

QUINSAM COAL CORPORTAION

2020 Q4 (January-March)

Water Quality Monitoring Report
Covering Waste Management Permit-7008

Environmental Department

4/30/2020

CONTENTS

Contents	1
Summary of Events for the Fourth Quarter:	2
Data Quality and Quantity:	6
Quality Assurance Quality Control:.....	6

Appendix I

Tables 1 - 46

Graphs 1 - 6

SUMMARY OF EVENTS FOR THE FOURTH QUARTER:

This quarter, environmental monitoring has been carried out as per the stipulations outlined in the amended effluent permit PE-7008 dated November 1, 2019.

Ex-situ groundwater and in-situ mine water samples consisted of multiple wells (21) located in 2-North, 2-3-South, 7-South, 7-South Area 5, River Barrier pillar and 4-South.

All permitted parameters remained below permit limits during this quarter.

The final barge was loaded with the remaining coal stockpiled on the coal pad. Quinsam remains in receivership operating only in a care and maintenance status; meeting regulatory obligations and ensuring the health and safety of employees and the environment.

The table below lists the notable events for Q4, 2020.

Table 1: Notable Events for Q4

Date	Notable Events
Jan 20, 2020	Lehigh Barge #4 6,663 tonnes
Jan 22, 2020	Turned off 2-South well pump
Jan 24, 2020	Diesel Pump arrived to provide additional pumping capacity at 3-South
Feb 3, 2020	Lehigh Barge #5 6,671 tonnes (Final Barge)
Feb 4, 2020	Emergency back-up pumping system installed at 10 x-cut
Feb 6, 2020	2-South Well Pump failed to restart
Feb 26, 2020	ITRB meeting
Feb 27, 2020	“Failure of works” notice issued to MOE and EMPR on the 2-South well pump
Mar 5, 2020	Caroline Nakatsuka requested additional Site Characterization data for the RCP
Mar 6, 2020	EMPR Geotechnical inspection - Jennifer Brash, Sarah Morse and Chris Crawford
Mar 8, 2020	2-North underground mobile equipment moved to surface
Mar 24, 2020	Road to QU11-09 was determined to be unsafe and was closed
Mar 26, 2020	2019 Annual Updated Environmental Procedures Manual submitted
Mar 30, 2020	Informed EMPR that QCC was unable to collect groundwater sample at QU11-09
Mar 31, 2020	Annual TSF and Dams Reports uploaded to EMPR website

2-South Mine Area

Heavy precipitation events were experienced at the mine site during January (264.80 mm). The Long Lake Seep Passive Treatment System (PTS), has a 15 hp 120 gpm Gould's pump with 600v motor. This dewatering well is required to pump out the 2-South mine pool into the PTS. The pump was turned off on January 22, 2020 in order to reduce inflow rates at 2 and 3 South pits during high flow conditions. An extra diesel pump was rented to provide additional pumping capacity at 3-South pit to Settling Pond #1 on January 24th, 2020. This was required for contingency measures to prevent an unauthorized discharge "overflow" down the designed outlet channel into the No Name Lake connector stream. Once this channel is authorized this will be the flow path of the discharge from both 2- South and 3 South water covers.

The PTS pump failed once it was restarted on February 6th, 2020. The pump faulted on a restart and requires replacement. The risk of not replacing the 2-South mine pool pump is deemed as low but it is the mitigation plan for reducing discharge at the Long Lake Seep. The operation of the 2-South pump (*during the winter*) will not stop the Long Lake Seep from flowing. The pump prolongs the period of *No Flow* during summer to late fall. However, it will be necessary to replace the pump for compliance purposes.

A failure of works was sent out to the Ministries on February 27th, 2020 when the pump was assessed by an electrician. The system will be operating when the pump is replaced.

2-North Underground Water Management

On February 23, 2020 the 5-Mains 2-North pump failed. The 2-North Mine is dewatered through a network of pump systems. These include 1 Mains 2-North (1M2N) and 5 Mains 2-North (5M2N) and 3Mains 2-North (3M2N). Table 2 below describes the underground pumps systems and Figure 1 describes the 2-North pumping network.

Table 2: 2-North Pump System

Area	Type of Pump	Pumping capacity gallons /min (GPM)	Total Capacity	Pumping
1M2N #1	1 x 200 hp	750	750	
1M2N #1	1 x 200 hp	750 (not operating - faulted)	0	
5M2N	1 x 200 hp	750 (not operating - faulted)	0	
3M2N	2 x 250 hp	1000	2000	
Contingency				
3M2N	1 x 250 hp & 3 x 58 hp	4000 (requires testing)	4000	

1M2N and 5M2N are equipped with 200-hp, 600-volt, 3-phase submersible deep well pumps capable of pumping 750 gallons per minute each. 1M2N has two deep well pumps but currently only one is operating. 5M2N is equipped with one deep well pump but it has recently faulted and

requires repair/ replacement. The 1M2N and 5M2N pumps operate to dewater the 1 Mains and 5 Mains areas of the 2-North mine pool in order to maintain capacity for future injection and storage of 7-South tailings and maintain water levels in the mine for a future restart.

The 3-Mains 2-North (3M2N) area is equipped with 3 x 58 hp submersible pumps with 3 x 250 hp non-submersible pumps. The 3Mains pumps convey water from the old 3-Mains areas and overflow from 1-Mains and 5-Mains out of the mine. Recently the 3 x 58 Hp and 1 x 250 hp pumps were installed for contingency purposes to maintain water levels in the mine during heavy rain / snow fall events. Collectively these pumps can dewater that section of the mine at a rate of approximately 6000 GPM. These pumps are installed to manage water levels in the mine below the elevation of the subsidence zones (270 masl) and protect underground infrastructure (electrical and mobile equipment).

Quinsam has considered the cost and associated risk of not replacing the 5Mains pump carefully and concluded that having 1M2N and 3-Mains pumps operating during this time is expected to maintain water levels. The infiltration rates into the mine normally increase significantly during the fall/winter months due to increased rainfall and snow melt. The past three years of historical rainfall events indicates that the amount of precipitation decreases through March, April and May. QCC anticipates the existing pumping systems will manage the water in the mine. This is based on the contingency system installed at 3Mains (6000 gpm) having more pumping capacity than the 5M2N pump (750 gpm). The water rising to that elevation at 3Mains could result in equipment loss but no environmental degradation. On March 8th, 2020 the 2-North underground mobile equipment i.e. continuous miner, roof bolter and shuttle car were removed to surface in order to protect it from possible water damage.

Contingency plan for dewatering the 2-North mine

The 3-Mains pumping system is the contingency plan for maintaining the mine. The full operational system has not been tested due to there being no water for the pumps to operate, but it is deemed reliable based on the expertise of the personal who installed this system and previous experience. The 250 hp pumps are non-submersible electrical pumps.

The pumps are situated at 9 and 10 x-cut 1M2N with the electrical equipment situated at 8 x-cut 1M2N and the mobile mining equipment situated at 4 and 5 x-cut 1M2N. Currently the 2 x 250 Hp pumps are cycling and the others remain dry.

Water levels underground at 1M2N, 5M2N and 3M2N and weather forecasts are monitored daily. The water elevation at 5-Mains was stabilizing at 267 feet without the pump operating during this time. Quinsam will be turning off the 5-South mine pump discharging into the 3-Mains area of 2-North to decrease the volume of water entering 3-Mains. The figure below describes the 2-North Mine Water Management System.

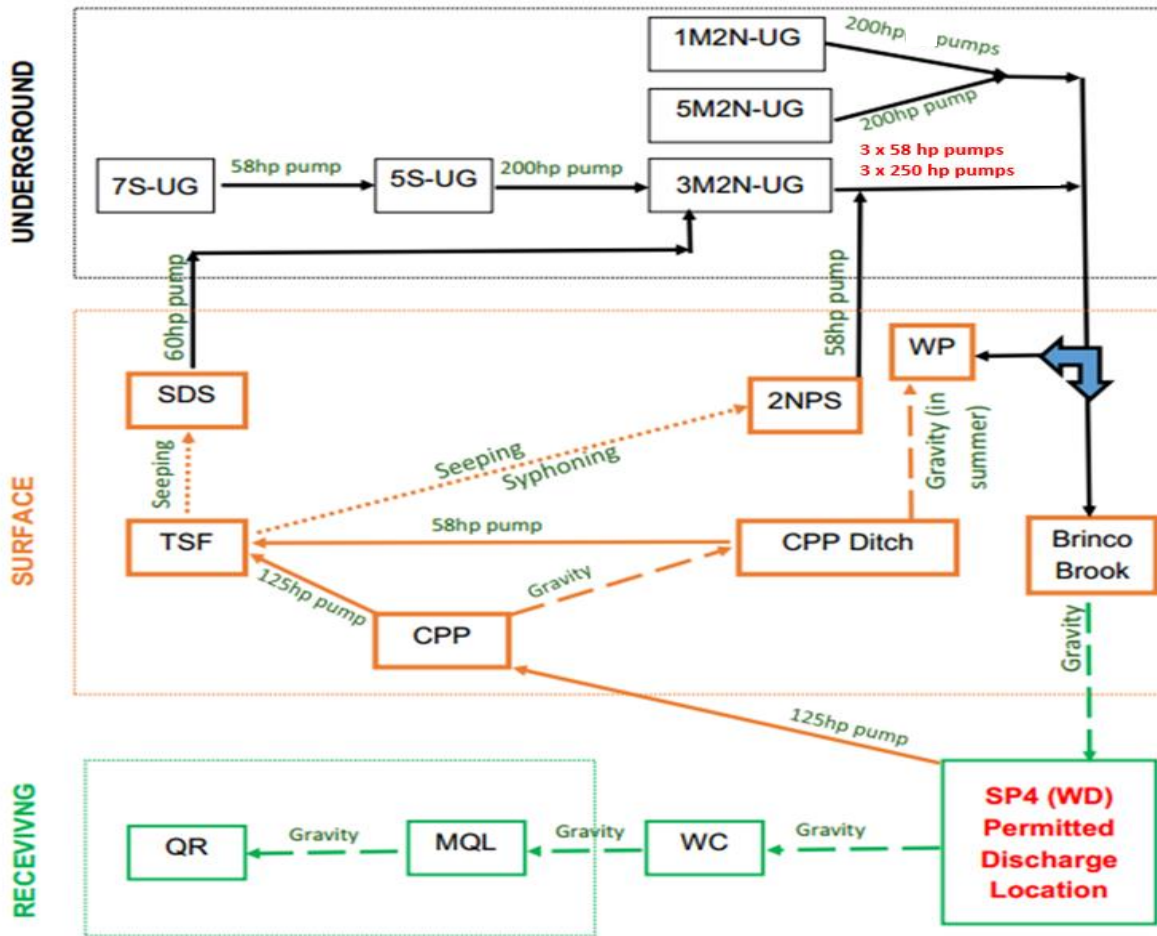


Figure 1: 2-North Mine Water Management System

DATA QUALITY AND QUANTITY:

Laboratory analytical results for the quarter are displayed in Appendix 1, Tables. All flow data related to PE:7008 will be submitted with the *2019 -20 Annual Water Quality Monitoring Report* due June 30th, 2020. Most flow data are currently under review before submission. Graphs 1-6 display some of the flow stations available.

QUALITY ASSURANCE QUALITY CONTROL:

All replicate sampling was performed in compliance with most of the recommendations made in 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*¹”.

As per the requirements of the B.C. field sampling manual, Quinsam Coal’s environmental department follows a Quality Assurance/Quality Control (QA/QC) program of one field replicate sample collected per sampling event. RPD (Relative Percent Difference) values are calculated in accordance with the B.C. field sampling manual and will be presented in the *2019 -20 Annual Water Quality Monitoring Report*.

Please contact the Environmental Department at (250- 286-3224, EXT 225) if you have any questions or comments.

Sincerely,



Kathleen Russell BSc.

Environmental Coordinator
Quinsam Coal Corporation

¹ British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013 Edition

Appendix I

Appendix I

List of Tables Graphs

Table 1	Description of Effluent, In-Mine Releases & Receiving Environment Monitoring Sites
Table 2	Summary of Permit Limit Exceedances & Permit Non-Compliances
	North Mine - Weekly / Monthly In-Mine Releases Surface Water Quality Monitoring
Table 3	Settling Pond #4 Permitted Decant for the North Mining Operation (WD)
Table 4	2-North Pit Sump CCR Water Cover (WP)
Table 5	2-North Portal Sump Effluent (2NPS)
Table 6	Culvert, at Middle Quinsam Lake Road (WC)
Table 7	South Dyke Sump (SDS)
	Seep Monitoring North Mine Operation
Table 8	Groundwater / Surface Water from 2N Area at Road (PDSR)
	South Mine - Weekly / Monthly In-Mine Releases Surface Water Quality Monitoring
Table 9	Settling Pond # 1 - Permitted Decant for South Mining Operation (SPD)
Table 10	Long Lake Seep Passive Treatment System (PTS) Influent from 2S Mine Pool (INF / QU11-11)
Table 11	PTS Biocemical Reactor Cell (BCR-EFF)
Table 12	PTS Sulphide Polishing Cell (SPCEFF)
Table 13	2 South Pit Inflow (2SI)
Table 14	2 South Pit in Pit Water Cover - CCR Water Cover (2S)
Table 15	3 South Pit- South Pit Main Sump Water - CCR Water Cover (3S)
Table 16	3 South 77 Adit Pit- Exploration pit from 1977 (3S77)
Table 17	4 South Lower- Culvert Downstream of Access Road (4S-LO)
Table 18	South Pit Culvert- Culvert, downstream of Settling Pond #1 discharge (SPC)
	Initial Zone of Dilution for South Mining Operation
Table 19	Long Lake Entrance - Last wetland prior to entering Long Lake near the outlet - IDZ (LLE)
	Seep Monitoring South Mine Operation
Table 20	Seep into Long Lake (LLS)

