**	<0.005	5.1	0.55	<50.0	74.0	<0.01	<0.005	43.4	0.01	0.02	<0.1	0.26	98		1.13	0.0076	9.32	13.30	0.87	3.30	0.28		0.226	<10.0	0.06	0.55	6070	<0.2	177.0	<0.5	<0.002	2.450	<0.2	1.8	<0.1
X10	**05/03/2012**	**Surface**	<0.005	5.6	0.24	<50.0	76.2	<0.01	<0.005	49.5	0.01	0.04	<0.1	0.44	146		1.27	0.0068	11.00	19.60	0.73	3.27	0.67		0.299	11.0	0.07	0.44	5900	<0.2	207.0	<0.5	<0.002	2.650	<0.2	27.4	<0.1
X14	**05/03/2012**	**Surface**	<0.005	12.7	0.53	<50.0	69.2	<0.01	0.032	126.0	0.11	4.07	<0.1	1.04	710		2.46	0.0094	29.60	4610.00	0.78	9.47	8.59		1.440	105.0	0.09	0.38	5950	<0.2	389.0	1.2	0.007	3.490	<0.2	32.2	<0.1
X2	**05/03/2012**	**Surface**	<0.005	5.6	0.42	<50.0	72.7	<0.01	<0.005	43.9	0.02	0.22	<0.1	0.28	184		1.14	0.0081	10.20	77.80	0.86	3.41	0.68		0.251	<10.0	0.06	0.50	5860	<0.2	187.0	<0.5	<0.002	2.510	<0.2	21.4	<0.1
X22b	**05/03/2012**	**Surface**	<0.03	11.0	0.30	<300.0	16.4	0.08	<0.03	149.0	21.60	56.50	<0.5	20.40	12		8.00	0.0580	79.90	3320.00	0.40	18.10	147.00		0.970	229.0	0.20	<0.2	4460	<1.0	629.0	<3.0	0.450	0.770	<1.0	24800.0	<0.5
X3	**05/03/2012**	**Surface**	<0.005	4.1	0.36	<50.0	72.2	<0.01	<0.005	45.1	0.02	0.13	<0.1	0.28	152		1.20	0.0072	9.73	56.00	0.70	3.27	0.56		0.141	<10.0	0.06	0.41	5760	<0.2	192.0	<0.5	<0.002	2.530	<0.2	16.8	<0.1
X3A	**05/03/2012**	**Surface**	<0.005	4.8	0.33	<50.0	73.6	<0.01	<0.005	42.7	0.02	0.11	<0.1	0.39	134		1.21	0.0072	10.00	61.70	0.73	3.19	0.56		0.335	<10.0	0.06	0.41	5370	<0.2	195.0	<0.5	<0.002	2.600	<0.2	16.9	<0.1
X4	**05/03/2012**	**Surface**	<0.03	5.0	0.30	<300.0	17.4	<0.05	<0.03	198.0	1.94	72.20	<0.5	0.60	83000		3.90	0.0150	38.50	17500.00	<0.3	10.50	59.10		1.270	265.0	<0.1	0.30	6210	<1.0	615.0	<3.0	0.350	0.870	<1.0	10400.0	<0.5
X5P	**05/03/2012**	**Surface**	<0.03	5.0	0.70	<300.0	51.3	<0.05	0.050	391.0	0.22	31.30	<0.5	1.40	941		7.50	0.0180	91.50	18500.00	1.10	31.10	35.40		1.240	393.0	0.20	<0.2	8710	<1.0	1030.0	<3.0	0.120	10.000	<1.0	159.0	<0.5
Vangorda Creek Drainage																																				
V1	**07/03/2012**	**Surface**	<0.005	6.4	0.28	<50.0	40.5	<0.01	<0.005	15.6	<0.005	0.98	<0.1	0.24	20		0.55	0.0014	2.65	0.44	1.06	2.17	0.23		0.128	<10.0	0.04	0.21	4410	<0.2	81.9	<0.5	<0.002	1.250	<0.2	0.9	<0.1
V2	**06/03/2012**	**Surface**	<0.03	9.0	1.30	<300.0	70.4	<0.05	<0.03	288.0	0.23	0.15	<0.5	0.90	15	<0.05	2.60	0.0040	156.00	7.10	2.10	10.70	2.00		0.380	335.0	0.20	0.80	5550	<1.0	781.0	<3.0	<0.01	25.100	<1.0	62.9	<0.5
V22	**06/03/2012**	**Surface**	<0.08	377.0	2.80	<200.0	19.0	<0.4	<4.0	174.0	113.00	576.00	<4.0	200.00	130000		2.55	0.0430	91.70	36100.00	<4.0	5.50	464.00		13.000	435.0	<2.0	<0.4	5320	<20.0	1020.0	<20.0	1.800	1.400	<20.0	162000.0	<2.0
V23	**06/03/2012**	**Surface**	<0.005	8.6	1.91	<50.0	44.2	<0.01	<0.005	121.0	2.23	5.50	<0.1	4.13	72		3.31	0.0231	70.10	132.00	2.57	10.40	116.00	0.003	1.820	154.0	3.25	1.48	3190	<0.2	742.0	<0.5	1.770	11.700	<0.2	4400.0	<0.1
V25BSP	**06/03/2012**	**Surface**	<0.005	3.4	0.20	<50.0	24.5	<0.01	<0.005	179.0	0.21	0.02	<0.1	1.39	4	<0.01	1.74	0.0088	35.10	2.14	0.47	7.12	0.85		0.039	189.0	0.11	0.69	5670	<0.2	536.0	<0.5	0.023	3.410	<0.2	86.8	<0.1
V27	**07/03/2012**	**Surface**	<0.005	4.2	0.44	<50.0	51.2	<0.01	<0.005	65.0	0.06	0.01	<0.1	0.47	7		0.89	0.0030	31.70	0.57	0.78	3.65	0.67		0.283	67.0	0.11	0.48	4170	<0.2	246.0	<0.5	0.009	5.700	<0.2	26.1	<0.1
V4	**07/03/2012**	**Surface**	<0.005	5.5	0.61	<50.0	92.5	<0.01	<0.005	87.7	0.02	0.05	<0.1	0.47	156		1.28	0.0065	36.30	45.20	1.15	4.07	0.60		0.690	27.0	0.09	0.90	4730	<0.2	405.0	<0.5	<0.002	14.400	<0.2	2.0	<0.1
V5	**07/03/2012**	**Surface**	<0.005	25.5	0.51	<50.0	80.3	<0.01	<0.005	95.2	0.05	0.06	<0.1	0.71	65		1.36	0.0059	40.30	14.90	2.31	4.76	1.35		0.343	49.0	0.15	2.87	4740	<0.2	367.0	0.8	0.003	5.730	0.30	3.7	<0.1
V8	**07/03/2012**	**Surface**	<0.005	10.3	0.44	<50.0	70.2	<0.01	<0.005	84.4	0.06	0.05	<0.1	0.81	35		1.36	0.0063	40.50	4.58	1.30	4.96	1.67		0.277	61.0	0.15	1.55	4240	<0.2	356.0	<0.5	0.005	7.750	<0.2	12.3	<0.1

3 – QA/QC

March 2012 QA/QC - Total Metals

Duplicates

			Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
Station	**Date**	**Sample Type**	**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**	**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**
X4	**05/03/2012**	**M**	<0.03	5.00	0.30	<300	17.40	<0.05	<0.03	198.00	1.94	72.20	<0.5	0.60	83000.00		3.90	0.02	38.50	17500.00	<0.3	10.50	59.10	1.27	265.00	<0.1	0.30	6210.00	<1	615.0	<3	0.350	0.87	<1	10400.00	<0.5
X4	**05/03/2012**	**DUPLICATE**	<0.03	2.00	0.20	<300	17.00	<0.05	<0.03	195.00	2.06	73.60	<0.5	0.90	82000.00		4.10	0.02	37.70	17400.00	<0.3	10.50	58.90	1.34	266.00	<0.1	<0.2	6150.00	<1	617.0	<3	0.360	0.80	<1	10400.00	<0.5
RPD (%)			N/A	85.71	40.00	N/A	2.33	N/A	N/A	1.53	6.00	1.92	N/A	40.00	1.21	N/A	5.00	6.45	2.10	0.57	N/A	0.00	0.34	5.36	0.38	N/A	N/A	0.97	N/A	0.32	N/A	2.82	8.38	N/A	0.00	N/A
Comments				Both values correctly entered into emLine; however, main sample value equal to PQL, and duplicate value not > PQL. Therefore, RPD analysis not valid in this case.																																	
Action				**Let Value Stand**																																
Result				Discrepancy between values remains.																																

RPD > 50%
RPD > 100%
Retest result to replace original result in emLine

Splits

			Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
Station	**Date**	**Sample Type**	**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**	**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**
X14	**05/03/2012**	**M**	<0.005	12.70	0.53	<50	69.20	<0.01	0.03	126.00	0.11	4.07	<0.1	1.04	710.00		2.46	0.01	29.60	4610.00	0.78	9.47	8.59	1.44	105.00	0.09	0.38	5950.00	<0.2	389.0	1.20	0.007	3.49	<0.2	32.20	<0.1
X14	**05/03/2012**	**SPLIT**	<0.005	12.40	0.52	<50	71.90	<0.01	0.02	129.00	0.11	4.04	<0.1	0.70	739.00		2.40	0.01	29.20	4520.00	0.78	8.99	8.34	1.29	101.00	0.07	0.44	6060.00	<0.2	391.0	0.60	0.006	3.50	<0.2	29.70	<0.1
RPD (%)			N/A	2.39	1.90	N/A	3.83	N/A	41.51	2.35	5.50	0.74	N/A	39.08	4.00	N/A	2.47	1.07	1.36	1.97	0.00	5.20	2.95	10.99	3.88	25.00	14.63	1.83	N/A	0.51	66.67	15.38	0.29	N/A	8.08	N/A
Comments																															Both values correctly entered into emLine; however, neither value > PQL. Therefore, RPD analysis not valid in this case.					
Action																															**Let Value Stand**					
Result																															Discrepancy between values remains.					
V25BSP	**06/03/2012**	**M**	<0.005	3.40	0.20	<50	24.50	<0.01	<0.005	179.00	0.21	0.02	<0.1	1.39	4.00	<0.01	1.74	0.01	35.10	2.14	0.47	7.12	0.85	0.04	189.00	0.11	0.69	5670.00	<0.2	536.0	<0.5	0.023	3.41	<0.2	86.80	<0.1
V25BSP	**06/03/2012**	**SPLIT**	<0.005	3.20	0.18	<50	24.20	<0.01	<0.005	171.00	0.21	0.02	<0.1	1.22	4.00	<0.01	1.63	0.01	33.90	1.99	0.51	6.76	0.73	0.04	183.00	0.12	0.64	5320.00	<0.2	534.0	<0.5	0.023	3.29	<0.2	83.10	<0.1
RPD (%)			N/A	6.06	10.53	N/A	1.23	N/A	N/A	4.57	0.47	10.53	N/A	13.03	0.00	N/A	6.53	33.11	3.48	7.26	8.16	5.19	15.19	5.00	3.23	8.70	7.52	6.37	N/A	0.37	N/A	0.00	3.58	N/A	4.36	N/A
Comments																																				
Action																																				
Result																																				

RPD > 50%
RPD > 100%
Retest result to replace original result in emLine

March 2012 QA/QC - Dissolved Metals

Blanks

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	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
SRK08-SPW3	05/03/2012	BLANK	<0.02	<3	<0.1	<1	<50	<0.1	<1	<0.05	<0.01	<0.5	<1	<0.2	<5	<0.05	<0.005	<0.05	<1	<0.05	<0.05	<1	<0.2	<0.5	<0.1	<100	<5	<1	<5	<0.05	<0.1	<5	<5	<0.5
Deionized Water			<0.005	<0.2	<0.02	<0.02	<50	<0.01	<0.005	<0.05	<0.005	<0.005	<0.1	<0.05	<1	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.005	<0.02	<0.04	<100	<0.01	<0.05	<0.5	<0.002	<0.002	<0.2	<0.1	<0.1
Times greater than DI water			4	15	5	50	1	10	200	1	2	100	10	4	5	1	0.01	1	20	20	1	50	40	25	2.5	1	500	20	10	25	50	25	50	5
Comments				Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,		Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,			Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,		Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,				Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,			Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,			Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,	Blank concentration not > PQL (detection limit for field blank higher than that used for DI water). Therefore,
Action				Let Value Stand	Let Value Stand	Let Value Stand		Let Value Stand	Let Value Stand			Let Value Stand	Let Value Stand		Let Value Stand				Let Value Stand	Let Value Stand		Let Value Stand	Let Value Stand	Let Value Stand			Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand	Let Value Stand
Result																																	

Blank value is a detection limit higher than that of DI water
Blank value > PQL and < retest limit
Blank value > retest limit
Retest result to replace original result in emLine

Duplicates

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	Hg-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
X4	05/03/2012	M	<0.03	4.00	0.30	16.10	<300	<0.05	0.04	191.00	2.08	76.90	<0.5	0.60	78800.00		4.00	0.02	38.80	18200.00	<0.3	10.70	62.60	0.61	<0.1	252.00	<0.2	6020.00	<1	611.0	<3	0.370	0.84	<1	10300.00	<0.5
X4	05/03/2012	DUPLICATE	<0.03	2.00	0.20	16.40	<300	<0.05	<0.03	196.00	1.95	75.70	<0.5	0.80	79200.00		4.10	0.02	38.50	18100.00	<0.3	10.80	62.00	0.38	<0.1	248.00	<0.2	6150.00	<1	614.0	<3	0.360	0.88	<1	10500.00	<0.5
RPD (%)			N/A	66.67	40.00	1.85	N/A	N/A	N/A	2.58	6.45	1.57	N/A	28.57	0.51	N/A	2.47	6.45	0.78	0.55	N/A	0.93	0.96	46.46	N/A	1.60	N/A	2.14	N/A	0.49	N/A	2.74	4.65	N/A	1.92	N/A
Comments				Both values correctly entered into emLine; however, neither value > PQL. Therefore,																																
Action				Let Value Stand																																
Result				Discrepancy between values																																
V15	06/03/2012	M	<0.03	3.00	0.50	36.80	<300	<0.05	<0.03	430.00	1.66	0.04	<0.5	2.20	10.00		6.50	0.02	392.00	0.50	1.00	14.80	123.00	0.30	<0.1	725.00	1.40	6190.00	<1	1340.0	<3	<0.01	61.30	<1	3150.00	<0.5
V15	06/03/2012	DUPLICATE	<0.03	4.00	0.60	37.70	<300	<0.05	<0.03	435.00	1.74	<0.03	<0.5	2.10	12.00		6.60	0.02	403.00	0.70	1.10	15.00	124.00	0.28	<0.1	732.00	1.50	6320.00	<1	1430.0	<3	<0.01	65.20	<1	3210.00	<0.5
RPD (%)			N/A	28.57	18.18	2.42	N/A	N/A	N/A	1.16	4.71	N/A	N/A	4.65	18.18	N/A	1.53	6.45	2.77	33.33	9.52	1.34	0.81	6.90	N/A	0.96	6.90	2.08	N/A	6.50	N/A	N/A	6.17	N/A	1.89	N/A
Comments																																				
Action																																				
Result																																				

RPD > 50%
RPD > 100%
Retest result to replace original result in emLine

Splits

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	Hg-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
X14	05/03/2012	M	<0.005	2.40	0.35	65.50	<50	<0.01	<0.005	127.00	0.09	4.24	<0.1	0.28	439.00		2.46	0.01	29.70	4710.00	0.75	9.74	8.61	0.21	0.07	104.00	0.40	6320.00	<0.2	382.0	1.80	0.008	3.62	<0.2	28.80	0.30
X14	05/03/2012	SPLIT	<0.005	2.80	0.35	65.50	<50	<0.01	0.01	125.00	0.10	4.25	<0.1	0.52	445.00		2.45	0.01	28.80	4790.00	0.76	9.48	8.73	0.20	0.07	104.00	0.38	6170.00	<0.2	384.0	<0.5	0.009	3.80	<0.2	33.80	<0.1
RPD (%)			N/A	15.38	0.00	0.00	N/A	N/A	N/A	1.59	4.26	0.24	N/A	60.00	1.36	N/A	0.41	1.10	3.08	1.68	1.32	2.71	1.38	3.94	0.00	0.00	5.13	2.40	N/A	0.52	N/A	11.76	4.85	N/A	15.97	N/A
Comments														Both values > PQL and correctly entered into emLine.																						
Action														Let Value Stand																						
Result														Discrepancy between values remains.																						
V25BSP	06/03/2012	M	<0.005	3.00	0.21	24.90	<50	<0.01	<0.005	198.00	0.21	0.02	<0.1	1.28	4.00	<0.01	1.77	0.01	35.90	2.20	0.53	7.23	0.79	0.04	0.12	203.00	0.68	6450.00	<0.2	557.0	<0.5	0.021	3.52	<0.2	89.40	<0.1
V25BSP	06/03/2012	SPLIT	<0.005	2.90	0.16	24.50	<50	<0.01	<0.005	190.00	0.21	0.02	<0.1	1.30	3.00	<0.01	1.76	0.01	36.40	2.02	0.49	7.26	0.82	0.02	0.11	196.00	0.72	6100.00	<0.2	560.0	<0.5	0.021	3.37	<0.2	87.80	<0.1
RPD (%)			N/A	3.39	27.03	1.62	N/A	N/A	N/A	4.12	1.41	10.53	N/A	1.55	28.57	N/A	0.57	8.00	1.38	8.53	7.84	0.41	3.73	62.50	8.70	3.51	5.71	5.58	N/A	0.54	N/A	0.00	4.35	N/A	1.81	N/A
Comments																								Both values > PQL and correctly entered into emLine.												
Action																								Let Value Stand												
Result																								Discrepancy between values remains.												

