PE:7008 QUARTER 4 REPORT 2022

January through March 2022

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Table of Contents

List of Tables within Report:

List of Figures within Report:

Appendix I

Tables 1 - 35

Summary of Events for the Fourth Quarter

During the 4th Quarter (Q4) January 1st through March 31st, Quinsam Coal Corporation (QCC) maintained the environmental obligations for permits PE:7008 and amendments from November 1, 2019, and C-172. These permits are held with the Ministry of Environment and Climate Change Strategy and the Mines Act permit, respectively. The mine continues to be operated in a "care and maintenance" mode with The Bowra Group Inc. as the receiver.

Reports submitted this quarter include:

- Annual Reclamation Report 2021 Mines Act Permit (C-172)
- Environmental Procedures Manual 2021 (PE:7008)
- Annual Report for Middle Point Coal Storage and Barge Loading Facility (PE:17181)

Settling Pond 4 (WD / SP4) (EMS ID: E207409) is the authorized discharge location for the North area where permit limits are applied to water quality and quantity. SP4 receives all 2 and 3 North area surface and underground mine contact water. SP4 discharge waters flow through a series of wetlands and biomass areas before entering Middle Quinsam lake, near the inlet. All permitted parameters for water quality remained within permit limits this quarter.

Settling Pond 1 (SPD / SP1) (EMS ID: E218582) is the authorized discharge location for the South mine area where permit limits are applied to water quality and quantity. SP1 receives mine contact water from the South side. SP1 discharge waters flow through a series of wetlands and biomass areas before entering Long Lake, near the outlet. On January 4th, 2022, dissolved iron (Fe-D) failed to meet permit limits of 0.5 mg/L resulting in 1.19 mg/L. Dangerous Goods Incident number (DGI-214321) was generated and a non-compliance report was submitted on February 15th, 2022. All other permitted parameters for water quality remained within permit limits this quarter.

On January 3rd, 2022, the 5-South pump failed to restart after a power outage. The 5-South dewatering pump is a well pump located 80 meters below surface with its primary purpose being to transfer water from the 5-South mine into the 2-North mine (3 Mains). From there it is discharged at Settling Pond #4.

For closure (Post Mine Period), the 5-South mine was expected to re-flood to pre-mine groundwater levels. Pumping perpetually from the 5-South mine is not part of the Closure plan. It has been determined that the 5-South mine pump is not required for any further use and the mine will reflood back to pre-mine conditions. The closure plan for this mine was to allow it to flood to reduce oxidation of the mine walls and the potential for acid mine drainage and metal leaching. Mine water elevations are being monitored to ensure levels remain at safe conditions. A notification was sent to ENV on January 5, 2022 titled "Failure of Works Notice (PE:7008) (C-172)".

For further information on hydrogeological evaluations at the Quinsam Mine please refer to the *2 North / 3 North and 5 South Groundwater Evaluation - Quinsam Mine* June 2011 prepared by Lorax Environmental and Enterprise Geoscience Services LTD.

In addition to surface monitoring, groundwater monitoring consisted of 18 ex-situ groundwater wells, 10 in-situ groundwater (mine pool) areas and 2 mine sumps were monitored this quarter. Routine inspections were conducted, and any required maintenance of the water management structures was completed.

A request to remove mercury for the sampling regime was submitted to the ENV on March 15, 2022. Mercury has been removed from the monitoring program.

Two areas of possible seepage into the Quinsam River from mine influenced water have been observed. These areas are located near monitoring wells QU1109 and QU1105. Both areas capture upward vertical seepage from the River Barrier Pillar with QU1105 also capturing seepage from 2-North Mine.

Seepage from flooded mine pools into the Quinsam River was predicted and presented in the Mine Permit (C-172) Amendment 7-South Development by Lorax Environmental. Quinsam is currently characterizing water quality and quantity to compare water quality to predicted geochemical source terms, seepage rates and predicted concentrations on the Quinsam River. The Environmental Department has implemented increased monitoring on the Quinsam River to capture all flow conditions and evaluate water quality. Refer to Section 7 of this report for further discussion.

1.0 Non-Compliance Events

1.1 Permit Limit Exceedance

On January 4th, 2022, SP1 discharge water was elevated in iron resulting in 1.19 mg/L. The permit limit for iron - dissolved (Fe-D) at SP1 is 0.5 mg/L. Discharge from SP1 on January 4th was 1.46 L/s. See Dangerous Goods Incident number (DGI-214321) and non-compliance report submitted on February 15, 2022.

1.2 Compliance with Permit

The following represents a summary of permit non-compliance(s) (PNC) specific to unauthorized discharges and continuous flow requirements. This information is also summarized in Appendix I, Table 2.

At site Stream 1, 7S (EMS ID E292109) – the site could not be accessed during January due to snow conditions. The monthly samples for January were not collected as a result.

Long Lake Seeps (EMS ID E292131) – continue to be an unauthorized discharge. The mine pool water elevation is above the seepage areas during most seasons except late summer to early fall.

2.0 Water Management Systems

2.1 North Water Management – Settling Pond 4 (WD / SP4)

Discharge at Settling Pond 4 (SP4) occurred for 90 out of 90 days during this quarter with an average daily flow rate of 0.1108 m^3/s and a quarterly maximum flow rate of 0.1960 m^3/s. Appendix I, Table 23 displays the results for flow at SP4.

Dewatering of the underground 2-North mine continued throughout this quarter with pumping to surface from 5M#2 and 1M2N dewatering wells and 3M2N underground pumping system. Brinco Brook mixes with water pumped from 2-North Portal Sump and flows into SP4 where it is either released to the receiving environment or used to maintain cover over the 2N PAG-CCR (WP).

Permitted parameters and parameters of interest are displayed in the table below. Dissolved sulphate (SO_4-D) averaged 522 mg/L, total suspended solids (TSS) averaged 1.91 mg/L, dissolved arsenic (As-D) averaged 0.00114 mg/L, dissolved iron (Fe-D) averaged 0.0121 mg/L and pH remained neutral averaging 7.74. Complete results for Setting Pond 4 are displayed in Appendix I, Table 5.

Table 1: Setting Pond 4 Q4 Permitted Parameters and Parameters of Interest

E207409 Settling Pond #4 Date			Aver	Min	Max	Count
		Permit Limit North (P)				
pH	pH Units	6.0 - 8.5	7.74	7.12	8.04	13
Cond	uS/cm		1948	1632	2130	13
SO4-D	mg/L		522	400	590	14
TSS	mg/L	25	1.91	*<1.0*	4.4	14
Al-D	mg/L	0.5	0.00270	*<0.0030*	0.0039	4
As-D	mg/L		0.00114	0.00097	0.00122	4
As-T	mg/L		0.00174	0.00174	0.00174	1
Cu-D	mg/L	0.02	0.000168	*<0.00020*	0.00024	4
Fe-D	mg/L	0.3	0.0121	0.0065	0.0164	4
Na-D	mg/L		274.5	255	283	4
Na-T	mg/L		282.0	282	282	1
Pb-D	mg/L	0.05	0.000100	*<0.00020*	*<0.00020*	4
Zn-D	mg/L	0.1	0.00628	*<0.0050*	0.0176	4
O&G	mg/L	10	0.50	*<1.0*	*<1.0*	1

2.2 South Water Management - Settling Pond 1 (SPD / SP1)

Discharge at Settling Pond 1 (SP1) occurred for 90 days during this quarter with an average daily flow rate of 0.0325 m^3/s and quarterly maximum of 0.182 m^3/s. Appendix I, Table 24 displays the results for flow at SP1.

Water from 3S PAG-CCR storage facility was routinely pumped into SP1 throughout the quarter. Dewatering of the 2S mine pool at QU11-11 (INF) continued with all water directed through the Passive Treatment System (PTS) at cells Biochemical Reactor (BCREFF) and Sulphide Polishing Cell (SPCEFF). The discharge from the PTS is directed into the 2-South pit where it overflows into the 3-South pit and is pumped to SP1.

All permitted parameters applied to SP1 discharge were found in compliance with permit limits except for Fe-D as discussed previously. Permitted parameters and parameters of interest are displayed in the table below. Dissolved sulphate (SO_4-D) averaged 134 mg/L, total suspended solids (TSS) averaged 1.41 mg/L, dissolved arsenic (As-D) averaged 0.00061 mg/L, dissolved iron (Fe-D) averaged 0.4718 mg/L and pH remained neutral averaging 7.10. Complete results for Setting Pond 1 are displayed in Appendix I, Table 10.

Table 2: Setting Pond 1 Q4 Permitted Parameters and Parameters of Interest

E218582 Settling Pond # 1			Aver	Min	Max	Count
		Permit Limit-South (P)				
pH	pH Units	6.0 - 8.5	7.10	6.45	7.8	13
Cond	uS/cm		356.0	86.7	818	13
SO4-D	mg/L		134	26	290	14
TSS	mg/L	25	1.41	*<1.0*	5.2	14
Al-D	mg/L	0.5	0.0232	0.0088	0.0363	4
As-D	mg/L		0.00061	0.00020	0.00098	4
As-T	mg/L		0.00087	0.00017	0.00136	3
Cu-D	mg/L	0.02	0.00027	0.00021	0.00036	4
Fe-D	mg/L	0.5	0.4718	0.0944	1.19	4
Na-D	mg/L		10.88	1.80	22.8	4
Na-T	mg/L		10.40	1.90	16.6	3
Pb-D	mg/L	0.05	0.000100	*<0.00020*	*<0.00020*	4
Zn-D	mg/L	0.2	0.00250	*<0.0050*	*<0.0050*	4
O&G	mg/L	10	0.50	*<1.0*	*<1.0*	1

2.3 7-South (7SSD) Water Management

No discharge occurred from the 7-South Surface Decant Pond (7SSD). All water is directed into the 7-South portal sump (7SPS) where it is pumped into the 5-South Mine Pool. The supernatant from 7SSD was sampled on January 18th this quarter as required by the November 1, 2019 amended permit. Appendix 1, Table 21 and 25.

Water quality at 7S Stream 1 remained within water quality guidelines during monthly sampling events, Appendix 1, Table 35.

3.0 Water Quantities & Flow Rates

Flow and precipitation data are presented tabularly in Appendix I, Tables 26 - 28.

Appendix I, Table 26 display flow requirements for E292127 (2S) inflow and outflow. Weekly flows for E292130 (LLE), E292130 (LLSM / LLS) and E292109 (Stream 1, 7S) are available in Appendix I, Table 27.

The Quinsam environmental department has developed flow curves for all sites required under the effluent permit. Some sites get washed away and must be reestablished and verified with salt dilution trails. Flows were observed to increase during January through February in the rivers with peaks observed during the first two weeks of January correlating with heavy rains.

Precipitation data for the site during this reporting period is included in Appendix I, Table 28. Total precipitation was 210 mm during Q4 with the greatest accumulation observed in January (119 mm). Isolated events of heavy rain contributed significantly to that amount (i.e., on January 11th the site experienced 34.2 mm of precipitation).

4.0 Passive Treatment System (PTS)

The PTS was operational throughout the Q4 at an average of 4.0 L/s. The mine pool water level was measured at 8.2 meters above the pump on October 12th and increased to 18.4 meters on January 31st with increased precipitation. Levels declined to 15.7 meters by the end of March.

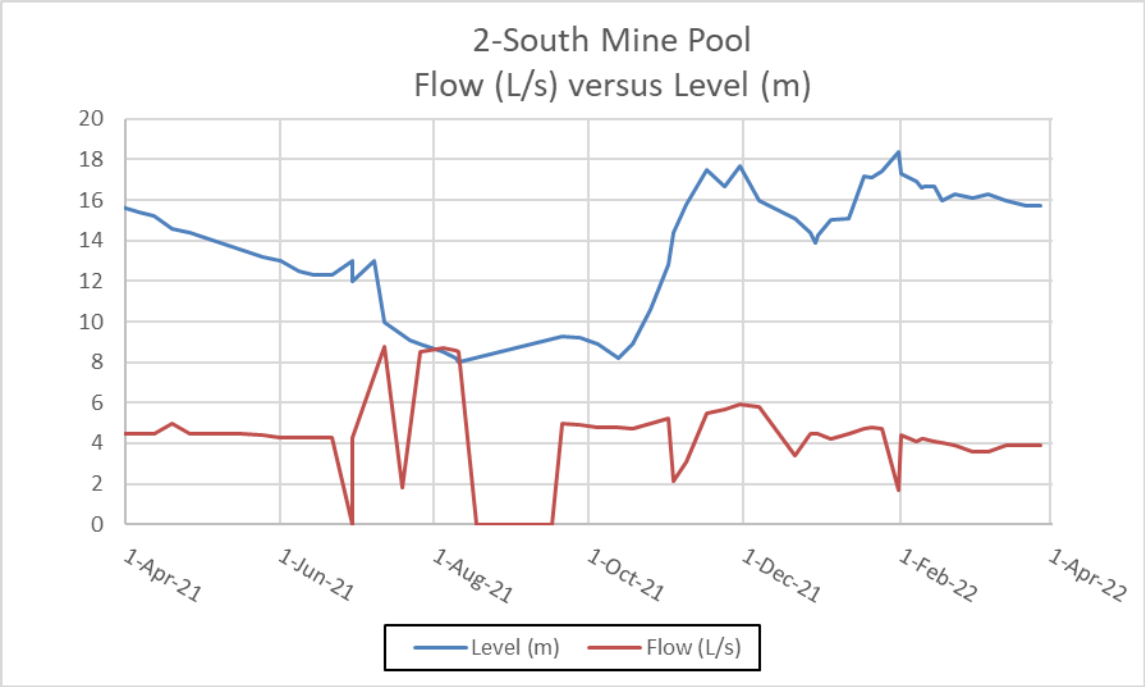

Figure 1: 2-South Mine Pool at INF Flow versus Level.

Table 3: Flow and level table at 2-South QU11-11 (INF)

Q4		
Date	**Level (m)**	**Flow (L/s)**
4-Jan-22	15	4.2
11-Jan-22	15.1	4.5
17-Jan-22	17.2	4.7
20-Jan-22	17.1	4.8
24-Jan-22	17.4	4.7
31-Jan-22	18.4	1.7
1-Feb-22	17.3	4.4
7-Feb-22	16.9	4.1
9-Feb-22	16.6	4.2
10-Feb-22	16.7	4.2
14-Feb-22	16.7	4.1
17-Feb-22	16	4
22-Feb-22	16.3	3.9
1-Mar-22	16.1	3.6
7-Mar-22	16.3	3.6
14-Mar-22	16	3.9
22-Mar-22	15.7	3.9
28-Mar-22	15.7	3.9

Average concentrations of dissolved sulphate have been entering the system from the 2-South mine pool measured at INF resulting in 535 mg/L and leaving the system at the Sulphide Polishing Cell (SPCEFF) resulting in 397 mg/L. Refer to Table 4 and Figures 2 and 3 below. This has led to a reduction in average sulphate concentrations of 138 mg/L. Sulphate reduction between INF and Biochemical Reactor (BCR) averaged 88 mg/L. The station, 2-South Inflow (2SI), receives discharge from the PTS, had an average sulphate reduction of 245 mg/L, with reduction at SPD averaging 394 mg/L for Q4.

Overall, the greatest average sulphate reduction exists between INF to SPD resulting in 394 mg/L. Freezing ambient temperatures decreases microbial metabolic activity within the BCR and SPCEFF during winter. The low average reduction rate between INF and BCR is most likely related to decreased microbial activities. Overall, a sulphate reduction of 394 mg/L was more likely attributed from precipitation on site (210 mm) during Q4, diluting the concentrations of sulphate. Once again, the original reduction goal to reduce sulphate concentrations to 300 mg/L, has been achieved.

Table 4 Summary of Sites Sulphate Concentrations and Reduction Rates

	INF	BCREFF	SPCEFF	2SI	SPD	2S	3S
Average	535	485	397	290	141	187	573
Count	12	12	10	12	12	3	3
Min	450	410	270	220	26	23	490
Max	640	560	510	390	290	340	650
	INF to BCR	BCR to SPCEFF	INF to SPCEFF	INF to 2SI	INF to SPD		
Sulphate reduction	50	88	138	245	394		

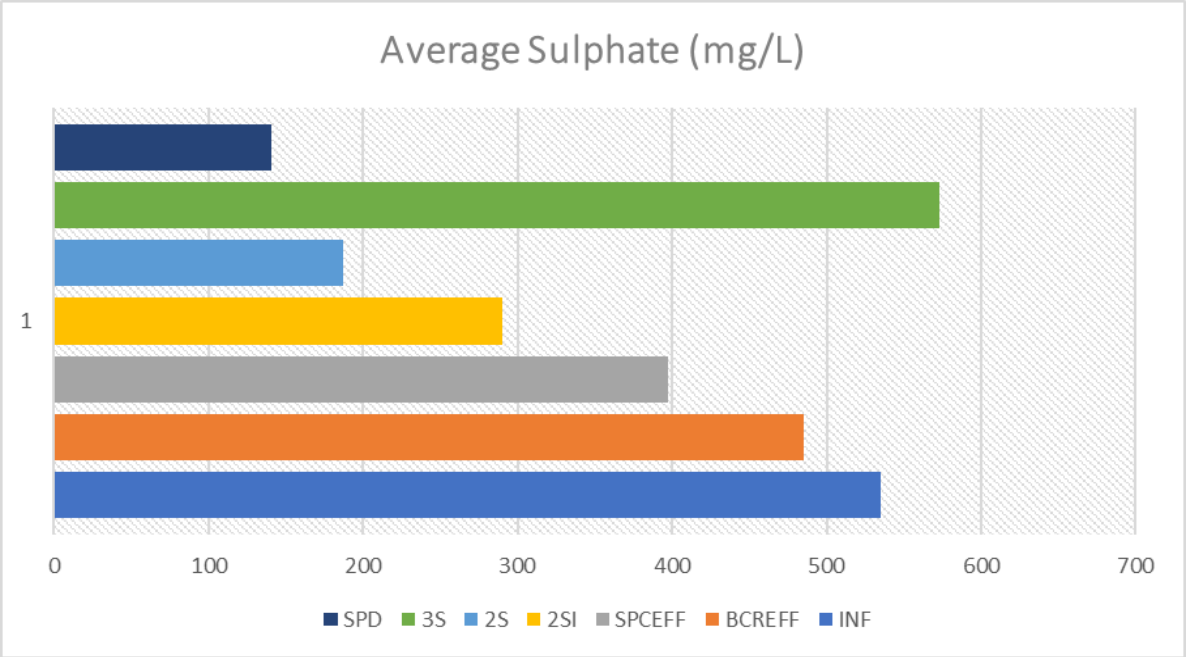

Figure 2: Average Sulphate Concentrations in 2-South Area

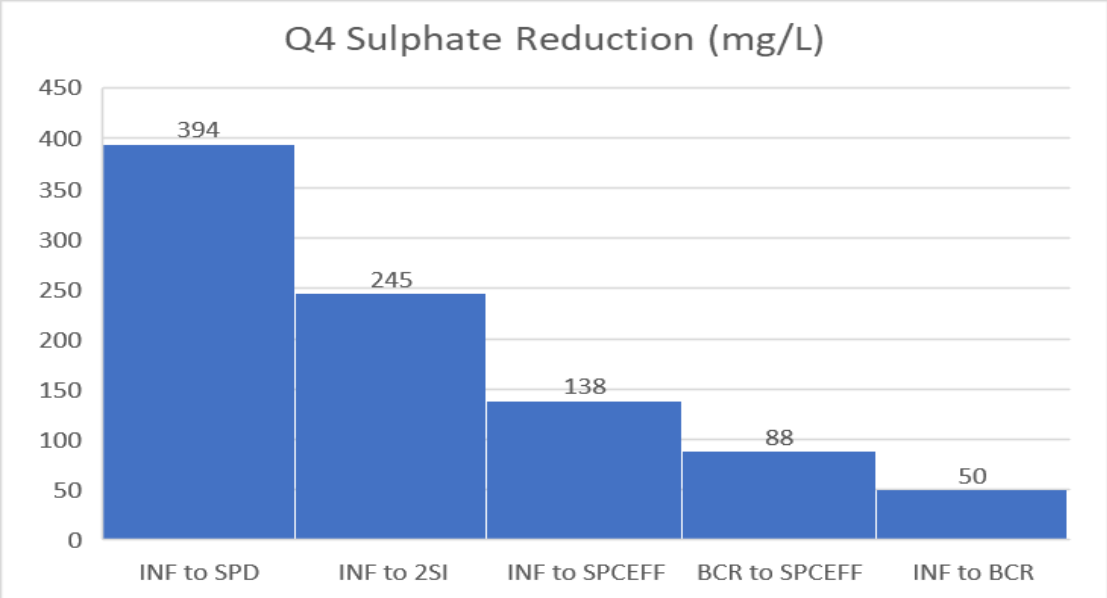

Figure 3: Sulphate Reduction through the Water Management System.

The PTS is effective at maintaining water cover over the PAG-CCR in the 2-South pit and reducing discharge at the Seep into Long Lake during low flow periods. This is accomplished by decreasing the elevation of the mine pool below the elevation of the

seep. The period of “no flow” at the Middle Seep into Long Lake (LLSM) has been observed to be extended by pumping down the mine pool.

Further monitoring of the PTS continues and includes the 2-South and 3-South systems and groundwater well MW004. A relationship between MW004, Seep flow and the elevation of the mine pool at the INF location continues to be developed with observations noted every quarter.

5.0 Quality Assurance Quality Control

All replicate sampling was performed in compliance with the *British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013 Edition*.

As per these guidelines and in accordance with the Quinsam Coal Quality Assurance/Quality Control (QA/QC) program, one field replicate sample was collected per sampling event. Relative Percent Difference, RPD values were calculated in accordance with the B.C. field sampling manual.

6.0 Removing Mercury from the Monitoring Program

A request to remove mercury for the sampling regime was submitted to the ENV on March 15, 2022. This request was approved based on the historical data sets presented for the entire mine site and a review of the permit. The permit does not specifically request the analysis of mercury. Mercury has therefore been removed from the monitoring program.

7.0 Possible Seepage Areas

There are two observed seepage areas near the Quinsam river. These areas could be related to mine seepage and are entering the river. During March monitoring has been performed for water quality and quantity to characterize the seepage areas. The areas are located by groundwater wells QU1109 and QU1105. These wells monitor water quality and vertical gradients downstream of the River Barrier Pillar and 2 North workings. The cross section below displays the well QU1109 in the River Barrier Pillar. Groundwater in this area has an upward vertical seepage toward the river.

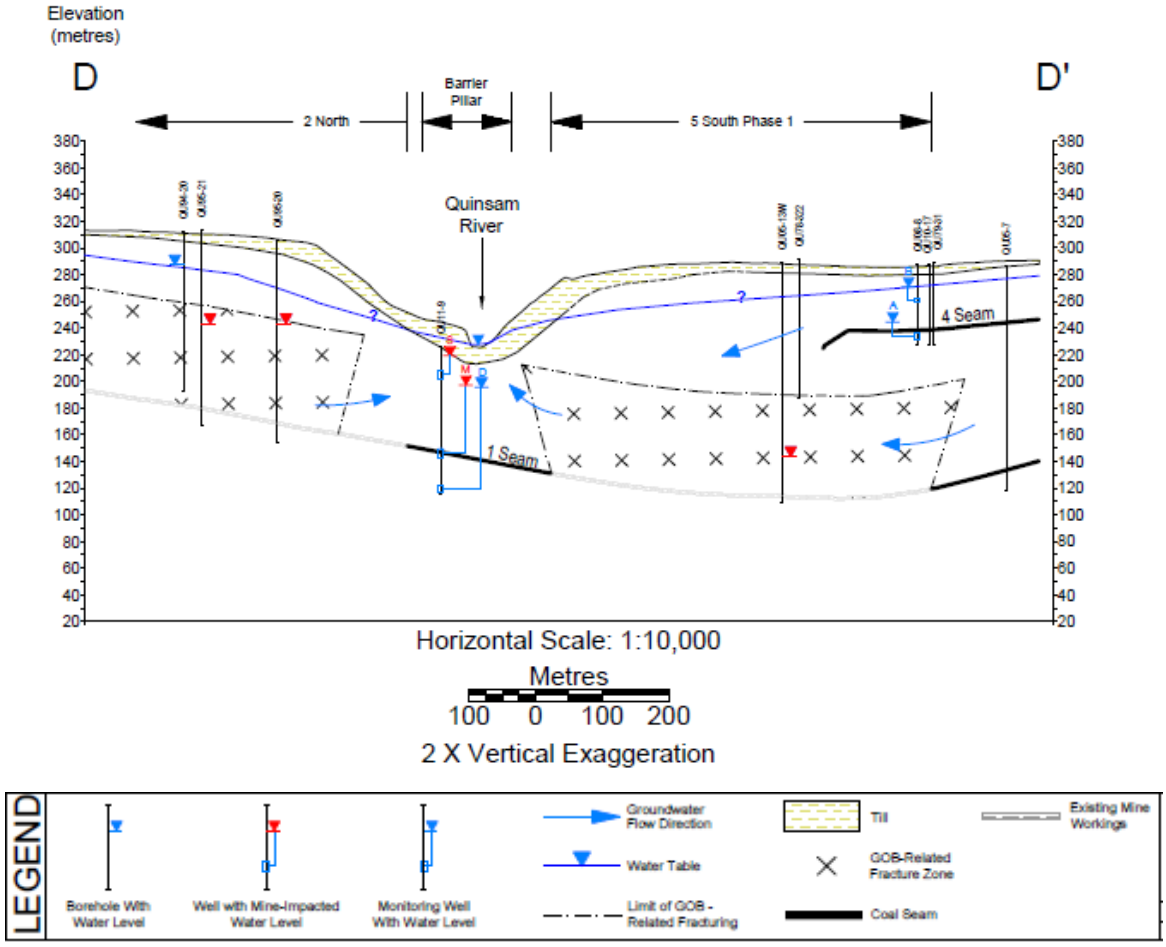

Figure 4: Cross section of QU1109

Refer to Figure 5 below for the ground and surface water sampling locations in relation to underground workings. The monitoring wells QU1109 and QU1105 are located in the River Barrier Pillar area. QU1105 (228.4 masl) is located downstream and at a similar elevation as QU1109 (226.3 masl). The seepage is not coming from the groundwater wells. The seepage (S) by QU1109 is percolating from the ground and follows a natural flow path entering the river.