Appendix I

List of Tables Graphs

Table 21	Long Lake Seep Middle (LLSM)
	7-South Mining Area
Table 22	7 South Surface Decant - Authorized discharge location for the 7-South Mining Operation (7SSD)
Table 23	Stream 1 - Downstream of the 7SSD discharge, prior to entering the Lower Wetland Outlet (IDZ) (7S)
	Total Suspended Solid Results From Settling Ponds
Table 24	Settling Pond # 4 - Daily Total Suspended Solid Results (WD)
Table 25	Settling Pond # 1 - Total Suspended Solid Results (SPD)
	Discharge from Settling Ponds - Water Quantity & 7S Dilution Ratio
Table 26	Discharge from Settling Pond # 4
Table 27	Discharge from Settling Pond # 4
Table 28	Discharge from Settling Pond # 1
Table 29	Discharge from Settling Pond # 1
Table 30	Discharge from 7-South Surface Discharge
	Weekly Sulphate and TSS
Table 31	Weekly / Monthly Sulphate
Table 32	Weekly / Monthly Total Suspended Solids (TSS)
	Weekly Field Conductivity (us/cm) & pH Measurements
Table 33	Field Conductivity (us/cm) & pH (North Mine Area & 7-South)
Table 34	Field Conductivity (us/cm) & pH (South Mine Area)
Table 35	Field Conductivity (us/cm) & pH (Rivers & Wetland)
	Groundwater
Table 36	Groundwater Wells - Description
Table 37	Ex-situ Groundwater
Table 38	Ex-situ Groundwater
Table 39	Ex-situ Groundwater

Appendix I

List of Tables Graphs

Table 40	In-situ Mine Water
Table 41	In-situ Mine Water
Table 42	In-situ Mine Water
Table 43	In-situ Mine Water
Table 44	In-situ Mine Water
Table 45	7-South Portal Sump
Precipitation Results (mm)	
Table 46	Daily Precipitation (mm)
Graphs Flow Data	
Graph 1	Flow vs precipitation - Quinsam River - (WA)
Graph 2	Flow vs precipitation - Long Lake Outlet - (LLO)
Graph 3	Flow vs precipitation - Stream 1 (7S)
Graph 4	Discharge vs precipitation - LLE
Graph 5	Flow vs precipitation - LLSM
Graph 6	Flow vs precipitation - Iron River (IR8)

Table 1
2018-2019 Annual Report

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
E292126	South Dyke Sump	SDS	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)
E292128	1977 Bulk Sample Pit	3S77	MW & FW
E292129	Culvert Downstream of 4 South Access Road	4S-Lo	MW & FW
7-South Mining Operation			
E292069	7-South Surface Decant	7SSD	Discharge (MW & FW)
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
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)	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 Road	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
E292112	Lower Wetland Outlet at the confluence of the Quinsam River	LWO	FW
E292118	Lower Quinsam Lake Centre	LQL (1, 4, 9 & 1m from Bottom)	FW
7-South (Proposed) Area 5 Mining Operation			
E297230	Iron River upstream of mining operations	IR1	FW
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	Bio Cell Reactor	BCR-EFF	MW
N/A	Sulphide Polishing Cell	SPC-EFF	MW
N/A	2-South Inflow	2SI	MW
N/A	Aeration Lagoon	AL-EFF	Not in use
N/A	Settling Pond Effluent	SP-EFF	Not in use
* MW= Mine Water, FW= Freshwater, GW =Groundwater NIDZ = Near Initial Dilution Zone			

Table 2
2018-2019 Annual Report

SUMMARY OF PERMIT LIMIT EXCEEDANCES & PERMIT NON-COMPLIANCES (April 1st, 2018 through March 31st, 2019)						
EMS ID & Site Name	Permit Limit Exceedance (P) or Non-Compliance (PNC)	Parameter Exceeded / Other	Result (mg/L)	Requirement	Date	Non-Compliance Reason
E292127- 2 South Pit in Pit Water Cover (CCR Water Cover) (2S)	PNC	Continuous (Outflow)	Missing 7 days of outflow data.	Daily	January 24- 26, 31 to February 1-3	Flow meter failure occurred.

Table 3

EMS ID		E207409												Permit Limit North	
Site Description		Settling Pond #4		Authorized Discharge Location for the North Mining Operation											
Site Name		WD													
Date		1-Apr-19	6-May-19	11-Jun-19	10-Jul-19	12-Aug-19	9-Sep-19	1-Oct-19	4-Nov-19	4-Dec-19	6-Jan-20	10-Feb-20	2-Mar-20		
Parameter	Unit														
SO4-D	mg/L	778	437	789	880	940	840	390	360	510	410	470	590		
TSS	mg/L	<4.0	2.3	<4.0	<4.0	5.6	1.7	<4.0	<4.0	<4.0	3.6	1.6	2.4	25	
Alk-T	mg/L	448	479	280	240	240	270	490	430	440	300	370	380		
Acidity 8.3	mg/L	12.5	1.1	2.4	7.0	1.1	4.3	<1.0	<1.0	2.8	<1.0	1.9	2.7		
Al-T	mg/L	0.0037	0.0062	0.0094		0.0052	0.0096	0.005		0.0106		0.030			
As-T	mg/L	0.00345	0.00271	0.00099		0.00093	0.00099	0.00253		0.00227		0.00211			
Ba-T	mg/L	0.0229	0.0211	0.0213		0.0175	0.0165	0.0224		0.026		0.0203			
B-T	mg/L	1.04	0.959	0.731		0.755	0.896	0.856		0.781		0.749			
Cd-T	mg/L	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010		<0.000010		<0.000010			
Ca-T	mg/L	153	108	188		204	213	96.3		125		118			
Cr-T	mg/L	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010		<0.0010		<0.0010			
Co-T	mg/L	0.00027	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020		0.0002		0.00042			
Cu-T	mg/L	0.00107	<0.00050	0.00085		<0.00050	<0.00050	<0.00050		<0.00050		0.00077			
Hard-T	mg/L	449	314	565		610	637	281		372		353			
Fe-T	mg/L	1.740	0.712	0.191		0.095	0.11	0.398		0.357		0.553			
Pb-T	mg/L	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020		<0.00020		<0.00020			
Mg-T	mg/L	15.9	10.5	23.2		24.5	25.2	9.85		14.7		14.2			
Mn-T	mg/L	0.354	0.139	0.0257		0.0408	0.0101	0.0389		0.0981		0.116			
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020	<0.0000020		<0.0000020		<0.0000020			
Mo-T	mg/L	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010		<0.0010		<0.0010			
Ni-T	mg/L	0.0011	<0.0010	0.0012		<0.0010	<0.0010	<0.0010		0.0012		0.002			
K-T	mg/L	4.67	3.95	3.6		3.49	3.79	3.37		3.73		3.49			
S-T	mg/L	294	179	276		295	315	139		187		181			
Se-T	mg/L	<0.00010	<0.00010	<0.00010		<0.00010	<0.00010	<0.00010		<0.00010		<0.00010			
Si-T	mg/L	3.51	3.04	2.25		4.68	4.24	2.91		3.38		3.21			
Ag-T	mg/L	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020	<0.000020		<0.000020		<0.000020			
Na-T	mg/L	390	280	251		223	246	280		288		252			
Sr-T	mg/L	1.43	1.09	1.60		1.66	1.76	0.872		1.17		1.05			
Zn-T	mg/L	0.0057	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050		<0.0050		<0.0050			
Al-D	mg/L	<0.0030	0.0098	<0.0030		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	0.0101	<0.0030	0.5	
As-D	mg/L	0.00164	0.00139	0.00082		0.00087	0.00081	0.00164	0.0016	0.00149	0.00106	0.00118	0.00088		
Ba-D	mg/L	0.0211	0.0196	0.0196		0.0176	0.0156	0.0221	0.0212	0.0227	0.0202	0.0191	0.0214		
B-D	mg/L	1.01	0.954	0.873		0.783	0.837	0.918	0.784	0.851	0.674	0.659	0.755		
Be-D	mg/L	<0.00010	<0.00010	<0.00010		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Cd-D	mg/L	<0.0000050	<0.0000050	<0.0000050		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Ca-D	mg/L	150	107	204		207	202	97.9	95.5	124	109	108	142		
Cr-D	mg/L	<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	0.00029	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	0.00021	0.00028	0.00041	0.0002		
Cu-D	mg/L	<0.00020	<0.00020	0.00048		0.00025	0.00025	<0.00020	<0.00020	<0.00020	0.00024	0.00031	0.00029	0.02	
Hard-D	mg/L	440	311	609		619	601	286	281	366	330	325	414		
Fe-D	mg/L	0.0139	<0.0050	0.0282		0.0268	0.017	0.0052	0.0073	0.0092	0.0065	0.0059	0.008	0.3	
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	0.05	
Mg-D	mg/L	15.5	10.5	24.1		24.7	23.6	10.2	10.3	13.7	13.8	13.2	14.7		
Mn-D	mg/L	0.359	0.133	0.0166		0.023	0.0078	0.0387	0.0331	0.0990	0.0549	0.108	0.106		
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020		<0.0000020	0.000004	<0.0000020	<0.0000020	<0.0000020	0.0000037	<0.0000020	<0.0000019		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	0.0013	<0.0010	<0.0010	<0.0010	<0.0010		
Ni-D	mg/L	0.001	<0.0010	0.0011		<0.0010	<0.0010	<0.0010	<0.0010	0.0012	0.0012	0.0019	<0.0010		
K-D	mg/L	4.64	4.06	3.93		3.49	3.51	3.59	3.28	3.58	2.81	3.34	3.99		
S-D	mg/L	284	175	311		298	289	144	134	180	156	162	220		
Se-D	mg/L	<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	3.42	2.95	2.56		4.49	4.04	3.05	2.66	3.1	2.76	2.6	3.26		
Na-D	mg/L	392	281	271		225	242	294	278	283	225	240	270		
Sr-D	mg/L	1.4	1.05	1.59		1.65	1.69	0.936	0.864	1.080	0.936	0.938	1.26		
Zn-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	0.1	
O&G	mg/L	<1.0		<5.0		1.5		<1.0		<1.0		1.1		10	

Table 4

EMS ID		E207412											
Site Description		2-North Pond PAG-CCR Water Cover											
Site Name		WP											
Date		01-Apr-2019	06-May-2019	11-Jun-2019	15-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	06-Nov-2019	04-Dec-2019	09-Jan-2020	10-Feb-2020	02-Mar-2020
Parameter	Unit												
SO4-D	mg/L	697	664	599	760	740	790	650	670	680	530	320	580
TSS	mg/L	<16	<4.0	<4.0	4.4	7.2	<4.0		4.4	<4.0	4.4	2.4	2.0
Alk-T	mg/L	300	264	240	200	190	200	290	300	330	220	95	160
Acidity83	mg/L	3.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0
Al-T	mg/L	0.0452	0.0177	0.0368	0.0214	0.0138	0.0057	0.0113	0.0130	0.0230	0.0892	0.0137	0.0299
As-T	mg/L	0.00091	0.00083	0.00079	0.00081	0.00072	0.00206	0.00470	0.00108	0.00070	0.00070	0.00014	0.00025
Ba-T	mg/L	0.0198	0.0175	0.0162	0.0182	0.0163	0.0169	0.0204	0.0170	0.0166	0.0152	0.0096	0.0146
B-T	mg/L	0.806	0.794	0.775	0.839	0.788	0.806	0.811	0.831	0.703	0.601	0.215	0.366
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	<0.000010	0.000014
Ca-T	mg/L	145	116	87.3	159	135	156	119	135	131	147	108	167
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00097	<0.00020	<0.00020	<0.00020	0.00021	<0.00020	0.00049	0.00023	0.00042	0.00060	0.00083	0.00120
Cu-T	mg/L	0.00132	<0.00050	0.00095	0.00088	0.00071	<0.00050	0.00058	<0.00050	0.00057	0.00132	<0.00050	0.00081
Hard-T	mg/L	441	354	285	489	425	479	370	415	410	453	330	515
Fe-T	mg/L	0.207	0.056	0.118	0.077	0.090	0.172	1.21	0.234	0.270	0.321	0.028	0.126
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	19.5	15.6	16.3	22.4	21.5	22.1	17.9	19.1	20.2	20.8	14.8	23.7
Mn-T	mg/L	0.0639	0.0131	0.0132	0.0125	0.0195	0.0216	0.151	0.0338	0.0514	0.0527	0.0614	0.105
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	0.0038	0.0015	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	0.0015	0.0021	0.0023	0.0033
K-T	mg/L	3.73	3.94	3.69	3.80	3.62	4.00	3.74	3.78	3.53	2.66	1.03	1.71
P-T	mg/L	0.0029	<0.0030		0.0034	0.0082	0.0062	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
S-T	mg/L	268	244	210	278	265	310	237	244	243	204	110	192
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00014	0.00013	0.00014
Si-T	mg/L	2.94	2.35	1.87	3.16	2.62	3.15	2.92	2.87	2.86	2.53	1.47	2.17
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L	290	255	271	266	256	275	277	311	295	201	41.0	77.9
N-NO23	mg/L	0.032	<0.020	0.406	0.038	<0.020	<0.020	<0.020	<0.020	0.045	0.036	0.056	0.090
Sr-T	mg/L	1.33	1.28	1.09	1.57	1.43	1.41	1.24	1.32	1.34	1.15	0.652	1.11
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0038	0.0056	0.0034	0.0040	<0.0030	<0.0030	<0.0030	0.0046	0.0106	0.0078	0.0069	0.0075
As-D	mg/L	0.00065	0.00062	0.00063	0.00074	0.00064	0.00192	0.00174	0.00088	0.00051	0.00041	<0.00010	0.00016
Ba-D	mg/L	0.0181	0.0174	0.0168	0.0168	0.0162	0.0162	0.0194	0.0167	0.0150	0.0148	0.0091	0.0148
B-D	mg/L	0.800	0.838	0.970	0.831	0.816	0.854	0.867	0.681	0.779	0.619	0.197	0.328
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010
Ca-D	mg/L	146	115	96.7	158	132	141	123	119	132	134	98.8	180
Cr-D	mg/L	<0.0010	<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	0.00075	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00021	0.00040	0.00047	0.00085	0.00110
Cu-D	mg/L	0.00032	0.00029	0.00047	0.00062	0.00048	0.00091	0.00032	0.00030	0.00048	0.00050	0.00050	0.00048
Hard-D	mg/L	447	356	315	491	419	442	381	373	407	421	305	553
Fe-D	mg/L	0.0071	0.0066	0.0127	0.0180	0.0100	0.0477	0.186	0.137	0.0904	0.0361	<0.0050	0.0067
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	<0.00020
Mg-D	mg/L	20.0	16.5	17.8	23.3	22.1	21.8	18.2	18.4	18.9	20.8	14.1	24.9
Mn-D	mg/L	0.0544	0.0103	0.0032	0.0073	0.0019	0.0116	0.0032	0.0318	0.0504	0.0482	0.0584	0.0988
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000022	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	0.0037	0.0016	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.0017	0.0019	0.0022	0.0032
K-D	mg/L	3.72	3.95	4.08	3.95	3.63	3.56	3.91	3.43	3.38	2.65	0.979	1.75
S-D	mg/L	260	243	240	301	273	269	235	221	238	201	97.9	194
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	0.00018
Si-D	mg/L	2.93	2.28	2.11	2.85	2.50	2.84	2.76	2.35	2.71	2.17	1.21	2.19
Na-D	mg/L	285	260	294	275	264	267	287	289	291	215	39.1	79.5
Sr-D	mg/L	1.25	1.30	1.14	1.42	1.38	1.49	1.31	1.20	1.23	1.10	0.593	1.12
Zn-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	<0.0050