RPD > 50%
RPD > 100%
Retest result to replace original result in emLine

March 2012 QA/QC - General Parameters

Blanks

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	Colour TCU	COND µmho/cm	DOC mg/L	HCO3 mg/L	NH3 mg/L	OH mg/L	pH (blank)	SO4-d mg/L	TDS mg/L	TOC mg/L	TSS mg/L	TURB NTU
SRK08-SPW3	05/03/2012	BLANK	<0.5	<0.5	0.60	<0.5		<0.5	<0.5	<0.5		<1		0.73		<0.5	5.35	<0.5			<1	
Deionized Water			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.005	<0.5	5.95	<0.5	<10.0	<0.5	<4.0	<0.1
Times greater than DI water			1	1	1.2	1	0	1	1	1	0	1	0	1.46	0	1	0.60	1	0	0	0.25	0
Comments																						
Action																						
Result																						

Blank value is a detection limit higher than that of DI water
Blank value > PQL and < retest limit
Blank value > retest limit
Retest result to replace original result in emLine

Duplicates

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	Chloride mg/L	CN 4500 mg/L	CO3 mg/L	Colour TCU	COND µmho/cm	DOC mg/L	HCO3 mg/L	NH3 mg/L	NO2 mg/L	NO2/3 mg/L	NO3 mg/L	OH mg/L	ORP mV	pH (blank)	SO4-d mg/L	TDS mg/L	TOC mg/L	TSS mg/L	TURB NTU
X4	05/03/2012	M			33.40	<0.5	653.00	637.00	2.30		<0.5		1340.00		40.70	0.19	0.01	0.12	0.12	<0.5		6.26	761.00	1140.00		20.50	
X4	05/03/2012	DUPLICATE			31.90	<0.5	642.00	649.00	1.90		<0.5		1340.00		38.90	0.20	0.01	0.13	0.12	<0.5		6.29	750.00	1120.00		32.10	
RPD (%)			N/A	N/A	4.59	N/A	1.70	1.87	19.05	N/A	N/A	N/A	0.00	N/A	4.52	5.13	0.00	1.61	0.85	N/A	N/A	0.03	1.46	1.77	N/A	44.11	N/A
Comments																											
Action																											
Result																											
V15	06/03/2012	M	<0.5	53.30	516.00	<0.5		2690.00	1.70		<0.5		3480.00		629.00					<0.5	126.00	7.76	1850.00			<1	
V15	06/03/2012	DUPLICATE	<0.5	59.80	516.00	<0.5		2740.00	1.70		<0.5		3480.00		629.00					<0.5	126.00	7.77	1850.00			1.10	
RPD (%)			N/A	11.49	0.00	N/A	N/A	1.84	0.00	N/A	N/A	N/A	0.00	N/A	0.00	N/A	N/A	N/A	N/A	N/A	0.00	0.01	0.00	N/A	N/A	N/A	N/A
Comments																											
Action																											
Result																											

RPD > 50%
Retest result to replace original result in emLine

Splits

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	Chloride mg/L	CN 4500 mg/L	CO3 mg/L	Colour TCU	COND µmho/cm	DOC mg/L	HCO3 mg/L	NH3 mg/L	NO2 mg/L	NO2/3 mg/L	NO3 mg/L	OH mg/L	ORP mV	pH (blank)	SO4-d mg/L	TDS mg/L	TOC mg/L	TSS mg/L	TURB NTU
X14	05/03/2012	M			183.00	<0.5	437.00	440.00	0.90		<0.5		830.00	1.87	224.00	0.12	<0.005	0.23	0.23	<0.5		8.07	241.00	566.00	1.08	2.20	5.55
X14	05/03/2012	SPLIT			183.00	<0.5	442.00	432.00	0.70		<0.5		823.00	2.14	224.00	0.13	<0.005	0.23	0.23	<0.5		8.08	232.00	558.00	1.14	1.40	5.27
RPD (%)			N/A	N/A	0.00	N/A	1.14	1.83	25.00	N/A	N/A	N/A	0.85	13.47	0.00	8.00	N/A	1.75	1.75	N/A	N/A	0.01	3.81	1.42	5.41	44.44	5.18
Comments																											
Action																											
Result																											
V25BSP	06/03/2012	M			69.80	<0.5	592.00	643.00	<0.5		<0.5	<5	1060.00		85.10	0.02	<0.005	0.13	0.13	<0.5		7.78	519.00	802.00		<1	0.10
V25BSP	06/03/2012	SPLIT			70.20	<0.5	567.00	624.00	<0.5		<0.5	<5	1060.00		85.70	0.02	<0.005	0.15	0.15	<0.5		7.77	513.00	800.00		<1	0.10
RPD (%)			N/A	N/A	0.57	N/A	4.31	3.00	N/A	N/A	N/A	N/A	0.00	N/A	0.70	4.88	N/A	11.93	11.93	N/A	N/A	0.01	1.16	0.25	N/A	N/A	0.00
Comments																											
Action																											
Result																											

RPD > 50%
Retest result to replace original result in emLine

March 2012 QA/QC Lab vs. Field Comparison

		COND	CONDF	RPD	Comments	Action	Result	pH	pHF	Difference	Comments	Action	Result
Station	**Date**	**µmho/cm**	**µmho/cm**	**%**									
A30	07/03/2012	206	241	15.66				7.08	6.80	0.28			
ETA Combined	05/03/2012	7850	8380	6.53				5.51	6.25	0.74			
FAROCR	06/03/2012	106	99	6.83				7.84	8.13	0.29			
FCS-4	05/03/2012	7300	7040	3.63				5.67	6.94	1.27	Field and lab values correctly entered into emLine.	**Let Value Stand**	Discrepancy between lab and field values remains.
FD-40	07/03/2012	1420	1640	14.38				4.86	5.58	0.72			
GDHSECK	05/03/2012	1190	1292	8.22				8.13	7.97	0.16			
MOOSE SEEP	06/03/2012	2130	300	150.62	Field and lab values correctly entered into emLine.	**Let Value Stand**	Field value double-checked. Retest request would be filed past hold time. Discrepancy between values remains.	8.12	7.87	0.25			
NF2	06/03/2012	290	254	13.24				7.86	7.40	0.46			
NFRC SC-1	06/03/2012	289	262	9.80				7.93	7.69	0.24			
NFRC SC-2	06/03/2012	293	261	11.55				7.97	8.28	0.31			
NFRC SC-3	06/03/2012	294	270	8.51				7.89	7.70	0.19			
NFRC SC-4	06/03/2012	295	274	7.38				8.00	8.52	0.52			
R10	06/03/2012	284	262	8.06				8.08	7.65	0.43			
R7	06/03/2012	264	241	9.11				8.08	7.84	0.24			
R8	06/03/2012	258	237	8.48				8.08	7.88	0.2			
R9	06/03/2012	285	260	9.17				8.08	7.89	0.19			
SRK GD01	06/03/2012	3210	2824	12.79				8.14	7.65	0.49			
SRK05-9	06/03/2012	2040	750	92.47	Field and lab values correctly entered into emLine.	**Let Value Stand**	Retest request would be filed past hold time. Discrepancy between values remains.	7.97	7.55	0.42			
SRK05-9	19/03/2012	2010	2800	32.85	Field and lab values correctly entered into emLine.	**Let Value Stand**	Discrepancy between lab and field values remains.	7.81	7.67	0.14			
SRK08-SPW1	05/03/2012	1130	1048	7.53				6.41	6.13	0.28			
SRK08-SPW2	05/03/2012	4150	3466	17.96				6.47	6.21	0.26			
SRK08-SPW3	05/03/2012	5680	5870	3.29				6.61	6.06	0.55			
V1	07/03/2012	121	113	6.84				7.84	7.71	0.13			
V15	06/03/2012	3480	2220	44.21	Field and lab values correctly entered into emLine.	**Let Value Stand**	Discrepancy between lab and field values remains.	7.76	7.00	0.76			
V15	19/03/2012	3510	4110	15.75				7.45	7.23	0.22			
V2	06/03/2012	2020	1844	9.11				8.19	7.98	0.21			
V22	06/03/2012	2130	1970	7.80				4.38	5.61	1.23	Field and lab values correctly entered into emLine.	**Let Value Stand**	Discrepancy between lab and field values remains.
V23	06/03/2012	1070	987	8.07				8.09	8.04	0.05			
V25BSP	06/03/2012	1060	965	9.38				7.78	7.40	0.38			
V27	07/03/2012	613	291	71.24	Field and lab values correctly entered into emLine.	**Let Value Stand**	Retest request would be filed past hold time. Discrepancy between values remains.	8.10	8.65	0.55			
V4	07/03/2012	710	691	2.71				8.25	8.10	0.15			
V5	07/03/2012	770	771	0.13				8.26	8.23	0.03			
V8	07/03/2012	729	833	13.32				8.28	8.32	0.04			
Weir 3	08/03/2012	2050	1230	50.00	Field and lab values correctly entered into emLine.	**Let Value Stand**	Retest request would be filed past hold time. Discrepancy between values remains.	7.50	6.86	0.64			
X10	05/03/2012	322	329	2.15				8.12	8.03	0.09			
X11	08/03/2012	3090	1990	43.31	Field and lab values correctly entered into emLine.	**Let Value Stand**	Discrepancy between lab and field values remains.	7.41	6.83	0.58			
X12	08/03/2012	1800	1060	51.75	Field and lab values correctly entered into emLine.	**Let Value Stand**	Retest request would be filed past hold time. Discrepancy between values remains.	7.73	7.32	0.41			
X13	08/03/2012	2540	1780	35.19	Field and lab values correctly entered into emLine.	**Let Value Stand**	Discrepancy between lab and field values remains.	7.62	6.93	0.69			
X14	05/03/2012	830	771	7.37				8.07	7.90	0.17			
X2	05/03/2012	306	305	0.33				8.02	7.69	0.33			
X22b	05/03/2012	1330	1357	2.01				7.55	7.27	0.28			
X3	05/03/2012	304	308	1.31				8.11	7.79	0.32			

Denison Environmental Services

March 2012 High/Lows
Flagged Results

Faro Mine Closure

Station	Analyte	Date	10 Year Low		10 Year High		10 Year Average	10 Year Median	10 Year Standard Deviation	10 Year Count, N		Result	Units	Comments	Action	Result Flag	Result
FAROCR	Cu	6-Mar-12	0.00063		0.067		0.00504	0.00159	0.0095563	68		0.0006	mg/L				
GDHSECK	NH3	5-Mar-12	0.01	DL	0.44		0.0725	0.0215	0.133105	10		0.0096	mg/L				
GDHSECK	Sn	5-Mar-12	0.00001	DL	5E-05		1.4E-05	0.00001	1.265E-05	10	<	0.0002	mg/L				
GDHSECK	Sn-d	5-Mar-12	0.00001	DL	5E-05		1.9E-05	0.00001	1.663E-05	10	<	0.0002	mg/L				
MOOSE SEEP	CONDF	6-Mar-12	1163		2600		2091.91	2170	332.22363	57		300	µmho/cm	Result correctly entered into emLine.	**Let Value Stand**	**Value is low**	Low value remains. Too late to recheck.
NFRC SC-1	Ba-d	6-Mar-12	0.00002		0.0736		0.05388	0.05795	0.0165958	24		0.0738	mg/L				
NFRC SC-2	Ba-d	6-Mar-12	0.00026		0.073		0.05437	0.0582	0.0170856	24		0.0741	mg/L				
NFRC SC-4	Ba	6-Mar-12	0.0276		0.0775		0.0534	0.0559	0.0161425	23		0.0788	mg/L				
NFRC SC-4	Bi	6-Mar-12	0.000005	DL	3E-05	DL	8E-06	5E-06	6.317E-06	22		5E-05	mg/L	Result > PQL and correctly entered into emLine. Significant increasing trend for this parameter at this site, so higher result not unexpected.	**Let Value Stand**		High value remains.
NFRC SC-4	pHF	6-Mar-12	6.95		8.41		7.63773	7.59	0.2714499	22		8.52	(blank)				
SRK05-9	CONDF	6-Mar-12	1010		2700		2069.93	2129.5	373.56694	78		750	µmho/cm				
SRK05-9	CONDF	19-Mar-12	1010		2700		2069.93	2129.5	373.56694	78		2800	µmho/cm				
V22	Fe	6-Mar-12	0.001	DL	115		17.6322	4.19	26.948521	40		130	mg/L				
V22	Fe-d	6-Mar-12	0.001	DL	101		14.5127	0.7585	24.237297	40		124	mg/L				
V25BSP	Co-d	6-Mar-12	0.000021		0.038		0.00277	0.001	0.0048771	134		2E-05	mg/L				
V25BSP	Pb-d	6-Mar-12	0.00005		0.021		0.00157	0.001	0.0024516	134		4E-05	mg/L				
V25BSP	Tl-d	6-Mar-12	0.000024		0.002	DL	0.00056	0.0003	0.0005912	121		2E-05	mg/L				
V4	Li	7-Mar-12	0.0005		0.0062		0.0046	0.0049	0.001109	49		0.0065	mg/L				
V4	NO2/3	7-Mar-12	0.02	DL	0.155		0.08083	0.09	0.0475936	23		0.174	mg/L				
V5	NO2/3	7-Mar-12	0.02	DL	0.216		0.10405	0.09	0.06901	19		0.22	mg/L				
V5	NO3	7-Mar-12	0.02	DL	0.216		0.10195	0.09	0.0710098	19		0.22	mg/L				
V8	TURB	7-Mar-12	0.24		50		14.1447	0.89	77.922827	77		0.22	NTU				
Weir 3	Co-d	8-Mar-12	0.000005		0.0082		0.00463	0.004	0.0018379	17		0.0086	mg/L				
Weir 3	COND	8-Mar-12	2		2000		1599.33	1690	280.77614	15		2050	µmho/cm				
Weir 3	CONDF	8-Mar-12	1656		2030		1834.57	1853	134.47163	7		1230	µmho/cm	Result correctly entered into emLine.	**Let Value Stand**	**Value is low**	Low value remains. Too late to recheck.
Weir 3	Mn-d	8-Mar-12	0.00005		17.8		9.96447	8.46	3.9481636	17		19	mg/L				
Weir 3	Ni-d	8-Mar-12	0.00002		0.0259		0.01568	0.015	0.0066279	17		0.0374	mg/L	Result > PQL and correctly entered into emLine.	**Let Value Stand**		High value remains.
Weir 3	ORP	8-Mar-12	1		95		62	57	36.878178	7		161	mV	Result correctly entered into emLine.	**Let Value Stand**		High value remains.
X10	CaCO3	5-Mar-12	37.2		168		120.186	127	39.442639	36		169	mg/L				
X11	Acid(pH8.	8-Mar-12	27.5		60.7		39.4833	36	11.551695	6		17.6	mg/L				
X11	Co-d	8-Mar-12	0.01		0.0444		0.01825	0.0155	0.0073547	40		0.0528	mg/L	Result > PQL and correctly entered into emLine.	**Let Value Stand**		High value remains.
X11	COND	8-Mar-12	0.91		2970		2234.17	2210	672.49286	17		3090	µmho/cm				
X11	CONDF	8-Mar-12	2155		2910		2481.57	2460	289.60252	7		1990	µmho/cm				
X11	Fe-d	8-Mar-12	0.01	DL	5.94		0.7996	0.1675	1.6529251	40		7.64	mg/L	Result > PQL and correctly entered into emLine.	**Let Value Stand**		High value remains.

Yellow Cells: Result is more than 1 SD above/below high/low limit
Red Cells: Result is more than 2 SDs above/below high/low limit

Denison Environmental Services

March 2012 High/Lows
Flagged Results

Faro Mine Closure

Station	Analyte	Date	10 Year Low		10 Year High		10 Year Average	10 Year Median	10 Year Standard Deviation	10 Year Count, N		Result	Units	Comments	Action	Result Flag	Result
X11	Mn-d	8-Mar-12	9.957		35.9		16.0748	13.845	5.9893584	40		39.1	mg/L				
X11	Ni-d	8-Mar-12	0.006		0.0516		0.02047	0.0175	0.0091212	40		0.0663	mg/L	Result > PQL and correctly entered into emLine.	**Let Value Stand**		High value remains.
X11	ORP	8-Mar-12	4		96		61.2	58	34.895558	7		161	mV	Result correctly entered into emLine.	**Let Value Stand**		High value remains.
X11	SO4-d	8-Mar-12	606		1600		934.478	839	242.99892	46		1700	mg/L				
X11	TSS	8-Mar-12	3		16		8.575	8	2.9516401	40		17.9	mg/L				
X11	U-d	8-Mar-12	0.0032		0.0068		0.00472	0.0048	0.0008932	16		0.0073	mg/L				
X12	Acid(pH8.	8-Mar-12	5.2		22.2		16.0333	17.4	5.748623	6		3.8	mg/L				
X12	CaCO3-d	8-Mar-12	697		983		820.833	829	109.6274	6		998	mg/L				
X12	Ca-d	8-Mar-12	111.3		282		163.903	151.5	37.625117	38		289	mg/L				
X12	Cd-d	8-Mar-12	0.000016		0.002		0.00028	0.0002	0.0003553	38		2E-05	mg/L				
X12	COND	8-Mar-12	0.05	DL	1670		1130.47	1180	388.48136	15		1800	µmho/cm				
X12	Fe-d	8-Mar-12	0.002	DL	0.078		0.02911	0.0215	0.0219321	38		0.292	mg/L	Result > PQL and correctly entered into emLine. Significant increasing trend for this parameter at this site, so higher result not unexpected. However, this result much higher than typical values at this site.	**Let Value Stand**	**Value is high**	High value remains. Will apply result flag for now; if future results corroborate value, flag will be removed.
X12	ORP	8-Mar-12	5		119		76.8	71	43.591284	7		148	mV				
X12	Pb-d	8-Mar-12	0.00013		0.012		0.00302	0.002	0.0031475	38		7E-05	mg/L				
X12	S-d	8-Mar-12	77		284		133.703	115.5	48.957466	30		308	mg/L				
X12	SO4-d	8-Mar-12	237		730		381.067	346	106.7549	45		823	mg/L				
X12	Sr-d	8-Mar-12	0.341		0.819		0.48489	0.4435	0.1151816	38		0.846	mg/L				
X12	U-d	8-Mar-12	0.0005	DL	0.0155		0.00898	0.00814	0.0039741	14		0.0173	mg/L				
X13	Acid(pH8.	8-Mar-12	17.1	DL	50.4		28.6432	26.5	9.4440911	37		11.8	mg/L				
X13	Co-d	8-Mar-12	0.002		0.0229	DL	0.00985	0.009	0.0047565	122		0.0351	mg/L	Result > PQL and correctly entered into emLine. Significant increasing trend for this parameter at this site, so higher result not unexpected.	**Let Value Stand**		High value remains.
X13	Colour	8-Mar-12	5	DL	40		9.08889	5	7.5172378	90		60	TCU	Result > PQL and correctly entered into emLine. Significant increasing trend for this parameter at this site, so higher result not unexpected.	**Let Value Stand**		High value remains.
X13	LC50	8-Mar-12	100		100		100	100	0	12		80	%v/v	Result correctly entered into emLine.	**Let Value Stand**		Insufficient sample remaining for retest.
X13	Mg-d	8-Mar-12	30.2		101		59.7279	52.55	17.513	122		106	mg/L				
X13	Mn-d	8-Mar-12	5.06		27.8		13.3298	10.9105	5.3084755	122		31.6	mg/L				
X13	Ni-d	8-Mar-12	0.007		0.0408		0.01879	0.015	0.0075488	122		0.052	mg/L	Result > PQL and correctly entered into emLine.	**Let Value Stand**		High value remains.
X13	SO4-d	8-Mar-12	61.6		1300		820.012	785	215.43007	129		1310	mg/L				
X13	Sr-d	8-Mar-12	0.39		1.18		0.7432	0.671	0.1840863	122		1.2	mg/L				
X14	NO3	5-Mar-12	0.02	DL	0.22		0.1047	0.08	0.0715135	58		0.226	mg/L				
X22b	Mg-d	5-Mar-12	13.3		83		62.3342	62.7	13.158347	120		84.5	mg/L				
X5P	Fe-d	5-Mar-12	0.007		0.49		0.10268	0.05	0.1338312	73		0.59	mg/L				