The seepage (S2) discovered in the vicinity of QU1105 is at a lower elevation by the river and is also percolating from the ground and following a natural flow path into the river. Both locations have elevated arsenic and sulphate. S2 has elevated iron on all sampling events. Table below displays the concentrations above BC Acute Water Quality Guidelines Freshwater Aquatic Life.

Table 5: Concentrations above Acute WQG

EMS ID & Site Name	Parameter (mg/L or pH Units)	Guideline Limit	Result	Date	Guideline	Events Above Guideline
Possible Seepage from shallow groundwater near QU1109 (S)	As-T (mg/L)	0.005	0.0624, 0.0720 and 0.0748	March	Acute	(3/3) Weeks in March
Possible Seepage from shallow groundwater near QU1105 (S2)	As-T (mg/L)	0.005	0.0402, 0.0510 and 0.0510	March	Acute	(3/3) Weeks in March
	Fe-T (mg/L)	1.00	1.06, 1.51 and 1.39	March	Acute	(3/3) Weeks in March
	Fe-D (mg/L)	0.35	1.01, 1.21 and 0.977	March	Acute	(3/3) Weeks in March

Min = Minimum Water Quality Guideline (WQG) Acute = Maximum WQG, Chronic = Average WQG

Table 6: Flow Rates Established by Timed Bucket Tests

Site	Possible Seepage Area 1	Site	Possible Seepage Area 2
Flow (m^3/s)		Flow (m^3/s)	
Weeks	Estimate Flow	Weeks	Estimate Flow
26-Apr-21	0.0010	22-Mar-22	0.0100
10-Jun-21	0.0002	28-Mar-22	0.0075
06-Jul-21	0.0001		
27-Sep-21	0.0001		
05-Oct-21	0.0001		
12-Oct-21	0.0000		
20-Oct-21	0.0043		
26-Oct-21	0.0040		
03-Nov-21	0.0100		
08-Dec-21	0.0010		
14-Feb-22	0.0013		
22-Feb-22	0.0010		
01-Mar-22	0.0010		
22-Mar-22	0.0012		
28-Mar-22	0.0016		

Refer to *Appendix K: 2-North/3-North and 5-South Groundwater Evaluation by Lorax Environmental and Enterprise Geoscience Ltd.*

Geochemical source terms were developed from the expected materials and flooded mine pools. As stated below:

> *The influence of the geochemical characteristics of these materials (PAG tailings and PAG-CCR, primarily from 7-South) combined with the water chemistry of the mine water pools and the geochemistry of the formation rock (No. 1 Coal Zone and over-lying rock) provide the source terms for the water that will evolve and seep to the receiving environment.*

Each mine area has geochemical source terms developed and predicted seepage rates expected once the mine pools have been flooded and either backfilled with PAG-CCR or Tailings. All seepage was expected to enter the Quinsam River from 2-North/3-North, 4-South, 5-South and 7-South mine areas. The below information has been taken from Section 4 of the 7Mine Permit (C-172) Amendment 7-South Development Application Document.

Table 7 below provides a summary of the seepage pathways considered for each area and the seepage rates expected (Lorax 2011).

Table 7: 2-North / 3-North and 5-South Seepage Rates

Mine Area	Seepage Component	Seepage Flux (m^3/d)	Travel Time[2] (years)
2-North/3-North	Horizontal	53	1.4
	Vertical[1]	36	
	Fracture Flow	131	
	Subtotal	*220*	
5-South	Horizontal	42	1.5
	Vertical[1]	2	
	Subtotal	*44*	
River Barrier Pillar	Vertical (upward)	4	3.6
Study Area	**Total**	**268**	

1. The vertical component of mine seepage is inferred to occur only in areas where the No. 1 coal Zone is mined above the elevation of base drainage which is assumed to be 275m (the elevation of the Quinsam River at the outlet of Middle Quinsam Lake.
2. Fastest seepage pathway.

Under the expected case the predicted monthly contaminant concentrations in the Quinsam River from the 2-North/3-North Mine, with the PAG tailings disposal, was expected to remain below both chronic and acute water quality guidelines.

Under the expected case the predicted monthly contaminant concentrations in the Quinsam River from the 5-South/RBP area, with the PAG-CCR disposal, was expected to remain below both chronic and acute water quality guidelines.

For 7-South Mine modeling results indicate that no significant changes are expected in the Quinsam River due to groundwater loading from the 7-South Mine when backfilled with PAG-CCR that has been flooded to prevent the onset of acidic conditions. In all cases concentrations are below the water quality guidelines

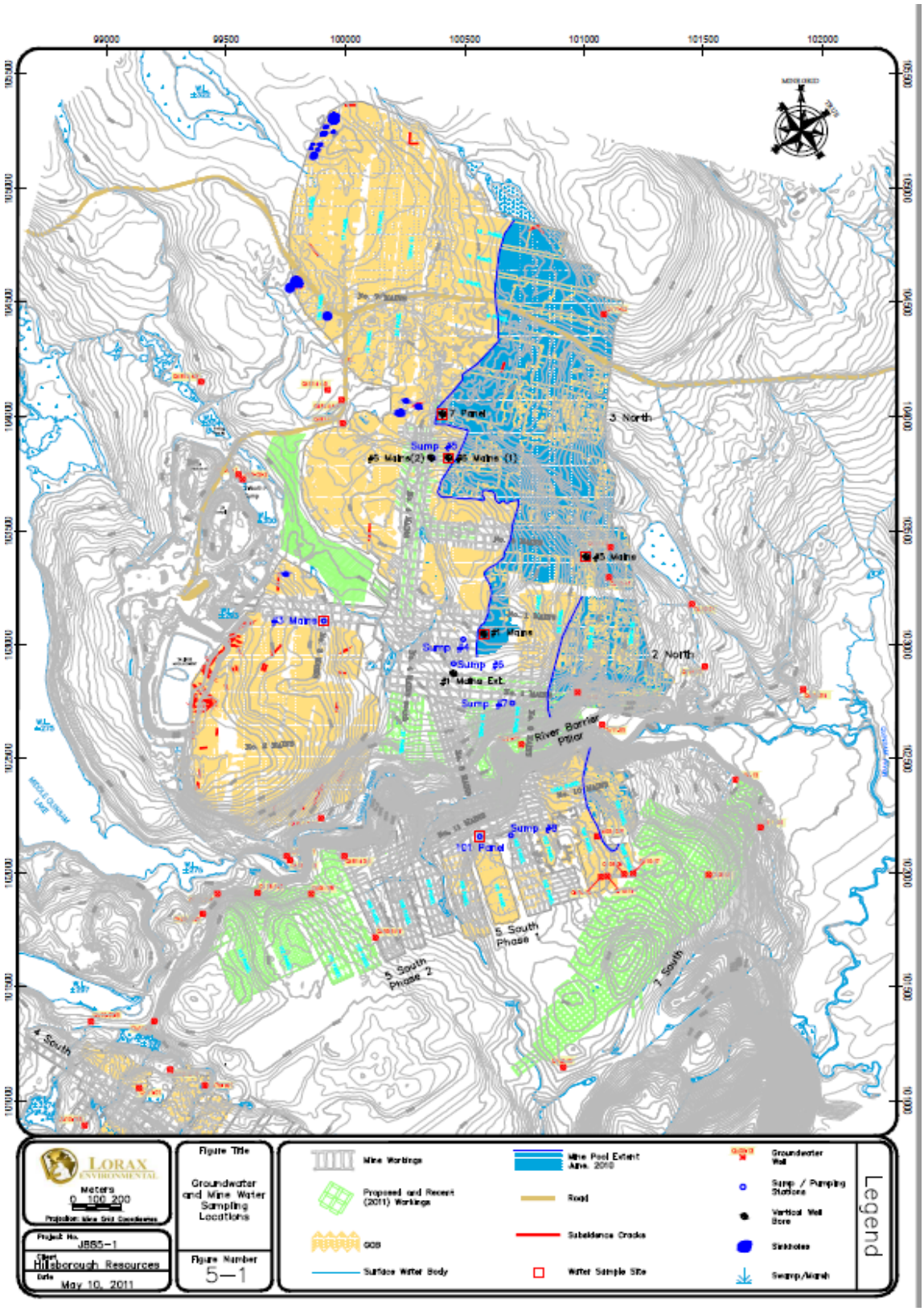

Figure 5: Mine Site Ground and Surface Water Monitoring Locations

8.0 Conclusion

The surface monitoring program at Quinsam Coal has been established to capture the effects of mine related surface and underground disturbance areas (contact water) with the receiving environment. The comprehensive nature of this program allows Quinsam to generate water quality predictions, strategically manage surplus water generated as a result of mining activities and create management plans with a focus on mitigating potential receiving environment impacts.

Quinsam is committed to limit impacts placed on the environment through operational procedures, striving to prevent adverse environmental impacts and is dedicated to internally investigate those parameters displaying an increasing trend. The possible seepage areas observed at the mine were predicted and expected with information presented in the Mine Permit (C-172) Amendment 7-South Development, which included a full hydrogeological assessment of the mine site.

Continued monitoring is required in order to assess the hydrogeological connection to the Quinsam river and determine what area(s) the seepage is coming from. Predicted source terms and seepage rates will be compared to actual water quality and quantity when more data is available. Increased monitoring on the Quinsam River is currently being implemented by the Environmental Department.

In closing, we trust the information presented in this report satisfies the conditions under Effluent Permit PE-7008. Please contact the Quinsam Coal Environmental Department if you have any questions or comments.

Sincerely,

Quinsam Coal Environmental Department

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Table of Contents

Table 1 Description of Effluent, In-Mine Releases Receiving Environment Monitoring Sites 1 Page(s)

Description of Effluent, In-Mine Releases & Receiving Environment Monitoring Sites			
EMS ID #	**Monitoring Sites**	**Abbreviation (Station Code)**	***Type of Water (MW, FW or GW)**
North Coal Mining Operation			
E207409	Settling Pond #4 Decant	WD	**Discharge (MW)**
E207411	Culvert, at Middle Quinsam Lake Road	WC	MW & FW
E283433	2-North Portal Sump (Adit Sump)	2NPS	MW
E207412	2-North Pit Sump CCR Cover	WP	PAG-CCR Water Cover - MW
South Coal Mine			
E218582	Settling Pond #1 Decant	SPD	**Discharge (MW)**
E217014	Culvert, Downstream End at Access Road	SPC	MW & FW
E217015	South Pit Main Sump Water	3S	PAG-CCR Water Cover (MW & FW)
E292127	2-South Pit In Pit Water Cover (2-South Standpipe)	2S	PAG-CCR Water Cover (MW & FW)
7-South Mining Operation			
E292069	7-South Surface Decant	7SSD	**Discharge (SW)**
E292110	7-South Adit Sump	7SPS	MW
Seep Monitoring Sites			
E292131	Long Lake Seeps	LLS & LLSM	GW / MW
	Culvert that collects groundwater and Coal Main logging road water entering MQL (PDSR)	PDSR	GW / SW
	Possible Seepage Area by QU1109	S	GW/SW
	Possible Seepage Area by QU1105	S2	GW/SW
Receiving Environment Monitoring Sites - Near Initial Zone of Dilution (NIDZ)			
Near Initial Dilution Zone (NIDZ) Monitoring Sites			
E292130	Long Lake Entrance (South end water entering Long Lake near the outlet)	LLE	NIDZ
E292109	Road Crossing Bridge on Stream 1 above the Lower Wetland (Downstream of 7SSD).The site name is Stream 1, 7S.	7S	NIDZ
Receiving Water (Rivers & Lakes Monitoring Sites) 5 in 30 Monitoring Locations			
North Coal Mining Operation			
E0126402	Quinsam River at Argonaut Bridge	WA	FW
E206618	Middle Quinsam Lake Centre	MQL (1, 4, 9 & 1m from Bottom)	FW
E0900504	Outflow from Middle Quinsam Lake	WB	FW
South Coal Mine			
E217018	No Name Lake	NNL (1, 4, 9 & 1m from Bottom)	FW
E217017	No Name Lake Outlet	NNO	FW
E206619	Long Lake at Centre	LLM (1, 4, 9 & 1m from Bottom)	FW
E219412	Long Lake Outlet	LLO	FW
7-South Mining Operation (Areas 1 to 4)			
E286930	Quinsam River Upstream of 7-South Mining Operation	QRDS1	FW
E292113	Quinsam River Downstream of 7-South Mining Operation	7SQR	FW
E292118	Lower Quinsam Lake Centre	LQL (1, 4, 9 & 1m from Bottom)	FW
7-South Area 5 Mining Operation			
E297231	Iron River upstream of 7SA5	IR6	FW
E297232	Iron River downstream of 7SA5 and 242 inputs	IR8	FW
E299256	Quinsam River downstream of confluence with Iron River	IRQR	FW
E292118	Lower Quinsam Lake Centre	LQL (1, 4, 9 & 1m from Bottom)	FW
Block 242 Mining Operation (Reclaimed / Not Monitored)			
E225798	Iron River upstream of the 242 influence	Not Monitored	FW
E225808	Iron River downstream of the 242 influence	Not Monitored	FW
N/A	Old portal sump used for collection of water from underground	Reclaimed	FW / GW
Long Lake Seep Passive Treatment System			
N/A	Groundwater well (2-South Mine Pool) influent to the treatment system	QU11-11 (INF-EFF)	MW
N/A	Biochemical Reactor	BCR-EFF	MW
N/A	Sulphide Polishing Cell	SPC-EFF	MW
N/A	2-South Inflow (From Passive Treament System)	2SI	MW
N/A	2-South Culvert into 3-South Pit (Seepage under liner and overflow from 2S-pit)	2SC	MW
*** MW= Mine Water, FW= Freshwater, GW =Groundwater NIDZ = Near Intial Dilution Zone**			

Table 2 Summary of Permit Limit Exceedances, Permit Non-Compliances and Unauthorised Discharges 1 Page(s)

Appendix 1 - Q4 (January - March 2022) Water Quality Report
Table 2 Summary of Permit Limit Exceedances, Permit Non-Compliances and Unauthorised Discharges 1 Page(s)

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EMS ID & Site Name	Non-Compliance (PNC)	Result (mg/L)	Date	Non-Compliance Reason	Number of events or period for PNC, P or spill event.
E218582- Settling Pond 1	Dissolved Iron	1.19	44565	Elevated iron in the Settling Pond. Possibly	1 monthly sampling event
E292131 - Long Lake Seeps	Unauthorised discharge	PNC	Q4	Seepage from mine pool into Long lake. N	Q4 - 92 Days
E292109 - 7S	Missed sample	PNC	January	Could not access site due to snow.	(1/3) monthly sampling events

Table 3 Summary of Water Quality Guideline Observations At Monitoring Locations 1 Page(s)

SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT MONITORING LOCATIONS WINTER 2022						
EMS ID & Site Name	Parameter (mg/L or pH Units)	Guideline Limit	Result	Date	Guideline	Events Above Guideline
E292130 - Entrance to Long Lake Entrance (LLE)	Fe-D (mg/L)	0.35	0.86	January 4, 2022	Acute	(1/3) Monthly sampling events
E292131 - Smaller seep into Long Lake (LLS)	Fe-T (mg/L)	1.00	1.77, 1.85 and 1.20	Monthly	Acute	(3/3) Monthly sampling events
	Fe-D (mg/L)	0.35	1.53, 1.65 and 1.01	Monthly	Acute	(3/3) Monthly sampling events
Possible Seepage from shallow groundwater near QU1109 (S)	As-T (mg/L)	0.005	0.0624, 0.0720 and 0.0748	March	Acute	(3/3) Weeks in March
Possible Seepage from shallow groundwater near QU1105 (S2)	As-T (mg/L)	0.005	0.0402, 0.0510 and 0.0510	March	Acute	(3/3) Weeks in March
	Fe-T (mg/L)	1.00	1.06, 1.51 and 1.39	March	Acute	(3/3) Weeks in March
	Fe-D (mg/L)	0.35	1.01, 1.21 and 0.977	March	Acute	(3/3) Weeks in March
Min = Minimum Water Quality Guideline (WQG) Acute = Maximum WQG, Chronic = Average WQG						

Table 4 Contaminated Sites Regulations - Aquatic Life Standards 1 Page(s)

Appendix 1 - Q4 (January - March 2022) Water Quality Report

Ex-situ Groundwater	Area		2N / 3N Mine Area					2-North		7-South		242 Area	4-South				
	Well ID		QU0821GS	QU0821GD	QU1010S	QU1010D	QU1010D	QU1105S	QU1105D	QU0813A	QU0813B	QU1136D	QU1008D	QU1008D	QU1009S	QU1009D	QU1009D
	Replicates (R)																
Parameter	Units	Freshwater Aquatic Life (CSR-AL)	17-Mar-22	17-Mar-22	23-Mar-22	23-Mar-22	23-Mar-22	8-Mar-22	8-Mar-22	2-Mar-22	28-Feb-22	3-Mar-22	16-Mar-22	16-Mar-22	20-Jan-22	20-Jan-22	20-Jan-22
S^{2-} as H_2S	mg/L	0.02	0.149	0.0904	0.415			0.234	40.4	0.287	0.128		0.223	0.287	0.0213	0.0670	0.0755
Cl-D	mg/L	1500				3500	3500										
As-D	mg/L	0.05	0.211	0.186	0.112			0.127		0.455	0.501	0.881	0.149	0.149	0.0847	0.0912	0.0906

In-situ Groundwater	Area		2-North Dewatering Areas		2-North 1Mains		Shallow Groundwater beside 3-South Pit	4-South Mine Pool	7-S Water Cover Over PAG		1Mains 7S and Area 5			7 South Area 5		
	Well ID		1M2N	1M2N	QU1013D	QU1013D R	MW002	QU1101	QU1410	QU1410 R	1M7SA5	1M7SA5	1M7SA5	7SA5	7SA5	7SA5
	Replicates (R)															
Parameter	Units	Freshwater Aquatic Life (CSR-AL)	14-Feb-22	29-Mar-22	9-Mar-22	9-Mar-22	19-Jan-22	14-Mar-22	28-Feb-22	28-Feb-22	27-Jan-22	14-Feb-22	29-Mar-22	27-Jan-22	14-Feb-22	29-Mar-22
SO4-D	mg/L	1280					1400	1500	1800	1800						
S^{2-} as H_2S	mg/L	0.02	0.0967	0.0957	0.244	0.287										
As-D	mg/L	0.05						0.156	0.116	0.111	0.0785	0.0709	0.128	0.225	0.224	0.230

Table 5 Settling Pond # 4 - Authorized Discharge Location for North Mine Water 1 Page(s)

EMS ID	E207409																	
Site Description				Settling Pond # 4 - Authorized Discharge Location for North Mine Water														
Site Name	WD	Std Val		WD-4JAN22-P	WD-4JAN22-R	WD-11JAN22-P	WD-17JAN22-P	WD-24JAN22-P	WD-1FEB22-P	WD-7FEB22-P	WD-14FEB22-P	WD-22FEB22-P	WD-1MAR22-P	WD-7MAR22-R	WD-7MAR22-P	WD-14MAR22-P	WD-22Mar22-P	WD-28MAR22-P
Date		Max	Min	04-01-2022	04-01-2022	11-01-2022	17-01-2022	24-01-2022	01-02-2022	07-02-2022	14-02-2022	22-02-2022	01-03-2022	07-03-2022	07-03-2022	14-03-2022	22-03-2022	28-03-2022
pH-F	pH Units			7.8		7.64	7.69	7.6	7.87	7.86	7.12	8.03	7.83		8.04	7.8	7.66	7.62
Cond-F	uS/cm			2060		2020	1650	2010	2030	2020	1927	2120	1815		2130	1966	1954	1632
pH-L	pH Units	8.5	6.0	8.23	8.21	8.25	8.31	8.03	8.23	8.16	8.11	8.14	8.20	8.25	8.26	8.19		8.23
Cond-L	uS/cm			1800	1800	1800	1700	1800	1800	1800	1700	2000		1900	1900	1800		1600
SO4-D	mg/L			470	550	540	470	560	570	580	570	590	410	550	550	510		400
TSS	mg/L	25	0	3.6	4.4	<1.0	1.2	<1.0	1.2	1.6	2.4	<1.0	1.6	3.2	2.8	2.8		<1.0
Alk-T	mg/L			460	450		390		440				450					
Acidity83	mg/L			3.9	8.3		2.2		4.1				<1.0					
Al-T	mg/L								0.0142									
As-T	mg/L								0.00174									
Ba-T	mg/L								0.0178									
B-T	mg/L								0.868									
Cd-T	mg/L								<0.000010									
Ca-T	mg/L								127									
Cr-T	mg/L								<0.0010									
Co-T	mg/L								0.00033									
Cu-T	mg/L								0.00061									
Hard-T	mg/L								375									
Fe-T	mg/L								1.02									
Pb-T	mg/L								<0.00020									
Mg-T	mg/L								14.2									
Mn-T	mg/L								0.203									
Hg-T	mg/L								<0.0000019									
Mo-T	mg/L								<0.0010									
Ni-T	mg/L								0.0011									
K-T	mg/L								3.74									
S-T	mg/L								186									
Se-T	mg/L								<0.00010									
Si-T	mg/L								3.33									
Ag-T	mg/L								<0.000020									
Na-T	mg/L								282									
Sr-T	mg/L								1.18									
Zn-T	mg/L								<0.0050									
Al-D	mg/L	0.5	0	<0.0030	<0.0030				0.0039				0.0039					
As-D	mg/L			0.00122	0.00116				0.00097				0.00120					
Ba-D	mg/L			0.0176	0.0173				0.0166				0.0179					
B-D	mg/L			0.838	0.847				0.866				0.830					
Be-D	mg/L			<0.00010	<0.00010				<0.00010				<0.00010					
Cd-D	mg/L			<0.000010	<0.000010				<0.000010				<0.000010					
Ca-D	mg/L			125	123				131				109					
Cr-D	mg/L			<0.0010	<0.0010				<0.0010				<0.0010					
Co-D	mg/L			0.00030	0.00029				0.00031				0.00029					
Cu-D	mg/L	0.02	0	<0.00020	<0.00020				0.00024				0.00023					
Hard-D	mg/L			367	361				385				324					
Fe-D	mg/L	0.3	0	0.0121	0.0134				0.0065				0.0164					
Pb-D	mg/L	0.05	0	<0.00020	<0.00020				<0.00020				<0.00020					
Mg-D	mg/L			13.3	13.1				13.8				12.7					
Mn-D	mg/L			0.211	0.210				0.203				0.105					
Hg-D	mg/L			<0.0000019	<0.0000019				<0.0000019				<0.0000019					
Mo-D	mg/L			<0.0010	<0.0010				<0.0010				<0.0010					
Ni-D	mg/L			<0.0010	<0.0010				0.0011				<0.0010					
K-D	mg/L			3.73	3.66				3.65				2.99					
S-D	mg/L			184	179				191				151					
Se-D	mg/L			<0.00010	<0.00010				<0.00010				<0.00010					
Si-D	mg/L			3.43	3.37				3.42				2.93					
Na-D	mg/L			281	279				283				255					
Sr-D	mg/L			1.23	1.18				1.24				0.956					
Zn-D	mg/L	0.1	0	<0.0050	<0.0050				<0.0050				0.0176					
O&G	mg/L	10	0						<1.0									

Table 6 2 North Pit Sump CCR Water Cover 1 Page(s)

EMS ID	E207412			
Site Description	2 North Pit Sump CCR Water Cover			
Site Name	WP	WP-18JAN22-M	WP-1FEB22-M	WP-1MAR22-M
Date		18-01-2022	01-02-2022	01-03-2022
pH-F	pH Units	8.25	7.69	7.46
Cond-F	uS/cm	261	612	1939
SO4-D	mg/L	160	240	570
TSS	mg/L	<1.0	1.6	3.6
Alk-T	mg/L	40	73	280
Acidity83	mg/L	1.3	1.4	4.4
Al-T	mg/L	0.0210	0.0162	0.0230
As-T	mg/L	<0.00010	0.00012	0.00114
Ba-T	mg/L	0.0046	0.0065	0.0141
B-T	mg/L	0.095	0.132	0.618
Cd-T	mg/L	0.000018	0.000024	0.000015
Ca-T	mg/L	77.8	77.1	189
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00096	0.00146	0.00110
Cu-T	mg/L	0.00057	0.00087	0.00114
Hard-T	mg/L	237	231	580
Fe-T	mg/L	0.029	0.054	1.41
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	10.4	9.39	25.9
Mn-T	mg/L	0.0466	0.0884	0.213
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	0.0028	0.0033	0.0035
K-T	mg/L	0.538	0.814	2.91
S-T	mg/L	67.1	71.1	232
Se-T	mg/L	0.00012	0.00013	0.00014
Si-T	mg/L	1.04	1.35	2.81
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	11.8	25.3	175
Sr-T	mg/L	0.385	0.429	1.31
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0067	0.0077	<0.0030
As-D	mg/L	<0.00010	0.00012	0.00063
Ba-D	mg/L	0.0024	0.0063	0.0137
B-D	mg/L	<0.050	0.143	0.609
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	0.000013	0.000025	<0.000010
Ca-D	mg/L	36.1	75.1	190
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00036	0.00140	0.00115
Cu-D	mg/L	0.00027	0.00069	0.00030
Hard-D	mg/L	112	225	582
Fe-D	mg/L	<0.0050	<0.0050	0.116
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	5.26	9.16	26.4
Mn-D	mg/L	0.0186	0.0829	0.226
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	0.0010	0.0031	0.0036
K-D	mg/L	0.332	0.764	3.03
S-D	mg/L	32.8	71.5	237
Se-D	mg/L	<0.00010	0.00013	0.00013
Si-D	mg/L	0.43	1.30	2.81
Na-D	mg/L	6.17	24.7	182
Sr-D	mg/L	0.182	0.420	1.32
Zn-D	mg/L	<0.0050	0.0052	<0.0050

Table 7 2-North Portal Sump Effuent 1 Page(s)