Table 5

EMS ID		E283433												
Site Description		2-North Portal Sump Effluent												
Site Name		2NPS												
Date		01-Apr-2019	06-May-2019	11-Jun-2019	15-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	04-Nov-2019	04-Dec-2019	09-Jan-2020	10-Feb-2020	02-Mar-2020	07-Apr-2020
Parameter	Unit													
SO4-D	mg/L	933	1010	1040	880	860	800	850	950	950	510	930	930	940
Alk-T	mg/L	293	311	360	300	310	270	310	290	320	150	280	150	260
Acidity83	mg/L	13.0	7.5	8.8	9.2	11.1	7.7	7.3	7.5	12.1	<1.0	7.7	9.1	3.8
Al-T	mg/L	0.0488	0.0514	0.0171	0.0243	0.0092	0.0516	0.0320	0.0276	0.0194	0.0560	0.120	0.0831	0.0312
As-T	mg/L	0.00077	0.00082	0.00053	0.00108	0.00098	0.00125	0.00113	0.00120	0.00059	0.00037	0.00121	0.00101	0.00087
Ba-T	mg/L	0.0120	0.0129	0.0110	0.0136	0.0122	0.0139	0.0129	0.0133	0.0147	0.0165	0.0129	0.0119	0.0124
B-T	mg/L	0.784	0.76	0.79	0.802	0.799	0.90	0.812	0.89	0.808	0.461	0.77	0.733	0.655
Cd-T	mg/L	<0.000010	<0.000020	<0.000020	<0.000010	<0.000010	<0.000020	<0.000010	<0.000020	<0.000010	0.000018	<0.000020	0.000014	<0.000010
Ca-T	mg/L	273	276	298	250	250	228	237	256	262	171	277	275	253
Cr-T	mg/L	<0.0010	<0.0020	<0.0020	<0.0010	<0.0010	0.0022	<0.0010	<0.0020	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010
Co-T	mg/L	0.00112	0.00097	0.00068	0.00081	0.00069	0.00102	0.00101	0.00119	0.00174	0.00192	0.00235	0.00177	0.00121
Cu-T	mg/L	<0.00050	<0.0010	<0.0010	<0.00050	<0.00050	<0.0010	<0.00050	<0.0010	0.00051	0.00062	0.0021	0.00073	<0.00050
Hard-T	mg/L	804	798	861	729	731	671	697	751	781	502	820	806	743
Fe-T	mg/L	0.256	0.262	0.145	0.274	0.235	0.264	0.369	0.347	0.264	0.058	0.397	0.322	0.178
Pb-T	mg/L	<0.00020	<0.00040	<0.00040	<0.00020	<0.00020	<0.00040	<0.00020	<0.00040	<0.00020	<0.00020	<0.00040	<0.00020	<0.00020
Mg-T	mg/L	29.6	26.6	28.3	25.6	25.9	24.6	25.4	26.9	30.8	18.1	31.2	29.3	27.2
Mn-T	mg/L	0.203	0.188	0.154	0.239	0.193	0.231	0.270	0.296	0.221	0.185	0.279	0.273	0.229
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000025	<0.0000020	<0.0000020	<0.0000020	0.0000037	<0.0000020	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0020	<0.0020	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010
Ni-T	mg/L	0.0032	0.0026	<0.0020	0.0020	0.0019	0.0030	0.0026	0.0030	0.0030	0.0048	0.0060	0.0041	0.0032
K-T	mg/L	4.02	3.93	4.52	3.67	3.71	3.75	3.81	4.04	4.02	2.48	3.91	3.88	3.61
S-T	mg/L	366	357	350	307	314	313	317	327	341	197	340	358	331
Se-T	mg/L	<0.00010	<0.00020	<0.00020	<0.00010	<0.00010	<0.00020	<0.00010	<0.00020	<0.00010	0.00011	<0.00020	<0.00010	<0.00010
Si-T	mg/L	3.31	3.29	3.71	3.11	3.25	3.12	3.04	3.07	3.33	1.84	3.00	3.13	2.67
Ag-T	mg/L	<0.000020	<0.000040	<0.000040	<0.000020	<0.000020	<0.000040	<0.000020	<0.000040	<0.000020	<0.000020	<0.000040	<0.000020	<0.000020
Na-T	mg/L	242	202	245	233	232	248	241	253	240	127	218	222	216
Sr-T	mg/L	1.88	2.03	2.10	1.88	1.85	1.70	1.73	1.81	2.00	1.09	1.88	1.84	1.92
Zn-T	mg/L	<0.0050	<0.010	<0.010	<0.0050	<0.0050	<0.010	<0.0050	<0.010	<0.0050	<0.0050	<0.010	<0.0050	<0.0050
Al-D	mg/L	0.0085	0.0104	0.0079	0.0033	0.0063	0.0079	0.0079	0.0171	<0.0060	0.0149	0.0204	0.0235	0.0166
As-D	mg/L	0.00055	0.00057	0.00043	0.00075	0.00073	0.00078	0.00067	0.00066	0.00046	0.00036	0.00062	0.00061	0.00063
Ba-D	mg/L	0.0115	0.0125	0.0116	0.0125	0.0117	0.0128	0.0129	0.0121	0.0141	0.0176	0.0117	0.0111	0.0121
B-D	mg/L	0.764	0.81	0.95	0.798	0.82	0.816	0.840	0.77	0.87	0.470	0.66	0.67	0.607
Be-D	mg/L	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00020	<0.00010
Cd-D	mg/L	0.0000070	<0.000010	<0.000010	0.0000070	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	0.000014	<0.000020	<0.000020	<0.000010
Ca-D	mg/L	270	266	319	285	244	215	239	226	259	168	247	263	244
Cr-D	mg/L	<0.0010	<0.0020	<0.0020	<0.0010	<0.0020	0.0017	<0.0010	<0.0020	<0.0020	<0.0010	<0.0020	<0.0020	<0.0010
Co-D	mg/L	0.00110	0.00086	<0.00040	0.00089	0.00069	0.00092	0.00101	0.00119	0.00177	0.00180	0.00226	0.00159	0.00115
Cu-D	mg/L	<0.00020	<0.00040	<0.00040	0.00021	<0.00040	0.00035	0.00022	<0.00040	<0.00040	0.00031	0.00047	<0.00040	0.00023
Hard-D	mg/L	788	772	920	824	717	633	704	672	770	497	736	770	722
Fe-D	mg/L	0.0166	<0.010	0.060	0.0128	0.024	0.0132	0.0165	0.016	0.218	<0.0050	0.027	0.013	<0.0050
Pb-D	mg/L	<0.00020	<0.00040	<0.00040	<0.00020	<0.00040	<0.00020	<0.00020	<0.00040	<0.00040	<0.00020	<0.00040	<0.00040	<0.00020
Mg-D	mg/L	27.8	26.1	30.0	27.1	25.8	23.2	26.1	26.0	29.9	18.9	28.7	27.6	27.4
Mn-D	mg/L	0.197	0.186	0.126	0.248	0.184	0.213	0.279	0.276	0.199	0.193	0.254	0.253	0.222
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	0.0000024	<0.0000020	0.0000024	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010	<0.0020	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0020	<0.0020	<0.0010	<0.0020	<0.0020	<0.0010
Ni-D	mg/L	0.0029	0.0025	<0.0020	0.0021	<0.0020	0.0025	0.0027	0.0029	0.0034	0.0046	0.0058	0.0039	0.0031
K-D	mg/L	3.76	3.94	4.89	3.89	3.61	3.62	3.95	3.74	4.05	2.50	3.45	3.64	3.57
S-D	mg/L	338	348	397	338	309	292	320	291	330	200	294	328	316
Se-D	mg/L	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00020	<0.00010
Si-D	mg/L	3.17	3.13	4.33	3.31	2.96	2.66	2.83	2.66	3.15	1.75	2.30	2.75	2.50
Na-D	mg/L	226	208	271	249	229	234	255	242	241	131	204	211	218
Sr-D	mg/L	1.82	2.01	2.16	1.74	1.70	1.61	1.73	1.66	1.85	1.14	1.66	1.79	1.82
Zn-D	mg/L	<0.0050	<0.010	<0.010	<0.0050	<0.010	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.010	<0.010	<0.0050

Table 6

EMS ID		E207411																	
Site Description		Culvert, at Middle Quinsam Lake Road																	
Site Name		WC																	
Date		01-Apr-2019	15-Apr-2019	06-May-2019	14-May-2019	27-May-2019	11-Jun-2019	25-Jun-2019	10-Jul-2019	12-Aug-2019	09-Sep-2019	16-Sep-2019	01-Oct-2019	21-Oct-2019	04-Nov-2019	04-Dec-2019	06-Jan-2020	10-Feb-2020	02-Mar-2020
Parameter	Unit																		
SO4-D	mg/L	726		468			681		650	680	660		300		380	500	390	370	560
TSS	mg/L	<16	<4.0	<4.0	<1.0	<1.0	<4.0	1.7	4.8	<4.0	<4.0	<1.0	<4.0	4.0	<4.0	<4.0	1.2	<1.0	2.4
Al-T	mg/L	0.0030					0.0050			0.0052			<0.0030			0.0057		0.0221	
As-T	mg/L	0.00080					0.00084			0.00075			0.00069			0.00091		0.00079	
Ba-T	mg/L	0.0209					0.0264			0.0241			0.0158			0.0221		0.0154	
B-T	mg/L	1.08					0.814			0.893			0.827			0.719		0.635	
Cd-T	mg/L	<0.000010					<0.000010			<0.000010			<0.000010			<0.000010		<0.000010	
Ca-T	mg/L	149					123			120			84.3			113		96.8	
Cr-T	mg/L	<0.0010					<0.0010			<0.0010			<0.0010			<0.0010		<0.0010	
Co-T	mg/L	<0.00020					0.00024			<0.00020			<0.00020			<0.00020		<0.00020	
Cu-T	mg/L	0.00053					<0.00050			<0.00050			<0.00050			<0.00050		<0.00050	
Hard-T	mg/L	436					379			369			253			339		288	
Fe-T	mg/L	0.229					0.137			0.205			0.065			0.100		0.118	
Pb-T	mg/L	<0.00020					<0.00020			<0.00020			<0.00020			<0.00020		<0.00020	
Mg-T	mg/L	15.8					17.6			17.0			10.2			13.5		11.3	
Mn-T	mg/L	0.0598					0.0276			0.0591			0.0080			0.0092		0.0162	
Hg-T	mg/L	<0.0000020					<0.0000020			<0.0000020			<0.0000020			<0.0000020		<0.0000020	
Mo-T	mg/L	<0.0010					<0.0010			<0.0010			<0.0010			<0.0010		<0.0010	
Ni-T	mg/L	0.0011					0.0012			<0.0010			<0.0010			<0.0010		0.0011	
K-T	mg/L	4.64					3.67			3.67			3.31			3.30		2.72	
S-T	mg/L	285					232			241			142			172		142	
Se-T	mg/L	<0.00010					<0.00010			<0.00010			<0.00010			<0.00010		<0.00010	
Si-T	mg/L	3.49					3.40			6.71			3.16			3.29		3.06	
Ag-T	mg/L	<0.000020					<0.000020			<0.000020			<0.000020			<0.000020		<0.000020	
Na-T	mg/L	387					264			253			272			257		196	
Sr-T	mg/L	1.43					1.35			1.32			0.842			1.08		0.822	
Zn-T	mg/L	<0.0050					<0.0050			<0.0050			<0.0050			<0.0050		<0.0050	
Al-D	mg/L	<0.0030					0.0031			0.0036			<0.0030		0.0037	0.0041		0.0135	
As-D	mg/L	0.00066					0.00086			0.00069			0.00060		0.00068	0.00070		0.00060	
Ba-D	mg/L	0.0203					0.0263			0.0239			0.0160		0.0178	0.0202		0.0147	
B-D	mg/L	1.05					0.973			0.912			0.886		0.758	0.775		0.569	
Be-D	mg/L	<0.00010					<0.00010			<0.00010			<0.00010		<0.00010	<0.00010		<0.00010	
Cd-D	mg/L	<0.0000050					<0.0000050			<0.000010			<0.000010		<0.000010	<0.000010		<0.000010	
Ca-D	mg/L	137					131			119			85.9		91.5	111		91.2	
Cr-D	mg/L	<0.0010					<0.0010			<0.0010			<0.0010		<0.0010	<0.0010		<0.0010	
Co-D	mg/L	<0.00020					0.00021			<0.00020			<0.00020		<0.00020	<0.00020		<0.00020	
Cu-D	mg/L	0.00025					0.00036			0.00027			<0.00020		<0.00020	<0.00020		0.00028	
Hard-D	mg/L	405					405			369			258		273	330		275	
Fe-D	mg/L	0.0155					0.0698			0.0903			0.0067		0.0182	0.0080		0.0084	
Pb-D	mg/L	<0.00020					<0.00020			<0.00020			<0.00020		<0.00020	<0.00020		<0.00020	
Mg-D	mg/L	15.2					18.8			17.4			10.7		10.9	13.0		11.4	
Mn-D	mg/L	0.0605					0.0282			0.0585			0.0077		0.0051	0.0089		0.0153	
Hg-D	mg/L	<0.0000020					<0.0000020			<0.0000020			<0.0000020		<0.0000020	<0.0000020		<0.0000020	
Mo-D	mg/L	<0.0010					<0.0010			<0.0010			<0.0010		<0.0010	<0.0010		<0.0010	
Ni-D	mg/L	0.0012					0.0011			<0.0010			<0.0010		<0.0010	<0.0010		0.0011	
K-D	mg/L	4.51					3.95			3.67			3.56		3.21	3.23		2.73	
S-D	mg/L	280					261			238			147		138	170		134	
Se-D	mg/L	<0.00010					<0.00010			<0.00010			<0.00010		<0.00010	<0.00010		<0.00010	
Si-D	mg/L	3.16					3.97			6.35			3.22		2.71	3.03		2.59	
Na-D	mg/L	372					288			256			291		263	258		196	
Sr-D	mg/L	1.42					1.40			1.27			0.894		0.860	1.00		0.779	
Zn-D	mg/L	<0.0050					<0.0050			<0.0050			<0.0050		<0.0050	<0.0050		<0.0050	