Yellow Cells: Result is more than 1 SD above/below high/low limit
Red Cells: Result is more than 2 SDs above/below high/low limit

Denison Environmental Services

March 2012 High/Lows
Action Record

Faro Mine Closure

Date of Action	Parameter Information					Action
	Station	Analyte	Date	Result	Units	
06/03/2012	R9	S-d	9-Jan-12	1660	mg/L	Added "Value is high" result flag in emLine.
06/03/2012	V25BSP	Chloride	26-Jan-12	22	mg/L	Added "Value is high" result flag in emLine.
06/03/2012	V25BSP	Na	26-Jan-12	21.4	mg/L	Added "Value is high" result flag in emLine.
06/03/2012	V25BSP	Na-d	26-Jan-12	22.5	mg/L	Added "Value is high" result flag in emLine.
06/03/2012						Posted January 2012 results in emLine.
12/03/2012	X5P	Fe-d	6-Feb-12	0.759	mg/L	Added "Value is high" result flag in emLine.
12/03/2012						Posted February 2012 results in emLine.
28/03/2012	MOOSE SE	CONDF	6-Mar-12	300	µS/cm	Added "Value is low" result flag in emLine.
28/03/2012	Weir 3	CONDF	8-Mar-12	1230	µS/cm	Added "Value is low" result flag in emLine.
28/03/2012	X12	Fe-d	8-Mar-12	0.292	mg/L	Added "Value is high" result flag in emLine.
28/03/2012						Posted March 2012 results in emLine.

4 – FLOWS

Field Flows

Denison Environmental Services

Field Notes - Flows

Faro Mine Closure

March 2012													
Rose Creek Drainage													
Site	**Water Type**	**Date**	**Time**	**Staff Gauge (m)**	**Weir Measurement (m)**	**Flow (l/s)**	**Type of Flow**	**Well Water Level (m)**	**Depth to Bottom (m)**	**Purge Volume (L)**	**Purge Rate (L/s)**	**Flow/Level Monitored**	**Comments**
NWID	SURFACE	27-Mar-12	09:00			0.02	Estimation					√	
A30	SEEPAGE	7-Mar-12	09:50			0.30	Estimation					√	
ETA Combined	SURFACE	5-Mar-12	15:00			2.59	Volumetric					√	
FAROCR	SURFACE	6-Mar-12	16:10				In-stream					x	
FCO	SURFACE	7-Mar-12	10:38			0.00	Calc					√	Frozen. No flow.
FCO	SURFACE	7-Mar-12	10:39			0.00	Calc					√	Frozen. No flow - no sample.
FCS-4	SURFACE	5-Mar-12	15:40		0.09	3.04	Calc					√	
FD-40	SEEPAGE	7-Mar-12	09:36			0.55	Estimation					√	
GDHSECK	SURFACE	5-Mar-12	15:58			3.50	Estimation					√	
NF2	SURFACE	6-Mar-12	11:25				In-stream					x	
NFRC SC-1	SURFACE	6-Mar-12	11:06			329.00	Salt Slug					√	
NFRC SC-2	SURFACE	6-Mar-12	10:53			329.00	Salt Slug					√	
NFRC SC-3	SURFACE	6-Mar-12	10:00			304.00	Salt Slug					√	
NFRC SC-4	SURFACE	6-Mar-12	09:00			294.00	Salt Slug					√	
R10	SURFACE	6-Mar-12	12:58				Salt Slug					x	
R7	SURFACE	6-Mar-12	15:10			285.00	Salt Slug					√	
R8	SURFACE	6-Mar-12	14:57				Salt Slug					x	
R9	SURFACE	6-Mar-12	14:25			263.00	Salt Slug					√	
SRK08-SPW1	GROUND	5-Mar-12	16:14			0.88	In-line					√	
SRK08-SPW2	GROUND	5-Mar-12	15:56			1.08	In-line					√	
SRK08-SPW3	GROUND	5-Mar-12	16:01			2.40	In-line					√	
Weir 3	SEEPAGE	8-Mar-12	14:56		0.07	2.03	Calc					√	
X10	SURFACE	5-Mar-12	15:00				In-stream					x	
X11	SEEPAGE	8-Mar-12	14:43		0.14	10.72	Calc					√	
X12	SEEPAGE	8-Mar-12	13:55		0.02	0.10	Calc					√	
X13	SEEPAGE	1-Mar-12	14:10		0.05	17.12	Calc					√	
X13	SEEPAGE	8-Mar-12	14:34		0.06	22.56	Calc					√	
X14	SURFACE	5-Mar-12	11:30			388.00	Salt Slug					√	
X2	SURFACE	5-Mar-12	16:20				In-stream					x	
X23	SEEPAGE	7-Mar-12	10:50			0.00	Calc					√	Frozen. No sample - no flow.
X3	SURFACE	5-Mar-12	15:35				In-stream					x	
X3A	SURFACE	5-Mar-12	15:17				In-stream					x	
Vangorda Creek Drainage													
MOOSE SEEP	SEEPAGE	6-Mar-12	10:20			0.20	Estimation					√	
SRK GD01	SEEPAGE	6-Mar-12	13:50			0.20	Estimation					√	
SRK05-9	GROUND	6-Mar-12	09:32					3.0740	3.972	1.3	0.012	√	
SRK05-9	GROUND	15-Mar-12	14:00					3.1030	3.979	2.5	0.01	√	
V1	SURFACE	7-Mar-12	15:20			91.00	In-stream					√	
V15	SEEPAGE	6-Mar-12	11:19			0.50	Estimation					√	
V15	SEEPAGE	19-Mar-12	14:35			0.80	Estimation					√	
V2	SURFACE	6-Mar-12	09:40			1.20	Estimation					√	
V2	SURFACE	6-Mar-12	10:00			1.20	Estimation					√	
V25BSP	SURFACE	6-Mar-12	14:00		0.04	0.41	Calc					√	
V27	SURFACE	7-Mar-12	11:15			83.00	Salt Slug					√	
V2A	SURFACE	6-Mar-12	10:40				Estimation					x	
V4	SURFACE	7-Mar-12	11:35			0.30	Estimation					√	
V5	SURFACE	7-Mar-12	11:45			99.00	Salt Slug					√	
V8	SURFACE	7-Mar-12	11:00				Salt Slug					x	Flow result suspect.

Weir Flows

X11

January 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Jan-2012	14:05	3.5	6.76	0.102	4.53	
12-Jan-2012	13:10	1.4	6.81	0.096	3.89	
23-Jan-2012	13:10	0.7	7.01	0.104	4.75	
26-Jan-2012	17:35	1.5	6.95	0.103	4.64	
February 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
02-Feb-2012	14:00	1.5	6.92	0.105	4.87	
09-Feb-2012	16:00	0.6	6.95	0.098	4.1	
16-Feb-2012	14:45	2.8	6.95	0.095	3.79	
23-Feb-2012	15:56	3.2	6.98	0.122	7.09	
March 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
01-Mar-2012	14:12	2.4	7.22	0.149	11.68	
08-Mar-2012	14:44	2.8	6.83	0.144	10.72	
15-Mar-2012	14:55	3.4	7.25	0.142	10.36	
28-Mar-2012	16:32	5.1	6.96	0.133	8.79	
26-Mar-2012	09:51	2.3	7.23	0.139	9.82	

X12

January 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Jan-2012	14:30	0.9	7.09	0.023	0.11	
12-Jan-2012	13:34	0.8	7.16	0.015	0.04	
23-Jan-2012	13:34	0.0	7.47	0.022	0.10	
26-Jan-2012	12:50	1.0	7.52	0.024	0.12	
February 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
02-Feb-2012	14:45	0.1	7.35	0.014	0.03	
09-Feb-2012	16:15	0.7	7.17	0.012	0.02	
16-Feb-2012	14:55	1.3	7.27	0.025	0.13	
23-Feb-2012	16:13	0.5	7.33	0.024	0.12	
March 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
01-Mar-2012	14:38	0.3	7.5	0.021	0.09	
08-Mar-2012	13:56	0.6	7.32	0.022	0.10	
15-Mar-2012	15:10	0.9	7.37	0.018	0.06	
28-Mar-2012	16:55	1.8	7.44	0.024	0.12	
26-Mar-2012	11:16	1.6	7.68	0.033	0.27	

Weir 3

January 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Jan-2012	14:16	1.9	6.88	0.078	2.32	
12-Jan-2012	13:29	2.3	6.86	0.068	1.64	
23-Jan-2012	13:23	0.4	7.15	0.058	1.10	
26-Jan-2012	17:45	1.8	7.2	0.064	1.41	
February 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
02-Feb-2012	14:50	2.2	6.99	0.072	1.9	
09-Feb-2012	16:09	1.8	7.01	0.067	1.58	
16-Feb-2012	14:52	2.2	7.15	0.073	1.96	
23-Feb-2012	16:05	0.9	7.08	0.075	2.1	
March 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
01-Mar-2012	14:07	2.4	7.36	0.068	1.64	
08-Mar-2012	14:55	2.1	6.86	0.074	2.03	
15-Mar-2012	15:05	2.7	7.07	0.078	2.32	
28-Mar-2012	16:50	3.2	6.95	0.075	2.1	
26-Mar-2012	11:08	3.1	7.19	0.078	2.32	

January 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Jan-2012	14:08	2	6.88	0.0475	17.39	
12-Jan-2012	13:21	1.7	7.14	0.038	12.45	
23-Jan-2012	13:15	1.3	7.03	0.052	19.92	
26-Jan-2012	17:40	2.2	7.05	0.0485	17.95	
February 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
02-Feb-2012	13:38	1.9	6.67	0.0365	11.72	
09-Feb-2012	16:03	1.1	7.07	0.037	11.96	
16-Feb-2012	14:48	2.5	7.18	0.0395	13.19	
23-Feb-2012	15:59	1.9	7.19	0.052	19.92	
March 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
01-Mar-2012	14:10	1.8	7.32	0.047	17.12	
08-Mar-2012	14:35	2.7	6.93	0.0565	22.56	
15-Mar-2012	15:00	2.8	7.17	0.054	21.08	
28-Mar-2012	16:45	4.3	6.99	0.05	18.79	
26-Mar-2012	09:54	1.2	7.22	0.0535	20.79	

X23

January 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Jan-2012	00:00					Frozen at weir.
12-Jan-2012	00:00					Frozen at weir.
19-Jan-2012	00:00					Frozen at weir.
26-Jan-2012	00:00					Frozen at weir.
February 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
02-Feb-2012	10:33					Frozen at weir.
09-Feb-2012	15:50					Frozen at weir.
16-Feb-2012	15:10					Frozen at weir.
23-Feb-2012	16:30					Frozen at weir.
March 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
01-Mar-2012	15:30					Frozen at weir.
07-Mar-2012	10:52					Frozen at weir.
15-Mar-2012	15:30					Frozen at weir.
22-Mar-2012	00:00					Frozen at weir.
26-Mar-2012	11:47					Frozen at weir.

FCO

January 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Jan-2012	00:00					
February 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Feb-2012	00:00					
March 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
07-Mar-2012	10:38					Frozen at weir.

FCS-4

January 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
12-Jan-2012	15:40	1.6	6.67	0.086	2.96	
February 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
02-Feb-2012	10:47	1.3	6.91	0.096	3.89	
March 2012						
Date	**Time**	**Temp**	**pH**	**Weir (m)**	**Flow (L/s)**	**Comment**
05-Mar-2012	15:30	0.7	6.94	0.087	3.04	

ETA Mill

January 2012						
Date	**Time**	**Temp**	**pH**	**S.G (m)**	**Flow (L/s)**	**Comment**
01-Jan-2012	00:00					Mill shut down for winter.
February 2012						
Date	**Time**	**Temp**	**pH**	**S.G (m)**	**Flow (L/s)**	**Comment**
01-Feb-2012	00:00					Mill shut down for winter.
March 2012						
Date	**Time**	**Temp**	**pH**	**S.G (m)**	**Flow (L/s)**	**Comment**
01-Mar-2012	00:00					Mill shut down for winter.