EMS ID	E283433			
Site Description		2-North Portal Sump Effuent		
Site Name	2NPS	2NPS-18JAN22-M	2NPS-1FEB22-M	2NPS-1MAR22-M
Date		18-01-2022	01-02-2022	01-03-2022
pH-F	pH Units	7.5	7.96	7.62
Cond-F	uS/cm	2310	2270	2500
SO4-D	mg/L	820	1100	1100
Alk-T	mg/L	170	300	300
Acidity83	mg/L	2.4	4.2	8.1
Al-T	mg/L	0.261	0.0639	0.0298
As-T	mg/L	0.00044	0.00104	0.00098
Ba-T	mg/L	0.0114	0.0116	0.0105
B-T	mg/L	0.629	0.80	0.82
Cd-T	mg/L	0.000025	<0.000020	<0.000020
Ca-T	mg/L	291	298	285
Cr-T	mg/L	<0.0010	<0.0020	<0.0020
Co-T	mg/L	0.00442	0.00187	0.00151
Cu-T	mg/L	0.00280	<0.0010	<0.0010
Hard-T	mg/L	850	881	847
Fe-T	mg/L	0.123	0.285	0.306
Pb-T	mg/L	<0.00020	<0.00040	<0.00040
Mg-T	mg/L	29.9	33.1	33.2
Mn-T	mg/L	0.235	0.258	0.244
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0020	<0.0020
Ni-T	mg/L	0.0099	0.0042	0.0031
K-T	mg/L	3.61	4.04	3.96
S-T	mg/L	321	367	360
Se-T	mg/L	0.00031	<0.00020	<0.00020
Si-T	mg/L	3.07	3.28	3.22
Ag-T	mg/L	<0.000020	<0.000040	<0.000040
Na-T	mg/L	182	243	244
Sr-T	mg/L	2.01	2.08	1.97
Zn-T	mg/L	0.0136	<0.010	<0.010
Al-D	mg/L	0.0631	0.0233	0.0068
As-D	mg/L	0.00037	0.00064	0.00068
Ba-D	mg/L	0.0118	0.0117	0.0100
B-D	mg/L	0.69	0.84	0.80
Be-D	mg/L	<0.00020	<0.00020	<0.00020
Cd-D	mg/L	0.000024	<0.000020	<0.000020
Ca-D	mg/L	295	314	278
Cr-D	mg/L	<0.0020	<0.0020	<0.0020
Co-D	mg/L	0.00401	0.00189	0.00146
Cu-D	mg/L	0.00117	0.00040	<0.00040
Hard-D	mg/L	865	916	825
Fe-D	mg/L	0.012	0.183	0.154
Pb-D	mg/L	<0.00040	<0.00040	<0.00040
Mg-D	mg/L	31.3	32.4	31.7
Mn-D	mg/L	0.213	0.245	0.234
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0020	<0.0020	<0.0020
Ni-D	mg/L	0.0098	0.0042	0.0029
K-D	mg/L	3.83	4.06	3.90
S-D	mg/L	348	395	348
Se-D	mg/L	0.00031	<0.00020	<0.00020
Si-D	mg/L	3.09	3.56	3.14
Na-D	mg/L	186	242	240
Sr-D	mg/L	2.06	2.23	1.89
Zn-D	mg/L	0.013	<0.010	<0.010

Table 8 Road Side Ditch Draining into MQL 1 Page(s)

EMS ID				
Site Description		**Road Side Ditch Draining into MQL**		
Site Name	**PDSR**	**PDSR-18JAN22-M**	**PDSR-1FEB22-M**	**PDSR-1MAR22-M**
Date		**18-01-2022**	**01-02-2022**	**01-03-2022**
pH-F	pH Units	8.002	8.03	8.13
Cond-F	uS/cm	1033	1218	1248
SO4-D	mg/L	290	440	410
TSS	mg/L	<1.0	<1.0	3.2
Al-T	mg/L	0.0116	0.0104	0.0183
As-T	mg/L	<0.00010	<0.00010	<0.00010
Ba-T	mg/L	0.0102	0.0127	0.0132
B-T	mg/L	0.148	0.161	0.184
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	124	151	174
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00020	<0.00020
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	394	483	548
Fe-T	mg/L	<0.010	<0.010	0.014
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	20.6	25.5	27.6
Mn-T	mg/L	<0.0010	<0.0010	<0.0010
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	0.811	1.02	1.06
S-T	mg/L	111	146	157
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.19	3.26	3.43
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	28.4	33.9	35.6
Sr-T	mg/L	0.721	0.924	0.943
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0078	0.0075	0.0075
As-D	mg/L	<0.00010	<0.00010	<0.00010
Ba-D	mg/L	0.0105	0.0123	0.0132
B-D	mg/L	0.154	0.172	0.187
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	128	159	166
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00030	0.00032	0.00030
Hard-D	mg/L	403	501	530
Fe-D	mg/L	<0.0050	0.0076	<0.0050
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	20.6	25.2	28.2
Mn-D	mg/L	<0.0010	<0.0010	<0.0010
Hg-D	mg/L	<0.0000019	<0.0000019	0.0000020
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	0.831	0.925	1.07
S-D	mg/L	115	147	161
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.16	3.45	3.30
Na-D	mg/L	28.6	32.7	36.3
Sr-D	mg/L	0.715	0.926	0.941
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 9 Culvert at Middle Quinsam Lake Road 1 Page(s)

EMS ID	E207411			
Site Description	Culvert at Middle Quinsam Lake Road			
Site Name	WC	WC-18JAN22-M	WC-1FEB22-M	WC-1MAR22-M
Date		18-01-2022	01-02-2022	01-03-2022
pH-F	pH Units	8.2	8.35	8.4
Cond-F	uS/cm	1606	1805	1649
SO4-D	mg/L	330	480	350
TSS	mg/L	<1.0	<1.0	<1.0
Al-T	mg/L		0.0117	0.0070
As-T	mg/L		0.00053	0.00041
Ba-T	mg/L		0.0140	0.0123
B-T	mg/L		0.795	0.764
Cd-T	mg/L		<0.000010	<0.000010
Ca-T	mg/L		111	95.0
Cr-T	mg/L		<0.0010	<0.0010
Co-T	mg/L		<0.00020	<0.00020
Cu-T	mg/L		0.00059	<0.00050
Hard-T	mg/L		332	285
Fe-T	mg/L		0.143	0.058
Pb-T	mg/L		<0.00020	<0.00020
Mg-T	mg/L		13.2	11.5
Mn-T	mg/L		0.0350	0.0088
Hg-T	mg/L		<0.0000019	<0.0000019
Mo-T	mg/L		<0.0010	<0.0010
Ni-T	mg/L		0.0011	<0.0010
K-T	mg/L		3.32	2.73
S-T	mg/L		165	137
Se-T	mg/L		<0.00010	<0.00010
Si-T	mg/L		3.35	2.86
Ag-T	mg/L		<0.000020	<0.000020
Na-T	mg/L		251	229
Sr-T	mg/L		1.04	0.844
Zn-T	mg/L		<0.0050	<0.0050
Al-D	mg/L		0.0086	0.0053
As-D	mg/L		0.00044	0.00036
Ba-D	mg/L		0.0133	0.0121
B-D	mg/L		0.737	0.751
Be-D	mg/L		<0.00010	<0.00010
Cd-D	mg/L		<0.000010	<0.000010
Ca-D	mg/L		114	95.5
Cr-D	mg/L		<0.0010	<0.0010
Co-D	mg/L		<0.00020	<0.00020
Cu-D	mg/L		0.00059	0.00025
Hard-D	mg/L		336	286
Fe-D	mg/L		0.0082	0.0116
Pb-D	mg/L		<0.00020	<0.00020
Mg-D	mg/L		12.6	11.5
Mn-D	mg/L		0.0335	0.0084
Hg-D	mg/L		<0.0000019	<0.0000019
Mo-D	mg/L		<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010
K-D	mg/L		3.19	2.78
S-D	mg/L		172	138
Se-D	mg/L		<0.00010	<0.00010
Si-D	mg/L		3.48	2.88
Na-D	mg/L		246	230
Sr-D	mg/L		1.08	0.851
Zn-D	mg/L		<0.0050	<0.0050

Table 10 Settling Pond #1 - Authorized Discharge Location for South Mine Water 1 Page(s)

EMS ID	E218582																	
Site Description	Settling Pond #1 - Authorized Discharge Location for South Mine Water																	
Site Name	SPD	Std Val		SPD-4JAN22-P	SPD-11JAN22-P	SPD-17JAN22-P	SPD-24JAN22-P	SPD-24JAN22-R	SPD-1FEB22-P	SPD-7FEB22-P	SPD-14FEB22-R	SPD-14FEB22-P	SPD-22FEB22-P	SPD-1MAR22-P	SPD-7MAR22-P	SPD-14MAR22-P	SPD-22Mar22-P	SPD-28MAR22-P
Date		Max	Min	04-01-2022	11-01-2022	17-01-2022	24-01-2022	24-01-2022	01-02-2022	07-02-2022	14-02-2022	14-02-2022	22-02-2022	01-03-2022	07-03-2022	14-03-2022	22-03-2022	28-03-2022
pH-F	pH Units			7.72	6.68	6.65	6.72		6.67	6.89		6.45	7.37	6.99	7.2	7.48	7.8	7.65
Cond-F	uS/cm			637	216	93.8	86.7		240	114.9		286	401	124.8	226	632	818	752
pH-L	pH Units	8.5	6.0	7.39	7.34	6.90	7.20	6.94	7.45	7.09	6.66	6.98	7.52	6.77	6.96	7.80		8.07
Cond-L	uS/cm			550	160	90	120	300	680	210	240	450	330		230	570		710
SO4-D	mg/L			250	51	26	58	100	290	77	83	180	130	58	81	240		260
TSS	mg/L	25	0	3.6	<1.0	2.4	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	2.4	5.2	<1.0		<1.0
Alk-T	mg/L			72					83					26				
Acidity83	mg/L			4.6					3.3					2.3				
Al-T	mg/L			0.0334		0.0389			0.0220									
As-T	mg/L			0.00136		0.00017			0.00108									
Ba-T	mg/L			0.0101		0.0019			0.0128									
B-T	mg/L			0.108		<0.050			0.115									
Cd-T	mg/L			0.000020		<0.000010			<0.000010									
Ca-T	mg/L			84.8		7.03			69.5									
Cr-T	mg/L			<0.0010		<0.0010			<0.0010									
Co-T	mg/L			0.00101		<0.00020			0.00053									
Cu-T	mg/L			0.00063		0.00082			0.00060									
Hard-T	mg/L			256		23.0			213									
Fe-T	mg/L			1.44		0.142			0.767									
Pb-T	mg/L			<0.00020		<0.00020			<0.00020									
Mg-T	mg/L			10.7		1.33			9.45									
Mn-T	mg/L			0.332		0.0258			0.0955									
Hg-T	mg/L			<0.0000019					<0.0000019									
Mo-T	mg/L			<0.0010		<0.0010			<0.0010									
Ni-T	mg/L			<0.0010		<0.0010			<0.0010									
K-T	mg/L			0.751		0.100			0.736									
S-T	mg/L			70.0		4.4			63.1									
Se-T	mg/L			<0.00010		<0.00010			<0.00010									
Si-T	mg/L			3.57		2.91			2.84									
Ag-T	mg/L			<0.000020		<0.000020			<0.000020									
Na-T	mg/L			12.7		1.90			16.6									
Sr-T	mg/L			0.460		0.0351			0.420									
Zn-T	mg/L			0.0084		<0.0050			<0.0050									
Al-D	mg/L	0.5	0	0.0179		0.0363			0.0088					0.0298				
As-D	mg/L			0.00098		0.00020			0.00090					0.00036				
Ba-D	mg/L			0.0119		0.0018			0.0144					0.0031				
B-D	mg/L			0.136		<0.050			0.157					<0.050				
Be-D	mg/L			<0.00010		<0.00010			<0.00010					<0.00010				
Cd-D	mg/L			0.000020		<0.000010			<0.000010					<0.000010				
Ca-D	mg/L			96.7		6.50			98.8					16.7				
Cr-D	mg/L			<0.0010		<0.0010			<0.0010					<0.0010				
Co-D	mg/L			0.00108		<0.00020			0.00039					0.00020				
Cu-D	mg/L	0.02	0	0.00036		0.00022			0.00021					0.00028				
Hard-D	mg/L			294		21.5			298					51.9				
Fe-D	mg/L	0.5	0	**1.19**		0.0944			0.398					0.205				
Pb-D	mg/L	0.05	0	<0.00020		<0.00020			<0.00020					<0.00020				
Mg-D	mg/L			12.9		1.29			12.4					2.47				
Mn-D	mg/L			0.386		0.0233			0.0914					0.0361				
Hg-D	mg/L			<0.0000019					<0.0000019					<0.0000019				
Mo-D	mg/L			<0.0010		<0.0010			<0.0010					<0.0010				
Ni-D	mg/L			<0.0010		<0.0010			<0.0010					<0.0010				
K-D	mg/L			0.872		0.095			0.991					0.206				
S-D	mg/L			84.9		4.1			90.3					13.4				
Se-D	mg/L			<0.00010		<0.00010			<0.00010					<0.00010				
Si-D	mg/L			3.49		2.67			2.86					3.10				
Na-D	mg/L			15.3		1.80			22.8					3.61				
Sr-D	mg/L			0.553		0.0324			0.615					0.0914				
Zn-D	mg/L	0.2	0	<0.0050		<0.0050			<0.0050					<0.0050				
O&G	mg/L	10	0						<1.0									

Table 11 Passive Treatment System (PTS) Influent for Biocell 1 Page(s)

Site Description		Passive Treatment System (PTS) Influent from 2-S Mine Pool													
Site Name	**INF**	**INF-4JAN22-M**	**INF-11JAN22-M**	**INF-11JAN22-R**	**INF-17JAN22-M**	**INF-24JAN22-M**	**INF-1FEB22-M**	**INF-7FEB22-M**	**INF-14FEB22-M**	**INF-22FEB22-M**	**INF-1MAR22-M**	**INF-7MAR22-M**	**INF-14MAR22-M**	**INF-22Mar22-M**	**INF-28MAR22-M**
Date		**04-01-2022**	**11-01-2022**	**11-01-2022**	**17-01-2022**	**24-01-2022**	**01-02-2022**	**07-02-2022**	**14-02-2022**	**22-02-2022**	**01-03-2022**	**07-03-2022**	**14-03-2022**	**22-03-2022**	**28-03-2022**
pH-F	pH Units	7.17	7.12		7.14	7.2	7.38	7.42	6.72	7.47	7.44	7.5	7.26	7.16	7.17
Cond-F	uS/cm	1719	1705		1565	1794	1609	1423	1514	1494	1522	1535	1509	1496	1535
H2S	mg/L														
SO4-D	mg/L	540	640	640	530	510	460	490	530	450	580	540	600		560
TSS	mg/L	3.6					7.2				1.2				
Alk-T	mg/L	250					210				220				
Acidity83	mg/L	9.6					<1.0				5.2				
Al-T	mg/L	<0.0030					0.0937				0.0041				
As-T	mg/L	0.00234					0.00900				0.00211				
Ba-T	mg/L	0.0193					0.0212				0.0186				
B-T	mg/L	0.545					0.530				0.565				
Cd-T	mg/L	<0.000010					<0.000010				<0.000010				
Ca-T	mg/L	228					160				197				
Cr-T	mg/L	<0.0010					<0.0010				<0.0010				
Co-T	mg/L	0.00070					0.00128				0.00070				
Cu-T	mg/L	<0.00050					0.00303				<0.00050				
Hard-T	mg/L	631					442				549				
Fe-T	mg/L	2.68					4.20				2.32				
Pb-T	mg/L	<0.00020					<0.00020				<0.00020				
Mg-T	mg/L	14.7					10.4				13.8				
Mn-T	mg/L	0.315					0.277				0.294				
Hg-T	mg/L	<0.0000019					<0.0000019				<0.0000019				
Mo-T	mg/L	<0.0010					<0.0010				<0.0010				
Ni-T	mg/L	0.0012					0.0025				0.0012				
K-T	mg/L	1.84					1.48				1.63				
S-T	mg/L	200					144				179				
Se-T	mg/L	<0.00010					<0.00010				<0.00010				
Si-T	mg/L	3.00					3.69				3.13				
Ag-T	mg/L	<0.000020					<0.000020				<0.000020				
Na-T	mg/L	104					89.3				91.7				
Sr-T	mg/L	1.98					1.54				1.70				
Zn-T	mg/L	<0.0050					<0.0050				<0.0050				
Al-D	mg/L	<0.0030					<0.0030				<0.0030				
As-D	mg/L	0.00237					0.00264				0.00195				
Ba-D	mg/L	0.0200					0.0189				0.0189				
B-D	mg/L	0.609					0.669				0.561				
Be-D	mg/L	<0.00010					<0.00010				<0.00010				
Cd-D	mg/L	<0.000010					<0.000010				<0.000010				
Ca-D	mg/L	233					201				200				
Cr-D	mg/L	<0.0010					<0.0010				<0.0010				
Co-D	mg/L	0.00072					0.00039				0.00071				
Cu-D	mg/L	<0.00020					<0.00020				<0.00020				
Hard-D	mg/L	645					551				558				
Fe-D	mg/L	2.56					2.14				2.23				
Pb-D	mg/L	<0.00020					<0.00020				<0.00020				
Mg-D	mg/L	15.1					12.2				14.0				
Mn-D	mg/L	0.315					0.284				0.298				
Hg-D	mg/L	<0.0000019					<0.0000019				<0.0000019				
Mo-D	mg/L	<0.0010					<0.0010				<0.0010				
Ni-D	mg/L	0.0013					<0.0010				0.0012				
K-D	mg/L	1.85					1.69				1.68				
S-D	mg/L	209					183				181				
Se-D	mg/L	0.00016					<0.00010				<0.00010				
Si-D	mg/L	3.35					3.57				3.16				
Na-D	mg/L	104					105				93.3				
Sr-D	mg/L	2.14					1.91				1.72				
Zn-D	mg/L	<0.0050					<0.0050				<0.0050				

Table 12 PTS Biochemical Reactor Cell 1 Page(s)

Site Description	PassiveTreatment System Biochemical Reactor Cell													
Site Name	BCR	BCREFF-4JAN22-M	BCREFF-11JAN22-M	BCREFF-17JAN22-M	BCREFF-24JAN22-M	BCREFF-1FEB22-M	BCREFF-7FEB22-M	BCREFF-14FEB22-M	BCREFF-22FEB22-M	BCREFF-1MAR22-M	BCREFF-7MAR22-M	BCREFF-14MAR22-M	BCREFF-22Mar22-M	BCREFF-28MAR22-M
Date		04-01-2022	11-01-2022	17-01-2022	24-01-2022	01-02-2022	07-02-2022	14-02-2022	22-02-2022	01-03-2022	07-03-2022	14-03-2022	22-03-2022	28-03-2022
pH-F	pH Units	7.33	7.11	7.11	7.12	7.28	7.35	6.66	7.42	7.42	7.34	7.28	7.14	7.06
Cond-F	uS/cm	1656	1670	1656	1643	1648	1527	1520	1492	1410	1453	1355	1382	1388
pH-L	pH Units	7.94	8.07	7.98	7.75	7.84	7.98	7.69	7.84	7.76	7.92	7.80		8.05
Cond-L	uS/cm	1400	1400	1500	1500	1400	1400	1300	1300		1300	1200		1300
H2S	mg/L													
SO4-D	mg/L	460	560	490	520	540	510	490	410	460	460	430		500
TSS	mg/L	<1.0				1.6				1.6				
Alk-T	mg/L	270				270				260				
Acidity83	mg/L	15.6				10.7				9.7				
Al-T	mg/L	0.0078				0.0076				0.0054				
As-T	mg/L	<0.00010				<0.00010				<0.00010				
Ba-T	mg/L	0.0248				0.0265				0.0212				
B-T	mg/L	0.509				0.595				0.595				
Cd-T	mg/L	<0.000010				<0.000010				<0.000010				
Ca-T	mg/L	222				213				181				
Cr-T	mg/L	<0.0010				<0.0010				<0.0010				
Co-T	mg/L	<0.00020				<0.00020				<0.00020				
Cu-T	mg/L	<0.00050				<0.00050				<0.00050				
Hard-T	mg/L	615				592				502				
Fe-T	mg/L	0.021				<0.010				<0.010				
Pb-T	mg/L	<0.00020				<0.00020				<0.00020				
Mg-T	mg/L	14.4				14.3				11.9				
Mn-T	mg/L	0.243				0.246				0.278				
Hg-T	mg/L	<0.000038				<0.0000019				<0.0000019				
Mo-T	mg/L	<0.0010				<0.0010				<0.0010				
Ni-T	mg/L	<0.0010				<0.0010				<0.0010				
K-T	mg/L	1.67				1.73				1.57				
S-T	mg/L	182				173				143				
Se-T	mg/L	<0.00010				<0.00010				<0.00010				
Si-T	mg/L	3.43				3.93				3.47				
Ag-T	mg/L	<0.000020				<0.000020				<0.000020				
Na-T	mg/L	103				100				88.3				
Sr-T	mg/L	1.95				1.98				1.56				
Zn-T	mg/L	<0.0050				<0.0050				<0.0050				
Al-D	mg/L	0.0041				0.0039				0.0051				
As-D	mg/L	<0.00010				<0.00010				0.00010				
Ba-D	mg/L	0.0259				0.0259				0.0248				
B-D	mg/L	0.571				0.599				0.603				
Be-D	mg/L	<0.00010				<0.00010				<0.00010				
Cd-D	mg/L	<0.000010				<0.000010				<0.000010				
Ca-D	mg/L	223				218				225				
Cr-D	mg/L	<0.0010				<0.0010				<0.0010				
Co-D	mg/L	<0.00020				<0.00020				<0.00020				
Cu-D	mg/L	<0.00020				<0.00020				<0.00020				
Hard-D	mg/L	618				602				619				
Fe-D	mg/L	0.0326				<0.0050				0.0063				
Pb-D	mg/L	<0.00020				<0.00020				<0.00020				
Mg-D	mg/L	14.5				13.9				13.8				
Mn-D	mg/L	0.247				0.251				0.308				
Hg-D	mg/L	<0.000038				<0.000038				<0.0000019				
Mo-D	mg/L	<0.0010				<0.0010				<0.0010				
Ni-D	mg/L	<0.0010				<0.0010				<0.0010				
K-D	mg/L	1.70				1.70				1.84				
S-D	mg/L	234				207				172				
Se-D	mg/L	0.00940				0.00375				0.00012				
Si-D	mg/L	3.64				4.03				3.86				
Na-D	mg/L	102				98.5				104				
Sr-D	mg/L	2.07				2.03				2.00				
Zn-D	mg/L	<0.0050				<0.0050				<0.0050				

Table 13 PTS Sulphide Polishing Cell 1 Page(s)

Site Description		Passive Treatment System Sulphide Polishing Cell												
Site Name	SPCEFF	SPCEFF-17JAN22-M	SPCEFF-24JAN22-M	SPCEFF-1FEB22-M	SPCEFF-7FEB22-M	SPCEFF-14FEB22-M	SPCEFF-22FEB22-M	SPCEFF-1MAR22-M	SPCEFF-7MAR22-M	SPCEFF-14MAR22-M	SPCEFF-14MAR22-R	SPCEFF-22Mar22-M	SPCEFF-28MAR22-R	SPCEFF-28MAR22-M
Date		17-01-2022	24-01-2022	01-02-2022	07-02-2022	14-02-2022	22-02-2022	01-03-2022	07-03-2022	14-03-2022	14-03-2022	22-03-2022	28-03-2022	28-03-2022
pH-F	pH Units	7.2	7.25	7.4	7.46	7	7.58	7.89	7.74	7.87		7.93		7.89
Cond-F	uS/cm	1633	1631	1041	1120	1523	1483	1346	1444	1365		1331		1314
H2S	mg/L													
SO4-D	mg/L	510	380	270	380	480	420	370	340	440	390		380	380
TSS	mg/L	4.0		<1.0				2.4						
Alk-T	mg/L	270		250				290						
Acidity83	mg/L	8.2		<1.0				1.9						
Al-T	mg/L	0.0136		0.0074				0.0094						
As-T	mg/L	0.00010		0.00080				0.00089						
Ba-T	mg/L	0.0251		0.0216				0.0235						
B-T	mg/L	0.538		0.384				0.533						
Cd-T	mg/L	<0.000010		<0.000010				<0.000010						
Ca-T	mg/L	230		144				173						
Cr-T	mg/L	<0.0010		<0.0010				<0.0010						
Co-T	mg/L	<0.00020		<0.00020				0.00024						
Cu-T	mg/L	<0.00050		<0.00050				<0.00050						
Hard-T	mg/L	634		402				484						
Fe-T	mg/L	0.087		0.240				0.691						
Pb-T	mg/L	<0.00020		<0.00020				<0.00020						
Mg-T	mg/L	14.2		10.3				12.6						
Mn-T	mg/L	0.268		0.0905				0.118						
Hg-T	mg/L	<0.0000019		<0.0000019				<0.0000019						
Mo-T	mg/L	<0.0010		<0.0010				<0.0010						
Ni-T	mg/L	<0.0010		<0.0010				<0.0010						
K-T	mg/L	1.61		1.15				1.51						
S-T	mg/L	179		110				135						
Se-T	mg/L	<0.00010		<0.00010				<0.00010						
Si-T	mg/L	3.47		2.67				2.78						
Ag-T	mg/L	<0.000020		<0.000020				<0.000020						
Na-T	mg/L	99.4		68.7				88.8						
Sr-T	mg/L	1.98		1.35				1.56						
Zn-T	mg/L	<0.0050		<0.0050				<0.0050						
Al-D	mg/L	0.0036		0.0050				<0.0030						
As-D	mg/L	<0.00010		0.00085				0.00054						
Ba-D	mg/L	0.0260		0.0220				0.0233						
B-D	mg/L	0.557		0.423				0.548						
Be-D	mg/L	<0.00010		<0.00010				<0.00010						
Cd-D	mg/L	<0.000010		<0.000010				<0.000010						
Ca-D	mg/L	233		152				179						
Cr-D	mg/L	<0.0010		<0.0010				<0.0010						
Co-D	mg/L	<0.00020		<0.00020				0.00021						
Cu-D	mg/L	<0.00020		<0.00020				<0.00020						
Hard-D	mg/L	642		421				500						
Fe-D	mg/L	0.0110		0.123				0.0318						
Pb-D	mg/L	<0.00020		<0.00020				<0.00020						
Mg-D	mg/L	14.7		10.1				12.8						
Mn-D	mg/L	0.255		0.0873				0.116						
Hg-D	mg/L	<0.0000019		<0.000038				<0.0000019						
Mo-D	mg/L	<0.0010		<0.0010				<0.0010						
Ni-D	mg/L	<0.0010		<0.0010				<0.0010						
K-D	mg/L	1.72		1.07				1.49						
S-D	mg/L	231		114				136						
Se-D	mg/L	0.00372		0.00026				<0.00010						
Si-D	mg/L	3.45		2.93				2.85						
Na-D	mg/L	100		67.3				88.1						
Sr-D	mg/L	2.06		1.41				1.59						
Zn-D	mg/L	<0.0050		<0.0050				<0.0050						