Table 7

EMS ID		E292126
Site Description		South Dyke Sump - Collects seepage from tailings dam that is pump underground 2N mine
Site Name		SDS
Date		01-Oct-2019
Parameter	Unit	
SO4-D	mg/L	810
Alk-T	mg/L	77
Acidity83	mg/L	3.7
Al-T	mg/L	0.0257
As-T	mg/L	0.00021
Ba-T	mg/L	0.0128
B-T	mg/L	0.44
Cd-T	mg/L	<0.000020
Ca-T	mg/L	247
Cr-T	mg/L	<0.0020
Co-T	mg/L	<0.00040
Cu-T	mg/L	0.0011
Hard-T	mg/L	776
Fe-T	mg/L	0.039
Pb-T	mg/L	<0.00040
Mg-T	mg/L	38.6
Mn-T	mg/L	0.0190
Hg-T	mg/L	0.0000022
Mo-T	mg/L	<0.0020
Ni-T	mg/L	<0.0020
K-T	mg/L	3.46
S-T	mg/L	296
Se-T	mg/L	<0.00020
Si-T	mg/L	0.39
Ag-T	mg/L	<0.000040
Na-T	mg/L	77.0
Sr-T	mg/L	1.50
Zn-T	mg/L	<0.010
Al-D	mg/L	0.0058
As-D	mg/L	0.00020
Ba-D	mg/L	0.0134
B-D	mg/L	0.400
Be-D	mg/L	<0.00010
Cd-D	mg/L	<0.000010
Ca-D	mg/L	242
Cr-D	mg/L	<0.0010
Co-D	mg/L	<0.00020
Cu-D	mg/L	0.00079
Hard-D	mg/L	760
Fe-D	mg/L	0.0095
Pb-D	mg/L	<0.00020
Mg-D	mg/L	37.9
Mn-D	mg/L	0.0115
Hg-D	mg/L	<0.0000020
Mo-D	mg/L	<0.0010
Ni-D	mg/L	<0.0010
K-D	mg/L	3.44
S-D	mg/L	290
Se-D	mg/L	0.00010
Si-D	mg/L	0.32
Na-D	mg/L	78.3
Sr-D	mg/L	1.52
Zn-D	mg/L	<0.0050

Table 8

Site Description		Groundwater / Surface Water from 2N Area at Road						
Site Name		PDSR						
Date		01-Apr-2019	06-May-2019	04-Nov-2019	04-Dec-2019	06-Jan-2020	10-Feb-2020	02-Mar-2020
Parameter	Unit							
SO4-D	mg/L	584	635	580	670	290	270	470
TSS	mg/L	<16	7.6	<4.0	<4.0	<1.0	2.4	<1.0
Alk-T	mg/L	173	192			110	110	
Acidity83	mg/L	5.6	1.2			<1.0	<1.0	
Al-T	mg/L	0.0880	0.0713	0.0099	0.0449	0.0184	0.0141	0.0278
As-T	mg/L	0.00015	0.00020	0.00010	0.00012	<0.00010	<0.00010	<0.00010
Ba-T	mg/L	0.0251	0.0275	0.0322	0.0221	0.0124	0.0105	0.0145
B-T	mg/L	0.267	0.290	0.197	0.202	0.162	0.140	0.179
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	223	223	174	185	126	106	157
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Cu-T	mg/L	0.00077	0.00053	<0.00050	0.00071	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	710	691	559	597	409	343	506
Fe-T	mg/L	0.092	0.080	0.011	0.045	0.015	0.010	0.025
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	37.3	32.2	30.4	33.1	22.9	19.0	27.4
Mn-T	mg/L	0.0085	0.0080	<0.0010	0.0033	0.0020	0.0013	0.0015
Hg-T	mg/L	<0.0000020	<0.0000020		<0.0000020	<0.0000020		<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
K-T	mg/L	1.58	1.91	1.58	1.48	1.06	0.980	1.27
S-T	mg/L	244	232	182	193	115	102	166
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.85	3.65	3.01	3.16	3.22	3.05	3.22
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L	60.9	53.0	58.2	55.9	38.8	29.4	40.7
Sr-T	mg/L	1.43	1.55	1.03	1.15	0.722	0.635	0.958
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0058	0.0093	0.0056	0.0052	0.0083	0.0063	0.0072
As-D	mg/L	0.00013	0.00016	<0.00010	0.00011	<0.00010	<0.00010	<0.00010
Ba-D	mg/L	0.0233	0.0275	0.0297	0.0219	0.0122	0.0104	0.0150
B-D	mg/L	0.246	0.322	0.233	0.232	0.160	0.129	0.171
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.0000050	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	234	231	215	210	110	104	167
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00035	0.00036	0.00044	0.00030	0.00030	0.00028	0.00030
Hard-D	mg/L	729	717	691	674	358	335	531
Fe-D	mg/L	<0.0050	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	35.1	34.2	37.5	36.5	20.3	18.4	27.7
Mn-D	mg/L	0.0022	0.0049	<0.0010	<0.0010	0.0013	<0.0010	<0.0010
Hg-D	mg/L	<0.0000020	<0.0000020		<0.0000020	<0.0000020		<0.0000019
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
K-D	mg/L	1.61	1.93	1.75	1.57	1.01	0.925	1.27
S-D	mg/L	239	238	216	206	106	93.6	161
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.23	3.73	2.71	2.87	2.80	2.75	3.36
Na-D	mg/L	55.7	56.0	66.0	62.0	34.9	29.0	40.3
Sr-D	mg/L	1.39	1.56	1.33	1.22	0.670	0.587	0.984
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Table 9

EMS ID		E218582												Permit Limit-South
Site Description		Settling Pond # 1 - Authorized Discharge Location for South Mining Operation												
Site Name		SPD (SPD was not discharging from May 14th through to September 29th)												
Date		01-Apr-2019	06-May-2019	11-Jun-2019	10-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	06-Nov-2019	04-Dec-2019	06-Jan-2020	10-Feb-2020	02-Mar-2020	
Parameter	Unit													
SO4-D	mg/L	334	269	260	230	270	260	300	220	61	240	110	320	-
TSS	mg/L	<4.0	<4.0	<4.0	4.0	4.4	<4.0	<4.0	<4.0	4.8	1.2	2.8	<1.0	25
Alk-T	mg/L	90.8	77.0	58	71	94	92	120	76	38	83	30	93	-
Acidity83	mg/L	2.1	<1.0	1.5	2.3	2.2	1.3	2.2	3.2	7.3	<1.0	4.0	1.5	-
Al-T	mg/L	0.0197		0.0092		0.187		0.0053	0.0296	0.0700		0.0353		-
As-T	mg/L	0.00070		0.00160		0.00384		0.00089	0.00066	0.00093		0.00039		-
Ba-T	mg/L	0.0128		0.0156		0.0230		0.0208	0.0133	0.0111		0.0089		-
B-T	mg/L	0.221		0.174		0.218		0.247	0.155	0.080		0.063		-
Cd-T	mg/L	<0.000010		<0.000010		0.000012		<0.000010	<0.000010	0.000018		<0.000010		-
Ca-T	mg/L	133		108		120		129	87.1	45.0		37.3		-
Cr-T	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010	<0.0010		<0.0010		-
Co-T	mg/L	0.00022		0.00084		0.00216		0.00023	0.00035	0.00089		0.00059		-
Cu-T	mg/L	<0.00050		<0.00050		0.00150		<0.00050	<0.00050	0.00073		<0.00050		-
Hard-T	mg/L	407		336		369		394	265	141		117		-
Fe-T	mg/L	0.178		0.361		1.35		0.301	0.499	0.880		0.551		-
Pb-T	mg/L	<0.00020		<0.00020		<0.00020		<0.00020	<0.00020	<0.00020		<0.00020		-
Mg-T	mg/L	18.4		15.9		16.7		17.3	11.4	6.93		5.83		-
Mn-T	mg/L	0.0380		0.165		0.271		0.0423	0.155	0.230		0.100		-
Hg-T	mg/L	<0.0000020		<0.0000020		<0.0000020		<0.0000020	<0.0000020	0.0000044		<0.0000020		-
Mo-T	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010	<0.0010		<0.0010		-
Ni-T	mg/L	0.0011		0.0024		0.0030		0.0011	0.0011	0.0011		<0.0010		-
K-T	mg/L	1.34		0.927		1.64		1.71	1.29	0.805		0.385		-
S-T	mg/L	133		105		107		118	71.8	38.8		35.5		-
Se-T	mg/L	<0.00010		<0.00010		<0.00010		<0.00010	<0.00010	<0.00010		<0.00010		-
Si-T	mg/L	2.19		0.69		2.33		2.71	3.23	4.97		2.71		-
Ag-T	mg/L	<0.000020		<0.000020		<0.000020		<0.000020	<0.000020	<0.000020		<0.000020		-
Na-T	mg/L	19.9		18.3		20.3		27.5	18.5	10.1		8.18		-
Sr-T	mg/L	0.805		0.691		0.759		0.820	0.503	0.269		0.209		-
Zn-T	mg/L	<0.0050		<0.0050		0.0057		<0.0050	<0.0050	<0.0050		<0.0050		-
Al-D	mg/L	0.0057		0.0061		0.0034		<0.0030	0.0188	0.0711	0.0405	0.0222	0.0116	0.5
As-D	mg/L	0.00054		0.00147		0.00232		0.00083	0.00057	0.00072	0.00051	0.00031	0.00040	-
Ba-D	mg/L	0.0121		0.0156		0.0210		0.0206	0.0131	0.0065	0.0099	0.0074	0.0101	-
B-D	mg/L	0.191		0.224		0.218		0.258	0.132	<0.050	0.154	0.053	0.140	-
Be-D	mg/L	<0.00010		<0.00010		<0.00010		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	-
Cd-D	mg/L	<0.0000050		0.0000080		<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	-
Ca-D	mg/L	133		118		118		131	80.9	27.6	94.0	32.8	130	-
Cr-D	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-
Co-D	mg/L	<0.00020		0.00076		0.00049		<0.00020	0.00034	0.00055	0.00028	0.00039	0.00028	-
Cu-D	mg/L	0.00031		0.00046		<0.00020		0.00022	0.00033	0.00065	0.00052	0.00029	0.00024	0.02
Hard-D	mg/L	399		364		361		400	248	86.4	283	104	388	-
Fe-D	mg/L	0.0275		0.205		0.258		0.157	0.268	0.517	0.122	0.319	0.0544	0.5
Pb-D	mg/L	<0.00020		<0.00020		<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.05
Mg-D	mg/L	16.0		17.0		16.4		17.7	11.1	4.27	11.7	5.29	15.5	-
Mn-D	mg/L	0.0271		0.152		0.230		0.0395	0.149	0.160	0.0512	0.0715	0.0473	-
Hg-D	mg/L	<0.0000020		<0.0000020		<0.0000020		<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019	-
Mo-D	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010	0.0068	<0.0010	<0.0010	<0.0010	-
Ni-D	mg/L	0.0011		0.0021		0.0016		0.0013	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-
K-D	mg/L	1.19		0.984		1.58		1.79	1.20	0.588	1.06	0.320	1.11	-
S-D	mg/L	123		121		104		120	69.4	19.0	80.6	29.2	111	-
Se-D	mg/L	<0.00010		<0.00010		<0.00010		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	-
Si-D	mg/L	2.03		0.81		1.94		2.56	2.96	4.95	2.40	2.24	2.33	-
Na-D	mg/L	17.3		20.1		20.0		29.1	17.6	6.46	22.0	7.24	16.0	-
Sr-D	mg/L	0.766		0.738		0.721		0.850	0.485	0.156	0.561	0.171	0.705	-
Zn-D	mg/L	<0.0050		<0.0050		<0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	-
O&G	mg/L	<1.0		<5.0		<1.0		<1.0		<1.0		<1.0		-

Table 10

Site Description		Long Lake Seep Passive Treatment System (PTS) Influent for Treament System (2-South Mine Pool)								
Site Name		INF								
Date		16-May-2019	20-Jun-2019	16-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	06-Nov-2019	04-Dec-2019	09-Jan-2020
Parameter										
SO4-D	mg/L	542	550	590	640	600	580	600	630	650
TSS	mg/L	6.4	8.8	9.6	9.6	10.0			10.8	10
Alk-T	mg/L	260	250	260	270	270		250	270	230
Acidity83	mg/L	9.1	8.1	15.1	8.3	13.8		15.1	11.1	11.1
N-NH3	mg/L	0.061			0.12			0.13	0.12	0.12
N-NO23	mg/L	<0.020	<0.020		<0.020	<0.020		<0.020	<0.020	<0.020
P-D	mg/L	<0.0020			<0.030					
Al-T	mg/L	<0.0030	<0.0060	<0.0030	<0.0030	<0.0030	<0.0030	0.0040	0.0055	0.180
As-T	mg/L	0.00325	0.00361	0.00398	0.00417	0.00493	0.00498	0.00550	0.00589	0.00498
Ba-T	mg/L	0.0228	0.0236	0.0234	0.0226	0.0212	0.0225	0.0231	0.0267	0.0235
B-T	mg/L	0.664	0.77	0.741	0.765	0.731	0.721	0.738	0.705	0.716
Cd-T	mg/L	<0.000010	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	214	226	232	227	214	215	231	233	245
Cr-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00048	<0.00040	0.00037	0.00036	0.00030	0.00033	0.00070	0.00118	0.00288
Cu-T	mg/L	0.00075	0.0017	0.00064	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00554
Hard-T	mg/L	589	622	637	627	591	595	638	645	679
Fe-T	mg/L	3.23	3.64	3.55	3.52	3.54	3.54	4.12	4.23	4.83
P-T	mg/L	<0.0020	<0.0030		<0.0010	0.0089		<0.0030	<0.0030	<0.0030
Pb-T	mg/L	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	13.5	14.0	14.2	14.5	13.8	14.2	14.8	15.2	16.2
Mn-T	mg/L	0.311	0.384	0.368	0.360	0.349	0.363	0.397	0.459	0.488
Hg-T	mg/L	<0.0000020	0.0000023	<0.0000020	<0.0000020	<0.0000020	<0.0000020		0.0000030	<0.0000020
Mo-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	0.0019	0.0054
K-T	mg/L	1.82	1.78	1.90	1.91	1.86	1.86	1.96	1.98	1.95
S-T	mg/L	201	210	205	210	198	206	210	227	223
Se-T	mg/L	<0.00010	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.25	3.35	3.27	3.39	3.16	3.12	3.25	3.52	3.48
Ag-T	mg/L	<0.000020	<0.000040	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L	109	113	117	120	118	121	126	117	120
Sr-T	mg/L	1.93	2.07	2.18	2.07	2.13	2.03	2.15	2.31	2.27
Zn-T	mg/L	0.0064	<0.010	0.0056	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0068
Al-D	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.012	<0.0030	<0.0030	0.0046	0.0437
As-D	mg/L	0.00313	0.00358	0.00377	0.00399	0.00492	0.00491	0.00511	0.00541	0.00463
Ba-D	mg/L	0.0222	0.0230	0.0234	0.0227	0.0216	0.0227	0.0230	0.0257	0.0250
B-D	mg/L	0.733	0.679	0.722	0.739	0.78	0.744	0.637	0.736	0.668
Cd-D	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.000010	<0.000040	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	212	227	241	224	216	221	213	233	233
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00054	0.00036	0.00041	0.00036	<0.00080	0.00034	0.00071	0.00117	0.00280
Cu-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00080	<0.00020	<0.00020	<0.00020	<0.00020
Hard-D	mg/L	584	623	664	618	599	613	592	643	649
Fe-D	mg/L	3.23	3.53	3.84	3.48	3.65	3.63	4.02	4.42	4.50
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00080	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	13.4	13.5	15.3	14.5	14.3	15.0	14.7	14.8	16.1
Mn-D	mg/L	0.318	0.358	0.376	0.352	0.363	0.376	0.402	0.472	0.494
Hg-D	mg/L	<0.0000020	0.0000029	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020
Mo-D	mg/L	<0.0010	0.0044	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	0.0013	0.0020	0.0052
K-D	mg/L	1.76	1.90	1.96	1.88	1.83	1.96	1.87	1.89	1.90
S-D	mg/L	198	217	231	209	206	211	196	220	216
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00040	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.30	3.43	3.40	3.34	3.13	3.07	2.87	3.38	3.23
Na-D	mg/L	107	104	121	119	120	128	123	118	115
Sr-D	mg/L	1.92	2.01	2.10	2.06	2.03	2.08	2.01	2.18	2.27
Zn-D	mg/L	0.0093	<0.0050	0.0052	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	0.0075
H2SEquiv	mg/L	0.00101				0.000957				0.000957