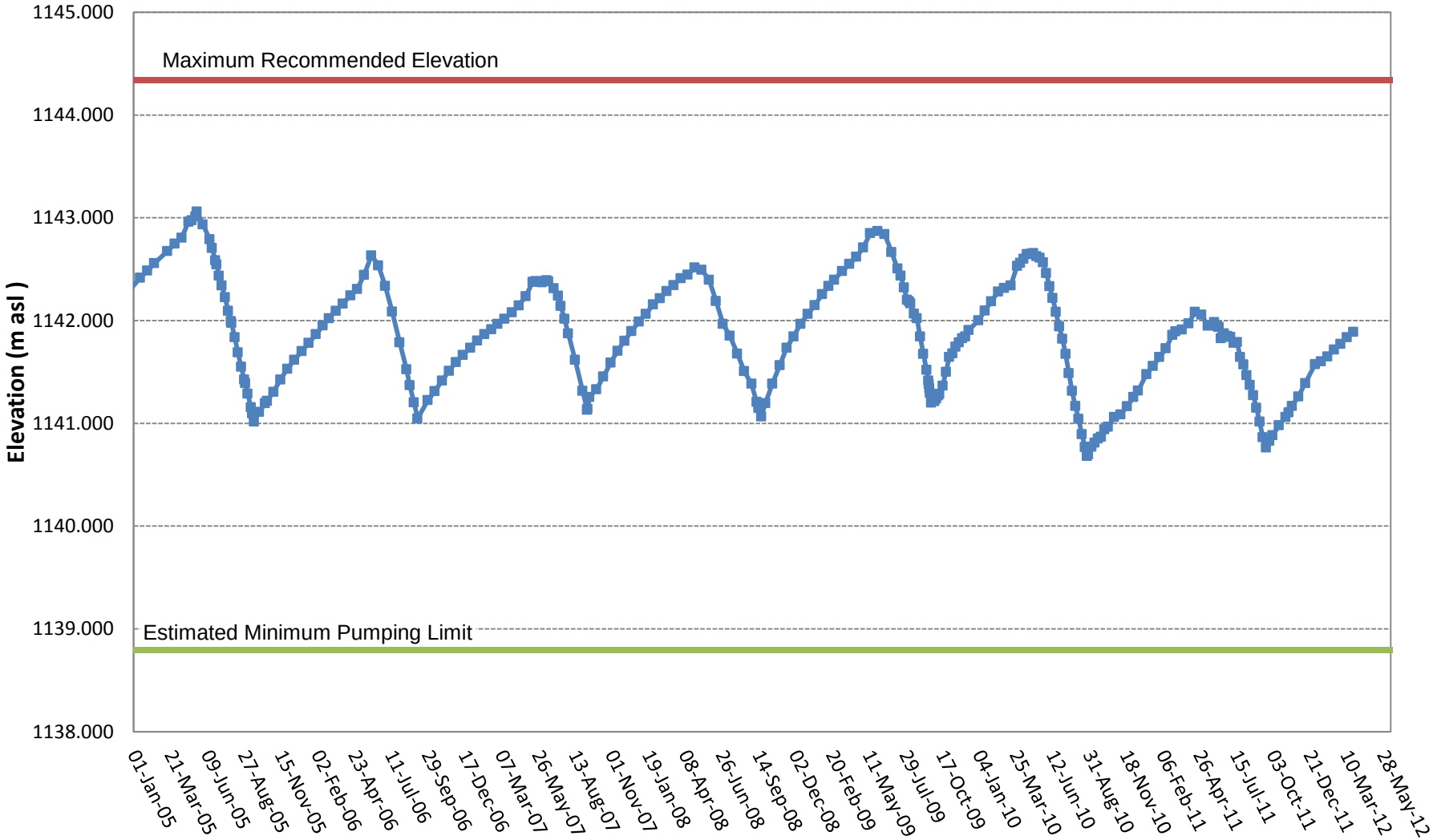
5 – PIT ELEVATIONS

Levels

Denison Environmental Services

Faro Pit Water Elevations

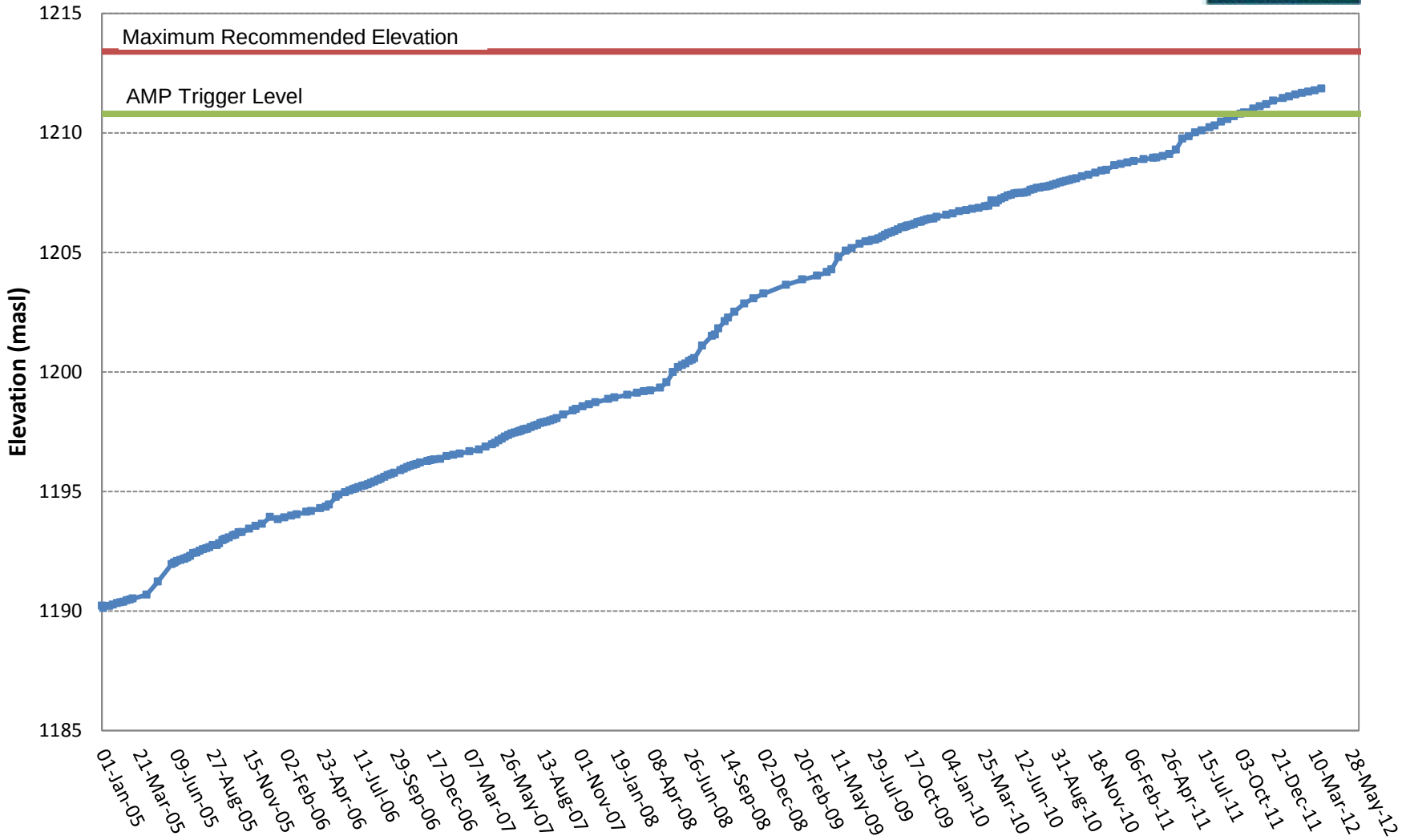
Faro Mine Closure



Denison Environmental Services

Grum Pit Water Elevations

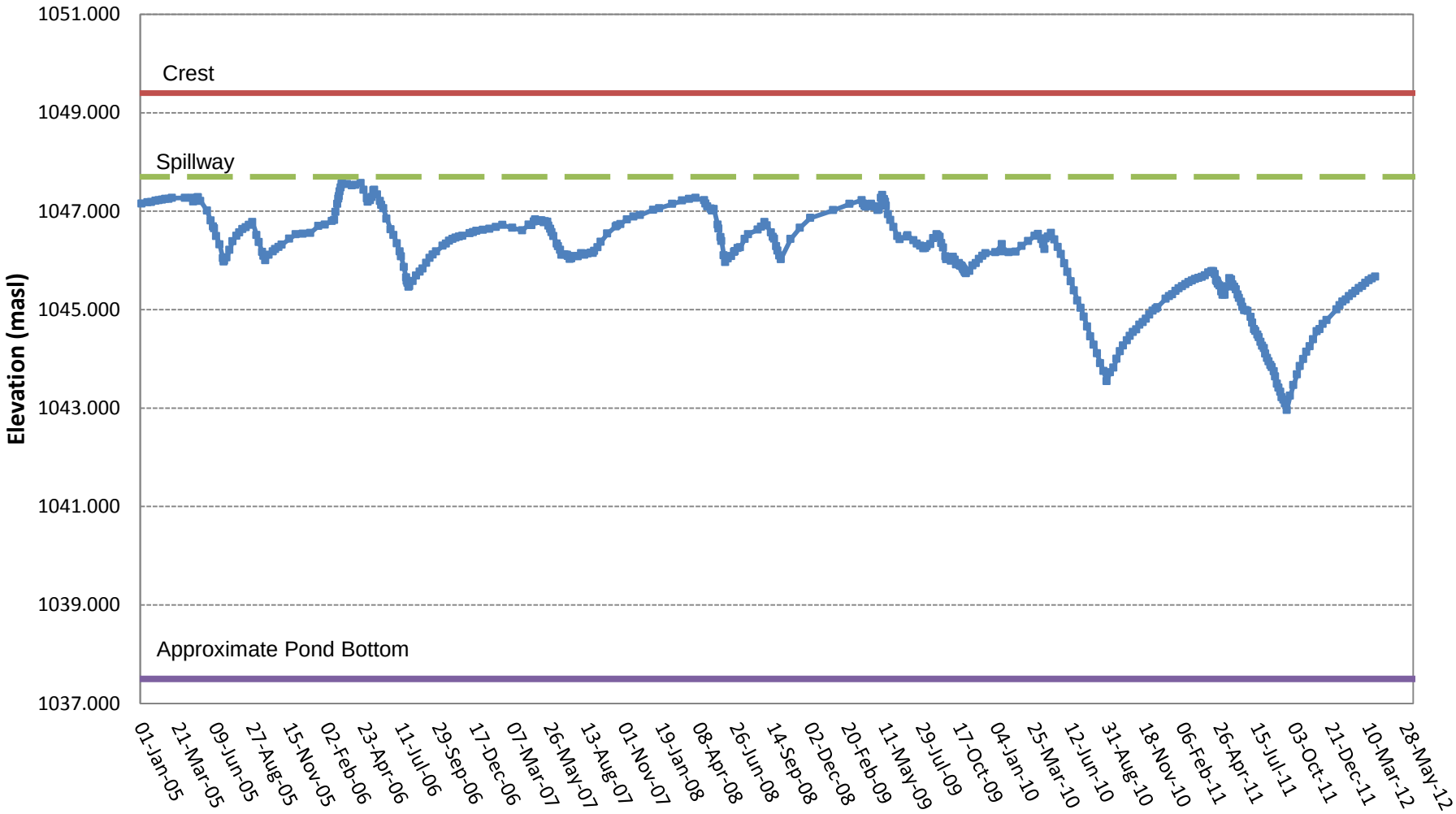
Faro Mine Closure



Denison Environmental Services

Intermediate Pond Water Elevations

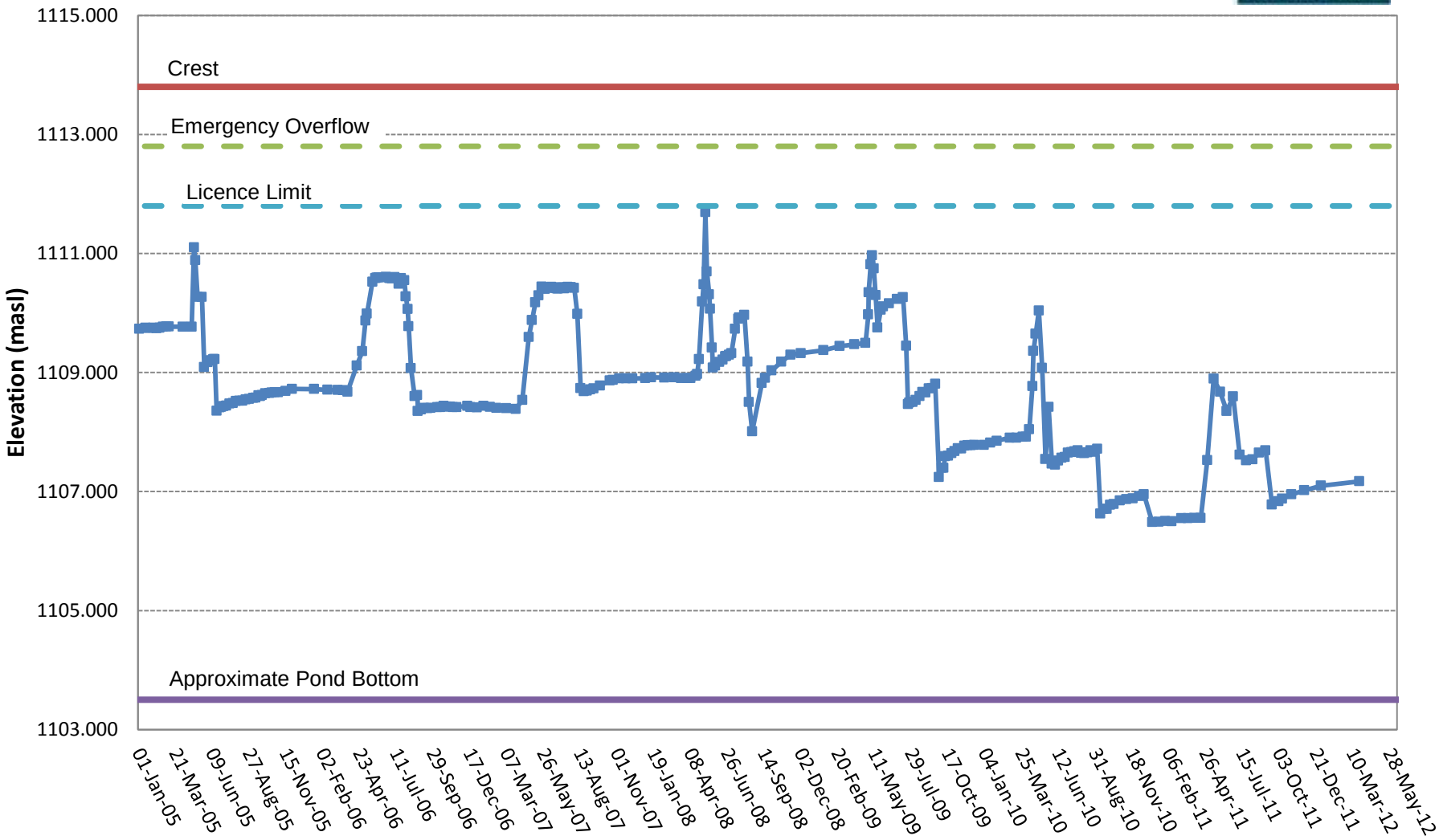
Faro Mine Closure



Denison Environmental Services

Little Creek Dam Water Elevations

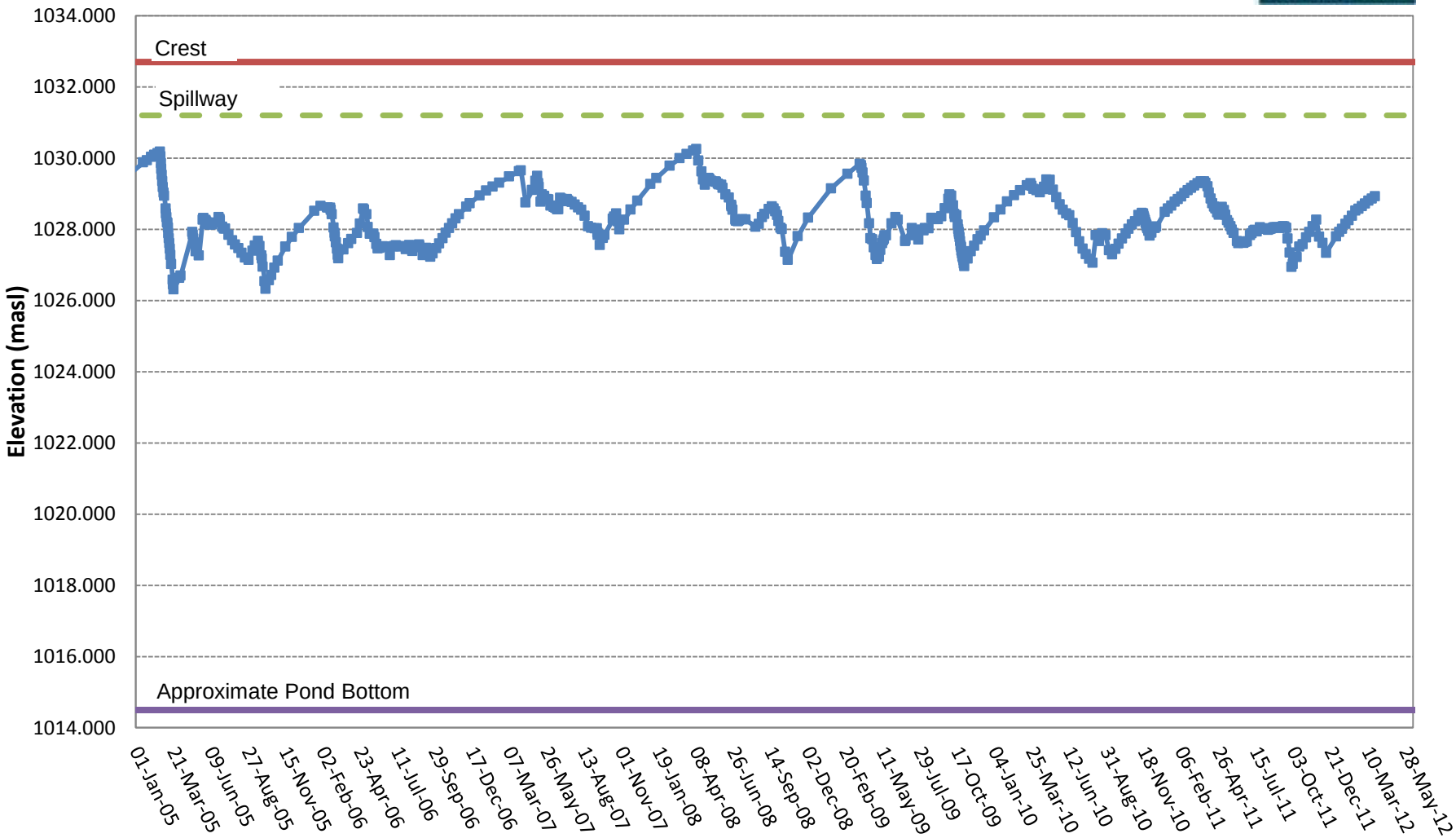
Faro Mine Closure



Denison Environmental Services

Polishing Pond Water Elevations

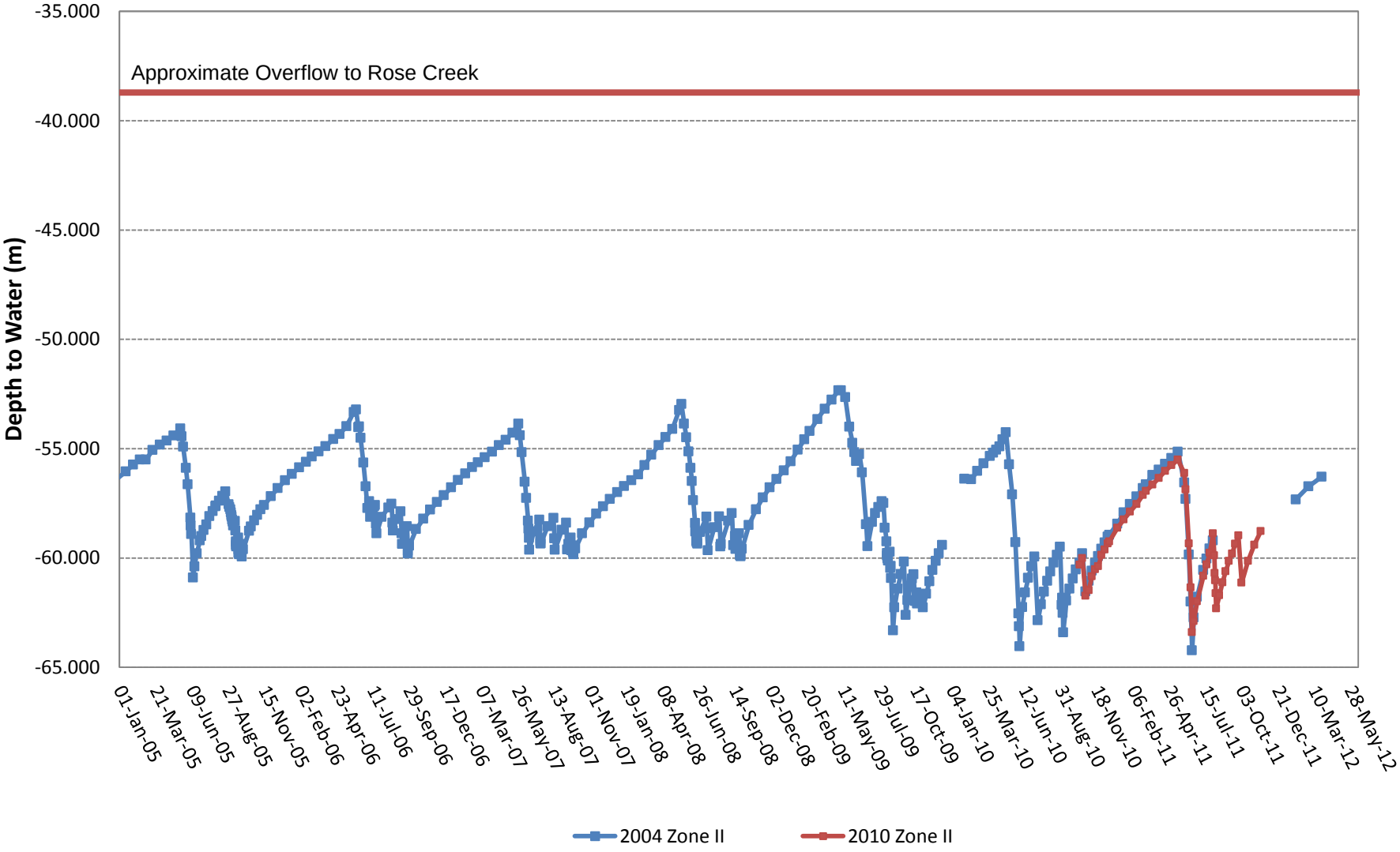
Faro Mine Closure



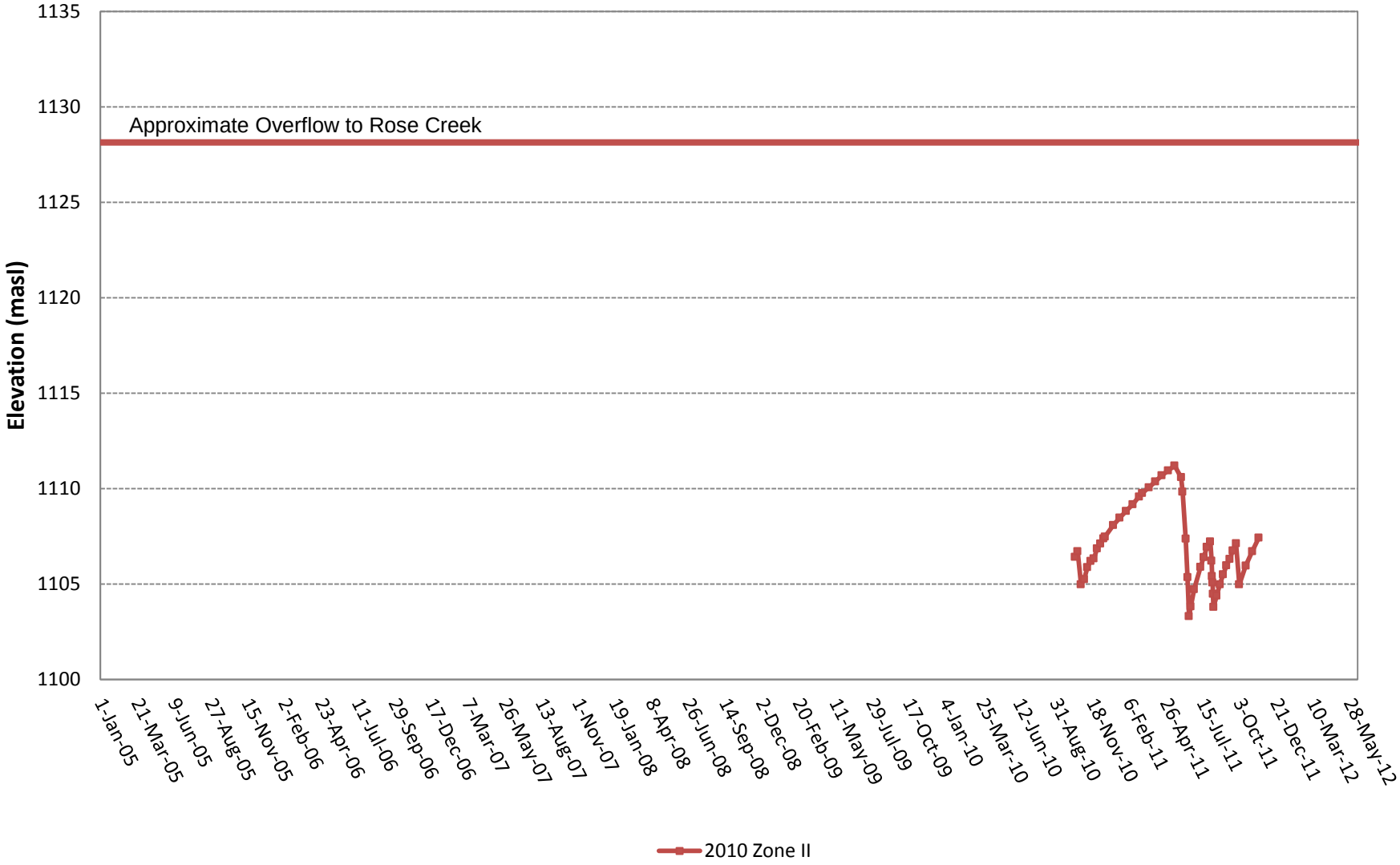
Denison Environmental Services

Measured Water Level in Faro Zone II Pit

Faro Mine Closure



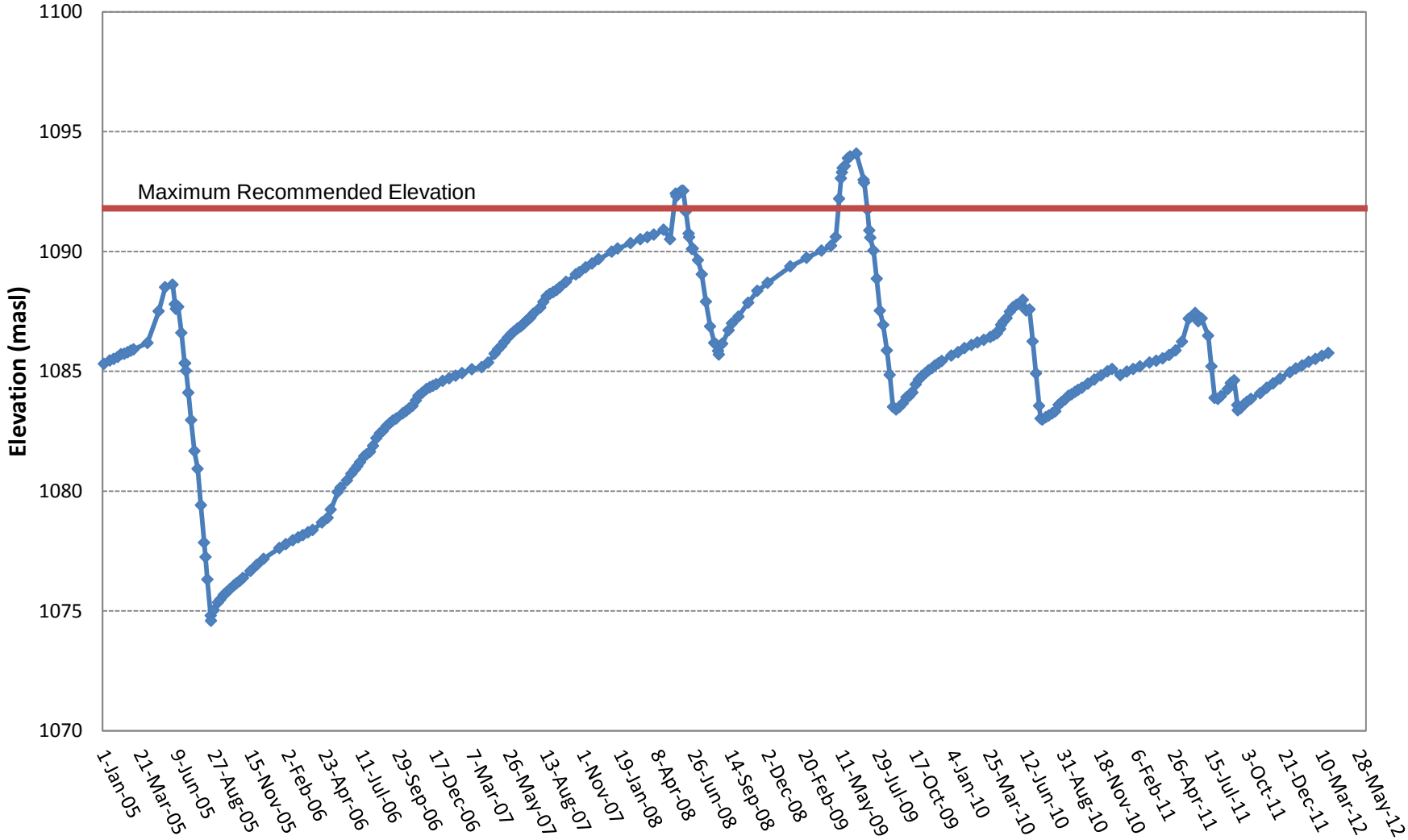
Faro Zone II Pit Water Elevation



Denison Environmental Services

Vangorda Pit Water Elevations

Faro Mine Closure



6 – TERRESTRIAL MONITORING

Terrestrial Monitoring - Wildlife Sightings March 2012

Date	Wildlife Sighted	Time of Sighting	Qty.	Description of Sighting
13-Mar-12	Martin	4:00 PM	1	1 Martin in Parking Lot.

7 – GEOTECHNICAL MONITORING

Faro Pit Geotechnical

Photo Log:
Faro Pit Southeast Wall

Photo 1: Faro Pit – January 18, 2012, Southeast Wall

Photo Log:
Faro Pit Southeast Wall

Photo 2: Faro Pit – February 14, 2012, Southeast Wall

Photo Log:
Faro Pit Southeast Wall

Photo 3: Faro Pit – March 14, 2012, Southeast Wall

Grum Pit Geotechnical

Denison Environmental Services

Table 1: Grum Pit Slope Stability Monitoring
South of Transformer Station

Table F-74a: Distance Between Pins (m)

Date	GP-S1	GP-S2	GP-S3	GP-S4	Comments
24-Jun-10	4	5.562	7.814		Fourth pin to be installed
29-Jul-10	4	5.562	7.814	15.63	Fourth pin installed
04-Aug-10	4	5.65	7.810	15.619	
12-Aug-10	4	5.565	7.812	15.635	
19-Aug-10	4	5.565	7.810	15.626	
26-Aug-10	4	5.564	7.810	15.631	*1st measurements using steel tape
02-Sep-10	4	5.56	7.812	15.632	
09-Sep-10	4	5.563	7.807	15.623	