Table 14 2 South Pit Inflow 1 Page(s)

Site Description	2 South Pit Inflow															
Site Name	2SI	2SI-4JAN22-M	2SI-11JAN22-M	2SI-17JAN22-R	2SI-17JAN22-M	2SI-24JAN22-M	2SI-1FEB22-M	2SI-7FEB22-R	2SI-7FEB22-M	2SI-14FEB22-M	2SI-22FEB22-M	2SI-1MAR22-M	2SI-7MAR22-M	2SI-14MAR22-M	2SI-22Mar22-M	2SI-28MAR22-M
Date		04-01-2022	11-01-2022	17-01-2022	17-01-2022	24-01-2022	01-02-2022	07-02-2022	07-02-2022	14-02-2022	22-02-2022	01-03-2022	07-03-2022	14-03-2022	22-03-2022	28-03-2022
pH-F	pH Units	7.73	7.54		7.37	7.54	7.73		7.79	7.06	7.7		7.73	7.6	7.57	7.43
Cond-F	uS/cm	1200	984		822	944	968		980	904	766	840	917	807	898	921
H2S	mg/L															
SO4-D	mg/L	390	330	290	280	300	290	280	260	300	220	310	290	280		240
TSS	mg/L	<1.0										<1.0				
Alk-T	mg/L	170					140					130				
Acidity83	mg/L	3.4					<1.0					2.2				
Al-T	mg/L	0.0087					0.0106					0.0134				
As-T	mg/L	0.00019					0.00016					0.00019				
Ba-T	mg/L	0.0197					0.0169					0.0149				
B-T	mg/L	0.324					0.262					0.302				
Cd-T	mg/L	<0.000010					<0.000010					<0.000010				
Ca-T	mg/L	146					118					109				
Cr-T	mg/L	<0.0010					<0.0010					<0.0010				
Co-T	mg/L	0.00025					<0.00020					<0.00020				
Cu-T	mg/L	<0.00050					<0.00050					<0.00050				
Hard-T	mg/L	414					336					310				
Fe-T	mg/L	0.185					0.145					0.134				
Pb-T	mg/L	<0.00020					<0.00020					<0.00020				
Mg-T	mg/L	11.9					10.3					9.38				
Mn-T	mg/L	0.0853					0.0576					0.0728				
Hg-T	mg/L	<0.0000019					<0.0000019					<0.0000019				
Mo-T	mg/L	<0.0010					<0.0010					<0.0010				
Ni-T	mg/L	<0.0010					<0.0010					<0.0010				
K-T	mg/L	1.02					0.856					0.864				
S-T	mg/L	130					101					90.5				
Se-T	mg/L	<0.00010					<0.00010					<0.00010				
Si-T	mg/L	3.65					3.89					3.78				
Ag-T	mg/L	<0.000020					<0.000020					<0.000020				
Na-T	mg/L	62.3					45.9					43.4				
Sr-T	mg/L	1.18					0.955					0.816				
Zn-T	mg/L	<0.0050					<0.0050					<0.0050				
Al-D	mg/L	0.0049					0.0074					0.0077				
As-D	mg/L	0.00018					0.00012					0.00017				
Ba-D	mg/L	0.0203					0.0159					0.0148				
B-D	mg/L	0.357					0.273					0.302				
Be-D	mg/L	<0.00010					<0.00010					<0.00010				
Cd-D	mg/L	<0.000010					<0.000010					<0.000010				
Ca-D	mg/L	151					117					106				
Cr-D	mg/L	<0.0010					<0.0010					<0.0010				
Co-D	mg/L	0.00025					<0.00020					<0.00020				
Cu-D	mg/L	0.00023					0.00029					0.00028				
Hard-D	mg/L	427					334					304				
Fe-D	mg/L	0.105					0.114					0.0808				
Pb-D	mg/L	<0.00020					<0.00020					<0.00020				
Mg-D	mg/L	12.1					10.2					9.37				
Mn-D	mg/L	0.0870					0.0574					0.0711				
Hg-D	mg/L	<0.0000019					<0.0000019					<0.0000019				
Mo-D	mg/L	<0.0010					<0.0010					<0.0010				
Ni-D	mg/L	<0.0010					<0.0010					<0.0010				
K-D	mg/L	1.04					0.787					0.866				
S-D	mg/L	134					102					91.8				
Se-D	mg/L	<0.00010					<0.00010					<0.00010				
Si-D	mg/L	3.86					4.14					3.69				
Na-D	mg/L	62.2					44.7					43.4				
Sr-D	mg/L	1.25					0.927					0.807				
Zn-D	mg/L	<0.0050					<0.0050					<0.0050				

Table 15 2-South Pit in Pit Water Cover Over PAG-CCR 1 Page(s)

EMS ID	E292127				
Site Description	2-South Pit in Pit Water Cover Over PAG-CCR				
Site Name	2S	2S-17JAN22-M	2S-1FEB22-M	2S-1MAR22-M	2S-1MAR22-R
Date		17-01-2022	01-02-2022	01-03-2022	01-03-2022
pH-F	pH Units	7.73	7.74	8.23	
Cond-F	uS/cm	746	934	107.5	
SO4-D	mg/L	200	340	23	24
TSS	mg/L	3.2			
Alk-T	mg/L	91	130	14	12
Acidity83	mg/L	1.4	<1.0	<1.0	<1.0
Al-T	mg/L	0.0115	0.0219	0.0158	0.0080
As-T	mg/L	0.00020	0.00076	<0.00010	<0.00010
Ba-T	mg/L	0.0147	0.0156	0.0015	0.0014
B-T	mg/L	0.220	0.246	<0.050	<0.050
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	111	128	9.48	10.0
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	319	368	27.2	28.8
Fe-T	mg/L	0.053	0.089	0.023	0.011
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	10.3	12.0	0.868	0.911
Mn-T	mg/L	0.0422	0.0438	0.0051	0.0053
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
K-T	mg/L	0.746	1.03	0.134	0.143
S-T	mg/L	92.4	110	7.4	7.7
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.50	3.47	0.41	0.43
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L	34.7	41.3	4.13	4.36
Sr-T	mg/L	0.787	0.957	0.0607	0.0643
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0056	0.0040	<0.0030	<0.0030
As-D	mg/L	0.00018	0.00065	<0.00010	<0.00010
Ba-D	mg/L	0.0127	0.0146	0.0013	0.0013
B-D	mg/L	0.189	0.265	<0.050	<0.050
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	92.2	123	9.27	9.40
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00024	0.00028	<0.00020	<0.00020
Hard-D	mg/L	266	356	26.7	26.9
Fe-D	mg/L	0.0234	0.0121	<0.0050	<0.0050
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	8.67	11.8	0.854	0.835
Mn-D	mg/L	0.0338	0.0414	0.0048	0.0049
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
K-D	mg/L	0.626	0.946	0.132	0.136
S-D	mg/L	79.2	109	7.0	6.8
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	2.86	3.34	0.38	0.39
Na-D	mg/L	29.0	40.7	4.18	4.07
Sr-D	mg/L	0.640	0.910	0.0617	0.0613
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050

Table 16 2-South Outflow Culvert into 3-South Pit 1 Page(s)

EMS ID				
Site Description	**2-South Outflow Culvert into 3-South Pit**			
Site Name	**2SC**	**2SC-4JAN22-M**	**2SC-1FEB22-M**	**2SC-1MAR22-M**
Date		**04-01-2022**	**01-02-2022**	**01-03-2022**
pH-F	pH Units	8.09	7.91	8.02
Cond-F	uS/cm	1588	1647	1502
SO4-D	mg/L	660	590	660
Alk-T	mg/L	200	170	170
Acidity83	mg/L	2.5	<1.0	1.1
Al-T	mg/L	<0.0030	0.0030	<0.0060
As-T	mg/L	0.00032	0.00024	0.00021
Ba-T	mg/L	0.0123	0.0127	0.0112
B-T	mg/L	0.265	0.247	0.27
Cd-T	mg/L	<0.000010	<0.000010	<0.000020
Ca-T	mg/L	266	260	241
Cr-T	mg/L	<0.0010	<0.0010	<0.0020
Co-T	mg/L	<0.00020	<0.00020	<0.00040
Cu-T	mg/L	<0.00050	<0.00050	<0.0010
Hard-T	mg/L	791	772	725
Fe-T	mg/L	0.036	0.012	<0.020
Pb-T	mg/L	<0.00020	<0.00020	<0.00040
Mg-T	mg/L	30.9	30.1	29.9
Mn-T	mg/L	0.0116	0.0069	0.0043
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0020
Ni-T	mg/L	<0.0010	<0.0010	<0.0020
K-T	mg/L	2.13	1.93	1.85
S-T	mg/L	217	226	203
Se-T	mg/L	0.00020	0.00029	0.00023
Si-T	mg/L	2.48	2.39	2.52
Ag-T	mg/L	<0.000020	<0.000020	<0.000040
Na-T	mg/L	35.1	28.7	27.4
Sr-T	mg/L	1.45	1.50	1.26
Zn-T	mg/L	<0.0050	<0.0050	<0.010
Al-D	mg/L	<0.0030	<0.0030	<0.0060
As-D	mg/L	0.00029	0.00020	0.00020
Ba-D	mg/L	0.0127	0.0128	0.0117
B-D	mg/L	0.289	0.269	0.27
Be-D	mg/L	<0.00010	<0.00010	<0.00020
Cd-D	mg/L	<0.000010	<0.000010	<0.000020
Ca-D	mg/L	264	271	248
Cr-D	mg/L	<0.0010	<0.0010	<0.0020
Co-D	mg/L	<0.00020	<0.00020	<0.00040
Cu-D	mg/L	<0.00020	<0.00020	<0.00040
Hard-D	mg/L	787	805	743
Fe-D	mg/L	<0.0050	<0.0050	<0.010
Pb-D	mg/L	<0.00020	<0.00020	<0.00040
Mg-D	mg/L	30.9	31.2	29.8
Mn-D	mg/L	0.0036	0.0059	0.0039
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010	<0.0010	<0.0020
Ni-D	mg/L	<0.0010	<0.0010	<0.0020
K-D	mg/L	2.15	1.97	1.86
S-D	mg/L	225	236	205
Se-D	mg/L	0.00025	0.00031	0.00023
Si-D	mg/L	2.61	2.55	2.56
Na-D	mg/L	34.2	29.4	28.4
Sr-D	mg/L	1.55	1.55	1.25
Zn-D	mg/L	<0.0050	<0.0050	<0.010

Table 17 3-South Pit Water Cover Over PAG-CCR 1 Page(s)

EMS ID	E217015				
Site Description	3-South Pit Water Cover Over PAG-CCR				
Site Name	3S	3S-4JAN22-M	3S-1FEB22-M	3S-1FEB22-R	3S-1MAR22-M
Date		04-01-2022	01-02-2022	01-02-2022	01-03-2022
pH-F	pH Units	8.09	7.76		7.74
Cond-F	uS/cm	1588	1149		1276
SO4-D	mg/L	650	490	510	580
Alk-T	mg/L	180	120	140	160
Acidity83	mg/L	2.5	1.6	1.7	<1.0
Al-T	mg/L	0.0044			0.0262
As-T	mg/L	0.00029			0.00027
Ba-T	mg/L	0.0135			0.0120
B-T	mg/L	0.262			0.27
Cd-T	mg/L	0.000070			<0.000020
Ca-T	mg/L	266			242
Cr-T	mg/L	<0.0010			<0.0020
Co-T	mg/L	<0.00020			<0.00040
Cu-T	mg/L	<0.00050			<0.0010
Hard-T	mg/L	793			728
Fe-T	mg/L	0.032			0.049
Pb-T	mg/L	<0.00020			<0.00040
Mg-T	mg/L	31.4			30.1
Mn-T	mg/L	0.0085			0.0089
Hg-T	mg/L	<0.0000019			<0.0000019
Mo-T	mg/L	<0.0010			<0.0020
Ni-T	mg/L	<0.0010			<0.0020
K-T	mg/L	2.19			1.90
S-T	mg/L	221			206
Se-T	mg/L	0.00021			0.00022
Si-T	mg/L	2.40			2.10
Ag-T	mg/L	<0.000020			<0.000040
Na-T	mg/L	34.3			28.5
Sr-T	mg/L	1.45			1.31
Zn-T	mg/L	0.0062			<0.010
Al-D	mg/L	<0.0030			<0.0060
As-D	mg/L	0.00026			0.00023
Ba-D	mg/L	0.0128			0.0119
B-D	mg/L	0.280			0.27
Be-D	mg/L	<0.00010			<0.00020
Cd-D	mg/L	0.000054			<0.000020
Ca-D	mg/L	266			247
Cr-D	mg/L	<0.0010			<0.0020
Co-D	mg/L	<0.00020			<0.00040
Cu-D	mg/L	0.00021			<0.00040
Hard-D	mg/L	789			743
Fe-D	mg/L	<0.0050			<0.010
Pb-D	mg/L	<0.00020			<0.00040
Mg-D	mg/L	30.4			30.6
Mn-D	mg/L	0.0043			0.0109
Hg-D	mg/L	<0.0000019			<0.0000019
Mo-D	mg/L	<0.0010			<0.0020
Ni-D	mg/L	<0.0010			<0.0020
K-D	mg/L	2.13			1.93
S-D	mg/L	223			206
Se-D	mg/L	0.00024			0.00022
Si-D	mg/L	2.64			2.03
Na-D	mg/L	33.2			29.0
Sr-D	mg/L	1.53			1.29
Zn-D	mg/L	0.0060			<0.010

Table 18 South End Mine Water Entering Long Lake Near the Outlet 1 Page(s)

EMS ID	E292130															
Site Description	South End Mine Water Entering Long Lake Near the Outlet															
Site Name	LLE	Std Val		LLE-4JAN22-M	LLE-11JAN22-M	LLE-17JAN22-M	LLE-24JAN22-M	LLE-1FEB22-M	LLE-7FEB22-M	LLE-14FEB22-M	LLE-22FEB22-M	LLE-22FEB22-R	LLE-1MAR22-M	LLE-7MAR22-M	LLE-14MAR22-M	LLE-22Mar22-M	LLE-28MAR22-M
Date		Max	Min	04-01-2022	11-01-2022	17-01-2022	24-01-2022	01-02-2022	07-02-2022	14-02-2022	22-02-2022	22-02-2022	01-03-2022	07-03-2022	14-03-2022	22-03-2022	28-03-2022
pH-F	pH Units			7.48	6.64	7.88	7.71	7.27	7.77	7.35	8.01		7.89	7.9	7.36	7.54	7.26
Cond-F	uS/cm			219	185.4	191.9	192.9	347	270	279	310		342	300	256	346	349
SO4-D	mg/L			62	53	45	43	130	92	85	89	86	76	90	83		110
TSS	mg/L	25	0	<1.0				<1.0					1.6				
DOC	mg/L			5.2									3.0				
Alk-T	mg/L			26				37					26				
Acidity83	mg/L			1.4				1.7					1.1				
N-NH3	mg/L	12.9	0	<0.015				<0.015					0.015				
N-NO23	mg/L			0.093				0.030					0.038				
P-T	mg/L			0.0035				<0.0030					<0.0030				
Al-T	mg/L			0.131		0.0744		0.0663					0.0964				
As-T	mg/L	0.005	0	0.00093		0.00058		0.00067					0.00073				
Ba-T	mg/L			0.0071		0.0058		0.0112					0.0076				
B-T	mg/L			<0.050		<0.050		0.065					<0.050				
Cd-T	mg/L			<0.000010		<0.000010		<0.000010					<0.000010				
Ca-T	mg/L			21.3		18.5		43.3					26.5				
Cr-T	mg/L			<0.0010		<0.0010		<0.0010					<0.0010				
Co-T	mg/L	0.11	0	<0.00020		<0.00020		<0.00020					<0.00020				
Cu-T	mg/L			0.00054		<0.00050		<0.00050					<0.00050				
Hard-T	mg/L			66.6		57.1		132					81.4				
Fe-T	mg/L	1.0	0	0.899		0.099		0.226					0.243				
Pb-T	mg/L	0.01763	0	<0.00020		<0.00020		<0.00020					<0.00020				
Mg-T	mg/L			3.26		2.63		5.68					3.68				
Mn-T	mg/L	0.8706	0	0.0616		0.0066		0.0131					0.0135				
Hg-T	mg/L			0.0000023				<0.0000019					<0.0000019				
Mo-T	mg/L	2.0	0	<0.0010		<0.0010		<0.0010					<0.0010				
Ni-T	mg/L			<0.0010		<0.0010		<0.0010					<0.0010				
K-T	mg/L			0.282		0.270		0.477					0.321				
S-T	mg/L			18.2		14.4		38.9					22.5				
Se-T	mg/L			<0.00010		<0.00010		<0.00010					<0.00010				
Si-T	mg/L			3.30		3.16		3.39					3.30				
Ag-T	mg/L	0.0001	0	<0.000020		<0.000020		<0.000020					<0.000020				
Na-T	mg/L			5.68		4.96		10.5					5.65				
Sr-T	mg/L			0.121		0.110		0.254					0.151				
Zn-T	mg/L	0.033	0	<0.0050		<0.0050		<0.0050					<0.0050				
Al-D	mg/L	0.1	0	0.0627		0.0458		0.0305					0.0466				
As-D	mg/L			0.00084		0.00059		0.00055					0.00065				
Ba-D	mg/L			0.0073		0.0060		0.0104					0.0073				
B-D	mg/L			<0.050		<0.050		0.072					<0.050				
Be-D	mg/L			<0.00010		<0.00010		<0.00010					<0.00010				
Cd-D	mg/L	0.00017	0	0.000127		<0.000010		<0.000010					<0.000010				
Ca-D	mg/L			22.6		18.7		41.9					26.0				
Cr-D	mg/L			<0.0010		<0.0010		<0.0010					<0.0010				
Co-D	mg/L			<0.00020		<0.00020		<0.00020					<0.00020				
Cu-D	mg/L	≤ 0.00762	0	0.00046		0.00030		0.00038					0.00034				
Hard-D	mg/L			70.4		57.7		128					79.8				
Fe-D	mg/L	0.35	0	0.855		0.0764		0.195					0.201				
Pb-D	mg/L			<0.00020		<0.00020		<0.00020					<0.00020				
Mg-D	mg/L			3.40		2.70		5.65					3.60				
Mn-D	mg/L			0.0630		0.0065		0.0126					0.0130				
Hg-D	mg/L			<0.0000019				<0.0000019					0.0000019				
Mo-D	mg/L			<0.0010		<0.0010		0.0422					<0.0010				
Ni-D	mg/L			<0.0010		<0.0010		<0.0010					<0.0010				
K-D	mg/L			0.293		0.284		0.475					0.321				
S-D	mg/L			19.1		15.0		39.3					22.6				
Se-D	mg/L			<0.00010		<0.00010		<0.00010					<0.00010				
Si-D	mg/L			3.73		3.03		3.38					3.18				
Na-D	mg/L			5.68		5.01		10.4					5.59				
Sr-D	mg/L			0.128		0.108		0.246					0.148				
Zn-D	mg/L			<0.0050		<0.0050		<0.0050					0.0094				

Table 19 Seep into Long Lake 1 Page(s)

EMS ID	E292131				
Site Description		Seep into Long Lake			
Site Name	LLS	Std Val	LLS-17JAN22-M	LLS-1FEB22-M	LLS-1MAR22-M
Date		Max	17-01-2022	01-02-2022	01-03-2022
pH-F	pH Units		7.04	7.14	7.21
Cond-F	uS/cm		1714	1843	1722
pH-L	pH Units	9.0	7.58	7.93	7.70
Cond-L	uS/cm		1500	1600	
SO4-D	mg/L		600	650	650
TSS	mg/L	25	3.2	3.6	<1.0
Alk-T	mg/L		78	230	230
Acidity83	mg/L		4.7	1.3	5.4
Al-T	mg/L		0.0094	<0.0030	<0.0060
As-T	mg/L	0.005	0.00434	0.00454	0.00287
Ba-T	mg/L		0.0188	0.0177	0.0165
B-T	mg/L		0.519	0.616	0.63
Cd-T	mg/L		<0.000010	<0.000010	<0.000020
Ca-T	mg/L		232	244	231
Cr-T	mg/L		<0.0010	<0.0010	<0.0020
Co-T	mg/L	0.11	0.00083	0.00076	0.00061
Cu-T	mg/L		<0.00050	<0.00050	<0.0010
Hard-T	mg/L		658	700	666
Fe-T	mg/L	1.0	**1.77**	**1.85**	**1.20**
Pb-T	mg/L	0.01763	<0.00020	<0.00020	<0.00040
Mg-T	mg/L		19.3	22.2	21.8
Mn-T	mg/L	0.8706	0.393	0.375	0.272
Hg-T	mg/L		<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	2.0	<0.0010	<0.0010	<0.0020
Ni-T	mg/L		0.0024	0.0023	0.0021
K-T	mg/L		2.34	2.56	2.55
S-T	mg/L		209	235	225
Se-T	mg/L		<0.00010	<0.00010	<0.00020
Si-T	mg/L		2.96	3.11	2.84
Ag-T	mg/L	0.0001	<0.000020	<0.000020	<0.000040
Na-T	mg/L		86.9	103	104
Sr-T	mg/L		1.95	2.24	1.98
Zn-T	mg/L	0.033	<0.0050	<0.0050	<0.010
Al-D	mg/L	0.1	<0.0030	<0.0030	<0.0060
As-D	mg/L		0.00400	0.00420	0.00259
Ba-D	mg/L		0.0193	0.0176	0.0166
B-D	mg/L		0.529	0.631	0.63
Be-D	mg/L		<0.00010	<0.00010	<0.00020
Cd-D	mg/L	0.00017	<0.000010	<0.000010	<0.000020
Ca-D	mg/L		234	254	231
Cr-D	mg/L		<0.0010	<0.0010	<0.0020
Co-D	mg/L		0.00073	0.00075	0.00058
Cu-D	mg/L	0.00385	<0.00020	<0.00020	<0.00040
Hard-D	mg/L		668	722	664
Fe-D	mg/L	0.35	**1.53**	**1.65**	**1.01**
Pb-D	mg/L		<0.00020	<0.00020	<0.00040
Mg-D	mg/L		20.4	21.4	21.5
Mn-D	mg/L		0.384	0.380	0.266
Hg-D	mg/L		<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L		<0.0010	<0.0010	<0.0020
Ni-D	mg/L		0.0022	0.0023	0.0021
K-D	mg/L		2.44	2.54	2.51
S-D	mg/L		226	238	221
Se-D	mg/L		<0.00010	<0.00010	<0.00020
Si-D	mg/L		2.96	3.23	2.82
Na-D	mg/L		91.3	100	102
Sr-D	mg/L		2.03	2.36	2.00
Zn-D	mg/L		<0.0050	<0.0050	<0.010

Table 20 Long Lake Middle Seep 1 Page(s)

EMS ID	E292131				
Site Description		Long Lake Middle Seep			
Site Name	LLSM	Std Val	LLSM-17JAN22-M	LLSM-1FEB22-M	LLSM-1MAR22-M
Date		Max	17-01-2022	01-02-2022	01-03-2022
pH-F	pH Units		7.63	7.73	7.8
Cond-F	uS/cm		1247	1500	1285
SO4-D	mg/L		390	470	420
TSS	mg/L	25	2.4	2.4	3.2
Alk-T	mg/L		160	200	170
Acidity83	mg/L		2.4	<1.0	2.0
Al-T	mg/L		0.0586	0.0153	0.0124
As-T	mg/L	0.005	0.00056	0.00034	0.00024
Ba-T	mg/L		0.0173	0.0198	0.0175
B-T	mg/L		0.350	0.496	0.399
Cd-T	mg/L		<0.000010	<0.000010	<0.000010
Ca-T	mg/L		154	187	160
Cr-T	mg/L		<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.11	0.00069	0.00028	0.00023
Cu-T	mg/L		0.00088	0.00121	<0.00050
Hard-T	mg/L		445	538	465
Fe-T	mg/L	1.0	0.282	0.147	0.097
Pb-T	mg/L	0.01763	<0.00020	<0.00020	<0.00020
Mg-T	mg/L		14.5	17.5	16.1
Mn-T	mg/L	0.8706	0.0597	0.0410	0.0312
Hg-T	mg/L		<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	2.0	<0.0010	<0.0010	<0.0010
Ni-T	mg/L		0.0021	0.0014	0.0012
K-T	mg/L		1.85	2.20	1.90
S-T	mg/L		136	177	149
Se-T	mg/L		<0.00010	0.00012	<0.00010
Si-T	mg/L		2.64	2.85	2.66
Ag-T	mg/L	0.0001	<0.000020	<0.000020	<0.000020
Na-T	mg/L		58.8	85.0	65.0
Sr-T	mg/L		1.31	1.77	1.40
Zn-T	mg/L	0.033	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.1	0.0202	0.0066	0.0058
As-D	mg/L		0.00048	0.00030	0.00022
Ba-D	mg/L		0.0181	0.0198	0.0172
B-D	mg/L		0.364	0.521	0.390
Be-D	mg/L		<0.00010	<0.00010	<0.00010
Cd-D	mg/L	0.00017	<0.000010	<0.000010	<0.000010
Ca-D	mg/L		160	194	158
Cr-D	mg/L		<0.0010	<0.0010	<0.0010
Co-D	mg/L		0.00064	0.00027	0.00022
Cu-D	mg/L	0.00385	0.00066	0.00032	0.00034
Hard-D	mg/L		462	554	461
Fe-D	mg/L	0.35	0.151	0.0992	0.0509
Pb-D	mg/L		<0.00020	<0.00020	<0.00020
Mg-D	mg/L		15.5	17.0	15.8
Mn-D	mg/L		0.0574	0.0413	0.0297
Hg-D	mg/L		<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L		<0.0010	<0.0010	<0.0010
Ni-D	mg/L		0.0020	0.0015	0.0012
K-D	mg/L		1.94	2.14	1.88
S-D	mg/L		149	183	149
Se-D	mg/L		<0.00010	0.00011	<0.00010
Si-D	mg/L		2.71	2.93	2.68
Na-D	mg/L		60.8	84.8	65.2
Sr-D	mg/L		1.33	1.80	1.36
Zn-D	mg/L		<0.0050	<0.0050	<0.0050