Table 11

Site Description		PTS - Biochemical Reactor (BCREFF)								
Site Name		BCREFF								
Date		16-May-2019	20-Jun-2019	16-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	06-Nov-2019	04-Dec-2019	09-Jan-2020
Parameter	Unit									
S04-D	mg/L	212	350	440	530	510	430	530	530	600
TSS	mg/L	7.6	6.9		<4.0	<4.0			11.6	26
Alk-T	mg/L	460	320	360	180	190		250	250	240
Acidity83	mg/L	14.7	7.5	28.3	<1.0	1.0		8.3	7.2	5.0
N-NH3	mg/L	0.18			0.040			0.043	0.089	0.066
N-NO23	mg/L	0.043	<0.020		<0.020	<0.020		<0.020	<0.020	<0.020
P-D	mg/L	<0.020			<0.0030					
Al-T	mg/L	0.0103	0.0098	0.0084	0.0088	0.0035	<0.0030	0.0036	0.0067	0.0119
As-T	mg/L	0.00089	0.00045	0.00044	0.00156	0.00170	0.00253	0.00139	0.00384	0.00016
Ba-T	mg/L	0.0260	0.0289	0.0317	0.0231	0.0199	0.0233	0.0236	0.0223	0.0326
B-T	mg/L	0.719	0.81	0.769	0.719	0.740	0.654	0.679	0.607	0.606
Cd-T	mg/L	<0.000010	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	189	197	224	173	174	171	214	192	232
Cr-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	0.00035	0.00109	<0.00020
Cu-T	mg/L	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	519	544	616	488	489	477	592	530	643
Fe-T	mg/L	<0.010	0.066	<0.010	0.195	0.185	0.286	0.581	2.56	0.015
P-T	mg/L	0.0321	<0.030		0.0051	0.0053		<0.0030	<0.0030	0.0072
Pb-T	mg/L	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	11.4	12.5	13.9	13.8	13.2	12.4	13.8	12.4	15.3
Mn-T	mg/L	0.202	0.216	0.277	0.0168	0.0158	0.0650	0.269	0.439	0.366
Hg-T	mg/L	<0.000020	<0.0000020	<0.000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.000040
Mo-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0017	<0.0010
K-T	mg/L	2.23	2.05	2.08	1.93	1.78	1.65	1.87	1.73	1.88
S-T	mg/L	81.9	134	164	194	193	158	187	184	205
Se-T	mg/L	<0.00010	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-T	mg/L	5.03	4.46	4.34	2.99	2.79	3.80	3.63	3.11	3.40
Ag-T	mg/L	<0.000020	<0.000040	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L	101	106	117	116	116	107	121	101	120
Sr-T	mg/L	1.71	1.91	2.17	1.84	1.93	1.70	1.98	1.89	2.16
Zn-T	mg/L	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0099	0.0075	0.0101	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0038
As-D	mg/L	0.00083	0.00037	0.00035	0.00138	0.00162	0.00211	0.00101	0.00215	0.00021
Ba-D	mg/L	0.0246	0.0282	0.0292	0.0232	0.0195	0.0239	0.0231	0.0230	0.0351
B-D	mg/L	0.73	0.752	0.77	0.740	0.772	0.708	0.604	0.638	0.591
Cd-D	mg/L	<0.000010	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	177	192	226	173	176	175	194	204	222
Cr-D	mg/L	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	0.0015	<0.0010	<0.0010
Co-D	mg/L	<0.00040	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	0.00035	0.00094	<0.00020
Cu-D	mg/L	<0.00040	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Hard-D	mg/L	490	529	621	488	497	491	540	562	619
Fe-D	mg/L	<0.010	0.0051	0.010	0.112	0.127	0.0579	0.112	1.78	0.0124
Pb-D	mg/L	<0.00040	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	11.7	12.2	14.0	13.9	13.7	13.0	13.5	12.9	15.5
Mn-D	mg/L	0.199	0.220	0.265	0.0173	0.0159	0.0673	0.270	0.434	0.375
Hg-D	mg/L	<0.0000020	<0.0000040	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020
Mo-D	mg/L	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	0.0012	0.0016	<0.0010
K-D	mg/L	2.11	2.09	2.12	1.88	1.81	1.73	1.75	1.77	1.86
S-D	mg/L	283	406	240	193	189	162	178	183	255
Se-D	mg/L	0.00214	0.00106	0.0179	<0.00010	<0.00010	<0.00010	<0.00010	0.00027	0.00278
Si-D	mg/L	4.79	4.35	4.32	3.07	2.78	3.72	3.06	3.17	3.19
Na-D	mg/L	101	106	119	116	122	115	116	107	118
Sr-D	mg/L	1.59	1.83	1.95	1.80	1.95	1.75	1.84	1.83	2.17
Zn-D	mg/L	<0.010	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
H2SEquiv	mg/L	74.4				0.000957				0.00882

Table 12

Site Description		PTS - Sulphide Polishing Cell								
Site Name Date Parameter	Sulphide Polishing Cell (SPCEFF) Unit	(All discharge water from the treatment system was directed into 2-South pit at 25l)								
		16-May-2019	20-Jun-2019	16-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	06-Nov-2019	04-Dec-2019	09-Jan-2020
S04-D	mg/L	229	250	380	400	360	420	420	400	540
TSS	mg/L	13.6	13		10.8	<4.0			9.6	5.6
Alk-T	mg/L	440	380	390	390	380		360	280	250
Acidity83	mg/L	10.4	5.0	21.8	7.7	5.2		10.3	5.5	<1.0
N-NH3	mg/L	0.22			0.055			0.045	0.033	0.026
N-NO23	mg/L	<0.020	<0.020		<0.020	<0.020		<0.020	<0.020	<0.020
P-D	mg/L	<0.0020			<0.0030					
Al-T	mg/L	0.0039	0.0062	0.0067	0.0059	<0.0030	0.0076	0.0061	0.0050	0.0166
As-T	mg/L	0.00402	0.00608	0.00731	0.00337	0.00220	0.00236	0.00462	0.00301	0.00188
Ba-T	mg/L	0.0385	0.0568	0.0650	0.0592	0.0536	0.0509	0.0491	0.0396	0.0442
B-T	mg/L	0.629	0.80	0.777	0.795	0.707	0.653	0.629	0.547	0.578
Cd-T	mg/L	<0.000010	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	194	189	224	218	194	204	215	175	214
Cr-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00472	0.00124	0.00064	0.00072	0.00038	0.00034	0.00081	0.00025	0.00025
Cu-T	mg/L	0.00198	0.0029	0.00178	0.00139	<0.00050	0.00095	0.00305	<0.00050	0.00190
Hard-T	mg/L	536	519	613	602	538	567	596	488	596
Fe-T	mg/L	4.62	4.86	4.47	1.87	0.522	0.761	5.33	2.26	1.37
P-T	mg/L	0.0059	0.011		0.0053	0.0091		0.016	<0.0030	<0.0030
Pb-T	mg/L	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	12.6	11.7	13.3	14.2	12.9	13.8	14.5	12.3	14.7
Mn-T	mg/L	0.936	0.403	0.290	0.255	0.144	0.0945	0.178	0.0996	0.173
Hg-T	mg/L	<0.0000020	0.0000026	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020
Mo-T	mg/L	0.0039	0.0027	0.0018	0.0018	0.0012	<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
K-T	mg/L	1.92	2.14	2.15	2.07	1.86	1.85	1.74	1.47	1.70
S-T	mg/L	91.3	110	152	159	142	157	158	146	187
Se-T	mg/L	<0.00010	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-T	mg/L	5.97	5.83	5.30	5.36	4.46	4.35	4.86	3.58	3.40
Ag-T	mg/L	<0.000020	<0.000040	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L	107	106	118	120	115	118	121	97.1	114
Sr-T	mg/L	1.73	1.77	2.15	2.06	1.99	1.93	2.02	1.72	1.98
Zn-T	mg/L	<0.0050	<0.010	0.0057	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0036	0.0035	0.0064	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
As-D	mg/L	0.00199	0.00445	0.00506	0.00176	0.00153	0.00145	0.00329	0.00225	0.00100
Ba-D	mg/L	0.0348	0.0538	0.0592	0.0547	0.0531	0.0514	0.0467	0.0362	0.0432
B-D	mg/L	0.656	0.725	0.725	0.755	0.755	0.682	0.538	0.532	0.551
Cd-D	mg/L	0.0000050	<0.0000050	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	187	189	219	207	196	210	195	170	205
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	0.0040	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00437	0.00111	0.00060	0.00063	0.00041	0.00033	0.00078	0.00023	0.00021
Cu-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00025	<0.00020	<0.00020	<0.00020
Hard-D	mg/L	516	518	602	575	542	584	545	474	572
Fe-D	mg/L	0.0775	2.49	2.68	0.184	0.0632	0.0196	3.91	1.31	0.0168
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	12.3	11.2	13.1	13.7	12.9	14.2	14.3	12.0	14.6
Mn-D	mg/L	0.917	0.379	0.270	0.214	0.153	0.0959	0.218	0.0958	0.177
Hg-D	mg/L	<0.0000020	0.0000027	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020
Mo-D	mg/L	0.0040	0.0070	0.0018	0.0017	0.0014	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	<0.0010	<0.0010	<0.0010	<0.0010
K-D	mg/L	1.86	2.24	2.13	1.98	1.84	1.98	1.64	1.42	1.63
S-D	mg/L	90.0	118	154	149	137	160	146	135	180
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	5.61	5.76	5.30	4.81	4.37	4.25	3.85	3.28	3.10
Na-D	mg/L	103	99.5	114	116	117	124	116	94.9	111
Sr-D	mg/L	1.74	1.69	2.02	1.96	1.95	2.02	1.86	1.54	1.95
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
H2SEquiv	mg/L	0.00521				0.000957				0.000957

Table 13

Site Description		2 South Inflow for Pit Water Cover - from LLSPTS									
Site Name		2SI									
Parameter	Date Unit	16-May-2019	16-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	06-Nov-2019	04-Dec-2019	09-Jan-2020	10-Feb-2020	02-Mar-2020
SO4-D	mg/L	201	400	380	360	390	350	450	430	180	180
TSS	mg/L	4.4	<4.0	<4.0	<4.0			<4.0	1.6		
Alk-T	mg/L	340	310	350	340		270	260	160	67	71
Acidity83	mg/L	1.8	<1.0	<1.0	<1.0		3.0	1.6	<1.0	1.5	<1.0
N-NH3	mg/L	0.11		0.046			0.057	0.036	0.039		
N-NO23	mg/L	<0.020		0.023	<0.020		<0.020	0.032	0.082		
P-D	mg/L	<0.0020		<0.0030							
Al-T	mg/L	0.0062	0.0068	0.0047	0.0074	0.0045	0.0067	0.0076	0.0154	0.0162	0.0170
As-T	mg/L	0.00109	0.00065	0.00040	0.00037	0.00015	0.00028	0.00042	0.00040	0.00013	0.00012
Ba-T	mg/L	0.0262	0.0460	0.0418	0.0378	0.0381	0.0328	0.0319	0.0247	0.0114	0.0107
B-T	mg/L	0.496	0.700	0.654	0.624	0.564	0.471	0.524	0.399	0.102	0.110
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	156	200	189	172	178	171	182	157	67.0	70.4
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00259	0.00046	0.00030	<0.00020	<0.00020	0.00020	0.00030	0.00040	0.00020	0.00021
Cu-T	mg/L	0.00070	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00055	0.00056
Hard-T	mg/L	437	553	528	483	503	484	512	443	201	208
Fe-T	mg/L	1.10	0.315	0.264	0.233	0.262	0.170	0.187	0.235	0.154	0.215
P-T	mg/L	<0.0020	<0.0030	0.0019	0.45		<0.0030	<0.0030	<0.0030		
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	11.5	13.2	13.8	13.1	13.9	13.6	14.2	12.7	8.23	7.69
Mn-T	mg/L	0.596	0.123	0.0904	0.0526	0.0536	0.0571	0.0922	0.110	0.0661	0.0650
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020		0.0000021	<0.0000020	<0.0000020	<0.0000019
Mo-T	mg/L	0.0018	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	<0.0010
K-T	mg/L	1.56	1.91	1.87	1.98	1.65	1.37	1.46	1.14	0.426	0.401
S-T	mg/L	84.5	142	146	139	149	132	161	140	56.3	54.5
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-T	mg/L	5.18	4.75	4.78	4.35	4.42	4.66	4.30	3.59	3.51	3.43
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Na-T	mg/L	84.0	110	109	108	107	93.8	95.5	70.3	14.0	14.9
Sr-T	mg/L	1.25	1.88	1.69	1.67	1.58	1.43	1.66	1.33	0.406	0.393
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0042	0.0041	<0.0030	0.0034	0.0034	0.0041	0.0093	0.0075	0.0094	0.0090
As-D	mg/L	0.00084	0.00060	0.00035	0.00034	0.00019	0.00022	0.00037	0.00033	<0.00010	<0.00010
Ba-D	mg/L	0.0252	0.0450	0.0416	0.0379	0.0384	0.0337	0.0309	0.0256	0.0106	0.0107
B-D	mg/L	0.560	0.703	0.657	0.646	0.577	0.420	0.531	0.394	0.091	0.109
Cd-D	mg/L	0.0000050	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	155	213	189	178	179	161	178	148	61.5	67.5
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00253	0.00037	0.00029	<0.00020	<0.00020	<0.00020	0.00029	0.00038	0.00020	<0.00020
Cu-D	mg/L	0.00024	0.00029	0.00027	0.00032	0.00035	0.00029	0.00023	<0.00020	0.00050	0.00050
Hard-D	mg/L	439	588	527	500	505	460	501	423	185	201
Fe-D	mg/L	0.0292	0.0528	0.0553	0.0604	0.0842	0.0851	0.0775	0.106	0.118	0.123
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	12.4	13.6	13.7	13.3	14.1	13.8	13.8	12.7	7.57	8.00
Mn-D	mg/L	0.632	0.117	0.0884	0.0525	0.0528	0.0587	0.0927	0.109	0.0605	0.0611
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	0.0000035	<0.0000020		0.0000044	<0.0000020	<0.0000020	<0.0000019
Mo-D	mg/L	0.0021	0.0012	<0.0010	0.0016	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	<0.0010	<0.0010
K-D	mg/L	1.59	1.93	1.83	1.97	1.71	1.32	1.49	1.16	0.372	0.409
S-D	mg/L	87.3	152	146	136	149	129	155	133	48.3	56.6
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	5.38	4.90	4.68	4.51	4.31	3.96	3.96	3.17	2.98	3.47
Na-D	mg/L	86.2	108	110	112	112	92.0	94.8	69.5	13.1	16.7
Sr-D	mg/L	1.29	1.77	1.71	1.63	1.62	1.38	1.54	1.26	0.355	0.410
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
H2SEquiv	mg/L	0.00101			0.000957				0.000957		