16-Sep-10	4	5.564	7.811	15.625	
23-Sep-10	4	5.558	7.808	15.623	
30-Sep-10	4	5.56	7.805	15.622	
07-Oct-10	4	5.562	7.806	15.632	
10-Nov-10	4	5.561	7.809	15.623	Start of monthly monitoring frequency
07-Dec-10	4	5.561	7.811	15.627	
05-Jan-11	4	5.559	7.781	15.629	
01-Feb-11	4	5.559	7.808	15.63	
07-Mar-11	4	5.559	7.808	15.636	
05-Apr-11	4	5.557	7.806	15.635	
03-May-11	4	5.558	7.807	15.630	
09-Jun-11	4	5.565	7.803	15.622	
01-Jul-11	4	5.562	7.804	15.622	
07-Aug-11	4	5.566	7.804	15.625	
05-Sep-11	4	5.559	7.802	15.612	
06-Oct-11	4	5.561	7.801	15.621	
03-Nov-11	4	5.560	7.811	15.627	
06-Dec-11	4	5.560	7.803	15.620	
05-Jan-12	4	5.566	7.803	15.626	
05-Mar-12	4	5.556	7.804	15.631	

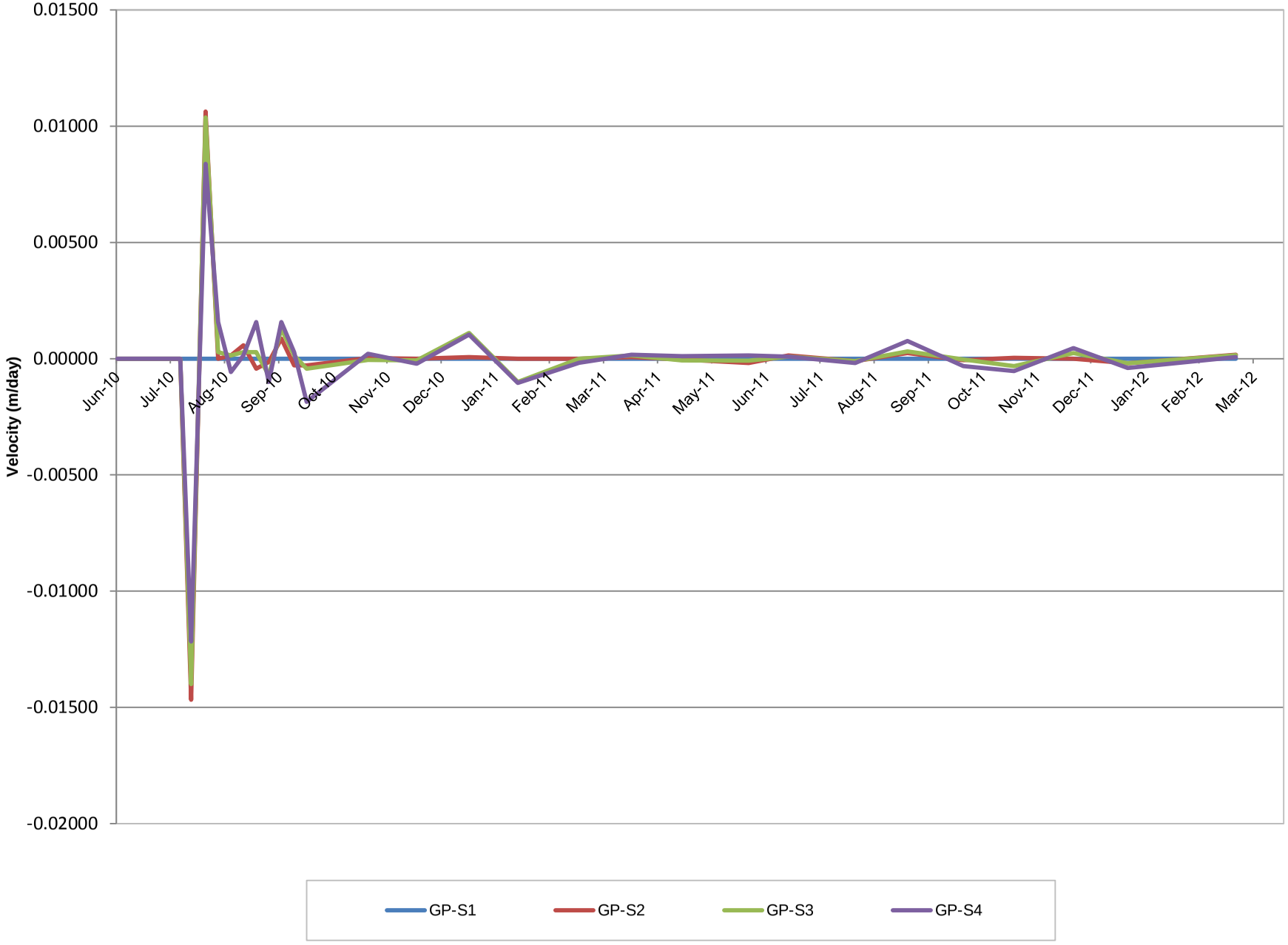
Table F-74b: Velocity of Pins Movement (m/day)

Date	GP-S1	GP-S2	GP-S3	GP-S4
24-Jun-10	-	-	-	-
29-Jul-10	0.00000	0.00000	0.00000	-
04-Aug-10	0.00000	-0.01467	-0.01400	-0.01217
12-Aug-10	0.00000	0.01062	0.01037	0.00838
19-Aug-10	0.00000	0.00000	0.00029	0.00157
26-Aug-10	0.00000	0.00014	0.00014	-0.00057
02-Sep-10	0.00000	0.00057	0.00029	0.00014
09-Sep-10	0.00000	-0.00043	0.00029	0.00157
16-Sep-10	0.00000	-0.00014	-0.00071	-0.00100
23-Sep-10	0.00000	0.00086	0.00129	0.00157
30-Sep-10	0.00000	-0.00029	0.00014	0.00029
07-Oct-10	0.00000	-0.00029	-0.00043	-0.00186
10-Nov-10	0.00000	0.00003	-0.00006	0.00021
07-Dec-10	0.00000	0.00000	-0.00007	-0.00022
05-Jan-11	0.00000	0.00007	0.00111	0.00104
01-Feb-11	0.00000	0.00000	-0.00100	-0.00104
07-Mar-11	0.00000	0.00000	0.00000	-0.00018
05-Apr-11	0.00000	0.00007	0.00014	0.00017
03-May-11	0.00000	-0.00004	-0.00007	0.00011
09-Jun-11	0.00000	-0.00019	-0.00008	0.00014
01-Jul-11	0.00000	0.00014	0.00009	0.00009
07-Aug-11	0.00000	-0.00011	-0.00011	-0.00019
05-Sep-11	0.00000	0.00024	0.00031	0.00076
06-Oct-11	0.00000	-0.00006	-0.00003	-0.00032
03-Nov-11	0.00000	0.00004	-0.00032	-0.00054
06-Dec-11	0.00000	0.00000	0.00024	0.00045
05-Jan-12	0.00000	-0.00020	-0.00020	-0.00040
05-Mar-12	0.00000	0.00017	0.00015	0.00007

Note: Negative values indicate movement away from Grum Pit; positive values indicate movement towards Grum Pit.