Table 21 Authorised Discharge Location for 7S South Mine Water 1 Page(s)

EMS ID	E292069	PL-7S				
Site Description	Authorised Discharge Location for 7S South Mine Water					
Site Name	7SSD	Std Val	7SSD-6APR21-P	7SSD-5JUL21-P	7SSD-4OCT21-P	7SSD-18JAN22-P
Date		Max	06-04-2021	05-07-2021	04-10-2021	18-01-2022
pH-F	pH Units		7.75	8.04	7.3	6.85
Cond-F	uS/cm		272	307	436.5	128
SO4-D	mg/L	500	7.0	2.7	50	23
TSS	mg/L	25	1.6	1.6	1.6	<1.0
Alk-T	mg/L		110	130	200	28
Acidity83	mg/L		<1.0	<1.0	2.2	<1.0
DOC	mg/L		1.8	7.7	2.5	<0.50
Al-T	mg/L		0.0139	0.0047	0.0074	0.0182
As-T	mg/L		0.00168	0.00907	0.00423	0.00011
Ba-T	mg/L		0.0045	0.0049	0.0101	0.0034
B-T	mg/L		<0.050	<0.050	<0.050	<0.050
Cd-T	mg/L		<0.000010	<0.000010	<0.000010	<0.000010
Ca-T	mg/L		30.4	28.3	69.5	15.6
Cr-T	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L		<0.00020	<0.00020	<0.00020	<0.00020
Cu-T	mg/L		0.00052	0.00060	0.00247	<0.00050
Hard-T	mg/L		106	116	235	51.4
Fe-T	mg/L		0.036	0.309	0.076	0.043
Pb-T	mg/L		<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L		7.31	11.1	14.9	3.01
Mn-T	mg/L		0.0212	0.108	0.115	0.0179
Hg-T	mg/L		<0.0000019	<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
K-T	mg/L		0.325	1.19	0.742	0.279
S-T	mg/L		<3.0	<3.0	17.4	8.0
Se-T	mg/L		<0.00010	<0.00010	<0.00010	<0.00010
Si-T	mg/L		3.27	3.05	6.80	1.99
Ag-T	mg/L		<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L		3.34	6.11	8.18	1.42
Sr-T	mg/L		0.108	0.144	0.273	0.0518
Zn-T	mg/L		<0.0050	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.1	0.0057	0.0044	<0.0030	0.0060
As-D	mg/L		0.00162	0.00834	0.00379	0.00022
Ba-D	mg/L		0.0042	0.0043	0.0071	0.0034
B-D	mg/L		<0.050	<0.050	0.050	<0.050
Be-D	mg/L		<0.00010	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	0.000045	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L		30.0	27.0	64.0	14.7
Cr-D	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L		<0.00020	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.014	0.00055	0.00057	0.00046	0.00023
Hard-D	mg/L		105	110	219	49.2
Fe-D	mg/L	0.35	0.0079	0.220	0.0217	0.0179
Pb-D	mg/L		<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L		7.29	10.3	14.4	3.01
Mn-D	mg/L		0.0061	0.0696	0.0950	0.0173
Hg-D	mg/L		<0.0000019	<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010	<0.0010	<0.0010
K-D	mg/L		0.324	1.18	0.697	0.281
S-D	mg/L		<3.0	<3.0	16.8	7.9
Se-D	mg/L	0.016	<0.00010	<0.00010	0.00010	<0.00010
Si-D	mg/L		3.24	3.11	6.58	1.80
Na-D	mg/L		3.43	5.62	7.50	1.43
Sr-D	mg/L		0.104	0.146	0.243	0.0494
Zn-D	mg/L		<0.0050	<0.0050	<0.0050	0.0053

Table 22 7 South Portal Sump 1 Page(s)

EMS ID	E292110			
Site Description		7 South Portal Sump		
Site Name	7SPS	7SPS-18JAN22-M	7SPS-1FEB22-M	7SPS-1MAR22-M
Date		18-01-2022	01-02-2022	01-03-2022
pH-F	pH Units	7	7.36	7.1
Cond-F	uS/cm	447	517	458
SO4-D	mg/L	130	160	170
TSS	mg/L	4.4	30	4.4
Alk-T	mg/L	61	65	61
Acidity83	mg/L	4.9	2.2	2.2
Al-T	mg/L	0.199	0.766	0.723
As-T	mg/L	0.00209	0.00293	0.00203
Ba-T	mg/L	0.0136	0.0183	0.0138
B-T	mg/L	0.064	0.063	0.054
Cd-T	mg/L	0.000012	0.000021	0.000028
Ca-T	mg/L	51.3	56.8	56.4
Cr-T	mg/L	<0.0010	0.0011	0.0012
Co-T	mg/L	0.00219	0.00295	0.00338
Cu-T	mg/L	0.00267	0.00562	0.00525
Hard-T	mg/L	171	194	195
Fe-T	mg/L	2.70	2.99	3.07
Pb-T	mg/L	<0.00020	0.00022	<0.00020
Mg-T	mg/L	10.5	12.6	13.2
Mn-T	mg/L	0.0973	0.138	0.162
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	0.0046	0.0060	0.0072
K-T	mg/L	0.729	0.835	0.708
S-T	mg/L	38.8	45.2	47.4
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.82	4.67	5.12
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	3.08	4.06	4.30
Sr-T	mg/L	0.176	0.197	0.196
Zn-T	mg/L	0.0079	0.0121	0.0149
Al-D	mg/L	0.0144	0.0080	0.0116
As-D	mg/L	0.00128	0.00068	0.00036
Ba-D	mg/L	0.0125	0.0142	0.0113
B-D	mg/L	0.071	0.060	0.052
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	0.000011	0.000015	0.000017
Ca-D	mg/L	52.6	57.6	57.6
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00207	0.00222	0.00295
Cu-D	mg/L	0.00097	0.00117	0.00149
Hard-D	mg/L	177	196	200
Fe-D	mg/L	1.86	0.799	0.975
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	11.1	12.6	13.6
Mn-D	mg/L	0.101	0.123	0.157
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	0.0046	0.0050	0.0065
K-D	mg/L	0.732	0.729	0.676
S-D	mg/L	43.3	48.1	49.8
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.58	3.79	4.15
Na-D	mg/L	3.20	4.02	4.37
Sr-D	mg/L	0.177	0.204	0.194
Zn-D	mg/L	0.0083	0.0100	0.0111

Table 23 Continuous Discharge at Settling Pond # 4 1 Page(s)

EMS ID						
Discharge From Settling Pond #4 (SP4/WD)						
Date	**January**	**January**	**February**	**February**	**March**	**March**
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	0.128	0.102	0.1220	0.1040	0.1150	0.0970
2	0.126	0.109	0.1290	0.1020	0.1110	0.0990
3	0.118	0.089	0.1120	0.0990	0.1300	0.1030
4	0.106	0.097	0.1010	0.0910	0.1360	0.1160
5	0.109	0.092	0.1290	0.1040	0.1360	0.1260
6	0.1	0.091	0.1100	0.0980	0.1320	0.1130
7	0.104	0.095	0.1090	0.0990	0.1280	0.1050
8	0.066	0.023	0.1160	0.0980	0.1330	0.1100
9	0.094	0.082	0.1240	0.1040	0.1080	0.0550
10	0.087	0.07	0.1300	0.1190	0.1220	0.0970
11	0.129	0.099	0.1510	0.1250	0.1080	0.0970
12	0.138	0.123	0.1430	0.1270	0.1070	0.1010
13	0.151	0.144	0.1370	0.1290	0.1470	0.1330
14	0.15	0.142	0.1310	0.1190	0.1450	0.1380
15	0.151	0.144	0.1390	0.1280	0.1360	0.1300
16	0.149	0.146	0.1330	0.1130	0.1310	0.1240
17	0.152	0.145	0.1320	0.1110	0.1320	0.1160
18	0.154	0.14	0.1370	0.1130	0.1310	0.1220
19	0.134	0.12	0.1400	0.1180	0.1340	0.1190
20	0.137	0.125	0.1410	0.1310	0.1360	0.1290
21	0.161	0.154	0.1360	0.1220	0.1300	0.1150
22	0.167	0.159	0.1310	0.1180	0.1240	0.0790
23	0.164	0.155	0.1320	0.1170	0.1340	0.1100
24	0.148	0.126	0.1280	0.1090	0.0830	0.0780
25	0.137	0.121	0.0980	0.0880	0.0820	0.0740
26	0.136	0.127	0.0910	0.0840	0.0850	0.0800
27	0.137	0.117	0.0890	0.0850	0.0980	0.0860
28	0.132	0.111	0.1200	0.0910	0.1000	0.0860
29	0.129	0.117			0.1560	0.1080
30	0.12	0.104			0.1650	0.1530
31	0.132	0.114			0.1490	0.1400
Monthly Max	**0.1870**		**0.1440**		**0.1960**	
Monthly Avg		**0.0753**		**0.0552**		**0.0526**

TSS is required **weekly** when max daily flow > 0.054 m^3/s

NF= No Flow

Table 24 Continuous Discharge at Settling Pond # 1 1 Page(s)

EMS ID						
Discharge From Settling Pond #1 (SP1/SPD)						
Date	**January**	**January**	**February**	**February**	**March**	**March**
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	0.1816	0.0329	0.0639	0.0515	0.0700	0.0362
2	0.1279	0.0742	0.0443	0.0370	0.1000	0.0536
3	0.0341	0.0200	0.0341	0.0266	0.1000	0.0642
4	0.0341	0.0087	0.0160	0.0095	0.0800	0.0522
5	0.0091	0.0020	0.0160	0.0117	0.0500	0.0296
6	0.0032	0.0024	0.0160	0.0125	0.0700	0.0282
7	0.0032	0.0015	0.0443	0.0259	0.0600	0.0312
8	0.0032	0.0024	0.0764	0.0444	0.0700	0.0327
9	0.0032	0.0025	0.0877	0.0824	0.0500	0.0187
10	0.0250	0.0068	0.0764	0.0556	0.0500	0.0228
11	0.0534	0.0327	0.0443	0.0327	0.0600	0.0253
12	0.1185	0.0806	0.0443	0.0324	0.0500	0.0194
13	0.1088	0.0874	0.0534	0.0440	0.0600	0.0246
14	0.0764	0.0650	0.0534	0.0402	0.0500	0.0219
15	0.0534	0.0542	0.0443	0.0273	0.0500	0.0234
16	0.0534	0.0493	0.0639	0.0508	0.0600	0.0233
17	0.0534	0.0486	0.0764	0.0623	0.0700	0.0451
18	0.0534	0.0466	0.0639	0.0436	0.0600	0.0225
19	0.0639	0.0508	0.0250	0.0212	0.0500	0.0153
20	0.0877	0.0798	0.0341	0.0255	0.0600	0.0226
21	0.0639	0.0511	0.0534	0.0324	0.0300	0.0123
22	0.0534	0.0449	0.0639	0.0300	0.0600	0.0275
23	0.0443	0.0379	0.0764	0.0410	0.0600	0.0194
24	0.0341	0.0332	0.0443	0.0218	0.0800	0.0483
25	0.0341	0.0298	0.0341	0.0234	0.0700	0.0386
26	0.0341	0.0281	0.0160	0.0150	0.0300	0.0159
27	0.0341	0.0236	0.0443	0.0270	0.0600	0.0316
28	0.0250	0.0197	0.0250	0.0215	0.0400	0.0192
29	0.0091	0.0078			0.0600	0.0315
30	0.0341	0.0163			0.0400	0.0166
31	0.0534	0.0439			0.0300	0.0129
Monthly Max	**0.182**		**0.0877**		**0.100**	
Monthly Avg		**0.035**		**0.034**		**0.029**

PNC = Permit Non-compliance

TSS is required **weekly** when max daily flow > 0.046m^3/s

NF= No Flow

Table 25 Continuous Discharge at 7-South 1 Page(s)

EMS ID E292069 Discharge From 7 South Surface Decant Pond (7SSD)	January	February	March
Date	Daily Average L/S		
1	NF	NF	NF
2	NF	NF	NF
3	NF	NF	NF
4	NF	NF	NF
5	NF	NF	NF
6	NF	NF	NF
7	NF	NF	NF
8	NF	NF	NF
9	NF	NF	NF
10	NF	NF	NF
11	NF	NF	NF
12	NF	NF	NF
13	NF	NF	NF
14	NF	NF	NF
15	NF	NF	NF
16	NF	NF	NF
17	NF	NF	NF
18	NF	NF	NF
19	NF	NF	NF
20	NF	NF	NF
21	NF	NF	NF
22	NF	NF	NF
23	NF	NF	NF
24	NF	NF	NF
25	NF	NF	NF
26	NF	NF	NF
27	NF	NF	NF
28	NF	NF	NF
29	NF		NF
30	NF		NF
31	NF		NF
Monthly Avg	0.000	0.000	0.000
Annual Avg			
Cummulative Daily Totalizer Value For Maximum Decant Flow (5.00 L/s)			

Table 26 2S Inflow Outflow 1 Page(s)

EMS ID: E292127 2-South Pit Continous Inflow and Outflow				EMS ID: E292127 2-South Pit Continous Inflow and Outflow			
2S Inflow				2S Outflow Culvert into 3S Pit			
Date	January Q (L/s)	February Q (L/s)	March Q (L/s)	Date	January Q (L/s)	February Q (L/s)	March Q (L/s)
1	11.687	14.537	23.619	1	6.309	8.184	8.183
2	12.971	13.790	23.925	2	9.620	8.170	9.823
3	16.768	14.607	20.561	3	6.541	7.880	10.526
4	16.405	16.148	19.533	4	6.173	7.860	10.247
5	12.297	16.170	18.372	5	5.956	7.640	9.857
6	11.452	14.387	17.475	6	6.239	7.867	9.515
7	16.508	19.282	15.525	7	5.987	7.867	9.099
8	14.163	20.423	15.987	8	5.781	8.903	8.395
9	12.563	24.518	15.277	9	5.855	10.882	7.721
10	15.736	23.487	14.087	10	6.573	12.711	8.061
11	22.118	21.119	13.137	11	7.819	13.559	7.850
12	36.696	18.545	13.504	12	28.295	13.254	7.751
13	38.982	16.363	16.437	13	57.326	12.792	7.560
14	28.346	18.650	15.426	14	48.579	11.518	7.290
15	24.993	15.125	16.821	15	43.384	10.888	7.264
16	21.775	15.413	14.827	16	39.875	10.168	7.204
17	23.756	13.949	14.657	17	39.531	9.979	7.052
18	24.247	13.009	14.030	18	38.632	9.941	7.030
19	25.733	14.204	14.843	19	37.796	9.823	6.433
20	45.118	15.278	13.874	20	49.128	9.848	6.763
21	29.012	15.222	14.378	21	37.820	9.465	6.768
22	21.594	14.606	14.779	22	37.383	8.754	6.785
23	19.075	17.781	15.468	23	32.421	8.459	6.250
24	18.851	24.383	13.647	24	27.526	8.314	6.268
25	17.250	17.049	13.820	25	24.506	8.155	6.255
26	17.485	14.113	14.754	26	22.023	8.196	6.455
27	15.611	18.113	17.881	27	18.660	7.896	6.831
28	14.718	20.197	18.234	28	15.883	7.926	6.280
29	13.819		16.258	29	10.900		6.709
30	17.160		15.889	30	10.251		6.531
31	17.001		15.048	31	8.972		6.696

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

Weekly Flow Requirements (L/s)
EMS ID: E292130
Site LLE
Flow (L/S)

Date	April	May	June	July	August	September	October	November	December	January	February	March
1	18	11	5	NF	NF	NF	NF	71	389	26	79	103
2	18	11	3	NF	NF	NF	1	62	329	24	69	182
3	16	11	3	NF	NF	NF	1	298	166	39	0	190
4	16	9	3	NF	NF	NF	NF	488	123	40	0	156
5	9	9	3	NF	NF	NF	1	411	521	527	0	120
6	10	9	3	NF	NF	NF	1	279	82	371	0	85
7	10	7	3	NF	2.20	NF	2	182	74	26	82	67
8	9	7	3	NF	2.30	NF	2	164	96		113	56
9	9	6	6	NF	1.90	NF	2	280	84		238	56
10	12	12	23	NF	0.80	NF	2	383	277	22	278	60
11	10	22	40	NF	0.80	NF	2	250	212	84	216	41
12	12	26	14	NF	0.70	NF	2	167	263	263	202	44
199	18	23	12	NF	0.60	NF	3	158	122	477	152	48
14	16	22	11	NF	0.60	NF	3	287	114	371	149	49
15	16	21	10	NF	0.70	NF	2	339	110	246	120	50
16	16	21	6	NF	0.80	NF	3	224	117	158	117	50
17	16	15	7	NF	0.50	NF	39	142	911	128	148	46
18	14	4	7	NF	NF	NF	28	108	118	122	138	51
19	12	4	7	NF	NF	1.80	17	88	474	125	106	37
20	12	4	5	NF	NF	1.80	15	68	23	352	104	13
21	12	4	7	NF	NF	0.60	25	46	23	337	109	4
22	11	3	6	NF	NF	0.40	58	29	31	171	59	13
23	12	3	4	NF	NF	0.10	77	28	35	464		87
24	14	3	3	NF	NF	0.20	155	25	45	97	62	38
25	17	5	3	NF	NF	0.20	988	86	37	772	122	48
26	14	7	3	NF	NF	0.20	957	151	27	742	50	45
27	11	7	2	NF	NF	0.50	545	175	27	1115	61	40
28	11	6	2	NF	NF	0.80	279	395	27	1027	80	47
29	14	2	2	NF	NF	0.60	169	342	26	44		43
30	13	1	2	NF	NF	0.70	128	315	26	44		42
31		6		NF	NF		94		27	100		35

Notes: **NF= No flow**

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

Weekly Flow Requirements (L/s)
EMS ID: E292131
Site LLS

Flow (L/S) Weeks	Level	Estimated Flow L/s	Flow (L/S) Weeks	Level	Estimated Flow L/s
06-Apr-21	0.010	0.600	05-Oct-21	0.010	0.600
13-Apr-21	0.010	0.600	12-Oct-21	0.010	0.600
20-Apr-21	0.010	0.600	19-Oct-21	0.010	0.600
27-Apr-21	0.010	0.600	26-Oct-21	0.010	0.600
04-May-21	0.010	0.600	02-Nov-21	0.010	0.600
11-May-21	0.010	0.600	09-Nov-21	0.010	0.600
18-May-21	0.010	0.600	16-Nov-21	0.010	0.600
25-May-21	0.010	0.600	23-Nov-21	0.010	0.600
01-Jun-21	0.010	0.600	30-Nov-21	0.010	0.600
08-Jun-21	0.010	0.600	07-Dec-21	0.010	0.600
15-Jun-21	0.010	0.600	14-Dec-21	0.010	0.600
22-Jun-21	0.010	0.600	21-Dec-21	0.010	0.600
29-Jun-21	0.010	0.600	28-Dec-21	0.010	0.600
06-Jul-21	0.010	0.600	04-Jan-22	0.010	0.600
13-Jul-21	0.010	0.600	11-Jan-22	0.010	0.600
20-Jul-21	0.010	0.600	18-Jan-22	0.010	0.600
27-Jul-21	0.010	0.600	25-Jan-22	0.010	0.600
03-Aug-21	0.010	0.600	01-Feb-22	0.030	1.800
10-Aug-21	0.010	0.600	08-Feb-22	0.010	0.600
17-Aug-21	0.010	0.600	15-Feb-22	0.010	0.600
24-Aug-21	0.010	0.600	22-Feb-22	0.010	0.600
31-Aug-21	0.010	0.600	01-Mar-22	0.010	0.600
07-Sep-21	0.010	0.600	08-Mar-22	0.010	0.600
14-Sep-21	0.010	0.600	15-Mar-22	0.010	0.600
21-Sep-21	0.010	0.600	22-Mar-22	0.010	0.600
28-Sep-21	0.010	0.600	29-Mar-22	0.010	0.600

Notes: **NF= No flow**. Previous estimates of flow 0.018 L/s based on a level on 0.01m were incorrect. At a level of 0.01m is equal to 0.6L/s.

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

Weekly Flow Requirements (L/s)
EMS ID: E292131
Site LLSM
Flow (L/S)

Date	April	May	June	July	August	September	October	November	December	January	February	March
1	5.81	2.62	2.11	0.91	0.3	**NF**	**NF**	1.50	27.40	7.00	19.58	11.00
2	4.78	2.62	2.29	0.54	0.3	**NF**	**NF**	1.60	39.10	7.40		14.60
3	4.83	2.62	2.29	0.54	0.3	**NF**	**NF**	2.20	49.10	6.90		20.50
4	4.32	2.62	2.29	0.54	0.3	**NF**	**NF**	6.40	49.10	6.70		17.20
5	4.32	2.62	2.32	0.54	0.3	**NF**	**NF**	2.60	49.10	6.00		15.50
6		2.62	2.26	0.54	0.1	**NF**	**NF**	3.20	47.30	5.90		15.10
7			2.33	0.91	0.1	**NF**	**NF**	5.20	30.90	5.50		14.70
8	3.84	2.62	2.25	0.54	0.1	**NF**	**NF**	7.10	21.50	5.20		14.10
9	3.87		2.29	0.54	0.1	**NF**	**NF**	10.50	19.30	5.20		13.70
10	3.87	2.29	2.29	0.54	0.1	**NF**	**NF**	11.40	18.80	4.60	16.29	12.80
11	3.87		2.29	0.54	0.1	**NF**	**NF**	13.20	21.20	4.70		12.10
12	3.87		2.31	0.54	0.1	0.1	**NF**	14.10	18.60	16.70	27.80	11.20
13	3.87	2.29	2.29	0.54	0.1	0.1	**NF**	15.70	18.60	24.50	27.80	11.00
14	3.87	2.29	2.29	0.54	0.1	0.1	**NF**	18.50	18.10	18.50	20.40	10.30
15	3.58	2.29	2.29	0.54	0.1	0.3	**NF**	22.00	17.20	18.40	15.90	10.00
16	3.02	2.29	2.29	0.54	**NF**	**NF**	**NF**	22.20	16.30	20.90	15.10	9.60
17	3.02	2.29	2.29	0.54	**NF**	**NF**	**NF**	22.20	15.60	24.60	15.70	9.10
18	3.02		2.29	0.54	**NF**	**NF**	**NF**	21.50	15.10	27.40	15.50	9.10
19	3.02	2.29	2.29	0.54	**NF**	**NF**	**NF**	20.20	14.20	28.50	15.30	9.00
20	2.99	2.29	2.29	0.54	**NF**	**NF**	**NF**	18.90	13.00	28.50	14.90	8.60
21	3.02	2.29	2.29	0.54	**NF**	**NF**	**NF**	17.70	12.40	28.50	14.30	8.10
22	3.02	2.29	2.26	0.54	**NF**	**NF**	**NF**	16.30	12.00	28.50	13.70	8.00
23	3.02	2.29	2.29	0.54	**NF**	**NF**	**NF**	15.00	11.30	28.50	13.50	7.60
24			2.29	0.26	**NF**	**NF**	15.40	14.10	10.50	33.20	13.00	7.20
25		2.29	2.31	0.26	**NF**	**NF**	24.90	16.90	9.90	38.00	12.30	7.20
26		2.29	2.23	0.26	**NF**	**NF**	3.50	15.90	9.40	38.00	11.50	7.20
27		2.29	2.29	0.26	**NF**	**NF**	0.80	22.10	8.70	38.00	11.00	7.20
28		2.29	2.29	0.26	**NF**	**NF**	0.90	27.40	8.60	37.70	10.50	7.20
29		2.29	2.29	0.26	**NF**	**NF**	1.10	27.40	8.40	34.80		7.20
30	2.62	2.29	0.89	0.26	**NF**	**NF**	1.20	27.40	8.00	31.30		7.00
31		2.26		0.26	**NF**		1.30		7.40	23.80		6.80