Table 14

[illegible]

Table 15

EMS ID	E217015												
Site Description	3 South Pit Main Water Sump (CCR Water Cover)												
Site Name	35												
Date	01-Apr-2019	06-May-2019	11-Jun-2019	16-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	04-Nov-2019	04-Dec-2019	06-Jan-2020	10-Feb-2020	02-Mar-2020	
Parameter	Unit												
SO4-D	mg/L	490	478	502	400	410	460	540	590	560	450	570	440
TSS	mg/L					<4.0							
Alk-T	mg/L	164	154	140	130	130	140	150	160	170	140	160	290
Acidity83	mg/L	2.1	<1.0	1.0	1.3	<1.0	5.1	2.3	3.1	4.6	1.0	3.2	1.8
Al-T	mg/L	0.0185		0.0378		0.0103		0.0104	0.0072		0.0315	0.0855	0.0143
As-T	mg/L	0.00031		0.00049		0.00078		0.00089	0.00052		0.00077	0.00088	0.00048
Ba-T	mg/L	0.0147		0.0161		0.0173		0.0226	0.0187		0.0149	0.0167	0.0138
B-T	mg/L	0.346		0.299		0.347		0.400	0.350		0.266	0.269	0.308
Cd-T	mg/L	<0.000010		<0.000010		<0.000010		<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Ca-T	mg/L	221		195		170		202	232		182	254	259
Cr-T	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020		<0.00020		0.00022		<0.00020	<0.00020		<0.00020	<0.00020	<0.00020
Cu-T	mg/L	<0.00050		0.00073		0.00078		<0.00050	<0.00050		<0.00050	0.00070	<0.00050
Hard-T	mg/L	667		597		520		609	696		541	759	766
Fe-T	mg/L	0.035		0.091		0.046		0.038	0.022		0.072	0.190	0.041
Pb-T	mg/L	<0.00020		<0.00020		<0.00020		<0.00020	<0.00020		<0.00020	<0.00020	<0.00020
Mg-T	mg/L	27.8		27.0		23.2		25.6	28.3		21.2	29.9	28.9
Mn-T	mg/L	0.0116		0.0243		0.0258		0.0080	0.0045		0.0201	0.0334	0.0124
Hg-T	mg/L	<0.0000020		<0.0000020		<0.0000020		<0.0000020	<0.0000020		<0.0000020	<0.0000020	<0.0000019
Mo-T	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
K-T	mg/L	2.35		2.38		2.35		2.58	2.48		1.76	2.08	2.10
S-T	mg/L	206		176		155		195	203		154	225	222
Se-T	mg/L	0.00012		<0.00010		<0.00010		<0.00010	0.00014		0.00015	0.00020	0.00017
Si-T	mg/L	1.94		0.37		0.83		1.30	1.82		1.79	2.23	2.11
Ag-T	mg/L	<0.000020		<0.000020		<0.000020		<0.000020	<0.000020		<0.000020	<0.000020	<0.000020
Na-T	mg/L	32.3		32.9		35.6		44.6	40.8		40.8	32.5	30.7
Sr-T	mg/L	1.27		1.24		1.13		1.34	1.43		1.09	1.46	1.39
Zn-T	mg/L	<0.0050		<0.0050		<0.0050		<0.0050	<0.0050		<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0052		0.0056		0.0045		<0.0030	<0.0030		0.0035	<0.0030	<0.0030
As-D	mg/L	0.00031		0.00045		0.00057		0.00079	0.00048		0.00066	0.00046	0.00040
Ba-D	mg/L	0.0145		0.0152		0.0172		0.0221	0.0191		0.0156	0.0142	0.0129
B-D	mg/L	0.335		0.354		0.346		0.399	0.310		0.268	0.210	0.271
Cd-D	mg/L	<0.0000050		0.0000090		<0.000010		<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Ca-D	mg/L	216		202		168		204	217		172	214	249
Cr-D	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020		<0.00020		<0.00020		<0.00020	<0.00020		<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00030		0.00064		0.00036		<0.00020	<0.00020		0.00022	<0.00020	0.00026
Hard-D	mg/L	644		621		515		616	655		516	641	742
Fe-D	mg/L	0.0061		0.0176		0.0213		<0.0050	<0.0050		0.0061	<0.0050	0.0058
Pb-D	mg/L	<0.00020		<0.00020		<0.00020		<0.00020	<0.00020		<0.00020	<0.00020	<0.00020
Mg-D	mg/L	25.6		28.0		23.5		25.8	27.4		20.7	25.9	29.2
Mn-D	mg/L	0.0030		0.0073		0.0150		0.0014	0.0023		0.0201	0.0184	0.0086
Hg-D	mg/L	<0.0000020		<0.0000020		<0.0000020		<0.0000020	<0.0000020		<0.0000020	<0.0000020	<0.0000019
Mo-D	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010		<0.0010		<0.0010		<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
K-D	mg/L	2.37		2.55		2.34		2.64	2.39		1.77	1.74	2.07
S-D	mg/L	195		195		158		194	193		152	180	214
Se-D	mg/L	0.00011		<0.00010		<0.00010		<0.00010	0.00013		0.00014	0.00015	0.00015
Si-D	mg/L	1.76		0.38		0.81		1.23	1.62		1.57	1.56	1.96
Na-D	mg/L	29.0		33.4		35.7		46.1	39.6		41.1	28.1	30.1
Sr-D	mg/L	1.27		1.29		1.12		1.37	1.37		1.09	1.20	1.40
Zn-D	mg/L	<0.0050		<0.0050		<0.0050		<0.0050	<0.0050		<0.0050	<0.0050	<0.0050

Table 16

EMS ID	E292128			
Site Description	3 South 77 Adit Pit- Exploration pit from 1977			
Site Name	3S77			
Date		15-Jul-2019	01-Oct-2019	25-Nov-2019
Parameter	Unit			
SO4-D	mg/L	140	290	200
TSS	mg/L			<4.0
Alk-T	mg/L	99	110	71
Acidity83	mg/L	2.7	10.8	1.6
Al-T	mg/L	0.0046	0.0040	0.0045
As-T	mg/L	0.00174	0.00157	0.00019
Ba-T	mg/L	0.0212	0.0257	0.0179
B-T	mg/L	0.216	0.227	0.140
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	98.8	113	90.7
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	0.00083	<0.00050
Hard-T	mg/L	297	344	276
Fe-T	mg/L	0.075	0.032	<0.010
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	12.2	15.0	12.1
Mn-T	mg/L	0.0317	0.0330	<0.0010
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	1.40	1.36	1.00
S-T	mg/L	77.9	106	82.6
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.38	3.56	2.71
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	18.1	23.1	19.2
Sr-T	mg/L	0.639	0.763	0.573
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0034	<0.0030	0.0037
As-D	mg/L	0.00166	0.00155	0.00022
Ba-D	mg/L	0.0193	0.0272	0.0172
B-D	mg/L	0.203	0.253	0.163
Cd-D	mg/L	0.0000060	<0.000010	<0.000010
Ca-D	mg/L	106	123	90.7
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00021	0.00029	0.00038
Hard-D	mg/L	314	371	274
Fe-D	mg/L	0.0424	0.0228	<0.0050
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	11.9	15.6	11.6
Mn-D	mg/L	0.0317	0.0329	<0.0010
Hg-D	mg/L	<0.0000020	<0.0000020	<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	1.41	1.38	0.951
S-D	mg/L	82.4	108	81.8
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.56	3.63	2.73
Na-D	mg/L	17.6	24.6	18.3
Sr-D	mg/L	0.591	0.801	0.582
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 17

EMS ID	E292129			
Site Description	4 South Lower- Culvert Downstream of Access Road			
Site Name	4S-LO			
Date		01-Apr-2019	06-May-2019	25-Nov-2019
Parameter	Unit			
SO4-D	mg/L	134	147	170
TSS	mg/L	<16		<4.0
Alk-T	mg/L	46.6	51.4	49
Acidity83	mg/L	2.3	<1.0	2.2
Al-T	mg/L	0.214	0.230	0.0315
As-T	mg/L	0.00021	0.00025	0.00017
Ba-T	mg/L	0.0111	0.0123	0.0101
B-T	mg/L	0.137	0.122	0.099
Cd-T	mg/L	0.000013	0.000011	<0.000010
Ca-T	mg/L	54.3	56.9	56.2
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00144	0.00167	0.00034
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	165	169	171
Fe-T	mg/L	0.953	0.564	0.041
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	7.16	6.64	7.37
Mn-T	mg/L	0.439	0.244	0.0495
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	0.0020	0.0020	<0.0010
K-T	mg/L	0.489	0.589	0.466
S-T	mg/L	52.5	53.9	50.0
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.52	3.48	2.87
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	13.4	12.5	13.2
Sr-T	mg/L	0.268	0.312	0.299
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0943	0.136	0.0233
As-D	mg/L	0.00017	0.00016	0.00017
Ba-D	mg/L	0.0104	0.0116	0.0099
B-D	mg/L	0.123	0.127	0.113
Cd-D	mg/L	0.0000110	0.0000100	<0.000010
Ca-D	mg/L	51.4	56.3	56.5
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00134	0.00153	0.00031
Cu-D	mg/L	0.00027	0.00025	0.00030
Hard-D	mg/L	157	169	170
Fe-D	mg/L	0.761	0.322	0.0263
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	7.02	6.81	7.10
Mn-D	mg/L	0.424	0.191	0.0437
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	0.0015	0.0019	<0.0010
K-D	mg/L	0.469	0.564	0.452
S-D	mg/L	48.9	51.3	49.6
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.10	3.45	2.94
Na-D	mg/L	12.7	12.2	12.5
Sr-D	mg/L	0.258	0.299	0.303
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 18

EMS ID	E217014														
Site Description	South Pit Culvert- Culvert, downstream of Settling Pond #1 discharge														
Site Name	SPC														
Date	01-Apr-2019	15-Apr-2019	06-May-2019	14-May-2019	27-May-2019	25-Sep-2019	01-Oct-2019	07-Oct-2019	21-Oct-2019	04-Nov-2019	04-Dec-2019	06-Jan-2020	10-Feb-2020	02-Mar-2020	
Parameter	Unit														
SO4-D	mg/L	84.6		138			54	69			170	100	140	91	110
TSS	mg/L	<16	<4.0	14.8	1.1	1.7	7.2	<4.0	6.8	<4.0	<4.0	4.0	<1.0	3.2	1.6
Alk-T	mg/L	29.8		45.5			41	41			53	39	45	31	33
Acidity83	mg/L	<1.0		<1.0			2.5	1.8			1.6	<1.0	<1.0	<1.0	<1.0
Al-T	mg/L	0.0625					0.414	0.128			0.0672			0.0608	
As-T	mg/L	0.00032					0.00169	0.00070			0.00029			0.00021	
Ba-T	mg/L	0.0075					0.0108	0.0090			0.0079			0.0055	
B-T	mg/L	0.062					0.067	0.062			0.065			<0.050	
Cd-T	mg/L	<0.000010					<0.000010	<0.000010			<0.000010			<0.000010	
Ca-T	mg/L	31.2					30.4	31.6			39.0			32.8	
Cr-T	mg/L	<0.0010					<0.0010	<0.0010			<0.0010			<0.0010	
Co-T	mg/L	<0.00020					0.00050	<0.00020			<0.00020			<0.00020	
Cu-T	mg/L	0.00053					0.00170	0.00102			<0.00050			<0.00050	
Hard-T	mg/L	95.8					92.8	97.0			120			100	
Fe-T	mg/L	0.100					1.05	0.314			0.123			0.067	
Pb-T	mg/L	<0.00020					0.00022	<0.00020			<0.00020			<0.00020	
Mg-T	mg/L	4.35					4.09	4.38			5.56			4.44	
Mn-T	mg/L	0.0019					0.0653	0.0048			0.0039			0.0019	
Hg-T	mg/L	0.0000021					0.0000050	0.0000059			0.0000025			<0.0000020	
Mo-T	mg/L	<0.0010					<0.0010	<0.0010			<0.0010			<0.0010	
Ni-T	mg/L	<0.0010					0.0015	<0.0010			<0.0010			<0.0010	
K-T	mg/L	0.335					0.520	0.459			0.509			0.390	
S-T	mg/L	27.2					19.3	21.6			34.5			28.0	
Se-T	mg/L	<0.00010					<0.00010	<0.00010			<0.00010			<0.00010	
Si-T	mg/L	2.07					5.23	4.44			3.67			3.03	
Ag-T	mg/L	<0.000020					<0.000020	<0.000020			<0.000020			<0.000020	
Na-T	mg/L	5.85					6.15	6.29			8.78			5.95	
Sr-T	mg/L	0.188					0.186	0.189			0.242			0.190	
Zn-T	mg/L	<0.0050					<0.0050	<0.0050			<0.0050			<0.0050	
Al-D	mg/L	0.0507					0.122	0.106			0.0381	0.0556		0.0383	
As-D	mg/L	0.00027					0.00091	0.00068			0.00028	0.00027		0.00017	
Ba-D	mg/L	0.0073					0.0082	0.0091			0.0139	0.0073		0.0052	
B-D	mg/L	0.057					0.069	0.068			0.099	0.064		<0.050	
Cd-D	mg/L	<0.0000050					<0.000010	<0.000010			<0.000010	<0.000010		<0.000010	
Ca-D	mg/L	31.1					30.2	32.7			58.2	38.9		30.6	
Cr-D	mg/L	<0.0010					<0.0010	<0.0010			<0.0010	<0.0010		<0.0010	
Co-D	mg/L	<0.00020					<0.00020	<0.00020			<0.00020	<0.00020		<0.00020	
Cu-D	mg/L	0.00048					0.00110	0.00098			0.00039	0.00038		0.00030	
Hard-D	mg/L	95.1					91.8	101			180	120		93.5	
Fe-D	mg/L	0.0778					0.314	0.248			0.0550	0.107		0.0507	
Pb-D	mg/L	<0.00020					<0.00020	<0.00020			<0.00020	<0.00020		<0.00020	
Mg-D	mg/L	4.21					4.01	4.56			8.44	5.49		4.16	
Mn-D	mg/L	<0.0010					0.0010	<0.0010			0.0011	0.0031		0.0013	
Hg-D	mg/L	0.0000025					0.0000043	0.0000057			<0.0000020	0.0000043		<0.0000020	
Mo-D	mg/L	<0.0010					<0.0010	<0.0010			<0.0010	<0.0010		<0.0010	
Ni-D	mg/L	<0.0010					0.0010	0.0010			<0.0010	<0.0010		<0.0010	
K-D	mg/L	0.330					0.489	0.484			0.662	0.498		0.340	
S-D	mg/L	26.8					16.9	22.1			52.1	33.4		23.7	
Se-D	mg/L	<0.00010					<0.00010	<0.00010			<0.00010	<0.00010		<0.00010	
Si-D	mg/L	1.97					5.55	4.41			3.11	3.50		2.54	
Na-D	mg/L	5.60					6.02	6.61			13.7	8.87		5.51	
Sr-D	mg/L	0.177					0.175	0.195			0.350	0.232		0.162	
Zn-D	mg/L	<0.0050					<0.0050	<0.0050			<0.0050	<0.0050		<0.0050	