Denison Environmental Services

Figure 1: Grum Pit Slope Stability Monitoring
South of Transformer Station



Denison Environmental Services

Table 2: Grum Pit Slope Stability Monitoring
North of Transformer Station

Table F-75a: Distance Between Pins (m)

Date	GP-N1	GP-N2	GP-N3	GP-N4	GP-N5	GP-N6	Comments
24-Jun-10	4	5.382	5.226	6.126	6.264	5.74	
29-Jul-10	4	5.381	5.329	6.124	6.270	5.743	
04-Aug-10	4	5.381	5.228	6.123	6.217	5.74	
12-Aug-10	4	5.385	5.230	6.123	6.271	5.748	
19-Aug-10	4	5.383	5.230	6.126	6.270	5.74	
26-Aug-10	4	5.381	5.230	6.126	6.270	5.742	*1st measurements using steel tape
02-Sep-10	4	5.383	5.230	6.127	6.273	5.734	
09-Sep-10	4	5.380	5.250	6.124	6.265	5.737	
16-Sep-10	4	5.383	5.229	6.127	6.270	5.739	
23-Sep-10	4	5.378	5.231	6.122	6.266	5.735	
30-Sep-10	4	5.379	5.225	6.122	6.265	5.732	
07-Oct-10	4	5.380	5.229	6.125	6.267	5.736	
10-Nov-10	4	5.390	5.230	6.123	6.268	5.738	Start of monthly monitoring frequency
07-Dec-10	4	5.388	5.324	6.12	6.272	5.739	
05-Jan-11	4	5.380	5.234	6.121	6.270	5.739	
01-Feb-11	4	5.381	5.235	6.123	6.269	5.737	
07-Mar-11	4	5.381	5.234	6.124	6.270	5.738	
05-Apr-11	4	5.387	5.234	6.121	6.268	5.737	
03-May-11	4	5.382	5.234	6.122	6.272	5.737	
09-Jun-11	4	5.381	5.240	6.134	6.273	5.731	
01-Jul-11	4	5.380	5.232	6.127	6.274	5.732	
07-Aug-11	4	5.377	5.228	6.125	6.275	5.734	
05-Sep-11	4	5.370	5.224	6.119	6.265	5.715	
06-Oct-11	4	5.374	5.231	6.124	6.271	5.726	
03-Nov-11	4	5.372	5.235	6.124	6.273	5.731	
06-Dec-11	4	5.376	5.235	6.117	6.271	5.726	
05-Jan-12	4	5.374	5.234	6.112	6.273	5.726	
05-Mar-12	4	5.390	5.239	6.117	6.272	5.734	

Table F-75b: Velocity of Pins Movement (m/day)

Date	GP-N1	GP-N2	GP-N3	GP-N4	GP-N5	GP-N6
24-Jun-10	-	-	-	-	-	-
29-Jul-10	0.00000	0.00003	-0.00291	-0.00286	-0.00303	-0.00311
04-Aug-10	0.00000	0.00000	0.01683	0.01700	0.02583	0.02633
12-Aug-10	0.00000	-0.00050	-0.00075	-0.00075	-0.00750	-0.00850
19-Aug-10	0.00000	0.00029	0.00029	-0.00014	0.00000	0.00114
26-Aug-10	0.00000	0.00029	0.00029	0.00029	0.00029	0.00000
02-Sep-10	0.00000	-0.00029	-0.00029	-0.00043	-0.00086	0.00029
09-Sep-10	0.00000	0.00043	-0.00243	-0.00200	-0.00086	-0.00129
16-Sep-10	0.00000	-0.00043	0.00257	0.00214	0.00143	0.00114
23-Sep-10	0.00000	0.00071	0.00043	0.00114	0.00171	0.00229
30-Sep-10	0.00000	-0.00014	0.00071	0.00071	0.00086	0.00129
07-Oct-10	0.00000	-0.00014	-0.00071	-0.00114	-0.00143	-0.00200
10-Nov-10	0.00000	-0.00029	-0.00032	-0.00026	-0.00029	-0.00035
07-Dec-10	0.00000	0.00007	-0.00341	-0.00330	-0.00344	-0.00348
05-Jan-11	0.00000	0.00028	0.00338	0.00334	0.00341	0.00341
01-Feb-11	0.00000	-0.00004	-0.00007	-0.00015	-0.00011	-0.00004
07-Mar-11	0.00000	0.00000	0.00003	0.00000	-0.00003	-0.00006
05-Apr-11	0.00000	-0.00021	-0.00021	-0.00010	-0.00003	0.00000
03-May-11	0.00000	0.00018	0.00018	0.00014	0.00000	0.00000
09-Jun-11	0.00000	0.00003	-0.00014	-0.00046	-0.00049	-0.00032
01-Jul-11	0.00000	0.00005	0.00041	0.00073	0.00068	0.00064
07-Aug-11	0.00000	0.00008	0.00019	0.00024	0.00022	0.00016
05-Sep-11	0.00000	0.00024	0.00038	0.00059	0.00093	0.00159
06-Oct-11	0.00000	-0.00013	-0.00035	-0.00052	-0.00071	-0.00106
03-Nov-11	0.00000	0.00007	-0.00007	-0.00007	-0.00014	-0.00032
06-Dec-11	0.00000	-0.00012	-0.00012	0.00009	0.00015	0.00030
05-Jan-12	0.00000	0.00007	0.00010	0.00027	0.00020	0.00020
05-Mar-12	0.00000	-0.00027	-0.00035	-0.00043	-0.00042	-0.00055

Note: Negative values indicate movement away from Grum Pit; positive values indicate movement towards Grum Pit.

Denison Environmental Services

Figure 2: Grum Pit Slope Stability Monitoring
North of Transformer Station

Faro Mine Closure

Water Level and Elevations - Grum Slot Cut Piezometers

Top of Pipe Elevations (masl)	
SRK09-GSA (GS-1A)	SRK09-GSB (GS-1B)
1230.00	1229.98

Well Dry
Well Frozen

Date	SRK09-GSA (GS-1A)		SRK09-GSB (GS-1B)		Comments
	Static Water Level (m bgs)	Piezometric Elevation (masl)	Static Water Level (m bgs)	Piezometric Elevation (masl)	
6-Aug-09	2.52	1227.48	2.39	1227.59	
4-Nov-09	3.14	1226.86	2.93	1227.05	
18-Apr-10	8.72	1221.28			
16-May-10	2.326	1227.67	2.17	1227.81	
11-Jun-10	2.33	1227.67	2.26	1227.72	
14-Jul-10	2.42	1227.59	2.27	1227.72	
12-Aug-10	2.68	1227.32	2.53	1227.45	
17-Sep-10	2.88	1227.12	2.74	1227.24	SRK09-GS-1B Reading taken 16-Sep-10
14-Dec-10	6.75	1223.25	4.48	1225.50	
24-Jan-11	6.71	1223.29	6.63	1223.36	
17-Feb-11	7.33	1222.67	7.62	1222.36	
20-Apr-11	9.16	1220.84	7.38	1222.61	Slushy water levels
19-May-11	1.99	1228.02	1.76	1228.23	
28-Jun-11	1.96	1228.04	1.85	1228.13	
20-Jul-11	2.08	1227.92	1.95	1228.03	
8-Aug-11	2.09	1227.91	2.28	1227.70	
6-Oct-11	2.65	1227.35	2.29	1227.69	
6-Dec-11	2.72	1227.28	2.59	1227.39	
5-Jan-12	2.83	1227.17	2.74	1227.24	
6-Feb-12	3.20	1226.80	3.10	1226.88	
6-Mar-12	4.12	1225.88	4.13	1225.85	

Denison Environmental Services

Water Elevations - Grum Slot Cut Piezometers

Faro Mine Closure

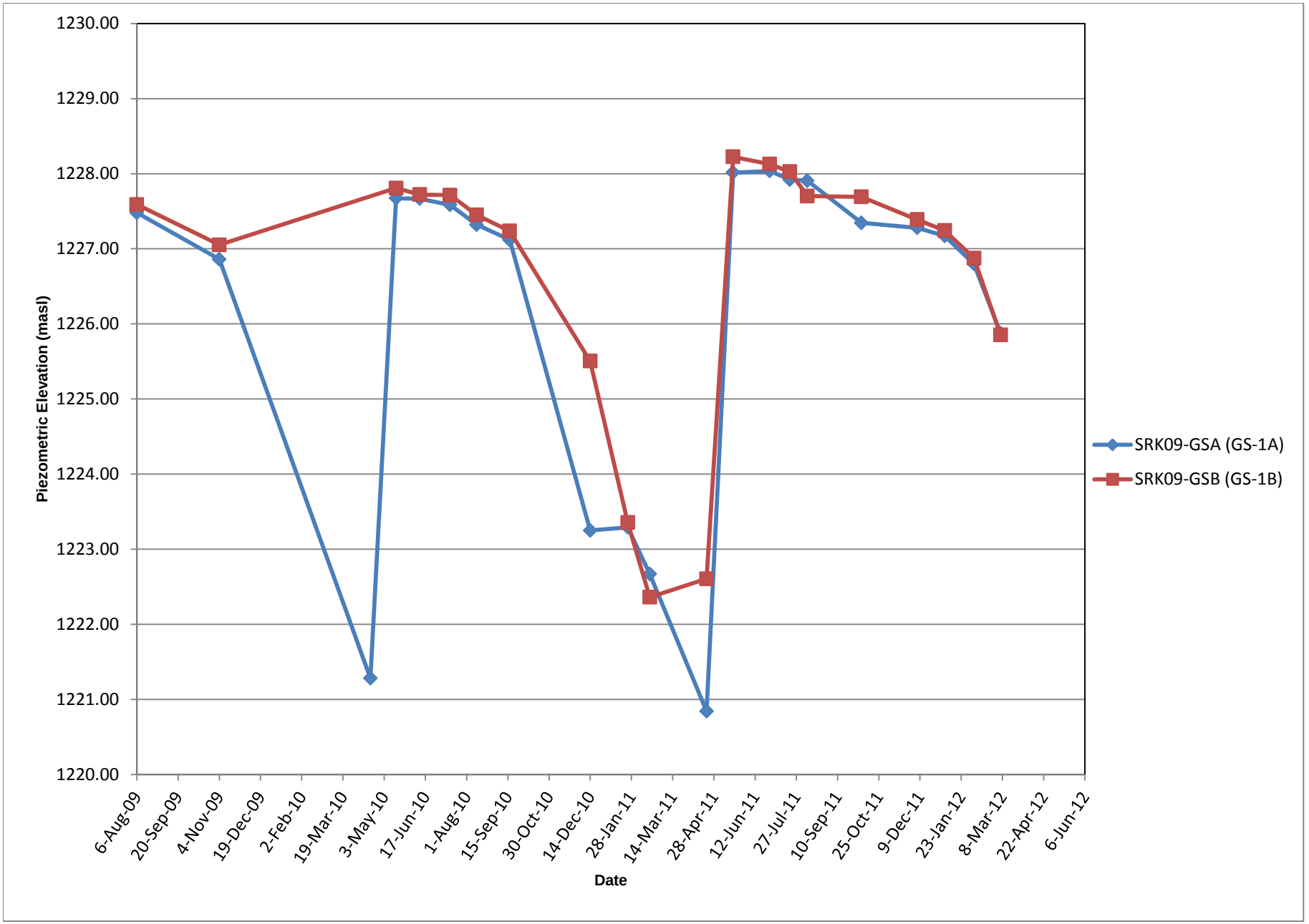


Photo Log:
Grum Pit Southeast Wall

Photo 1: Grum Pit – January 18, 2012, Southeast Wall

Photo Log:
Grum Pit Southeast Wall

Photo 2: Grum Pit – February 14, 2012, Southeast Wall

Photo Log:
Grum Pit Southeast Wall

Photo 3: Grum Pit – March 14, 2012, Southeast Wall

Vangorda Pit Geotechnical

Photo Log:
Vangorda Pit Walls

Photo 1: Vangorda Pit – January 18, 2012, Southwest Wall

Photo Log:
Vangorda Pit Walls

Photo 2: Vangorda Pit – January 18, 2012, Northwest/Northeast Walls

Photo Log:
Vangorda Pit Walls

Photo 3: Vangorda Pit – February 14, 2012, Southwest Wall

Photo Log:
Vangorda Pit Walls

Photo 4: Vangorda Pit – February 14, 2012, Northwest/Northeast Walls

Photo Log:
Vangorda Pit Walls

Photo 5: Vangorda Pit – March 14, 2012, Southwest Wall

Photo Log:
Vangorda Pit Walls

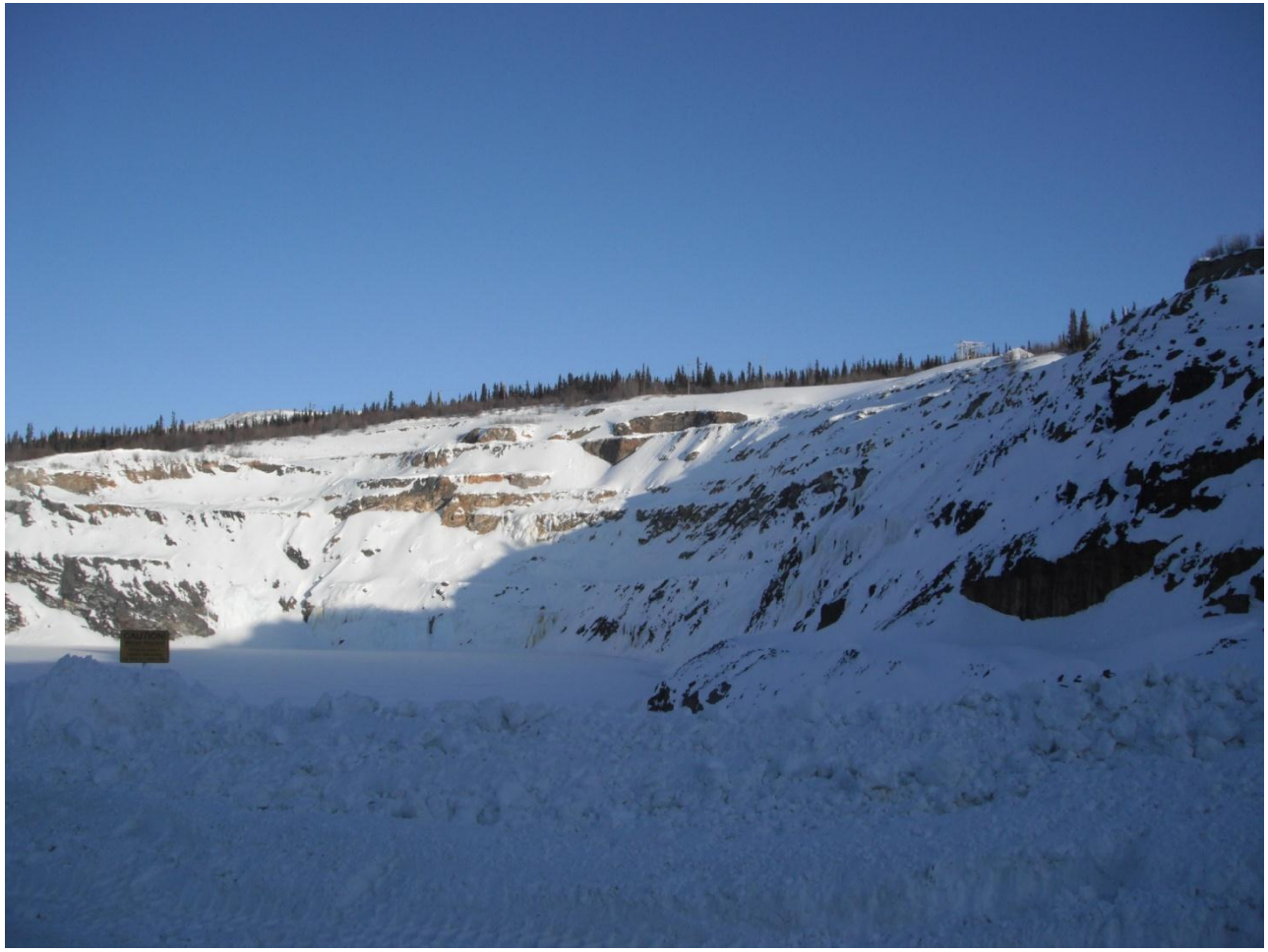


Photo 6: Vangorda Pit – March 14, 2012, Northwest/Northeast Walls

Structural Facilities Inspections

Month: March **Regular Monthly Inspection**

OPERATING SPILLWAYS & CONTROL STRUCTURES	Schedule*	Status**	Action Item	Photos Taken	Comments (Condition and Action Recommended)
Rose Creek Diversion/Canal Dyke	M	clear	no	no	
Backslope of Rose Creek Diversion	M	clear	no	no	
Downvalley Treatment Plant	M	clear	no	no	
Polishing Pond (water level)	M	clear	no	no	Elevation taken on March 26, 2012 - 1028.930 masl.
Polishing Pond Spillway	M	clear	no	no	
Intermediate Pond Spillway	M	clear	no	no	
Intermediate Pond (water level)	M	clear	no	no	Elevation taken on March 26, 2012 - 1045.669 masl.
Original Tailings Impoundment	M	clear	no	no	
Secondary Impoundment	M	clear	no	no	
Series of Step-down Ponds	M	clear	no	no	
Lower Northwall Interceptor Diversion	M	clear	no	no	
Lower North Fork Rose Creek	M	clear	no	no	Monthly photo taken on March 29, 2012.
ETA Emergency Tailings Area / SIS	M	clear	no	no	

DAMS & BERMS	Schedule*	Crest		Upstream Slope		Downstream Slope			Action Item	Photos	Comments
		Physical Change	Veg. Status	Physical Change	Veg. Status	Physical Change	Veg. Status	Seepage			
Intermediate Dam	M	none	< 1 m	none	< 1 m	none	< 1 m	none	no	no	Snow covered. No new sluffs or slumps.
Cross Valley Dam	M	none	< 1 m	none	< 1 m	none	< 1 m	clear	no	no	Snow covered. No new sluffs or slumps.