Notes: **NF= No flow**

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

Continuous Flow Requirements (L/s)
EMS ID: E292109
Site 7S

Flow (L/S)		**Estimated Flow**										
Date	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**
1	18.24	8.15	1.35	**NF**	**NF**	**NF**	**NF**	1.58	24.40	1.27	6.52	10.16
2	13.54	7.48	1.07	**NF**	**NF**	**NF**	**NF**	1.91	12.75	1.77	6.01	11.60
3	13.93	7.39	0.79	**NF**	**NF**	**NF**	0.02	25.82	6.44	8.77	5.55	9.02
4	13.80	6.56	0.72	**NF**	**NF**	**NF**	0.02	29.14	4.55	5.49	5.56	6.89
5	14.00	5.47	0.76	**NF**	**NF**	**NF**	0.03	14.41	2.83	4.68	6.89	5.84
6	14.00	5.95	0.67	**NF**	**NF**	**NF**	0.03	15.71	2.71	3.56	6.61	5.00
7	15.00	5.69	0.83	**NF**	**NF**	**NF**	0.03	6.24	1.81	3.50	9.33	3.37
8	10.32	5.12	0.70	**NF**	**NF**	**NF**	0.05	4.68	2.19	3.16	13.07	3.36
9	13.87	4.51	0.94	**NF**	**NF**	**NF**	0.07	25.92	1.93	2.49	37.60	3.65
10	11.79	4.12	1.00	**NF**	**NF**	**NF**	0.06	17.26	2.09	5.39	27.32	3.28
11	11.20	3.62	0.68	**NF**	**NF**	**NF**	0.07	9.90	15.91	75.94	17.81	2.45
12	10.54	4.79	0.63	**NF**	**NF**	**NF**	0.04	6.49	8.42	484.79	10.71	2.58
13	10.17	4.47	0.95	**NF**	**NF**	**NF**	0.07	7.24	4.99	199.04	7.20	4.88
14	9.30	3.73	0.73	**NF**	**NF**	**NF**	0.06	42.36	3.35	82.32	6.33	3.51
15	5.10	3.01	0.84	**NF**	**NF**	**NF**	0.13	31.62	5.62	56.01	5.73	3.87
16	7.55	2.47	0.74	**NF**	**NF**	**NF**	0.59	11.24	11.24	40.75	5.85	3.09
17	6.85	2.55	0.59	**NF**	**NF**	**NF**	1.27	4.94	6.01	33.73	4.98	2.51
18	5.59	2.59	0.58	**NF**	**NF**	**NF**	0.76	3.69	4.07	32.56	4.35	2.14
19	4.78	2.20	0.60	**NF**	**NF**	**NF**	0.87	2.37	3.32	36.88	4.43	2.25
20	3.94	1.98	0.51	**NF**	**NF**	**NF**	0.34	1.93	3.09	255.41	4.64	2.09
21	3.59	1.79	0.44	**NF**	**NF**	**NF**	1.06	2.15	2.19	52.99	4.30	2.14
22	3.54	1.48	0.48	**NF**	**NF**	**NF**	2.32	2.15	2.12	24.79	4.58	2.97
23	3.59	1.34	0.54	**NF**	**NF**	**NF**	2.06	1.68	2.59	15.76	3.12	3.43
24	3.75	1.68	0.49	**NF**	**NF**	**NF**	13.39	1.82	2.65	11.16	3.17	2.82
25	5.24	2.19	0.41	**NF**	**NF**	**NF**	388.71	8.82	2.65	8.37	2.16	2.50
26	5.68	1.96	0.38	**NF**	**NF**	**NF**	46.87	10.75	2.93	6.98	1.71	2.59
27	5.12	2.64	0.34	**NF**	**NF**	**NF**	10.15	24.90	2.72	5.95	3.93	3.58
28	7.27	2.40	0.33	**NF**	**NF**	**NF**	5.45	48.10	2.27	5.06	9.11	4.85
29	8.60	2.06	0.35	**NF**	**NF**	**NF**	2.86	20.17	1.92	3.98		4.49
30	8.78	2.22	0.45	**NF**	**NF**	**NF**	2.70	21.47	1.76	5.17		3.88
31		1.86	0.00	**NF**	**NF**		2.00		1.94	7.66		3.43

Notes: **NF= No flow**

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

5 in 30 Flow Requirements (Level)
EMS ID: 126402
Site WA
Flow (m^3/s)

Date	April	May	June	July	August	September	October	November	December	January	February	March
1	2.15	2.25	1.10	1.31	1.23	0.94	1.13	1.22	23.85	2.25	2.33	2.29
2	2.15	2.26	1.07	1.31	1.21	0.94	1.12	2.93	19.18	2.34	2.33	2.33
3	2.15	2.26	1.07	1.31	1.17	0.94	1.19	8.58	13.76	2.38	2.32	2.32
4	2.15	1.75	1.07	1.29	1.15	0.94	1.17	14.96	10.53	2.39	2.32	2.31
5	2.14	1.27	1.07	1.31	1.05	0.94	1.13	15.76	7.82	2.40	2.33	2.31
6	2.15	1.26	1.08	1.31	1.02	0.93	1.14	13.09	6.39	2.44	2.32	2.31
7	2.16	1.26	1.08	1.30	1.01	0.93	1.05	10.57	5.20	2.46	2.32	2.31
8	2.17	1.26	1.08	1.30	1.00	0.94	1.05	8.53	4.34	2.48	2.34	2.31
9	2.17	1.26	1.08	1.28	0.99	0.93	1.06	7.63	3.60	2.48	2.36	2.31
10	2.17	1.26	1.22	1.31	0.98	0.94	1.06	7.62	2.39	2.48	2.35	2.30
11	2.17	1.26	1.23	1.31	0.98	0.94	1.07	6.72	2.13	2.47	2.35	2.31
12	2.17	1.27	1.23	1.28	0.97	0.94	1.07	6.39	2.11	2.50	2.33	2.31
13	2.17	1.27	1.23	1.21	0.96	0.97	1.07	6.49	2.23	2.51	2.32	2.31
14	2.17	1.27	1.23	1.20	0.95	1.02	1.07	7.72	2.27	2.45	2.31	2.31
15	2.17	1.28	1.22	1.18	0.95	1.02	1.07	9.66	2.20	2.41	2.31	2.31
16	2.17	1.28	1.24	1.18	0.95	1.01	1.09	9.43	2.15	2.39	2.31	2.31
17	2.17	1.24	1.18	1.18	0.99	1.04	1.10	7.86	2.16	2.37	2.31	2.31
18	2.19	1.11	1.09	1.14	1.07	1.06	1.09	6.55	2.21	2.36	2.30	2.30
19	2.21	1.10	1.09	1.13	1.20	1.06	1.09	5.42	2.22	2.37	2.30	2.30
20	2.21	1.08	1.12	1.18	1.15	1.05	1.09	4.43	2.22	2.49	2.29	2.30
21	2.22	1.21	1.09	1.21	0.99	1.05	1.11	3.71	2.23	2.41	2.28	2.30
22	2.22	1.24	1.09	1.22	0.97	1.04	1.14	3.30	2.23	2.36	2.27	2.31
23	2.22	1.25	1.07	1.23	0.96	1.03	1.13	3.13	2.23	2.35	2.27	2.31
24	2.22	1.25	1.22	1.22	0.96	1.03	1.23	2.86	2.27	2.34	2.26	2.30
25	2.23	1.25	1.41	1.12	0.96	1.03	1.52	5.75	2.28	2.32	2.26	2.30
26	2.23	1.25	1.42	1.11	0.95	1.03	2.51	10.02	2.28	2.32	2.26	2.30
27	2.23	1.17	1.43	1.05	0.95	1.05	4.58	10.23	2.30	2.32	2.27	2.31
28	2.24	1.09	1.43	1.11	0.95	1.06	3.76	15.92	2.31	2.31	2.27	2.31
29	2.24	1.09	1.43	1.21	0.94	1.08	2.01	22.65	2.31	2.31		2.31
30	2.24	1.09	1.36	1.19	0.94	1.16	1.33	19.69	2.31	2.34		2.31
31		1.09		1.15	0.94		1.30		2.32	2.35		2.31

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

5 in 30 Flow Requirements (Level)
EMS ID: 900504
Site WB
Level (m)

Date	April	May	June	July	August	September	October	November	December	January	February	March
1	0.5815	0.5736	0.4885	0.4989	0.4928	0.4610	0.4780	0.5761	1.2690	0.5990	0.6148	0.6018
2	0.5795	0.5735	0.4846	0.4958	0.4959	0.4590	0.4844	0.5780	1.2981	0.6075	0.6127	0.6171
3	0.5803	0.5723	0.4833	0.4927	0.4945	0.4572	0.4872	0.7241	1.1863	0.5986	0.6102	0.6336
4	0.5809	0.5673	0.4823	0.4892	0.4931	0.4569	0.4961	0.9782	1.0308	0.6033	0.6073	0.6429
5	0.5796	0.5389	0.4802	0.4871	0.4880	0.4551	0.4869	1.1471	0.9185	0.6001	0.6074	0.6408
6	0.5784	0.5150	0.4795	0.4900	0.4837	0.4536	0.4843	1.1149	0.8609	0.6018	0.6049	0.6337
7	0.5754	0.5083	0.4767	0.4845	0.4832	0.4554	0.4919	1.2293	0.7932	0.5997	0.6080	0.6241
8	0.5740	0.5067	0.4796	0.4847	0.4781	0.4589	0.4843	0.9588	0.7409	0.5966	0.6143	0.6169
9	0.5789	0.5058	0.4858	0.4873	0.4766	0.4624	0.4882	0.8908	0.7022	0.5936	0.6363	0.6133
10	0.5730	0.5044	0.4927	0.4874	0.4719	0.4602	0.4816	0.8996	0.6736	0.5936	0.6568	0.6114
11	0.5772	0.5033	0.4965	0.4892	0.4699	0.4626	0.4869	0.8793	0.6490	0.6061	0.6639	0.6094
12	0.5777	0.5049	0.4970	0.4831	0.4664	0.4647	0.4739	0.8374	0.6538	0.6477	0.6592	0.6066
13	0.5759	0.5050	0.4960	0.4791	0.4628	0.4620	0.4886	0.8351	0.6572	0.7499	0.6470	0.6048
14	0.5755	0.5031	0.4975	0.4909	0.4620	0.4639	0.4885	0.8560	0.6420	0.7790	0.6361	0.6068
15	0.5694	0.5016	0.4975	0.4893	0.4645	0.4612	0.4960	0.9192	0.6320	0.7527	0.6279	0.6020
16	0.5734	0.5009	0.5019	0.4891	0.4649	0.4631	0.5065	0.9630	0.6223	0.7194	0.6230	0.6069
17	0.5737	0.5000	0.4987	0.4874	0.4618	0.4774	0.5190	0.9295	0.6225	0.6975	0.6177	0.6070
18	0.5729	0.4920	0.4924	0.4866	0.4694	0.4835	0.5262	0.8618	0.6164	0.6858	0.6140	0.6100
19	0.5702	0.4894	0.4871	0.4845	0.4782	0.4758	0.5352	0.8012	0.6084	0.6795	0.6120	0.6013
20	0.5689	0.4839	0.4857	0.4693	0.4883	0.4774	0.5164	0.7542	0.6046	0.7352	0.6127	0.6015
21	0.5684	0.4828	0.4847	0.4878	0.4824	0.4746	0.5300	0.7205	0.6089	0.7898	0.6138	0.5973
22	0.5659	0.4897	0.4811	0.4903	0.4727	0.4653	0.5372	0.6878	0.6026	0.7550	0.6135	0.6052
23	0.5661	0.4900	0.4779	0.4913	0.4668	0.4662	0.5542	0.6666	0.6035	0.7068	0.6087	0.5982
24	0.5681	0.4923	0.4773	0.4944	0.4680	0.4668	0.5887	0.6611	0.6027	0.6727	0.6033	0.6040
25	0.5692	0.5014	0.4917	0.4925	0.4660	0.4626	0.7411	0.6992	0.6029	0.6489	0.5977	0.5986
26	0.5675	0.5042	0.4985	0.4864	0.4656	0.4667	0.8768	0.8855	0.6001	0.6339	0.5935	0.6010
27	0.5673	0.4998	0.5046	0.4816	0.4664	0.4634	0.8510	0.9687	0.6023	0.6231	0.5957	0.6049
28	0.5712	0.4934	0.5069	0.4810	0.4673	0.4654	0.8169	1.0998	0.5989	0.6149	0.5957	0.6050
29	0.5772	0.4907	0.5078	0.4886	0.4669	0.4706	0.7228	1.2415	0.5985	0.6080		0.6101
30	0.5768	0.4875	0.5038	0.4909	0.4638	0.4696	0.6522	1.2250	0.5923	0.6108		0.6095
31		0.4875		0.4906	0.4617		0.6055		0.5918	0.6151		0.6112

Notes: Flow curve is being developed as a result of high flows washing away hydometic station

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

5 in 30 Flow Requirements (Level)
EMS ID: E219412
Site LLO
Flow (m^3/s)

Date	April	May	June	July	August	September	October	November	December	January	February	March
1	0.1404	0.0723	0.0246	0.0000	0.0000	0.0000	0.0000	0.1006	0.9273	***0.0000***	0.3481	0.2933
2	0.1267	0.0672	0.0167	0.0000	0.0000	0.0000	0.0000	0.0797	0.7496	***0.0004***	0.3449	0.4250
3	0.1210	0.0598	0.0120	0.0000	0.0000	0.0000	0.0000	0.1543	0.4638	0.0019	0.3132	0.6053
4	0.1216	0.0558	0.0075	0.0000	0.0000	0.0000	0.0000	0.3724	0.2718	0.0583	0.2919	0.6592
5	0.1151	0.0564	0.0023	0.0000	0.0000	0.0000	0.0030	0.5858	0.1937	0.1836	0.2856	0.6087
6	0.1060	0.0448	0.0000	0.0000	0.0000	0.0000	0.0103	0.4758	0.1443	0.1855	0.3032	0.5381
7	0.0989	0.0418	0.0000	0.0000	0.0000	0.0000	0.0286	1.4948	0.1136	0.1391	0.2853	0.4831
8	0.0916	0.0408	0.0000	0.0000	0.0000	0.0000	0.0304	0.3281	0.0846	0.1335	0.3309	0.4379
9	0.0956	0.0394	0.0000	0.0000	0.0000	0.0000	0.0422	0.2732	0.0696	0.1274	0.4704	0.4184
10	0.0858	0.0359	0.0149	0.0000	0.0000	0.0000	0.0409	0.4130	0.0670	0.1366	0.6704	0.4004
11	0.0872	0.0329	0.0208	0.0000	0.0000	0.0000	0.0568	0.3937	0.1218	0.2259	0.7295	0.3759
12	0.0819	0.0347	0.0187	0.0000	0.0000	0.0000	0.0501	0.2757	0.2001	0.5014	0.6814	0.3550
13	0.0924	0.0352	0.0158	0.0000	0.0000	0.0000	0.0695	0.2405	0.1936	1.5581	0.5970	0.3307
14	0.0873	0.0316	0.0138	0.0000	0.0000	0.0000	0.0713	0.2829	0.1533	1.8694	0.4944	0.3459
15	0.0743	0.0278	0.0106	0.0000	0.0000	0.0000	0.0797	0.3701	0.1241	1.4270	0.4534	0.3452
16	0.0748	0.0246	0.0106	0.0000	0.0000	0.0000	0.1019	0.4106	0.1093	1.0835	0.4047	0.3902
17	0.0715	0.0205	0.0054	0.0000	0.0000	0.0000	0.1784	0.3294	0.1022	0.8788	0.3933	0.3977
18	0.0660	0.0162	0.0011	0.0000	0.0000	0.0000	0.2733	0.2229	0.0832	0.7853	0.3858	0.4064
19	0.0584	0.0186	0.0000	0.0000	0.0000	0.0000	0.3052	0.1570	0.0640	0.7697	0.3728	0.3671
20	0.0527	0.0132	0.0000	0.0000	0.0000	0.0000	0.2343	0.1234	0.0443	1.2181	0.3668	0.3400
21	0.0496	0.0097	0.0000	0.0000	0.0000	0.0000	0.2574	0.1026	0.0380	2.1052	0.3681	0.3024
22	0.0439	0.0083	0.0000	0.0000	0.0000	0.0000	0.3578	0.0746	0.0257	1.3958	0.3598	0.3254
23	0.0399	0.0036	0.0000	0.0000	0.0000	0.0000	0.5653	0.0580	0.0315	0.9420	0.3353	0.3402
24	0.0425	0.0031	0.0000	0.0000	0.0000	0.0000	0.7235	0.0610	0.0344	0.6929	0.2895	0.3792
25	0.0488	0.0228	0.0000	0.0000	0.0000	0.0000	7.1918	0.1061	0.0371	0.5648	0.2673	0.3494
26	0.0544	0.0329	0.0000	0.0000	0.0000	0.0000	13.6223	0.3607	0.0285	0.4606	0.2456	0.3418
27	0.0561	0.0301	0.0000	0.0000	0.0000	0.0000	1.8532	0.4502	0.0242	0.4064	0.2428	0.3490
28	0.0633	0.0311	0.0000	0.0000	0.0000	0.0000	0.5416	0.8862	0.0125	0.3549	0.2589	0.3747
29	0.0756	0.0297	0.0000	0.0000	0.0000	0.0000	0.2935	1.1001	0.0064	0.3147		0.4041
30	0.0787	0.0236	0.0000	0.0000	0.0000	0.0000	0.2242	0.7871	***0.0000***	0.3010		0.3925
31		0.0230		0.4906	0.0000		0.1525		***0.0000***	0.3152		0.3589

December 30 - January 2 Level logger measurements are incorrect. Flow was could not have been zero.

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

5 in 30 Flow Requirements (Level)
EMS ID: E297232
Site IR8
Flow (m^3/s)

Date	April	May	June	July	August	September	October through March
1	0.97	2.22	0.88	0.0131	4.4583	4.2967	
2	0.94	1.67	0.77	0.0059	4.4453	4.2666	
3	0.91	1.46	0.63	*	4.4535	4.2444	
4	0.92	1.43	0.52	*	4.4132	4.2693	
5	0.88	1.50	0.44	*	4.3873	4.3779	
6	0.86	1.58	0.38	*	4.3505	4.5490	
7	0.85	1.70	0.31	*	4.4211	4.6125	
8	0.85	1.26	0.30	*	4.7278	4.5632	
9	0.85	1.09	0.44	*	5.9445	4.7911	
10	0.79	1.27	0.67	0.1186	5.8119	4.9198	
11	0.74	1.34	0.62	*	5.2428	4.9568	
12	0.69	1.92	0.51	*	5.1186	5.0265	
13	0.68	1.91	0.48	5.8119	4.8711	5.3852	**Could not access site to download data for Q3 and Q4, due to snow. Pressure transducer washed away discovered April 25, 2022.**
14	0.72	1.85	0.41	*	4.6758	5.7737	
15	0.87	1.73	0.38	*	4.5662	5.6398	
16	1.39	1.81	0.45	*	4.5499	5.6785	
17	2.13	1.52	0.38	*	4.5702	5.6494	
18	2.74	1.30	0.32	*	4.4350	7.8814	
19	3.20	0.94	0.29	*	4.4388	21.5827	
20	2.66	0.82	0.25	2.1474	4.4094	15.2698	
21	2.68	0.94	0.21	1.0772	4.3658	15.1248	
22	2.43	1.09	0.18	4.8540	4.3219	13.2196	
23	2.04	1.23	0.15	4.8550	4.2651	11.5596	
24	2.33	1.20	0.13	4.8348	4.2182	10.7974	
25	2.24	1.38	0.11	4.8565	4.2423	9.9581	
26	2.11	1.01	0.09	4.8076	4.2080	9.1486	
27	1.81	0.92	0.07	4.7338	4.2630	9.5229	
28	1.69	0.91	0.05	4.6719	4.4380	14.0276	
29	2.26	0.84	0.04	4.6337	4.5168	22.6960	
30	2.88	0.84	0.02	4.5903	4.4675	18.8039	
31		0.86		4.5182	4.3565		

* Level Logger was out of water

Table 27 Flow Tables LLE, LLS, LLSM, 7S, WA, WB, LLO, IR8, Possible Seepage Areas S and S2 9 Page(s)

Weekly Flow EMS ID: Site Flow (m^3/s) Weeks	Possible Seepage Area 1 Estimate Flow	Weekly Flow EMS ID: Site Flow (m^3/s) Weeks	Possible Seepage Area 2 Estimate Flow
26-Apr-21	0.0010	22-Mar-22	0.0100
10-Jun-21	0.0002	28-Mar-22	0.0075
06-Jul-21	0.0001		
27-Sep-21	0.0001		
05-Oct-21	0.0001		
12-Oct-21	0.0000		
20-Oct-21	0.0043		
26-Oct-21	0.0040		
03-Nov-21	0.0100		
08-Dec-21	0.0010		
14-Feb-22	0.0013		
22-Feb-22	0.0010		
01-Mar-22	0.0010		
22-Mar-22	0.0012		
28-Mar-22	0.0016		

Table 28 Precipitation 1 Page(s)

Daily Precipitation (mm)												
DATE	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
1	0	1.5	0	0	0	0	1.5	0.0	21.9	0.3	0.1	1.1
2	0	0	0	0	0	0	0.0	4.2	8.3	0	0	10.9
3	0	0	0	0	0	0	8.3	20.9	0.2	5.3	0.6	0.2
4	4	0.8	0	0	0	0.1	0.2	15.5	0.1	2.2	2.4	0.3
5	0	0	0.3	0	0	3.9	4.1	15.6	0.0	0	2.7	0
6	0	0	1.5	0	0	0	4.4	12.6	0.0	0	0	0.1
7	0	1.2	0.2	0	1	0	1.9	3.0	0.1	0	0	0
8	1.4	0	0	0	11.8	0	0.3	8.2	6.1	0.1	0.8	0
9	0	0	7	0	0	7.5	4.6	4.3	4.3	0	11.3	0
10	5.1	0.2	10.7	0	0	3.1	7.0	21.8	1.6	2.5	3.2	0
11	0.1	0	3.9	0	0	0	0.3	2.0	19.1	34.2	0.1	0.4
12	0	1.4	0	0	0	9.1	0.0	5.4	4.6	6.5	0	3.3
13	0	4	1.8	0	0	0.1	3.4	0.3	0.0	22.4	0.1	7.5
14	0	0	1.3	0	0	0	1.0	18.4	1.2	1.9	0	0.1
15	0	0	0.8	0	0	7.5	0.9	7.5	2.6	0.1	0.7	0.8
16	0	0	2.5	0	1.7	0	8.0	8.4	15.1	0.1	0	1.9
17	0	0	0	0.7	0.4	0.2	13.6	0.0	2.6	1.6	0	0
18	0	3.2	0	0	0	40	4.0	0.0	0.0	2	0	1.3
19	0	0.3	0	0	0	3	0.1	1.6	6.7	0	0	0.1
20	0	0.1	0.5	0	0	5.8	0.0	4.1	0.1	13.6	1.1	0.2
21	0	0	0	4.9	0	1.3	0.7	3.1	0.1	9.7	0.1	0.1
22	0	0	0	0	0	0	22.9	0.0	0.0	0	0	6.7
23	0	0	0	0.1	0	2	1.6	4.6	9.2	0	0	1.9
24	2.1	0	0	0	0	0	2.9	0.4	0.5	0.1	0	0.8
25	3.7	12.8	0	0	0	0	66.8	2.5	0.0	0	0	0
26	6.4	7.6	0	0	0	3.3	39.6	23.3	0.0	0.1	0	0.1
27	0.2	1.8	0	0	3.4	8.4	9.5	0.1	0.0	0.1	8.7	4.9
28	4.1	2.8	0	0	0.1	6.7	1.8	30.0	0.0	0	3.9	11
29	4.7	0	0	0	0	1.3	2.9	12.7	0.0	0.1		1.2
30	1.2	0	0	0	0	12.5	0.1	1.3	0.0	1.3		0
31		3.7		0	0		0		2.90	14.8		0
Monthly Total (mm)	**33.00**	**41.40**	**30.50**	**5.70**	**18.40**	**115.80**	**212.40**	**231.80**	**107.30**	**119.00**	**35.80**	**54.90**
Quarterly Total (mm)	**104.90**			**Quarterly Total (mm)**	**139.90**		**Quarterly Total (mm)**	**551.50**		**Quarterly Total (mm)**		**209.70**

Table 29 Groundwater Description 1 Page(s)

Groundwater Wells - Description				
Area	**Groundwater ID**	**In-situ / Ex-situ**	**Screened Interval**	**Comment**
2-North	1 Mains 2-North (1M2N)	In-situ	No. 1 Seam	Flooded Underground Workings in 1-Mains Area, Dewatering well
	5 Mains#2 (5M#2)	In-situ	No. 1 Seam	Flooded Underground Workings in 5-Mains Area, Dewatering well
	3 Mains 2-North (3M2N)	In-situ	No. 1 Seam	Flooded Underground Workings in 3-Mains Area, Underground Pump System
	QU08-21GD	Ex-situ	No. 1 Seam	Down gradient of u/g tailings disposal, measure water quality and hydraulic gradients downstream of forjan fault
	QU08-21GS	Ex-situ	No. 4 Coal Seam and	
	QU10-10D	Ex-situ	No. 1 Seam / mudstone	Down gradient of u/g tailings disposal, measures water quality and hydraulic head downgradient of 2 North workings
	QU10-10S	Ex-situ	No. 4 Seam /	
	QU10-11S	Ex-situ	Fractured Sandstone	Measure water quality and hydraulic gradient in Forjan Fault
	QU10-11D	Ex-situ	No.1 Seam	Down gradient of u/g tailings disposal, measures water quality and hydraulic head down gradient t of 2 North workings
	QU10-13D	In-situ	Caved Zone	Down gradient of u/g tailings disposal, measures water quality and hydraulic head down gradient t of 2 North workings
5-South Mine Pool	5SMW	In-situ	Mine Pool (1 Seam)	Water pumped from 5-South Flooded Mine Pool into 3-Mains of 2-North Mine
River Barrier Pillar (RBP)	QU11-05S	Ex-situ	Sandstone	Down gradient of u/g tailings disposal, measure water quality and hydraulic head down gradient of 2 North workings
	QU11-05D	Ex-situ	Sandstone	Monitoring water quality and vertical gradients downstream of the RBP and 2-North mine.
	QU11-09S	Ex-situ	Sandstone	Monitor water quality & upward vertical gradients of the RBP and 2-North workings. Mine pool – CCR backfill in River Barrier Pillar
	QU11-09M	In-situ	RBP Mine Pool	Monitor water quality in the RBP and 2-North workings. Mine pool – CCR backfill in River Barrier Pillar.
2-North Plant Site	MW-00-1S	Ex-situ	Till	Shallow Groundwater Below Plant Coal pad
	MW-00-1D	Ex-situ	1-Seam	Groundwater below the coal pad
	MW-00-6D	Ex-situ	Till	Groundwater below the coal pad
	MW-00-6S	Ex-situ	Till	Groundwater below the coal pad
4-South	QU10-08D	Ex-situ	No. 3 Seam	4 South (just outside mine pool) up gradient of existing workings
	QU11-01	In-Situ	Foot print area of 4 South GOB	Assess 4 South Mine Pool water quality
	QU10-09S	Ex-situ	Down gradient of existing workings	Access vertical gradients and water quality adjacent to Long Lake.
	QU10-09D	Ex-situ	Down gradient of existing workings	Access vertical gradients and water quality adjacent to Long Lake.
2-South & 3-South	MW002	Ex-situ	1 Seam	3S seepage to Long Lake
	MW004	In-Situ	Mine Pool (1 Seam)	2-South Mine Pool Gob depillared area
	QU11-11 (INF)	In-Situ	Mine Pool (1 Seam)	2-South mine pool dewatering well for Passive Treatment System
7-South	1M7S	In-Situ	No. 4 Coal Seam	Underground Sump
	QU08-10	Ex-situ	No. 4 Coal Seam	Downgradient of 7S -screened No. 3 Coal -Southern margin of workings
	QU08-13A	Ex-situ	No. 4 Coal Seam	Down Gradient of the CCR backfill towards QR
	QU08-13B	Ex-situ	Till & SST contact	Down Gradient of the CCR backfill towards QR
	QU14-10	In-Situ	Mine Void	PAG-CCR Water Cover in Mine Void
7- South Area 5	1M7SA5	In-Situ	Sump	Underground Sump
	QU11-35	Ex-situ	Sandstone above No. 4 Seam	South end of 7SA5 footprint at 100280m N (mine grid)
242 AREA	QU11-36D	Ex-situ	Sandstone below No. 5 seam	Downgradient of 7SA5
	242MW	In-situ	No. 4 Seam	Mine pool