Table 19

EMS ID		E292130												WQG-Max	
Site Description		Long Lake Entrance- Last wetland prior to entering Long Lake, near the outlet													
Site Name		LLE													
Date		01-Apr-2019	06-May-2019	11-Jun-2019	15-Jul-2019	12-Aug-2019	Sep	01-Oct-2019	06-Nov-2019	04-Dec-2019	09-Jan-2020	10-Feb-2020	02-Mar-2020		
Parameter	Unit														
SO4-D	mg/L	117	133	241	440	380	Beaver dam	140	140	110	110	80	110		
TSS	mg/L	<16	<4.0	<4.0	5.2	4.0		<4.0	<4.0	4.4	1.6	2.4	<1.0	25	
Alk-T	mg/L	35.3	41.5	80	130	140		80	50	41	35	28	32		
Acidity83	mg/L	2.7	<1.0	<1.0	4.0	3.6		1.6	2.0	1.1	<1.0	<1.0	<1.0		
N-NH3	mg/L	<0.015	<0.015	<0.015	<0.015	0.016		0.052	0.048	0.042	<0.015	0.051	0.044	12.9	
N-NO23	mg/L	0.039	<0.020	<0.020	<0.020	<0.020		0.141	0.025	0.066	<0.020	0.024	0.039		
Al-T	mg/L	0.0506	0.0269	0.0092	0.0103	0.0038		0.0299	0.0705	0.0924	0.101	0.0849	0.0869		
As-T	mg/L	0.00068	0.00081	0.00084	0.00081	0.00074		0.00054	0.00110	0.00121	0.00055	0.00074	0.00081	0.005	
Ba-T	mg/L	0.0146	0.0183	0.0344	0.0364	0.0342		0.0203	0.0169	0.0129	0.0087	0.0075	0.0096	5	
B-T	mg/L	0.082	0.091	0.200	0.354	0.295		0.112	0.091	0.071	0.068	<0.050	0.056		
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Ca-T	mg/L	41.0	46.6	100	175	150		57.3	52.6	41.8	38.1	30.2	41.0		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Co-T	mg/L	<0.00020	<0.00020	0.00021	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.11	
Cu-T	mg/L	0.00060	<0.00050	<0.00050	<0.00050	<0.00050		0.00081	0.00054	<0.00050	<0.00050	<0.00050	<0.00050	0.007	
Hard-T	mg/L	128	142	315	547	477		177	162	129	117	92.3	124		
Fe-T	mg/L	0.556	0.351	1.05	0.788	0.568		0.784	0.506	0.591	0.201	0.156	0.395	1	
P-T	mg/L	0.0079	0.0031	0.0030	0.0048	0.0027		<0.0030	0.0041	<0.0030	<0.0030	<0.0030	<0.0030	0.005	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.01763	
Mg-T	mg/L	6.14	6.26	15.8	27.0	24.7		8.35	7.34	5.94	5.19	4.08	5.35		
Mn-T	mg/L	0.0752	0.0383	0.112	0.120	0.0918		0.151	0.0585	0.0624	0.0112	0.0145	0.0394	0.8	
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020	0.0000045	<0.0000020	<0.0000020	<0.0000019	0.00001	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	2	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.025	
K-T	mg/L	0.483	0.595	0.898	1.50	1.48		0.756	0.649	0.548	0.476	0.378	0.427		
S-T	mg/L	39.5	43.5	101	177	151		43.8	43.9	38.1	30.8	24.6	33.8		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Si-T	mg/L	2.72	2.64	1.20	2.14	1.83		3.96	3.63	3.77	3.09	3.04	2.89		
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001	
Na-T	mg/L	9.33	9.36	29.0	49.3	46.0		13.3	12.2	9.71	9.02	5.56	7.02		
Sr-T	mg/L	0.244	0.290	0.595	1.08	0.946		0.342	0.297	0.263	0.226	0.175	0.224		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		0.0102	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.033	
Al-D	mg/L	0.0214	0.0127	0.0030	<0.0030	<0.0030		0.0194	0.0276	0.0406	0.0455	0.0361	0.0380	0.1	
As-D	mg/L	0.00050	0.00065	0.00084	0.00067	0.00069		0.00052	0.00093	0.00085	0.00045	0.00060	0.00057		
Ba-D	mg/L	0.0143	0.0181	0.0358	0.0335	0.0332		0.0200	0.0179	0.0124	0.0086	0.0068	0.0092		
B-D	mg/L	0.079	0.099	0.249	0.316	0.304		0.116	0.083	0.070	0.061	<0.050	0.057		
Cd-D	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.0001702	
Ca-D	mg/L	39.1	46.9	110	187	149		56.0	50.4	41.1	36.1	27.0	39.9		
Cr-D	mg/L	<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	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
Cu-D	mg/L	0.00045	0.00032	0.00028	0.00022	<0.00020		0.00072	0.00050	0.00045	0.00035	0.00033	0.00033		
Hard-D	mg/L	122	143	344	572	473		174	157	128	111	82.7	122		
Fe-D	mg/L	0.424	0.203	0.985	0.133	0.0764		0.588	0.411	0.513	0.147	0.109	0.334	0.35	
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		
Mg-D	mg/L	6.02	6.27	16.9	25.9	24.7		8.30	7.44	6.01	4.96	3.73	5.35		
Mn-D	mg/L	0.0727	0.0371	0.117	0.117	0.0906		0.152	0.0638	0.0617	0.0106	0.0129	0.0369		
Hg-D	mg/L	<0.0000020	<0.0000020	0.0000022	<0.0000020	<0.0000020		<0.0000020	0.0000028	0.0000064	<0.0000020	<0.0000020	<0.0000019		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
K-D	mg/L	0.469	0.581	0.975	1.42	1.48		0.770	0.687	0.544	0.453	0.326	0.415		
S-D	mg/L	37.5	43.3	114	179	151		43.3	44.7	34.8	30.2	21.1	34.1		
Se-D	mg/L	<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	2.49	2.62	1.46	2.12	1.73		3.70	3.63	3.47	2.68	2.45	2.97		
Na-D	mg/L	9.46	9.96	31.0	47.7	46.2		13.7	12.1	10.2	8.76	5.17	6.98		
Sr-D	mg/L	0.239	0.288	0.639	1.06	0.911		0.346	0.331	0.232	0.217	0.146	0.225		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	0.0071	<0.0050	<0.0050	<0.0050		

Table 20

EMS ID.		E292131											WQG-Max (M)
Site Description		Seep into Long Lake											
Site Name		LLS											
Date		01-Apr-19	06-May-19	11-Jun-19	16-Jul-19	12-Aug-19	Sep - Oct	06-Nov-19	04-Dec-19	09-Jan-20	05-Feb-20	02-Mar-20	
Parameter	Unit												
SO4-D	mg/L	477	538	512	440	440	No Flow	360	490	420	570	750	
TSS	mg/L	<16	4.4	<4.0	4.0	7.2		7.2	7.2	3.6	8.4	2.8	25
Alk-T	mg/L	249	246	260	240	260		390	220	170	190	230	
Acidity83	mg/L	16.6	4.1	7.7	10.9	9.2		<1.0	5.4	4.6	8.1	13.0	
Al-T	mg/L	<0.0030	0.0047	<0.0030	<0.0030	0.0033		0.0279	0.0232	0.0507	0.0410	0.0110	
As-T	mg/L	0.00256	0.00311	0.00289	0.00260	0.00278		0.00052	0.00271	0.00226	0.00187	0.00518	0.005
Ba-T	mg/L	0.0194	0.0189	0.0199	0.0194	0.0202		0.0186	0.0185	0.0174	0.0196	0.0194	5
B-T	mg/L	0.662	0.585	0.585	0.581	0.576		0.376	0.501	0.442	0.511	0.601	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Ca-T	mg/L	223	218	207	202	196		165	182	169	202	244	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Co-T	mg/L	0.00156	0.00153	0.00138	0.00117	0.00120		0.00103	0.00137	0.00123	0.00182	0.00176	0.11
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		0.00105	0.00065	0.00084	0.00088	<0.00050	0.00482
Hard-T	mg/L	634	610	587	570	557		473	521	484	581	696	
Fe-T	mg/L	0.988	1.16	1.26	1.25	1.41		0.225	1.31	1.09	1.20	2.11	1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.01763
Mg-T	mg/L	19.0	16.2	16.9	16.1	16.3		15.2	16.0	15.2	18.8	21.2	
Mn-T	mg/L	0.454	0.418	0.389	0.342	0.330		0.0835	0.290	0.225	0.210	0.488	0.8706
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	0.0000022	<0.0000020	<0.0000020	<0.0000019	0.00001
Mo-T	mg/L	0.0012	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	2
Ni-T	mg/L	0.0029	0.0023	0.0022	0.0020	0.0020		0.0050	0.0030	0.0031	0.0056	0.0043	0.025
K-T	mg/L	2.46	2.50	2.36	2.35	2.37		2.14	2.31	2.16	2.10	2.62	
S-T	mg/L	220	214	184	170	173		148	169	147	198	254	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		0.00021	<0.00010	<0.00010	<0.00010	<0.00010	
Si-T	mg/L	3.28	3.14	2.61	2.93	3.09		2.41	2.71	2.69	2.84	3.17	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Na-T	mg/L	110	87.0	98.1	92.4	94.1		59.6	78.8	70.4	75.6	104	
Sr-T	mg/L	1.97	2.11	1.90	1.87	1.82		1.50	1.74	1.52	1.94	2.07	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.033
Al-D	mg/L	0.0038	<0.0030	<0.0030	<0.0030	<0.0030		0.0060	0.0030	0.0058	0.0054	<0.0030	0.1
As-D	mg/L	0.00259	0.00277	0.00298	0.00230	0.00215		0.00028	0.00187	0.00148	0.00119	0.00483	
Ba-D	mg/L	0.0188	0.0191	0.0198	0.0190	0.0191		0.0187	0.0179	0.0178	0.0200	0.0195	
B-D	mg/L	0.630	0.614	0.669	0.575	0.582		0.340	0.518	0.410	0.530	0.590	
Cd-D	mg/L	0.0000050	<0.0000050	0.0000050	<0.0000050	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.0001702
Ca-D	mg/L	209	215	224	218	192		154	184	156	201	244	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Co-D	mg/L	0.00161	0.00144	0.00132	0.00123	0.00119		0.00104	0.00133	0.00101	0.00185	0.00152	
Cu-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		0.00060	<0.00020	0.00023	<0.00020	<0.00020	
Hard-D	mg/L	593	605	635	613	546		449	525	450	583	694	
Fe-D	mg/L	1.10	1.04	1.21	1.33	1.17		0.0612	0.762	0.665	0.529	1.96	0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Mg-D	mg/L	17.2	16.5	18.2	16.6	16.1		15.3	16.0	15.1	19.7	20.8	
Mn-D	mg/L	0.436	0.410	0.382	0.341	0.315		0.0826	0.290	0.193	0.211	0.441	
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	0.0000025	<0.0000020	<0.0000020	<0.0000019	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Ni-D	mg/L	0.0028	0.0024	0.0021	0.0020	0.0020		0.0049	0.0049	0.0030	0.0058	0.0035	
K-D	mg/L	2.28	2.47	2.46	2.39	2.34		2.01	2.28	2.07	2.22	2.53	
S-D	mg/L	211	213	210	185	168		140	163	139	200	234	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		0.00018	<0.00010	<0.00010	<0.00010	<0.00010	
Si-D	mg/L	3.00	3.09	3.08	3.28	2.89		2.19	2.64	2.43	2.71	3.21	
Na-D	mg/L	97.3	93.0	104	95.7	92.2		58.0	80.2	67.0	78.9	98.6	
Sr-D	mg/L	1.96	2.08	1.95	1.73	1.73		1.39	1.61	1.49	1.98	2.37	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
WQO are disallowed for comparison purposes only.													