	INFRASTRUCTURE	Schedule*	Status	Action Item	Photos Taken	Comments (Condition and Action Recommended)
	Lower Guardhouse Creek Culvert- GDHSCRK	M	clear flow	no	no	
	Upper Guardhouse Creek Culvert - GDHSCRK	M	clear flow	no	no	
	ETA Culvert - FCS2	M	clear flow	no	no	
	Northwall Interceptor Diversion Upper Culvert	M	clear flow	no	no	
	Northwall Interceptor Diversion Lower Culvert	M	clear flow	no	no	
	Culverts in Gravel Pit	M	clear flow	no	no	
	Culvert by Downvalley Treatment Plant	M	clear flow	no	no	
	X11 Culvert	M	clear flow	no	no	
	X12 Culvert	M	clear flow	no	no	
	Weir 3 Culvert	M	clear flow	no	no	
SECURITY	Old Pumphouse Security Check	M	secure	no	no	
SECURITY	Freshwater Pumphouse below X2	M	secure	no	no	
SECURITY	Access Gate - Entrance Lower Road Downvalley	M	secure	no	no	
SECURITY	Access Gate#2 - Secondary Impoundment Entrance	M	secure	no	no	
SECURITY	Access Gate#3 - S-Wells Entrance	M	secure	no	no	
SECURITY	Access Gate#4 (T.B.A.)	M				Not yet in place.
ROADS	TMA Access Roads	M	other	no	no	
ROADS	Upper Road Tailings Area	M	other	no	no	
ROADS	Lower Road Tailings Area	M	other	no	no	
ROADS	Road to X14	M	other	no	no	
ROADS	Access to Old Pumphouse Culverts	M	other	no	no	

Month: March **Regular Monthly Inspection**

SIGNS	Slow Down Dangerous Curve Sign on Mine Road	M	good	no	no	
	Danger Do Not Enter Sign into ETA / SIS	M	good	no	no	
	Danger Do Not Enter Sign into S-Wells	M	good	no	no	
	Danger Do Not Enter Sign into Old Pumphouse	M	good	no	no	
	Do Not Contaminate Drinking Water Sign Mine Road	M	good	no	no	
	Moose Management Sign in Gravel Pit	M	good	no	no	
	Signs Heading Down Valley (No Hunting, Moose Management)	M	good	no	no	
	Do Not Enter Sign Entrance Lower Road Downvalley	M	good	no	no	
	Do Not Enter Sign Exit Lower Road Downvalley	M	good	no	no	
	Do Not Enter Sign Secondary Impoundment Entrance	M	good	no	no	
	Do Not Enter Sign X5 Discharge	M	good	no	no	

OBSERVATION NOTES:

*** Schedule Legend**

Annual - A
Monthly - M (during snow free months)
Quarterly - Q2 (month of the Quarter)
Semi-Annual - S

*** Status notes are specific terms refer to Inspection Instructions.*

Inspected by: Noella Gardiner & Tracey Parkin

Action items reported (sign and date):

Date: March 27th, 2012

Environmental Coordinator review (sign and date):

CONTROL STRUCTURES	Schedule*	Status**	Action Item	Photos Taken	Comments (Condition and Action Recommended)
Faro Pit (level)	M	clear	no	no	
Faro Valley Interceptor Ditch	Q	clear	no	no	Water frozen and snow has drifted in.
Upper North Wall Interceptor Diversion	Q	clear	no	no	
North Fork Rock Drain	M	clear	no	no	

DIVERSIONS & BERMS	Schedule*	Crest		Upstream Slope		Downstream Slope			Action Item	Photos	Comments
		Physical Change	Veg. Status	Physical Change	Veg. Status	Physical Change	Veg. Status	Seepage			
Faro Creek Diversion - North Pit Wall	M	rip-rap	< 1 m	none	< 1 m	none	< 1 m	clear	no	no	No new cracks or slumps.

	INFRASTRUCTURE	Schedule*	Status	Action Item	Photo Taken	Comments
	Top of Faro Waste Dump Weather Station - Station #1	M	secure	no	no	
PUMPS	Zone II Pit / Pump	M	Off	no	no	Elevation taken on March 26, 2012 - 1110.768 masl (Old Zone II). New Zone II not measured since November.
PUMPS	Faro Pit Pump	M	Off	no	no	
PUMPS	S-Wells Pump (AMP#5)	M	Operating	no	no	
ROADS	Faro Diversion Access Road	M	ok	no	no	
ROADS	Faro Pit Access Road	M	ok	no	no	
ROADS	Haul Road	M	ok	no	no	
STABILITY	Faro Waste Rock Dumps NE	M	Inspected - OK	no	no	
STABILITY	Faro Waste Rock Dumps NW	M	Inspected - OK	no	no	
STABILITY	Faro Waste Rock Dumps SE	M	Inspected - OK	no	no	
STABILITY	Faro Water Rock Dumps SW	M	Inspected - OK	no	no	
STABILITY	Rose Creek Gravel Pit	M	Inspected - OK	no	no	
SIGNS	Yield Sign - Rose Creek Gravel Pit	M	good	yes	no	Yield sign is missing
SIGNS	Caution Overhead Powerline Signage for Faro Pit Area	M	good	no	no	
SIGNS	Garbage Signs at Dump	M	good	no	no	
SIGNS	Main Entrance Sign	M	good	no	no	
SIGNS	Yield Sign Access Road to NW Dumps	M	good	no	no	
SIGNS	Generator Building for S-Wells Haul Road	M	good	no	no	
SIGNS	Speed Limit Signage on Haul Road	M	good	no	no	

OBSERVATION NOTES:

Inspected by: Noella Gardiner & Tracey Parkin

Date: March 27th, 2012

Action items reported (sign and date):

Environmental Coordinator review (sign and date):

*** Schedule Legend**

Annual - A
Monthly - M (during snow free months)
Quarterly - Q2 (month of the Quarter)
Semi-Annual - S

*** Status notes are specific terms refer to Inspection Instructions.*

Month: March **Regular Monthly Inspection**

CONTROL STRUCTURES	Schedule*	Status**	Action Item	Photos Taken	Comments (Condition and Action Recommended)
V15 Ditch	M	clear	no	no	
Freshwater Pond for Water Treatment Plant - (old V24)	M	clear	no	no	
CPD Spillway	M	clear	no	no	
Grum Till Dump	M	clear	no	no	
Sludge Pond Enbankment	M	clear	no	no	
Grum Waste Rock Dump	M	clear	no	no	
Sheep Pad Sediment Ponds	M	clear	no	no	
Moose Pond Area (AMP#4)	M	clear	no	no	
Ore Transfer Pad	M	clear	no	no	
Grum Pit (level)	M	clear	no	yes	Elevation taken March 26, 2012 - 1211.846 masl; Monthly photo taken on March 14, 2012.
Grum Pit Interceptor Ditch	M	clear	no	no	
Vangorda Clarification Pond	M	clear	no	no	

DIVERSIONS & BERMS	Schedule*	Crest		Upstream Slope		Downstream Slope			Action Item	Photos	Comments
		Physical Change	Veg. Status	Physical Change	Veg. Status	Physical Change	Veg. Status	Seepage			
Grum Access Road Berm	M	none	> 1 m	none	> 1 m	none	> 1 m	none	no	no	

	INFRASTRUCTURE	Schedule*	Status	Action Item	Photo Taken	Comments
SECURITY	Weather Station by Vangorda Treatment Plant - Station #2	M	secure	no	no	
	Grum Shop and Dry (Town of Faro)	M	secure	no	no	
	Gate (to Grum)	M	secure	no	no	
	Grum Adit - sealed off	M	secure	no	no	
CULVERTS	Culvert Below Access Water Treatment Plant	M	clear flow	no	no	
	Culverts Above Sheep Pad Pond	M	clear flow	no	no	
	Slotcut Culvert	M	clear flow	no	no	
	Culvert at Access to Grum Dump	M	clear flow	no	no	
	Access to Claification Sludge Cells Culvert	M				No access. Too much snow.
	Access to V25 Culvert	M	clear flow	no	no	
	Grum Inteceptor Ditch Culverts	M	clear flow	no	no	
	V2A Culvert	M	clear flow	no	no	
	CPD Culvert#1	M	clear flow	no	no	
	CPD Culvert#2	M	clear flow	no	no	
	Below V15 Culvert	M	clear flow	no	no	
SIGNS	Grum Access Road Signs (No Hunting Sign, Moose Management)	M	good	no	no	
	Intersection Sign South Access to Haul Road	M	good	no	no	
	Grum Substation and Overhead High Voltage Hazard Sign	M	good	no	no	
	Speed Limit Sign Haul Road	M	good	no	no	
	Caution High Voltage Sign by V25BSP	M	good	no	no	
	Overhead Powerline Sign Grum Interceptor Ditch	M	good	no	no	

OBSERVATION NOTES

Inspected by: T. Parkin, B. Bekk, N. Gardiner & Chantel Fulton

Date: March 28th, 2012

Action items reported (sign and date):

Environmental Coordinator review (sign and date):

*** Schedule Legend**

Annual - A
Monthly - M (during snow free months)
Quarterly - Q2 (month of the Quarter)
Semi-Annual - S

*** Status notes are specific terms refer to Inspection Instructions.*

Month: March **Regular Monthly Inspection**

CONTROL STRUCTURES	Schedule*	Status**	Action Item	Photos Taken	Comments (Condition and Action Recommended)
Vangorda Creek Diversion	M	clear	no	no	
Vangorda Pit (Level)	M	clear	no	yes	Elevation taken on March 26, 2012 - 1085.758 masl; Monthly photo taken on March 14, 2012.
Vangorda Inteceptor Ditch	M	clear	no	no	
Vangorda Seepage Collection Ditch (to LCD)	M	clear	no	no	
Vangorda Flume	M	clear	no	no	
Swimming Hole below Vangorda Flume	M	clear	no	no	

DIVERSIONS & BERMS	Schedule*	Crest		Upstream Slope		Downstream Slope			Action Item	Photos	Comments
		Physical Change	Veg. Status	Physical Change	Veg. Status	Physical Change	Veg. Status	Seepage			
Little Creek Dam	M	none	< 1 m	none	< 1 m	none	< 1 m	none	no	no	Elevation taken on March 26, 2012 - 1107.171 masl; No new cracks, sluffs or slumps.
Headwater Berm	M	none	> 1 m	none	> 1 m	none	> 1 m	none	no	no	

	INFRASTRUCTURE	Schedule*	Status	Action Item	Photo Taken	Comments
STABILITY	Till Covers	M	Inspected - OK	no	no	
	Vangorda Test Pad Covers Area	M	Inspected - OK	no	no	
	Vangorda Waste Rock	M	Inspected - OK	no	no	
	Vangorda Overburden Stockpile	M	Inspected - OK	no	no	
SECURITY	Vangorda Substation	M	secure	no	no	
	Step Down Station for Barge	M	secure	no	no	
	Old Pumphouse	M	secure	no	no	
	Vangorda Gate	M	secure	no	no	
CULVERTS	Below V25BSP Culvert	M	clear flow	no	no	
	Vangorda Creek Culvert	M	clear flow	no	no	
	Culvert into Drop Box	M	clear flow	no	no	
	Culvert from Drop Box into Vangorda Creek	M	clear flow	no	no	
	Little Creek Dam Culvert	M	clear flow	no	no	
	Series of Road Culverts above Vangorda Pit	M	clear flow	no	no	
SIGN	Caution Overhead Powerline Sign Haul Road	M	good	no	no	
	Danger High Voltage Sign into Swimming Hole	M	good	no	no	

OBSERVATION NOTES

Inspected by: T. Parkin, B. Bekk, N. Gardiner & Chantel Fulton

Date: March 28th, 2012

Action items reported (sign and date):

Environmental Coordinator review (sign and date):

*** Schedule Legend**

Annual - A
Monthly - M (during snow free months)
Quarterly - Q2 (month of the Quarter)
Semi-Annual - S

*** Status notes are specific terms refer to Inspection Instructions.*

8 – SPECIAL PROJECTS

FIELD MEMORANDUM

TO: Kevin Ramsay, Environmental Supervisor
DATE: March 26th, 2012
FROM: Tracey Parkin, Senior Environmental Technologist
SUBJECT: 2012 Snow Survey Results – March 21st and 22nd

Background

Snow pack monitoring was added to the scope of the Care and Maintenance Contract as of February 2010. Snow survey data is to be collected and compiled twice per year, though assessment of the monitoring data was specifically excluded from the scope.

Meteorological stations located on the Faro Waste Rock Dump and northeast of the Grum Overburden Pile have snow monitoring equipment installed. In addition, snow depth gauges remain on the north, south, east, and west aspects of the Faro Waste Rock Dump and on the south and west aspects of the Vangorda Waste Rock Dump from historic snow pack monitoring that was conducted as part of the Cover Trials testing.

In addition to the snow depth gauges and meteorological station sensors, snow courses are also included as part of the monitoring program. Data from the snow monitoring program provides information for catchment run-off and required water pumping management estimations. The program includes two monitoring events, each with five snow courses, snow gauge readings from the gauges installed on the Faro and Vangorda Waste Rock Dumps, and meteorological station snow depth measurements (Figures 1-5). This field memo reports results for the second of the two snow survey events in 2012, which took place on March 21st and 22nd.

Results

The results of the snow course monitoring, readings of snow depth gauges, and readings of meteorological station depth gauges are attached (Tables 1 to 7). A photo log of the snow courses and snow depth gauges on the respective dump slope aspects is also attached (Photos 1 to 13). Monthly precipitation at the meteorological stations is reported monthly to YG as part of the Monthly Environmental Monitoring reports and is therefore not included in this memo.

Snow Courses Methods and Comments

The snow survey equipment used for the March 2012 snow surveys was the same as that used previously in the 2010 and 2011 snow surveys. This equipment includes a digital scale for measuring the weights of the snow cores, with the weight report in kilograms (and not calibrated for snow water equivalent (SWE)). For this reason, SWE was calculated rather than measured for the March 2012 snow surveys.

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Table 1: Monitoring Site Locations - Snow Survey
March 21 & 22, 2012

Faro Mine Closure

Station ID	Northing	Easting	Elevation
Faro Dump - Snow Course - Flat (Plateau, Hard pack)			
FS-SC-H1B-12	6913987	583942	1220
FS-SC-H2B-12	6913990	583945	1220
FS-SC-H3B-12	6913994	583950	1219
FS-SC-H4B-12	6913997	583951	1223
FS-SC-H5B-12	6913998	583952	1223
FS-SC-H6B-12	6913998	583955	1224
FS-SC-H7B-12	6914000	583956	1225
FS-SC-H8B-12	6914002	583959	1225
FS-SC-H9B-12	6914004	583962	1222
FS-SC-H10B-12	6914008	583964	1225
Faro Dump - Snow Course - "Bubble" Zone			
FS-SC-B1B-12	6913926	583769	1216
FS-SC-B2B-12	6913924	583772	1217
FS-SC-B3B-12	6913923	583772	1219
FS-SC-B4B-12	6913920	583773	1221
FS-SC-B5B-12	6913918	583774	1221
FS-SC-B6B-12	6913916	583775	1222
FS-SC-B7B-12	6913913	583777	1221
FS-SC-B8B-12	6913911	583778	1221
FS-SC-B9B-12	6913909	583779	1219
FS-SC-B10B-12	6913909	583780	1220
Faro Side - Snow Course - Forested (Spruce Forest, Mid-Elevation)			
FS-SC-F1B-12	6914215	581850	1113
FS-SC-F2B-12	6914218	581849	1115
FS-SC-F3B-12	6914220	581848	1115
FS-SC-F4B-12	6914223	581848	1117
FS-SC-F5B-12	6914229	581849	1117
FS-SC-F6B-12	6914232	581849	1118
FS-SC-F7B-12	6914236	581850	1118
FS-SC-F8B-12	6914239	581850	1118
FS-SC-F9B-12	6914241	581852	1118
FS-SC-F10B-12	6914246	581855	1118
Faro Dump - Snow Depth Gauges - Four Aspects of Dump (At road below gauges)			
FD-EA	6913848	584800	1162
FD-NA	6914490	583693	1167

Denison Environmental Services

Table 1: Monitoring Site Locations - Snow Survey
March 21 & 22, 2012

Faro Mine Closure

Station ID	Northing	Easting	Elevation
FD-SA	6913337	584290	1158
FD-WA	6914289	583415	1163
Faro Dump - Meteorological Station			
Faro Meteorological Station	6913934	584018	1228
Vangorda Dump - Snow Course - Flat (Plateau, Hard pack)			
VS-SC-H1B-12	6902730	593693	1174
VS-SC-H2B-12	6902720	593686	1175
VS-SC-H3B-12	6902720	593685	1174
VS-SC-H4B-12	6902719	593689	1176
VS-SC-H5B-12	6902719	593692	1175
VS-SC-H6B-12	6902719	593694	1175
VS-SC-H7B-12	6902716	593698	1173
VS-SC-H8B-12	6902717	593699	1174
VS-SC-H9B-12	6902717	593701	1174
VS-SC-H10B-12	6902717	593702	1175
Vangorda Dump - Snow Course - "Bubble" Zone			
VS-SC-B1B-12	6902663	593723	1180
VS-SC-B2B-12	6902662	593724	1177
VS-SC-B3B-12	6902658	593727	1176
VS-SC-B4B-12	6902657	593729	1175
VS-SC-B5B-12	6902656	593731	1177
VS-SC-B6B-12	6902654	593734	1177
VS-SC-B7B-12	6902653	593735	1177
VS-SC-B8B-12	6902653	593736	1178
VS-SC-B9B-12	6902650	593738	1175
VS-SC-B10B-12	6902649	593739	1177
Vangorda Dump - Snow Depth Gauges - Two Aspects of Dump (At road below gauges)			
VD-SA	6902565	593211	1116
VD-WA	6902803	593653	1162
Vangorda Dump - Meteorological Station			
Grum Meteorological Station	6904837	593215	1281

* GPS Waypoints (Datum: NAD 83)

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Table 2: Faro Waste Rock Dump - Slopes - Snow Depth Gauges March 22, 2012

Faro Mine Closure

Table 2a: Faro Dump - South Aspect

Site	Depth (m)	Comment
FD-SA1	0.58	Slightly Angled Post.
FD-SA2	0.18	Slightly Angled Post.
FD-SA3	0.35	
FD-SA4	0.30	
FD-SA5	0.20	Slightly Angled Post.

Table 2b: Faro Dump - East Aspect

Site	Depth (m)	Comment
FD-EA1	0.78	
FD-EA2	0.82	
FD-EA3	0.80	
FD-EA4	0.58	
FD-EA5	0.60	Slightly Angled Post.

Table 2c: Faro Dump - North Aspect

Site	Depth (m)	Comment
FD-NA1	0.80	
FD-NA2	0.85	
FD-NA3	0.65	
FD-NA4	0.70	
FD-NA5	0.50	Slightly Angled Post.

Table 2d: Faro Dump - West Aspect

Site	Depth (m)	Comment
FD-WA1		Snow Gauge Down - No Reading
FD-WA2	0.38	
FD-WA3	0.40	
FD-WA4	0.37	
FD-WA5	0.38	

Note: Site snow gauge numbering increases with slope elevation increase.