Table 30 In-Situ Groundwater Wells 6 Page(s)

In-situ Groundwater			2-North Dewater Areas							2-North	
	Well ID		5M#2	5M#2	1M2N	1M2N	3M2N	3M2N	3M2N	QU1013D	QU1013D
	Top Elev.		268.22	268.22	262.43	262.43				270.68	270.68
	Bottom Elev.		138.68	138.68	110.03	110.03				127.68	127.68
			232.31	226.45	262.43	262.43				230.35	230.35
Water Level	m		35.91	41.77						40.33	40.33
	Replicates (R)	Freshwater									R
Date		Aquatic Life (CSR-AL)	14-Feb-22	29-Mar-22	14-Feb-22	29-Mar-22	27-Jan-22	14-Feb-22	29-Mar-22	9-Mar-22	9-Mar-22
Parameter	Units										
SO4-D	mg/L	1280	250	140	740	810	1200	640	640	630	530
S^{2-} as H_2S	mg/L	0.02	0.0149	0.00882	0.0967	0.0957				0.244	0.287
Cond-F	uS/cm		1654	1318.8	2410	2113.3	2620	2040	1812.5	2128	
pH-F	pH Units		7.29	7.48	6.6	6.76	7.20	7.43	7.13	7.25	
Temp-F	C		11.1	11.048	10.7	12.439		13.8	13.718	7.20	
DO-F	mg/L									1	
ORP-F	mV									-229.6	
Turb	NTU		2.4	2.7	60	72	5.6	1.8	1.9	5.7	4.9
Alk-T	mg/L		530	530	500	500	290	390	410	600	600
Acidity83	mg/L		5.3	3.3	30.5	21.4	5.6	18.9	8.1	<1.0	<1.0
N-D	mg/L		0.143	0.163	0.284	0.478	0.175	0.195	0.140	0.303	0.314
DOC	mg/L		1.3	1.0	1.3	0.76	<0.50	0.60	0.62	0.83	0.71
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		640	620	610	600	350	480	500	730	730
Carb	mg/L		5.4	12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cl-D	mg/L	1500	7.3	7.7	9.2	<10	9.4	3.3	3.7	25	26
F-D	mg/L		0.085	0.086	0.11	0.10	0.12	0.14	0.13	0.12	0.12
Flu-CSR	mg/L	3	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Br-D	mg/L		0.024	0.034	0.098	<0.10	0.062	0.41	0.11	0.10	0.10
P-D	mg/L	0.05	<0.0030	<0.0030	<0.0030	<0.0030	0.0092	<0.0030	<0.0030	0.0074	0.0069
Al-D	mg/L	10	<0.0030	<0.0030	<0.0060	<0.0060	0.0278	0.0053	<0.0030	<0.0060	<0.0060
Ag-D	mg/L		<0.000020	<0.000020	<0.000040	<0.000040	<0.000040	<0.000020	<0.000020	<0.000040	<0.000040
Ag-CSR	mg/L	0.053	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.00797	0.00846	0.00523	0.00528	0.00236	0.00011	0.00031	0.00037	0.00032
Ba-D	mg/L	10	0.0280	0.0254	0.0194	0.0195	0.0128	0.0125	0.0130	0.0412	0.0418
B-D	mg/L	50	0.893	0.964	1.01	1.10	0.76	0.736	0.810	1.62	1.64
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020
Bi-D	mg/L	0.04	<0.0010	<0.0010	<0.0020	<0.0020	<0.0020	<0.0010	<0.0010	<0.0020	<0.0020
Cd-D	mg/L		<0.000010	<0.000010	<0.000020	<0.000020	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020
Cd-CSR	mg/L	*	0.000600	0.000600	0.000600	0.000600	0.000600	0.000600	0.000600	0.000600	0.000600
Ca-D	mg/L	1	70.5	60.5	150	143	297	116	117	62.1	61.1
Cr-D	mg/L	0.01	<0.0010	<0.0010	<0.0020	<0.0020	<0.0020	<0.0010	<0.0010	<0.0020	<0.0020
Co-D	mg/L	0.04	0.00031	0.00028	<0.00040	<0.00040	0.00351	0.00027	0.00069	<0.00040	<0.00040
Cu-D	mg/L		<0.00020	<0.00020	<0.00040	0.00044	<0.00040	0.00072	<0.00020	<0.00040	<0.00040
Cu-CSR	mg/L	0.001	0.0900	0.0800	0.0900	0.0900	0.0900	0.0900	0.0900	0.0700	0.0700
Fe-D	mg/L		0.465	0.529	6.27	5.96	0.340	0.0905	0.0516	0.506	0.528
Hard-D	mg/L		201	175	436	425	877	356	365	172	169
Pb-D	mg/L		<0.00020	<0.00020	<0.00040	<0.00040	<0.00040	<0.00020	<0.00020	<0.00040	<0.00040
Pb-CSR	mg/L	*	0.110	0.0600	0.160	0.160	0.160	0.160	0.160	0.0600	0.0600
Mg-D	mg/L		6.09	5.86	15.2	16.5	32.9	16.3	17.6	3.98	3.93
Mn-D	mg/L	0.2	0.169	0.161	0.575	0.600	0.453	0.0754	0.246	0.153	0.152
Hg-D	mg/L	0.001	<0.0000019		<0.0000019		<0.0000019	<0.0000019		<0.0000019	<0.0000019
Na-D	mg/L		267	264	359	366	256	309	313	474	470
Mo-D	mg/L	10	<0.0010	<0.0010	<0.0020	<0.0020	<0.0020	<0.0010	<0.0010	<0.0020	<0.0020
Ni-D	mg/L		<0.0010	<0.0010	<0.0020	<0.0020	0.0064	0.0012	0.0012	<0.0020	<0.0020
Ni-CSR	mg/L	1	1.50	1.10	1.50	1.50	1.50	1.50	1.50	1.10	1.10
K-D	mg/L	3	2.89	2.84	5.23	5.36	3.82	3.47	3.56	3.90	3.86
S-D	mg/L		87.1	74.8	245	250	374	228	228	200	201
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010
Se-D	mg/L	0.01	<0.00010	<0.00010	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020
Si-D	mg/L		3.41	3.36	4.06	3.97	3.34	3.29	3.41	4.78	4.79
Sr-D	mg/L		0.769	0.685	1.42	1.42	2.14	1.18	1.19	0.778	0.777
Tl-D	mg/L	0.003	<0.000010	<0.000010	<0.000020	<0.000020	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020
Ti-D	mg/L	1	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.010
U-D	mg/L	3	<0.00010	<0.00010	<0.00020	<0.00020	0.00021	<0.00010	<0.00010	<0.00020	<0.00020
V-D	mg/L		<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.010
Zn-D	mg/L		0.0058	0.0051	<0.010	<0.010	0.012	0.0051	<0.0050	<0.010	<0.010
Zn-CSR	mg/L	*	1.650	0.900	2.400	2.400	2.400	2.400	2.400	0.900	0.900
N-NH3	mg/L		0.093	0.11	0.25	0.26		0.048	0.10	0.25	0.29
NH3-CSR	mg/L	*	18.5	18.5	18	18.4	18.5	18.5	18.5	18.5	

Notes:
* - CSR indicates a calculated parameter

Table 30 In-Situ Groundwater Wells 6 Page(s)

In-situ Groundwater			2 South Mine Pool Well Pump			2-South		3-South Pit	4-South Mine Pool	7-S Water Cover Over PAG	
Well ID			INF	INF	INF	MW004	MW004	MW002	QU1101	QU1410	QU1410
Top Elev.			353.5	353.5	353.5	347.8	347.8	325	316.368	240.832	240.832
Bottom Elev.			291	291	291	298.1	298.1	318.2	227.868	209.432	209.432
			338.5	335.1	337.4	308.15	308.15	321.64	289.478	230.012	230.012
Water Level	m		15	18.4	16.1	39.65	39.65	3.36	26.89	10.82	10.82
Date	Replicates (R)	Freshwater Aquatic Life (CSR-AL)	4-Jan-22	1-Feb-22	1-Mar-22	19-Jan-22	R 19-Jan-22	19-Jan-22	14-Mar-22	28-Feb-22	R 28-Feb-22
Parameter	Units										
SO4-D	mg/L	1280	540	460	580	260	290	1400	1500	1800	1800
S^{2-} as H_2S	mg/L	0.02	0.0128	0.000957	0.00266	0.000957	0.000957	0.000957	0.0191	0.000957	0.000957
Cond-F	uS/cm		1719	1609	1522		851	2256.5	2331.5	2772	2772
pH-F	pH Units		7.17	7.38	7.44		6.90	6.77	6.73	6.73	6.73
Temp-F	C		7.4	7.2	8.5		6.7	10.566	7.385	7.4	7.4
DO-F	mg/L						6.26	0.53	0.64	1.5	1.5
ORP-F	mV						108	-20.9	-127.1	-57.7	-57.7
Turb	NTU					0.95	0.97	56	730	27	27
Alk-T	mg/L		250	210	220	84	85	280	76	310	310
Acidity83	mg/L		9.6	<1.0	5.2	1.4	1.2	7.3	126	18.1	29.4
N-D	mg/L					0.079	0.094	0.227	0.418	0.215	0.224
DOC	mg/L					1.7	1.7	0.87	1.5	1.1	1.1
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		300	260	270	100	100	350	92	380	380
Carb	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cl-D	mg/L	1500				<1.0	<1.0	1.6	2.9	6.6	6.9
F-D	mg/L					0.070	0.071	0.13	0.53	0.18	0.18
Flu-CSR	mg/L	3	3.00	3.00	3.00	3.00	3.00	3.000	3.000	3.000	3.000
Br-D	mg/L					0.013	0.013	0.057	0.17	<0.20	<0.20
P-D	mg/L	0.05				<0.0030	<0.0030	<0.0030	0.0098	0.0045	0.0059
Al-D	mg/L	10	<0.0030	<0.0030	<0.0030	0.0102	0.0141	<0.0060	<0.0060	<0.015	<0.015
Ag-D	mg/L		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040	<0.000040	<0.00010	<0.00010
Ag-CSR	mg/L	0.053	0.0150	0.0150	0.0150	0.0150	0.0150	0.01500	0.01500	0.01500	0.01500
As-D	mg/L	0.05	0.00237	0.00264	0.00195	0.00029	0.00029	0.00236	0.156	0.116	0.111
Ba-D	mg/L	10	0.0200	0.0189	0.0189	0.0171	0.0171	0.0156	0.0128	0.0153	0.0148
B-D	mg/L	50	0.609	0.669	0.561	0.156	0.157	0.78	1.13	1.03	1.04
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020	<0.00050	<0.00050
Bi-D	mg/L	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0050	<0.0050
Cd-D	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020	<0.000020	<0.000050	<0.000050
Cd-CSR	mg/L	*	0.000600	0.000600	0.000600	0.000600	0.000600	0.0006000	0.0006000	0.0006000	0.0006000
Ca-D	mg/L	1	233	201	200	124	126	525	371	540	515
Cr-D	mg/L	0.01	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0050	<0.0050
Co-D	mg/L	0.04	0.00072	0.00039	0.00071	0.00038	0.00036	0.00307	<0.00040	<0.0010	<0.0010
Cu-D	mg/L		<0.00020	<0.00020	<0.00020	0.00091	0.00096	<0.00040	<0.00040	<0.0010	<0.0010
Cu-CSR	mg/L	0.001	0.0900	0.0900	0.0900	0.0900	0.0900	0.09000	0.09000	0.09000	0.09000
Fe-D	mg/L		2.56	2.14	2.23	0.0220	0.0255	4.65	150	2.04	1.97
Hard-D	mg/L		645	551	558	375	381	1530	1140	2040	1950
Pb-D	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00040	<0.00040	<0.0010	<0.0010
Pb-CSR	mg/L	*	0.160	0.160	0.160	0.160	0.160	0.1600	0.1600	0.1600	0.1600
Mg-D	mg/L		15.1	12.2	14.0	16.0	16.3	52.5	51.2	168	162
Mn-D	mg/L	0.2	0.315	0.284	0.298	0.0258	0.0263	1.51	2.32	1.45	1.39
Hg-D	mg/L	0.001	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019		<0.0000019	<0.0000019
Na-D	mg/L		104	105	93.3	23.2	23.6	61.8	137	65.0	63.0
Mo-D	mg/L	10	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0050	<0.0050
Ni-D	mg/L		0.0013	<0.0010	0.0012	0.0022	0.0021	0.0023	<0.0020	<0.0050	<0.0050
Ni-CSR	mg/L	1	1.50	1.50	1.50	1.50	1.50	1.500	1.500	1.500	1.500
K-D	mg/L	3	1.85	1.69	1.68	1.11	1.12	5.93	6.31	7.68	7.49
S-D	mg/L		209	183	181	117	122	472	479	660	636
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010	<0.0025	<0.0025
Se-D	mg/L	0.01	0.00016	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020	<0.00050	<0.00050
Si-D	mg/L		3.35	3.57	3.16	3.39	3.41	4.28	6.11	3.64	3.41
Sr-D	mg/L		2.14	1.91	1.72	0.860	0.863	4.68	2.18	4.90	4.69
Tl-D	mg/L	0.003	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020	<0.000020	<0.000050	<0.000050
Ti-D	mg/L	1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.025	<0.025
U-D	mg/L	3	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00045	<0.00020	0.00081	0.00080
V-D	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.025	<0.025
Zn-D	mg/L		<0.0050	<0.0050	<0.0050	0.0056	0.0060	<0.010	<0.010	<0.025	<0.025
Zn-CSR	mg/L	*	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400
N-NH3	mg/L		0.058	0.075	0.085						
NH3-CSR	mg/L	*	18.5	18.5	18.5	18.4		18.4	18.4	18.4	

Notes:

* - CSR indicates a calculated parameter

Table 30 In-Situ Groundwater Wells 6 Page(s)

In-situ Groundwater			242 Mine Pool		7 South Portal Sump			1Mains 7S and Area 5			7 South Area 5		
Well ID			242MW	242MW	7SPS	7SPS	7SPS	1M7SA5	1M7SA5	1M7SA5	7SA5	7SA5	7SA5
Top Elev.													
Bottom Elev.													
Water Level	m		21.6	21.6									
	Replicates (R)			R									
Date		Freshwater Aquatic Life (CSR-AL)	3-Mar-22	3-Mar-22	18-Jan-22	1-Feb-22	1-Mar-22	27-Jan-22	14-Feb-22	29-Mar-22	27-Jan-22	14-Feb-22	29-Mar-22
Parameter	Units												
SO4-D	mg/L	1280	77	78	130	160	170	210	170	110	37	44	45
S^{2-} as H_2S	mg/L	0.02	0.000957	0.000957									
Cond-F	uS/cm		210.2	210.2	447	517	458	1002	606	445.1	438	436	373.1
pH-F	pH Units		5.15	5.15	7	7.36	7.1	7.78	7.46	7.87	8.14	7.57	7.99
Temp-F	C		7.4	7.4	4.2	5.5	8.1		12	11.468		13.6	14.978
DO-F	mg/L		2.17	2.17									
ORP-F	mV		156.3	156.3									
Turb	NTU		1.4	1.3				2.2	3.3	1.8	1.5	5.6	0.86
Alk-T	mg/L		12	11	61	65	61	150	130	150	160	160	160
Acidity83	mg/L		13.0	9.1	4.9	2.2	2.2	5.2	<1.0	<1.0	<1.0	2.1	<1.0
N-D	mg/L		0.086	0.082				0.204	0.231	0.203	0.391	0.218	0.171
DOC	mg/L		0.50	0.52				<0.50	<0.50	0.69	0.92	<0.50	0.58
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		15	14	75	79	74	180	160	190	200	200	200
Carb	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cl-D	mg/L	1500	<1.0	<1.0				1.5	1.8	1.9	1.5	2.3	2.3
F-D	mg/L		<0.050	<0.050				0.37	0.34	0.39	0.52	0.58	0.49
Flu-CSR	mg/L	3	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Br-D	mg/L		<0.010	<0.010				0.019	0.023	<0.010	<0.010	<0.010	<0.010
P-D	mg/L	0.05	<0.0030	<0.0030				<0.0030	<0.0030	0.0071	0.011	0.0082	0.014
Al-D	mg/L	10	0.178	0.181	0.0144	0.0080	0.0116	0.0043	0.0050	<0.0030	<0.0030	<0.0030	<0.0030
Ag-D	mg/L		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Ag-CSR	mg/L	0.053	0.000500	0.000500	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.00291	0.00291	0.00128	0.00068	0.00036	0.0785	0.0709	0.128	0.225	0.224	0.230
Ba-D	mg/L	10	0.0286	0.0296	0.0125	0.0142	0.0113	0.142	0.141	0.211	0.325	0.150	0.153
B-D	mg/L	50	0.071	0.069	0.071	0.060	0.052	0.400	0.370	0.515	0.507	0.552	0.593
Be-D	mg/L	0.053	0.00012	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd-D	mg/L		0.000023	0.000025	0.000011	0.000015	0.000017	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Cd-CSR	mg/L	*	0.000300	0.000300	0.000600	0.000600	0.000600	0.000600	0.000600	0.000600	0.000500	0.000600	0.000500
Ca-D	mg/L	1	31.0	31.3	52.6	57.6	57.6	89.5	76.6	59.3	42.6	44.5	43.0
Cr-D	mg/L	0.01	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.04	0.00135	0.00135	0.00207	0.00222	0.00295	0.00116	0.00119	0.00025	<0.00020	<0.00020	<0.00020
Cu-D	mg/L		0.00147	0.00143	0.00097	0.00117	0.00149	0.00025	0.00036	0.00039	<0.00020	<0.00020	<0.00020
Cu-CSR	mg/L	0.001	0.0400	0.0400	0.0800	0.0800	0.0900	0.0900	0.0900	0.0900	0.0600	0.0700	0.0600
Fe-D	mg/L		1.79	1.78	1.86	0.799	0.975	0.0829	0.0246	0.0216	0.0103	0.0062	0.0086
Hard-D	mg/L		84.9	85.7	177	196	200	296	257	203	142	152	148
Pb-D	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Pb-CSR	mg/L	*	0.0500	0.0500	0.0600	0.0600	0.110	0.110	0.110	0.110	0.0600	0.0600	0.0600
Mg-D	mg/L		1.82	1.83	11.1	12.6	13.6	17.6	15.9	13.4	8.72	9.97	9.81
Mn-D	mg/L	0.2	0.122	0.121	0.101	0.123	0.157	0.0639	0.0579	0.0171	0.0103	0.0072	0.0071
Hg-D	mg/L	0.001	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019		<0.0000019	<0.0000019	
Na-D	mg/L		1.35	1.32	3.20	4.02	4.37	17.2	16.0	20.7	22.4	25.2	24.7
Mo-D	mg/L	10	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	0.0012
Ni-D	mg/L		0.0034	0.0034	0.0046	0.0050	0.0065	0.0030	0.0032	0.0013	<0.0010	<0.0010	<0.0010
Ni-CSR	mg/L	1	0.650	0.650	1.10	1.50	1.50	1.50	1.50	1.50	1.10	1.10	1.10
K-D	mg/L	3	0.422	0.421	0.732	0.729	0.676	2.15	1.93	2.22	2.19	2.23	2.20
S-D	mg/L		25.4	25.4	43.3	48.1	49.8	65.1	53.0	32.6	9.8	14.8	15.0
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L		4.27	4.36	3.58	3.79	4.15	4.08	4.24	4.88	5.18	5.32	5.56
Sr-D	mg/L		0.0376	0.0377	0.177	0.204	0.194	0.695	0.555	0.586	0.514	0.519	0.537
Tl-D	mg/L	0.003	0.000388	0.000408	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
U-D	mg/L	3	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-D	mg/L		0.0098	0.0101	0.0083	0.0100	0.0111	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-CSR	mg/L	*	0.075	0.075	0.900	0.900	1.650	1.650	1.650	1.650	0.900	0.900	0.900
N-NH3	mg/L				0.021	0.019	0.023		0.022	<0.015		0.024	<0.015
NH3-CSR	mg/L	*	18.4		20	18.5	18	11.3	18.5	11.3	3.70	11.3	11.3

Notes:

* - CSR indicates a calculated parameter

Table 31 Ex-Situ Groundwater Wells 6 Page(s)

Ex-situ Groundwater			2N / 3N Mine Area					2-North	
Well ID			QU0821GS	QU0821GD	QU1010S	QU1010D	QU1010D	QU1105S	QU1105D
Topo Elev.	MASL		215.4279556	215.4279556	245.3979556	245.3979556	245.3979556	228.39	228.39
Bottom Elev.	MASL		135.1279556	39.6279556	181.1979556	72.6979556	72.6979556	194.79	98.09
Water Elev.	MASL		215.4279556	215.4279556	214.3979556	215.6579556	215.6579556	220.1	226.37
Water Level	m		Top of Casing	0	31	29.74	29.74	8.29	2.02
Replicates (R)							R		
Date		Freshwater Aquatic Life (CSR-AL)	17-Mar-22	17-Mar-22	23-Mar-22	23-Mar-22	23-Mar-22	8-Mar-22	8-Mar-22
Parameter	Units								
SO4-D	mg/L	1280	<1.0	<1.0	7.9	<1.0	<1.0	420	390
S^{2-} as H_2S	mg/L	0.02	0.149	0.0904	0.415	0.0106	0.00999	0.234	40.4
Cond-F	uS/cm		542.6	2435.7	7.74	6.86	6.86	1632.6	5109
pH-F	pH Units		8.11	7.54	7.869	7.765	7.765	7.04	7.52
Temp-F	C		8.383	8.662	1255.6	9495.7	9495.7	7.967	7.5
DO-F	mg/L		0.6	0.79	0.5	0.48	0.48	0.9	0.43
ORP-F	mV		-167.3	-94	-186.6	-85	-85	-99.6	-365.6
Turb	NTU		1.5	6.6	160	90	87	25	46
Alk-T	mg/L		190	210	270	91	89	400	310
Acidity83	mg/L		<1.0	<1.0	1.8	20.6	19.5	2.2	<1.0
N-D	mg/L		0.237	0.421	0.316	0.738	0.781	0.354	0.438
DOC	mg/L		0.97	9.5	1.6	<13	<13	0.93	7.0
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		240	250	330	110	110	490	360
Carb	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.2
Cl-D	mg/L	1500	68	720	250	3500	3500	13	1300
F-D	mg/L		1.6	1.3	0.93	<0.050	<0.050	0.44	<0.050
Flu-CSR	mg/L	*	3.00	3.00	3.00	3.000	3.000	3.00	3.00
Br-D	mg/L		0.062	0.95	0.39	5.1	4.9	0.044	2.0
P-D	mg/L	0.05	0.038	0.027	0.032	0.050	0.047	0.0094	0.11
Al-D	mg/L	10	<0.0030	<0.015	0.0645	<0.015	<0.015	<0.0030	<0.015
Ag-D	mg/L		<0.000020	<0.00010	<0.000040	<0.00010	<0.00010	<0.000020	<0.00010
Ag-CSR	mg/L	0.053	0.000500	0.0150	0.0150	0.01500	0.01500	0.0150	0.0150
As-D	mg/L	0.05	0.211	0.186	0.112	0.0116	0.0119	0.127	0.00151
Ba-D	mg/L	10	0.316	1.78	0.421	1.31	1.32	0.0699	0.108
B-D	mg/L	50	1.90	2.82	2.31	0.39	0.38	1.27	0.41
Be-D	mg/L	0.053	<0.00010	<0.00050	<0.00020	<0.00050	<0.00050	<0.00010	<0.00050
Bi-D	mg/L	0.04	<0.0010	<0.0050	<0.0020	<0.0050	<0.0050	<0.0010	<0.0050
Cd-D	mg/L		<0.000010	<0.000050	<0.000020	<0.000050	<0.000050	<0.000010	<0.000050
Cd-CSR	mg/L	*	0.000300	0.000600	0.000500	0.0006000	0.0006000	0.000600	0.000600
Ca-D	mg/L	1	14.7	75.1	32.9	637	635	76.8	148
Cr-D	mg/L	0.01	<0.0010	<0.0050	<0.0020	<0.0050	<0.0050	<0.0010	<0.0050
Co-D	mg/L	0.04	<0.00020	<0.0010	<0.00040	<0.0010	<0.0010	<0.00020	<0.0010
Cu-D	mg/L		<0.00020	<0.0010	<0.00040	<0.0010	<0.0010	<0.00020	<0.0010
Cu-CSR	mg/L	0.001	0.0300	0.0900	0.0500	0.09000	0.09000	0.0900	0.0900
Fe-D	mg/L		0.284	0.615	0.284	7.70	7.70	1.93	<0.025
Hard-D	mg/L		51.5	235	105	1640	1640	237	389
Pb-D	mg/L		<0.00020	<0.0010	<0.00040	<0.0010	<0.0010	<0.00020	<0.0010
Pb-CSR	mg/L	*	0.0500	0.110	0.0600	0.1600	0.1600	0.110	0.160
Mg-D	mg/L		3.58	11.5	5.50	12.1	12.1	11.0	4.67
Mn-D	mg/L	0.2	0.0384	0.0481	0.0748	0.513	0.517	0.181	0.0468
Hg-D	mg/L	0.001						<0.0000019	<0.0000019
Na-D	mg/L		104	402	234	1360	1360	264	862
Mo-D	mg/L	10	<0.0010	<0.0050	<0.0020	<0.0050	<0.0050	<0.0010	<0.0050
Ni-D	mg/L		<0.0010	<0.0050	<0.0020	<0.0050	<0.0050	<0.0010	<0.0050
Ni-CSR	mg/L	1	0.250	1.50	0.650	1.500	1.500	1.50	1.50
K-D	mg/L	3	3.90	8.05	5.12	7.88	7.86	5.53	4.77
S-D	mg/L		<3.0	<15	<6.0	<15	<15	136	227
Sb-D	mg/L	0.2	<0.00050	<0.0025	<0.0010	<0.0025	<0.0025	<0.00050	<0.0025
Se-D	mg/L	0.01	0.00016	<0.00050	0.00177	<0.00050	<0.00050	0.00061	0.0332
Si-D	mg/L		3.90	4.16	4.66	4.03	4.04	4.69	4.27
Sr-D	mg/L		0.434	1.67	0.658	6.31	6.40	1.20	1.75
Tl-D	mg/L	0.003	<0.000010	<0.000050	<0.000020	<0.000050	<0.000050	<0.000010	<0.000050
Ti-D	mg/L	1	<0.0050	<0.025	<0.010	<0.025	<0.025	<0.0050	<0.025
U-D	mg/L	3	<0.00010	<0.00050	<0.00020	<0.00050	<0.00050	<0.00010	<0.00050
V-D	mg/L		<0.0050	<0.025	<0.010	<0.025	<0.025	<0.0050	<0.025
Zn-D	mg/L		<0.0050	<0.025	<0.010	<0.025	<0.025	<0.0050	<0.025
Zn-CSR	mg/L	*	0.075	1.650	0.900	2.400	2.400	1.650	2.400
N-NH3	mg/L				0.26	0.76	0.76		
NH3-CSR	mg/L	*	3.70	11.3	11.30	11.30		18.5	11.3

Notes:
* - CSR indicates a calculated parameter

Table 31 Ex-Situ Groundwater Wells 6 Page(s)

Ex-situ Groundwater			2-North Below Plant					7-South			
Well ID			MW001S	MW001D	MW001D	MW006S	MW006D	QU0810	QU0810	QU0813A	QU0813B
Topo Elev.	MASL		311.5	311.5	311.5	312.3	312.3	295.71796	295.71796	221.09796	221.09796
Bottom Elev.	MASL		303.4	281.7	281.7	303.6	294.3	268.11796	268.11796	168.99796	194.69796
Water Elev.	MASL		308.27	301.64	301.64	310.5	310.83	271.24796	271.24796	212.80796	219.62796
Water Level	m		3.23	9.86	9.86	1.8	1.47	24.47	24.47	8.29	1.47
Replicates (R)					R				R		
Date		Freshwater Aquatic Life (CSR-AL)	24-Feb-22	24-Feb-22	24-Feb-22	24-Feb-22	2-Mar-22	31-Mar-22	31-Mar-22	2-Mar-22	28-Feb-22
Parameter	Units										
SO4-D	mg/L	1280	310	280	310	420	13	370	430	77	89
S^{2-} as H_2S	mg/L	0.02	0.000957	0.00266	0.000957	0.00266	0.0181	0.000957	0.00266	0.287	0.128
Cond-F	uS/cm		1168.9	1218	1218	1245	183.0	1096.6	1096.6	630.9	608.7
pH-F	pH Units		6.21	6.81	6.81	7.69	8.75	6.81	6.81	7.71	7.87
Temp-F	C		7.615	7	7	7.6	8.3	9.12	9.12	7.9	7.782
DO-F	mg/L		0.86	2.33	2.33	1.2	0.25	1.04	1.04	0.18	0.52
ORP-F	mV		80.8	-25	-25	-1.6	-217.2	141.1	141.1	-236.8	-129.2
Turb	NTU		6.8	34	30	1.6	0.35	9.5	10	2.7	1.8
Alk-T	mg/L		280	330	330	150	75	210	220	210	220
Acidity83	mg/L		36.4	19.9	27.4	3.0	<1.0	11.2	12.3	<1.0	<1.0
N-D	mg/L		0.117	0.125	0.125	0.981	0.121	0.173	0.209	0.245	0.211
DOC	mg/L		2.7	2.5	2.5	1.7	0.68	0.55	0.55	0.56	0.67
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		340	410	410	180	92	260	260	260	270
Carb	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.6
Cl-D	mg/L	1500	1.6	1.7	1.7	3.2	<1.0	<1.0	<1.0	23	21
F-D	mg/L		<0.050	<0.050	<0.050	0.062	0.11	0.32	0.33	0.71	0.64
Flu-CSR	mg/L	*	3.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00
Br-D	mg/L		0.067	0.069	0.079	0.072	<0.010	0.054	0.060	0.034	0.030
P-D	mg/L	0.05	<0.0030	0.010	0.010	0.088	0.15	0.0069	0.0072	0.061	0.057
Al-D	mg/L	10	<0.0030	0.0048	0.0058	<0.0030	0.0154	<0.0030	<0.0030	<0.0030	<0.0030
Ag-D	mg/L		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Ag-CSR	mg/L	0.053	0.0150	0.0150	0.0150	0.0150	0.000500	0.0150	0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.00265	0.00301	0.00293	0.00198	0.0307	0.00039	0.00038	0.455	0.501
Ba-D	mg/L	10	0.0201	0.0365	0.0363	0.0273	0.0104	0.0429	0.0438	0.235	0.105
B-D	mg/L	50	0.264	0.289	0.267	0.127	<0.050	0.282	0.280	0.803	0.959
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	0.04	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd-D	mg/L		0.000041	0.000052	0.000054	0.000019	<0.000010	0.000054	0.000052	<0.000010	<0.000010
Cd-CSR	mg/L	*	0.000600	0.000600	0.000600	0.000600	0.000300	0.000600	0.000600	0.000600	0.000500
Ca-D	mg/L	1	169	186	180	122	17.9	198	197	46.9	43.5
Cr-D	mg/L	0.01	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.04	0.00178	0.00232	0.00236	<0.00020	<0.00020	0.00154	0.00155	<0.00020	<0.00020
Cu-D	mg/L		<0.00020	0.00070	0.00091	0.00068	<0.00020	0.00095	0.00124	<0.00020	<0.00020
Cu-CSR	mg/L	0.001	0.0900	0.0900	0.0900	0.0900	0.0200	0.0900	0.0900	0.0700	0.0600
Fe-D	mg/L		1.16	2.55	2.57	<0.0050	0.0654	0.0402	0.0418	0.272	0.233
Hard-D	mg/L		541	579	564	351	47.0	655	655	165	143
Pb-D	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Pb-CSR	mg/L	*	0.160	0.160	0.160	0.160	0.0400	0.160	0.160	0.0600	0.0600
Mg-D	mg/L		29.2	27.7	27.6	11.4	0.556	38.9	39.4	11.5	8.45
Mn-D	mg/L	0.2	1.36	1.61	1.61	0.0522	0.0385	0.208	0.206	0.0538	0.0779
Hg-D	mg/L	0.001	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019			<0.0000019	<0.0000019
Na-D	mg/L		62.7	66.4	66.9	148	21.7	10.4	10.7	76.9	81.9
Mo-D	mg/L	10	<0.0010	<0.0010	<0.0010	0.0319	0.0033	<0.0010	<0.0010	<0.0010	0.0013
Ni-D	mg/L		<0.0010	0.0023	0.0023	0.0011	<0.0010	0.0077	0.0077	<0.0010	<0.0010
Ni-CSR	mg/L	1	1.50	1.50	1.50	1.50	0.250	1.50	1.50	1.10	1.10
K-D	mg/L	3	1.39	1.56	1.58	2.17	0.797	4.22	4.28	2.69	2.19
S-D	mg/L		127	124	125	166	4.3	150	152	26.7	26.7
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	<0.00010	<0.00010	<0.00010	0.00025	<0.00010	<0.00010	<0.00010	0.00108	<0.00010
Si-D	mg/L		9.25	9.27	8.78	4.63	3.47	4.05	4.03	3.89	4.58
Sr-D	mg/L		0.977	1.01	0.983	0.673	0.0831	1.59	1.65	0.645	0.474
Tl-D	mg/L	0.003	<0.000010	0.000012	0.000012	0.000016	<0.000010	0.000039	0.000039	<0.000010	<0.000010
Ti-D	mg/L	1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
U-D	mg/L	3	0.00131	0.00161	0.00162	0.00686	0.00065	0.00203	0.00198	<0.00010	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-D	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-CSR	mg/L	*	2.400	2.400	2.400	2.400	0.075	2.400	2.400	0.900	0.900
N-NH3	mg/L										
NH3-CSR	mg/L	*	18.4	18.4		11.3	1.31	18.4		11.3	11.3

Notes:
* - CSR indicates a calculated parameter

Table 31 Ex-Situ Groundwater Wells 6 Page(s)

Ex-situ Groundwater			242 Area	4-South				
Well ID			QU1136D	QU1008D	QU1008D	QU1009S	QU1009D	QU1009D
Topo Elev.	MASL		285.89119	337.8	337.8	303.8	303.8	303.8
Bottom Elev.	MASL		218.69119	255.2	255.2	288.3	265.3	265.3
Water Elev.	MASL		260.52119	304.2	304.2	301.41	300	300
Water Level	m		25.37	33.6	33.6	2.39	3.8	3.8
Replicates (R)					R			R
Date		Freshwater Aquatic Life (CSR-AL)	3-Mar-22	16-Mar-22	16-Mar-22	20-Jan-22	20-Jan-22	20-Jan-22
Parameter	Units							
SO4-D	mg/L	1280	14	3.3	3.4	94	88	88
S^{2-} as H_2S	mg/L	0.02	0.0181	0.223	0.287	0.0213	0.0670	0.0755
Cond-F	uS/cm		326.1	464.8	464.8	506.5	487.5	487.5
pH-F	pH Units		7.49	8.7	8.7	6.89	7.33	7.33
Temp-F	C		7.379	7.385	7.385	7.7	7.4	7.4
DO-F	mg/L		0.51	0.51	0.51	0.60	0.32	0.32
ORP-F	mV		-113.8	-243.6	-243.6	-147	-210.6	-210.6
Turb	NTU		5.0	130	130	69	14	14
Alk-T	mg/L		150	260	260	160	180	170
Acidity83	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-D	mg/L		0.169	0.164	0.186	0.087	0.123	0.169
DOC	mg/L		<0.50	4.8	5.2	1.1	1.1	0.93
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		190	310	300	190	220	210
Carb	mg/L		<1.0	7.2	8.9	<1.0	<1.0	<1.0
Cl-D	mg/L	1500	<1.0	5.4	7.1	<1.0	1.2	1.2
F-D	mg/L		0.71	1.8	1.8	0.063	0.17	0.17
Flu-CSR	mg/L	*	3.00	2.00	2.00	3.00	3.00	3.00
Br-D	mg/L		<0.010	<0.010	<0.010	0.022	0.017	0.017
P-D	mg/L	0.05	0.085	0.17	0.17	0.0077	0.016	0.0096
Al-D	mg/L	10	<0.0060	0.461	0.730	<0.0030	<0.0030	<0.0030
Ag-D	mg/L		<0.000040	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Ag-CSR	mg/L	0.053	0.0150	0.000500	0.000500	0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.881	0.149	0.149	0.0847	0.0912	0.0906
Ba-D	mg/L	10	0.104	0.0329	0.0358	0.135	0.133	0.131
B-D	mg/L	50	0.64	1.94	1.97	0.056	0.296	0.296
Be-D	mg/L	0.053	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	0.04	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd-D	mg/L		<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Cd-CSR	mg/L	*	0.000600	0.000100	0.000100	0.000600	0.000600	0.000600
Ca-D	mg/L	1	44.9	2.76	2.89	77.3	63.9	64.2
Cr-D	mg/L	0.01	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.04	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Cu-D	mg/L		<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Cu-CSR	mg/L	0.001	0.0700	0.0200	0.0200	0.0900	0.0900	0.0900
Fe-D	mg/L		0.594	0.236	0.343	4.77	0.875	0.888
Hard-D	mg/L		150	8.13	8.72	239	212	212
Pb-D	mg/L		<0.00040	<0.00020	0.00027	<0.00020	<0.00020	<0.00020
Pb-CSR	mg/L	*	0.0600	0.0400	0.0400	0.110	0.110	0.110
Mg-D	mg/L		9.24	0.304	0.368	11.2	12.7	12.5
Mn-D	mg/L	0.2	0.0351	0.169	0.176	0.376	0.0719	0.0711
Hg-D	mg/L	0.001	<0.0000019			<0.0000019	<0.0000019	<0.0000019
Na-D	mg/L		11.5	120	119	9.29	23.3	22.7
Mo-D	mg/L	10	0.0028	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L		<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-CSR	mg/L	1	1.10	0.250	0.250	1.50	1.50	1.50
K-D	mg/L	3	0.87	0.676	0.701	0.722	1.60	1.56
S-D	mg/L		<6.0	<3.0	<3.0	33.1	27.7	26.1
Sb-D	mg/L	0.2	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	<0.00020	<0.00010	0.00130	<0.00010	<0.00010	<0.00010
Si-D	mg/L		4.70	7.06	7.80	8.98	9.98	9.99
Sr-D	mg/L		0.396	0.0797	0.0826	0.282	0.974	0.970
Tl-D	mg/L	0.003	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	1	<0.010	0.0100	0.0205	<0.0050	<0.0050	<0.0050
U-D	mg/L	3	<0.00020	<0.00010	0.00011	<0.00010	<0.00010	<0.00010
V-D	mg/L		<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-D	mg/L		<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-CSR	mg/L	*	0.900	0.075	0.075	1.650	1.650	1.650
N-NH3	mg/L							
NH3-CSR	mg/L	*	18.5	1.3		18.4	18.5	
Notes:								
* - CSR indicates a calculated parameter								

Table 32 Possible Seepage Near QU1109 1 Page(s)

Site Description		Potential Seepage near QU1109		
Site Name	**S**	**S-1MAR22-M**	**S-22MAR22-M**	**S-28MAR22-M**
Date		**01-03-2022**	**22-03-2022**	**28-03-2022**
pH-F	pH Units	8.14	7.99	7.9
Cond-F	uS/cm	1239	1321	1058.6
SO4-D	mg/L	200	180	180
TSS	mg/L	2.4	<1.0	<1.0
DOC	mg/L	2.3	2.6	1.9
Alk-T	mg/L	360	400	370
Acidity83	mg/L	<1.0	2.1	<1.0
Al-T	mg/L	0.0144	0.0132	0.0287
As-T	mg/L	**0.0624**	**0.0720**	**0.0748**
Ba-T	mg/L	0.0496	0.0509	0.0519
B-T	mg/L	1.40	1.37	1.45
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	27.2	25.1	25.7
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	0.00023	<0.00020
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	96.8	90.1	90.2
Fe-T	mg/L	0.221	0.257	0.273
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	7.01	6.68	6.35
Mn-T	mg/L	0.0554	0.0847	0.0713
Hg-T	mg/L	<0.0000019		
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	3.31	3.53	3.51
S-T	mg/L	57.5	58.1	59.7
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	4.82	4.52	5.15
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	223	232	225
Sr-T	mg/L	0.331	0.359	0.384
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0075	0.0076	0.0125
As-D	mg/L	0.0595	0.0715	0.0676
Ba-D	mg/L	0.0477	0.0520	0.0501
B-D	mg/L	1.41	1.49	1.52
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	26.0	26.5	24.2
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	0.00020	<0.00020
Cu-D	mg/L	0.00023	0.00053	0.00025
Hard-D	mg/L	93.0	93.5	88.1
Fe-D	mg/L	0.147	0.203	0.201
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	6.82	6.65	6.70
Mn-D	mg/L	0.0514	0.0831	0.0706
Hg-D	mg/L	<0.0000019		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	3.28	3.72	3.47
S-D	mg/L	57.5	62.6	58.9
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	4.71	5.14	4.94
Na-D	mg/L	219	243	230
Sr-D	mg/L	0.327	0.381	0.352
Zn-D	mg/L	<0.0050	0.0062	<0.0050

Table 33 Possible Seepage on QR by QU1105 1 Page(s)

EMS ID	0		Stn Std			
Site Description	Possible seepage on QR by QU1105					
Site Name	S2	Std Val		S2-8MAR22-M	S2-22MAR22-M	S2-28MAR22-M
Date		Max	Min	08-03-2022	22-03-2022	28-03-2022
pH-F	pH Units			7.62	7.42	7.22
Cond-F	uS/cm			1575	1537	1309.9
SO4-D	mg/L			300	380	360
TSS	mg/L	25	0	<1.0	2.4	<1.0
Alk-T	mg/L			370	390	390
Acidity83	mg/L			1.3	14.5	4.7
DOC	mg/L			1.2	2.1	1.2
Al-T	mg/L			0.0102	0.0077	0.0079
As-T	mg/L	0.005	0	**0.0402**	**0.0510**	**0.0510**
Ba-T	mg/L			0.0913	0.0939	0.0928
B-T	mg/L			0.934	0.867	0.909
Cd-T	mg/L			<0.000010	<0.000010	<0.000010
Ca-T	mg/L			72.1	77.7	79.8
Cr-T	mg/L			<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.11	0	0.00023	0.00038	0.00034
Cu-T	mg/L			0.00052	0.00072	<0.00050
Hard-T	mg/L			236	250	252
Fe-T	mg/L	1.0	0	**1.06**	**1.51**	**1.39**
Pb-T	mg/L	0.01763	0	<0.00020	<0.00020	<0.00020
Mg-T	mg/L			13.6	13.5	12.7
Mn-T	mg/L	0.8706	0	0.202	0.262	0.264
Hg-T	mg/L					
Mo-T	mg/L	2.0	0	<0.0010	<0.0010	<0.0010
Ni-T	mg/L			<0.0010	<0.0010	<0.0010
K-T	mg/L			5.03	4.93	4.84
S-T	mg/L			116	118	120
Se-T	mg/L			<0.00010	<0.00010	<0.00010
Si-T	mg/L			4.09	3.94	4.38
Ag-T	mg/L	0.0001	0	<0.000020	<0.000020	<0.000020
Na-T	mg/L			222	221	213
Sr-T	mg/L			1.05	1.10	1.22
Zn-T	mg/L	0.033	0	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.1	0	0.0035	0.0033	<0.0030
As-D	mg/L			0.0414	0.0424	0.0368
Ba-D	mg/L			0.0942	0.0940	0.0901
B-D	mg/L			1.06	0.960	0.989
Be-D	mg/L			<0.00010	<0.00010	<0.00010
Cd-D	mg/L	0.00017	0	<0.000010	0.000011	<0.000010
Ca-D	mg/L			76.1	82.3	76.3
Cr-D	mg/L			<0.0010	<0.0010	<0.0010
Co-D	mg/L			0.00021	0.00035	0.00038
Cu-D	mg/L	≤ 0.0054	0	0.00022	0.00022	<0.00020
Hard-D	mg/L			242	261	248
Fe-D	mg/L	0.35	0	**1.01**	**1.21**	**0.977**
Pb-D	mg/L			<0.00020	<0.00020	<0.00020
Mg-D	mg/L			12.7	13.5	13.9
Mn-D	mg/L			0.200	0.263	0.262
Hg-D	mg/L					
Mo-D	mg/L			<0.0010	<0.0010	<0.0010
Ni-D	mg/L			<0.0010	<0.0010	<0.0010
K-D	mg/L			5.07	5.07	4.92
S-D	mg/L			115	126	122
Se-D	mg/L			<0.00010	<0.00010	<0.00010
Si-D	mg/L			4.14	4.46	4.31
Na-D	mg/L			212	227	223
Sr-D	mg/L			1.21	1.20	1.12
Zn-D	mg/L			<0.0050	<0.0050	<0.0050

Table 34 Culvert Downstream End at Access Road 1 Page(s)

EMS ID	E217014			
Site Description	Culvert Downstream End at Access Road			
Site Name	SPC	SPC-4JAN22-M	SPC-1FEB22-M	SPC-1MAR22-M
Date		04-01-2022	01-02-2022	01-03-2022
pH-F	pH Units	7.68	8.02	8
Cond-F	uS/cm	221	514	237
pH-L	pH Units	7.03	7.20	6.89
Cond-L	uS/cm	150	410	
SO4-D	mg/L	53	170	78
TSS	mg/L	<1.0	<1.0	1.2
Alk-T	mg/L	22	46	25
Acidity83	mg/L	1.5	2.0	2.1
Al-T	mg/L		0.0344	0.0596
As-T	mg/L		0.00023	0.00020
Ba-T	mg/L		0.0099	0.0052
B-T	mg/L		0.075	<0.050
Cd-T	mg/L		<0.000010	<0.000010
Ca-T	mg/L		56.0	27.3
Cr-T	mg/L		<0.0010	<0.0010
Co-T	mg/L		<0.00020	<0.00020
Cu-T	mg/L		<0.00050	<0.00050
Hard-T	mg/L		169	83.1
Fe-T	mg/L		0.038	0.054
Pb-T	mg/L		<0.00020	<0.00020
Mg-T	mg/L		7.07	3.63
Mn-T	mg/L		0.0011	<0.0010
Hg-T	mg/L		<0.0000019	0.0000024
Mo-T	mg/L		<0.0010	<0.0010
Ni-T	mg/L		<0.0010	<0.0010
K-T	mg/L		0.599	0.291
S-T	mg/L		50.1	22.0
Se-T	mg/L		<0.00010	<0.00010
Si-T	mg/L		3.32	3.23
Ag-T	mg/L		<0.000020	<0.000020
Na-T	mg/L		13.1	5.26
Sr-T	mg/L		0.338	0.153
Zn-T	mg/L		<0.0050	<0.0050
Al-D	mg/L		0.0291	0.0510
As-D	mg/L		0.00020	0.00019
Ba-D	mg/L		0.0098	0.0052
B-D	mg/L		0.081	<0.050
Be-D	mg/L		<0.00010	<0.00010
Cd-D	mg/L		<0.000010	<0.000010
Ca-D	mg/L		55.3	27.3
Cr-D	mg/L		<0.0010	<0.0010
Co-D	mg/L		<0.00020	<0.00020
Cu-D	mg/L		0.00029	0.00032
Hard-D	mg/L		168	83.5
Fe-D	mg/L		0.0247	0.0459
Pb-D	mg/L		<0.00020	<0.00020
Mg-D	mg/L		7.17	3.69
Mn-D	mg/L		<0.0010	<0.0010
Hg-D	mg/L		<0.0000019	0.0000020
Mo-D	mg/L		<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010
K-D	mg/L		0.563	0.303
S-D	mg/L		53.3	22.9
Se-D	mg/L		<0.00010	<0.00010
Si-D	mg/L		3.39	3.26
Na-D	mg/L		13.3	5.39
Sr-D	mg/L		0.335	0.157
Zn-D	mg/L		<0.0050	<0.0050

Table 35 Stream 1, 7S 1 Page(s)

EMS ID	E292109			
Site Description		Road Side Crossing Bridge on Stream 1 above the Lower Wetland		
Site Name	7S	Std Val	7S-22FEB22-M	7S-1MAR22-M
Date		Max	22-02-2022	01-03-2022
pH-F	pH Units		7.35	7.83
Cond-F	uS/cm		102.9	71.9
SO4-D	mg/L		4.1	4.3
TSS	mg/L	25	1.2	<1.0
Alk-T	mg/L		11	12
Acidity83	mg/L		1.2	<1.0
DOC	mg/L		1.8	1.9
Al-T	mg/L		0.0371	0.0331
As-T	mg/L	0.005	<0.00010	<0.00010
Ba-T	mg/L		0.0011	0.0013
B-T	mg/L		<0.050	<0.050
Cd-T	mg/L		<0.000010	<0.000010
Ca-T	mg/L		3.75	3.91
Cr-T	mg/L		<0.0010	<0.0010
Co-T	mg/L	0.11	<0.00020	<0.00020
Cu-T	mg/L		<0.00050	<0.00050
Hard-T	mg/L		13.2	13.6
Fe-T	mg/L	1.0	0.012	<0.010
Pb-T	mg/L	0.01763	<0.00020	<0.00020
Mg-T	mg/L		0.919	0.941
Mn-T	mg/L	0.8706	<0.0010	<0.0010
Hg-T	mg/L		<0.0000019	<0.0000019
Mo-T	mg/L	2.0	<0.0010	<0.0010
Ni-T	mg/L		<0.0010	<0.0010
K-T	mg/L		0.069	0.072
S-T	mg/L		<3.0	<3.0
Se-T	mg/L		<0.00010	<0.00010
Si-T	mg/L		3.67	4.05
Ag-T	mg/L	0.0001	<0.000020	<0.000020
Na-T	mg/L		1.38	1.36
Sr-T	mg/L		0.0142	0.0142
Zn-T	mg/L	0.033	<0.0050	<0.0050
Al-D	mg/L	0.1	0.0242	0.0285
As-D	mg/L		<0.00010	0.00014
Ba-D	mg/L		0.0010	0.0012
B-D	mg/L		<0.050	<0.050
Be-D	mg/L		<0.00010	<0.00010
Cd-D	mg/L	0.00017	<0.000010	<0.000010
Ca-D	mg/L		3.86	3.90
Cr-D	mg/L		<0.0010	<0.0010
Co-D	mg/L		<0.00020	<0.00020
Cu-D	mg/L	≤ 0.00334	0.00026	0.00027
Hard-D	mg/L		13.4	13.5
Fe-D	mg/L	0.35	<0.0050	0.0058
Pb-D	mg/L		<0.00020	<0.00020
Mg-D	mg/L		0.911	0.927
Mn-D	mg/L		<0.0010	<0.0010
Hg-D	mg/L		<0.0000019	0.0000021
Mo-D	mg/L		<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010
K-D	mg/L		0.069	0.070
S-D	mg/L		<3.0	<3.0
Se-D	mg/L		<0.00010	<0.00010
Si-D	mg/L		3.76	3.99
Na-D	mg/L		1.37	1.37
Sr-D	mg/L		0.0150	0.0146
Zn-D	mg/L		<0.0050	<0.0050