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Table 3: Faro Waste Rock Dump - Snow Courses – March 21, 2012

Faro Mine Closure

Table 3a: Faro Dump Snow Course, Bubble Zone

Station	Snow Depth (cm)		Core Length (cm)	Weight Tube & Core (kg)	Weight Tube Only (kg)	Snow Density (g/cm^3)	Snow Water Equiv. (cm)	Density %	Comments
	Plug	No plug							
FS-SC-B1B-12	103	102.5	93	1.72	**1.38**	0.27	25.38	24.76%	
FS-SC-B2B-12	119	118.5	107	1.79	**1.38**	0.29	30.61	25.83%	
FS-SC-B3B-12	74	72.5	59	1.56	**1.38**	0.23	13.44	18.53%	
FS-SC-B4B-12	52	50.5	33.5	1.47	**1.38**	0.20	6.72	13.30%	
FS-SC-B5B-12	25	23.5	17	1.51	**1.38**	0.57	9.70	41.29%	
FS-SC-B6B-12	96.5	96	93	1.69	**1.38**	0.25	23.14	24.10%	
FS-SC-B7B-12	18.5	17	14.5	1.41	**1.38**	0.15	2.24	13.17%	
FS-SC-B8B-12									No snow/bare rock exposed.
FS-SC-B9B-12	43	41	37	1.56	**1.38**	0.36	13.44	32.77%	
FS-SC-B10B-12	82	81.5	78	1.75	**1.38**	0.35	27.62	33.89%	

Note: Bolded "Weight Tube Only" Values indicate stations at which the weight of the tube was measured.

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Table 3: Faro Waste Rock Dump - Snow Courses – March 21, 2012

Faro Mine Closure

Table 3b: Faro Dump Snow Course, Flat (Plateau, Hard pack)

Station	Snow Depth (cm)		Core Length (cm)	Weight Tube & Core (kg)	Weight Tube Only (kg)	Snow Density (g/cm^3)	Snow Water Equiv. (cm)	Density %	Comments
	Plug	No plug							
FS-SC-H1B-12	16	15.5	13	1.42	**1.37**	0.29	3.73	24.08%	
FS-SC-H2B-12	10	8	10	1.38	**1.37**	0.07	0.75	9.33%	
FS-SC-H3B-12	20	17	14	1.41	**1.37**	0.21	2.99	17.56%	
FS-SC-H4B-12	54	54	49	1.52	**1.37**	0.23	11.20	20.74%	
FS-SC-H5B-12	68	68	67	1.60	**1.37**	0.26	17.17	25.25%	
FS-SC-H6B-12	59	58.5	49	1.55	**1.37**	0.27	13.44	22.97%	
FS-SC-H7B-12	53	51	46	1.53	**1.37**	0.26	11.94	23.42%	
FS-SC-H8B-12	53	52	35	1.50	**1.37**	0.28	9.70	18.66%	
FS-SC-H9B-12	55	54	45	1.54	**1.37**	0.28	12.69	23.50%	
FS-SC-H10B-12	49	48	22	1.46	**1.37**	0.31	6.72	14.00%	

Note: Bolded "Weight Tube Only" values indicate stations at which the weight of the tube was measured.

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Table 4: Faro Side - Snow Course – March 22, 2012

Faro Mine Closure

Table 4: Faro Side Snow Course, Mid-Elevation Spruce Forest

Station	Snow Depth (cm)		Core Length (cm)	Weight Tube & Core (kg)	Weight Tube Only (kg)	Snow Density (g/cm^3)	Snow Water Equiv. (cm)	Density %	Comments
	Plug	No plug							
FS-SC-F1B-12	57	52	44	1.40	**1.27**	0.22	9.70	18.66%	
FS-SC-F2B-12	59	54	42	1.40	**1.27**	0.23	9.70	17.97%	
FS-SC-F3B-12	64	59	54	1.43	**1.27**	0.22	11.94	20.24%	
FS-SC-F4B-12	66	65.5	58	1.43	**1.27**	0.21	11.94	18.23%	
FS-SC-F5B-12	60	54	54	1.44	**1.27**	0.23	12.69	23.50%	
FS-SC-F6B-12	72	69	43	1.42	**1.27**	0.26	11.20	16.23%	
FS-SC-F7B-12	66	65.5	58	1.43	**1.27**	0.21	11.94	18.23%	
FS-SC-F8B-12	65	64.5	56	1.44	**1.27**	0.23	12.69	19.67%	
FS-SC-F9B-12	64	60	40	1.41	**1.27**	0.26	10.45	17.42%	
FS-SC-F10B-12	61	59	47	1.41	**1.27**	0.22	10.45	17.71%	

Note: Bolded "Weight Tube Only" values indicate stations at which the weight of the tube was measured.

Table 5: Vangorda Waste Rock Dump - Slopes - Snow Depth Gauges March 22, 2012

Table 5a: Vangorda Dump - South Aspect

Site	Depth (m)	Comment
VD-SA1		Above Snow Gauge – No Reading
VD-SA2		Above Snow Gauge – No Reading
VD-SA3		Snow Gauge Down - No Reading
VD-SA4	0.30	
VD-SA3	0.20	

Table 5b: Vangorda Dump - West Aspect

Site	Depth (m)	Comment
VD-WA1	0.95	
VD-WA2	0.60	
VD-WA3	0.68	
VD-WA4	0.78	
VD-WA5	1.00	

Note: Site snow gauge numbering increases with slope elevation increase.

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Table 6: Vangorda Waste Rock Dump - Snow Courses – March 22, 2012

Faro Mine Closure

Table 6a: Vangorda Dump Snow Course, Bubble Zone

Station	Snow Depth (cm)		Core Length (cm)	Weight Tube & Core (kg)	Weight Tube Only (kg)	Snow Density (g/cm^3)	Snow Water Equiv. (cm)	Density %	Comments
	Plug	No plug							
VS-SC-B1B-12									No snow/bare rock exposed.
VS-SC-B2B-12	20	20	18	1.31	**1.25**	0.25	4.48	22.39%	
VS-SC-B3B-12	28	22.5	27	1.35	**1.25**	0.28	7.46	33.18%	
VS-SC-B4B-12	27	27	25	1.35	**1.25**	0.30	7.46	27.65%	
VS-SC-B5B-12	33	32	28	1.40	**1.25**	0.40	11.20	34.99%	
VS-SC-B6B-12	5								Insufficient snow to collect core
VS-SC-B7A-12	15	15	12	1.32	**1.25**	0.44	5.23	34.84%	
VS-SC-B8B-12	29	27.5	26	1.34	**1.26**	0.23	5.97	21.72%	
VS-SC-B9B-12	55	55	54	1.44	**1.26**	0.25	13.44	24.43%	
VS-SC-B10B-12	19	18.5	17	1.30	**1.26**	0.18	2.99	16.14%	

Note: Bolded "Weight Tube Only" values indicate stations at which the weight of the tube was measured.

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Table 6: Vangorda Waste Rock Dump - Snow Courses – March 22, 2012

Faro Mine Closure

Table 6b: Vangorda Dump Snow Course, Flat (Plateau, Hard pack)

Station	Snow Depth (cm)		Core Length (cm)	Weight Tube & Core (kg)	Weight Tube Only (kg)	Snow Density (g/cm^3)	Snow Water Equiv. (cm)	Density %	Comments
	Plug	No plug							
VS-SC-H1B-12	18	18	17	1.35	**1.25**	0.44	7.46	41.47%	
VS-SC-H2B-12	7	7	6	1.31	**1.25**	0.75	4.48	63.98%	
VS-SC-H3B-12	5	5	4	1.26	**1.25**	0.19	0.75	14.93%	
VS-SC-H4B-12	7	7	5.5	1.29	**1.25**	0.54	2.99	42.66%	
VS-SC-H5B-12	9	9	8	1.28	**1.25**	0.28	2.24	24.88%	
VS-SC-H6B-12	13	12.5	13	1.29	**1.25**	0.23	2.99	23.89%	
VS-SC-H7B-12	10	9.5	9	1.30	**1.25**	0.41	3.73	39.29%	
VS-SC-H8B-12	13	13	13	1.32	**1.25**	0.40	5.23	40.19%	
VS-SC-H9B-12	15	15	15	1.33	**1.25**	0.40	5.97	39.81%	
VS-SC-H10B-12	10	10	8	1.30	**1.25**	0.47	3.73	37.32%	

Note: Bolded "Weight Tube Only" values indicate stations at which the weight of the tube was measured.

Table 7: Climate Station Snow Depth Readings – March 21 & 22, 2012

Weather Station	Snow Depth (cm)
Faro Waste Rock Dump	30
Northeast of Grum Overburden	23.2

*****As measured at meteorological station depth gauges

Photo Log: Snow Surveys
March 21 & 22, 2012

Photo 1: Faro Side Snow Course – Spruce Forest (February 23, 2012)

Photo 2: Faro Waste Rock Dump Snow Course – Plateau, Hard Pack (March 21, 2012)

Photo Log: Snow Surveys
March 21 & 22, 2012

Photo 5: Faro Waste Rock Dump Snow Course – "Bubble" Zone (March 21, 2012)

Photo 6: Vangorda Waste Rock Dump Snow Course – Plateau, Hard Pack (March 26, 2012)

Photo Log: Snow Surveys
March 21 & 22, 2012

Photo 7: Vangorda Waste Rock Dump Snow Course – Plateau, Hard Pack (March 26, 2012)

Photo 8: Faro Waste Rock Dump Snow Depth Gauges – North Aspect (March 22, 2012)

Photo Log: Snow Surveys
March 21 & 22, 2012

Photo 9: Faro Waste Rock Dump Snow Depth Gauges – South Aspect (March 22, 2012)

Photo 10: Faro Waste Rock Dump Snow Depth Gauges – East Aspect (March 22, 2012)

Photo Log: Snow Surveys
March 21 & 22, 2012

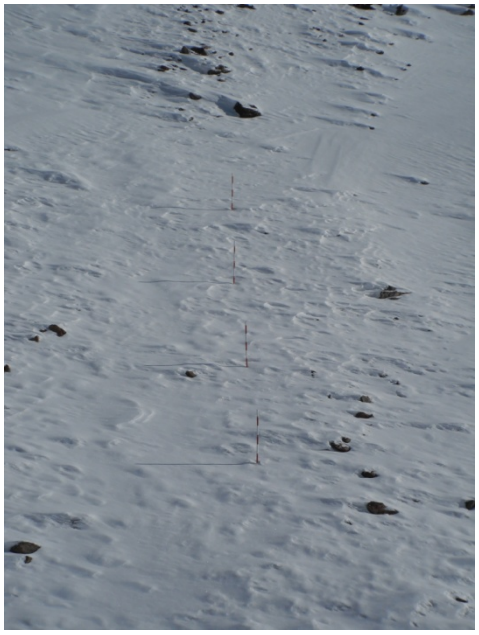

Photo 11: Faro Waste Rock Dump Snow Depth Gauges – West Aspect (March 22, 2012)

Photo 12: Vangorda Waste Rock Dump Snow Depth Gauges – South Aspect (March 26, 2012)

Photo Log: Snow Surveys
March 21 & 22, 2012

Photo 13: Vangorda Waste Rock Dump Snow Depth Gauges – West Aspect (March 26, 2012)

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Figure 1 – Faro Snow Monitoring Locations
March 21 & 22, 2012

Faro Mine Closure

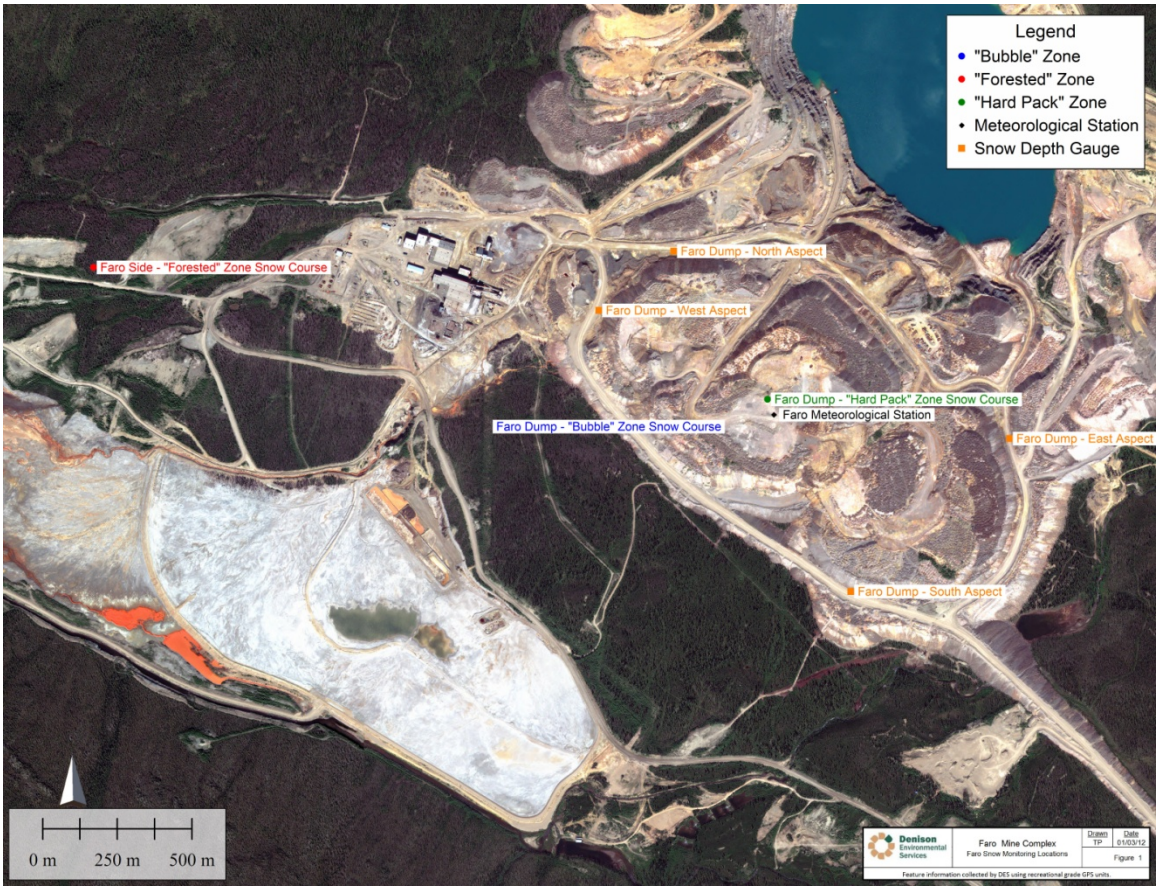

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Figure 2 – Vangorda Snow Monitoring Locations
March 21 & 22, 2012

Faro Mine Closure

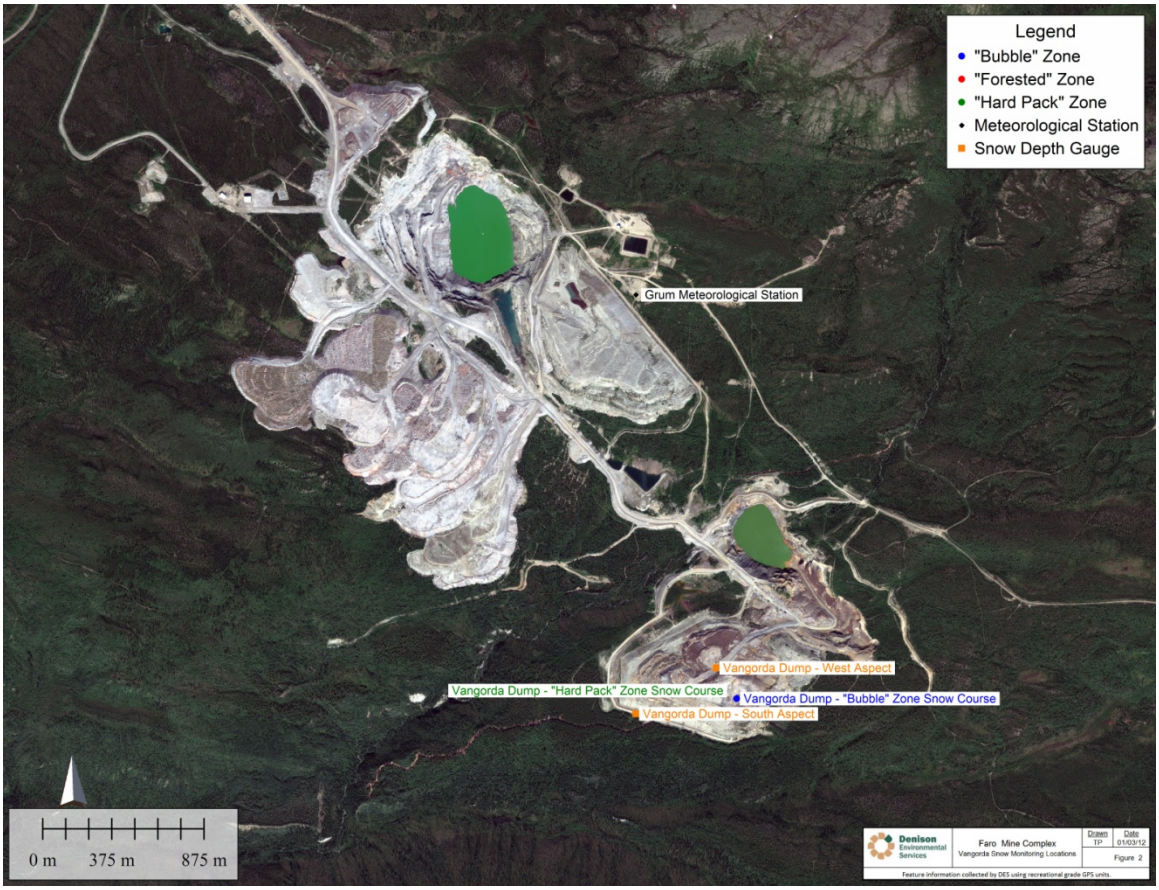

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Figure 3 – Faro Dump Snow Survey Courses
March 21 & 22, 2012

Faro Mine Closure

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Figure 4 – Faro Side Snow Survey Course
March 21 & 22, 2012

Faro Mine Closure

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Figure 5 – Vangorda Dump Snow Survey Courses
March 21 & 22, 2012

Faro Mine Closure