Table 21

EMS ID.		E292131									WQO-Max
Site Description		Middle Seep into Long Lake									
Site Name		LLSM									
Date		01-Apr-19	06-May-19	11-Jun-19	July - Oct	25-Nov-19	04-Dec-19	09-Jan-20	05-Feb-20	02-Mar-20	
Parameter											
SO4-D	mg/L	462	389	421	No Flow	280	350	330	470	580	
TSS	mg/L	<16	<4.0	<4.0		<4.0	<4.0	3.2	5.2	1.2	25
Alk-T	mg/L	221	198	240		140	160	110	190	220	
Acidity83	mg/L	13.3	1.6	3.5		7.2	4.2	1.7	7.5	5.0	
Al-T	mg/L	0.0034	0.0111	<0.0030		0.127	0.0217	0.259	0.0689	0.0139	
As-T	mg/L	0.00074	0.00080	0.00122		0.00065	0.00043	0.00063	0.00072	0.00118	0.005
Ba-T	mg/L	0.0184	0.0185	0.0188		0.0164	0.0169	0.0162	0.0204	0.0192	5
B-T	mg/L	0.575	0.472	0.497		0.293	0.340	0.307	0.448	0.564	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	0.000012	
Ca-T	mg/L	191	166	184		138	140	127	183	216	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Co-T	mg/L	0.00159	0.00104	0.00129		0.00141	0.00070	0.00182	0.00102	0.00111	0.11
Cu-T	mg/L	<0.00050	<0.00050	<0.00050		0.00198	0.00086	0.00294	0.00089	<0.00050	0.00482
Hard-T	mg/L	542	469	521		399	406	372	527	615	
Fe-T	mg/L	0.502	0.492	0.787		0.429	0.251	0.572	0.598	0.684	1
Pb-T	mg/L	<0.00020	<0.00020	0.00131		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.01763
Mg-T	mg/L	15.9	13.4	15.1		13.2	13.6	13.2	17.3	18.7	
Mn-T	mg/L	0.338	0.218	0.312		0.0958	0.101	0.0927	0.0979	0.206	0.8706
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	2
Ni-T	mg/L	0.0030	0.0020	0.0022		0.0051	0.0025	0.0049	0.0035	0.0039	0.025
K-T	mg/L	2.21	2.10	2.15		1.94	1.98	1.73	2.02	2.26	
S-T	mg/L	181	157	161		122	127	114	172	212	
Se-T	mg/L	<0.00010	<0.00010	<0.00010		0.00017	0.00015	0.00013	0.00011	<0.00010	
Si-T	mg/L	3.08	2.69	2.42		2.50	2.51	2.71	2.73	2.89	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Na-T	mg/L	91.4	67.6	87.3		49.6	50.4	45.1	70.2	89.4	
Sr-T	mg/L	1.68	1.59	1.64		1.17	1.25	1.06	1.76	1.83	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	0.0052	<0.0050	<0.0050	0.033
Al-D	mg/L	<0.0030	0.0031	0.0037		0.0159	0.0079	0.0209	0.0073	0.0036	0.1
As-D	mg/L	0.00073	0.00063	0.00133		0.00050	0.00040	0.00039	0.00042	0.00114	
Ba-D	mg/L	0.0178	0.0184	0.0188		0.0162	0.0154	0.0163	0.0215	0.0186	
B-D	mg/L	0.565	0.474	0.608		0.328	0.344	0.295	0.481	0.528	
Cd-D	mg/L	0.0000060	<0.0000050	0.0000060		<0.000010	<0.000010	<0.000010	<0.000010	0.000010	0.0001702
Ca-D	mg/L	186	161	202		137	140	116	187	215	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010		0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Co-D	mg/L	0.00170	0.00099	0.00134		0.00133	0.00070	0.00173	0.00099	0.00104	
Cu-D	mg/L	<0.00020	0.00027	<0.00020		0.00127	0.00067	0.00163	0.00042	0.00027	
Hard-D	mg/L	524	457	575		395	407	341	542	614	
Fe-D	mg/L	0.401	0.337	0.783		0.248	0.211	0.242	0.207	0.460	0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Mg-D	mg/L	14.7	13.2	17.3		12.9	13.9	12.3	18.1	18.6	
Mn-D	mg/L	0.336	0.207	0.316		0.0933	0.101	0.0890	0.0960	0.197	
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020		<0.0000020	0.0000053	<0.0000020	<0.0000020	<0.0000019	
Mo-D	mg/L	<0.0010	<0.0010	0.0011		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Ni-D	mg/L	0.0030	0.0019	0.0022		0.0044	0.0025	0.0047	0.0035	0.0035	
K-D	mg/L	2.11	2.09	2.44		1.92	1.89	1.68	2.14	2.26	
S-D	mg/L	178	156	195		122	123	105	183	199	
Se-D	mg/L	<0.00010	<0.00010	<0.00010		0.00017	0.00014	0.00011	0.00014	<0.00010	
Si-D	mg/L	3.02	2.66	2.89		2.50	2.44	2.28	2.73	2.70	
Na-D	mg/L	87.7	69.3	99.9		47.3	53.2	42.2	73.2	89.5	
Sr-D	mg/L	1.58	1.53	1.80		1.23	1.23	1.02	1.80	2.04	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
WQO are dislaved for comparison purposes only.											

Table 22

EMS ID		E292069							Permit Limits
Site Description		Settling Pond at 7S - Permitted discharge location for the 7-South Mining Operation							
Site Name		7SSD - No discharge occurred this monitoring year							
Date		01-Apr-2019	06-May-2019	15-Jul-2019	12-Aug-2019	09-Sep-2019	01-Oct-2019	09-Jan-2020	
Parameter	Unit								7SSD
SO4-D	mg/L	97.3	29.6	21	22	23	29	21	500
TSS	mg/L	<16	<4.0	5.2	6.4	14.4	4.8	<1.0	25
Alk-T	mg/L	146	118	98	97	88	190	170	
Acidity83	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Al-T	mg/L	0.0128	0.0199	0.0365	0.0199	0.0160	0.0097	0.0230	
As-T	mg/L	0.00163	0.00265	0.00934	0.00966	0.00680	0.00260	0.00102	
Ba-T	mg/L	0.0111	0.0058	0.0033	0.0033	0.0026	0.0086	0.0112	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Ca-T	mg/L	63.4	34.2	22.7	20.6	15.3	55.0	51.3	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Cu-T	mg/L	0.00075	0.00088	0.00113	0.00101	0.00104	0.00061	0.00051	
Hard-T	mg/L	225	127	102	101	87.6	212	178	
Fe-T	mg/L	0.057	0.046	0.067	0.035	0.030	0.040	0.149	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Mg-T	mg/L	16.1	10.1	11.1	12.1	12.0	18.1	12.1	
Mn-T	mg/L	0.0440	0.0388	0.0901	0.0472	0.0346	0.0247	0.335	
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000031	0.0000027	0.0000027	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
K-T	mg/L	0.672	0.464	0.936	1.01	0.947	0.787	0.459	
S-T	mg/L	34.5	9.0	6.8	7.2	7.4	11.1	6.7	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Si-T	mg/L	4.80	3.57	5.36	6.88	3.82	3.25	4.90	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	
Na-T	mg/L	9.62	5.78	7.12	7.49	7.70	8.54	6.85	
Sr-T	mg/L	0.246	0.164	0.130	0.132	0.118	0.253	0.188	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Al-D	mg/L	<0.0030	0.0033	0.0075	0.0049	0.0048	<0.0030	<0.0030	0.1
As-D	mg/L	0.00142	0.00259	0.00912	0.00923	0.00652	0.00238	0.00082	
Ba-D	mg/L	0.0103	0.0055	0.0028	0.0030	0.0022	0.0094	0.0105	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Cd-D	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	0.000045
Ca-D	mg/L	65.4	34.1	22.3	20.1	15.8	51.9	46.6	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Cu-D	mg/L	0.00059	0.00083	0.00099	0.00086	0.00088	0.00057	0.00037	0.014
DOC	mg/L	2.9	3.0	4.3	4.4	4.3	3.3	<0.50	
Hard-D	mg/L	224	128	101	98.5	89.9	204	161	
Fe-D	mg/L	0.0149	0.0140	0.0307	0.0142	0.0073	0.0116	0.0195	0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Mg-D	mg/L	14.8	10.4	10.9	11.7	12.3	18.1	10.8	
Mn-D	mg/L	0.0285	0.0064	0.0526	0.0067	0.0031	0.0177	0.398	
Hg-D	mg/L	0.0000041	<0.0000020	<0.0000020	<0.0000020	0.0000051	<0.0000020	<0.0000020	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
K-D	mg/L	0.624	0.465	0.972	0.972	0.927	0.780	0.371	
S-D	mg/L	30.5	8.9	7.4	6.7	6.9	11.2	4.9	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.016
Si-D	mg/L	4.68	3.52	5.34	6.47	3.96	3.38	4.83	
Na-D	mg/L	8.55	5.72	7.12	7.26	8.03	8.56	7.01	
Sr-D	mg/L	0.239	0.154	0.123	0.127	0.118	0.256	0.176	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	

Table 23

EMS ID	E292109									WQG-Max
Site Description	Stream 1 - Downstream of the 7SSD discharge, prior to entering the Lower Wetland Outlet									
Site Name	7S									
Date	01-Apr-2019	06-May-2019	Jun - Oct	06-Nov-2019	04-Dec-2019	09-Jan-2020	10-Feb-2020	02-Mar-2020		
Parameter	Unit									
SO4-D	mg/L	7.3	5.7	4.7	4.1	3.9	4.3	6.0		
TSS	mg/L	<16	<4.0	<4.0	<4.0	<1.0	1.6	1.6	26.5	
Alk-T	mg/L	14.9	17.7	22	14	9.2	9.9	12		
Acidity83	mg/L	1.10	<1.0	1.3	<1.0	<1.0	<1.0	<1.0		
Al-T	mg/L	0.0301	0.0196	0.0182	0.0250	0.0482	0.0309	0.0264		
As-T	mg/L	<0.00010	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.005	
Ba-T	mg/L	0.0017	0.0018	0.0019	0.0014	0.0014	0.0012	0.0012		
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		
Ca-T	mg/L	5.48	5.99	6.51	4.86	3.81	3.69	4.10		
Cr-T	mg/L	<0.0010	<0.0010	0.0020	<0.0010	<0.0010	<0.0010	<0.0010		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.11	
Cu-T	mg/L	<0.00050	0.00051	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00482	
Hard-T	mg/L	19.2	20.1	22.5	16.8	13.3	12.9	14.0		
Fe-T	mg/L	0.017	<0.010	0.012	0.014	0.014	<0.010	<0.010	1	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.01763	
Mg-T	mg/L	1.34	1.25	1.51	1.13	0.915	0.889	0.921		
Mn-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.8706	
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019		
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	2	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
K-T	mg/L	0.112	0.12	0.093	0.086	0.084	0.098	0.079		
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Si-T	mg/L	4.4	4.56	4.77	4.22	3.90	3.68	3.72		
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.0001	
Na-T	mg/L	1.75	1.74	2.03	1.65	1.51	1.35	1.41		
Sr-T	mg/L	0.0227	0.0243	0.0261	0.0196	0.0154	0.0147	0.0168		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.033	
Al-D	mg/L	0.0167	0.0211	0.0162	0.0209	0.0358	0.0236	0.0249	0.1	
As-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Ba-D	mg/L	0.0014	0.0017	0.0018	0.0013	0.0013	0.0011	0.0012		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
Cd-D	mg/L	<0.0000050	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.0001702	
Ca-D	mg/L	5.16	6.13	6.13	4.77	3.71	3.33	4.10		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
Cu-D	mg/L	0.00023	0.00023	0.00024	0.00030	0.00041	0.00030	0.00024		
DOC	mg/L	1.30	1.20	1.7	1.7	1.8	2.0	1.2		
Hard-D	mg/L	17.8	20.7	21.6	16.8	13.1	11.6	14.4		
Fe-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	0.0100	<0.0050	<0.0050	0.35	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
Mg-D	mg/L	1.2	1.3	1.51	1.18	0.926	0.800	1.02		
Mn-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
K-D	mg/L	0.105	0.125	0.070	0.084	0.078	0.081	0.079		
S-D	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Si-D	mg/L	4.01	4.78	4.16	4.06	3.40	3.03	3.74		
Na-D	mg/L	1.66	1.74	2.00	1.69	1.38	1.25	1.48		
Sr-D	mg/L	0.0224	0.0236	0.0244	0.0179	0.0150	0.0126	0.0162		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		

Table 24

Settling Pond # 4 - Daily Total Suspended Solid Results (WD)

EMS ID E207409

Site Description**Settling Pond #4 (WD)**

TSS Permit Limit: 25.0 mg/L

Date	TSS	Date	TSS	Date	TSS	Date	TSS	Date	TSS
1-Apr-19	<4.0	5-May-19	<4.0	11-Jun-19	4.8	20-Sep-19	4.4	21-Oct-19	4.0
2-Apr-19	<4.0	6-May-19	2.3	12-Jun-19	8.8	21-Sep-19	4.0	22-Oct-19	<4.0
3-Apr-19	4.0	7-May-19	1.1	13-Jun-19	<4.0	22-Sep-19	4.8	23-Oct-19	<4.0
4-Apr-19	6.4	8-May-19	<4.3	14-Jun-19	<4.0	23-Sep-19	5.2	24-Oct-19	<4.0
5-Apr-19	4.8	9-May-19	3.3	15-Jun-19	<4.0	24-Sep-19	7.2	25-Oct-19	<4.0
6-Apr-19	4.8	10-May-19	1.6	16-Jun-19	<4.0	25-Sep-19	4.0	26-Oct-19	<4.0
7-Apr-19	12.8	11-May-19	1.3	17-Jun-19	<4.0	26-Sep-19	<4.0	27-Oct-19	5.2
8-Apr-19	<4.0	12-May-19	2.1	18-Jun-19	<4.0	27-Sep-19	<4.0	28-Oct-19	<4.0
9-Apr-19	<4.0	13-May-19	3.5	19-Jun-19	<4.0	28-Sep-19	<4.0	29-Oct-19	<4.0
10-Apr-19	6.4	14-May-19	<4.0	20-Jun-19	4.4	29-Sep-19	<4.0	30-Oct-19	4.0
11-Apr-19	<4.0	15-May-19	<4.0	21-Jun-19	<4.0	30-Sep-19	<4.0	31-Oct-19	1.1
12-Apr-19	<4.0	16-May-19	<4.0	22-Jun-19	<4.0	1-Oct-19	<4.0	4-Nov-19	<4.0
13-Apr-19	<4.0	17-May-19	<4.0	23-Jun-19	<4.0	2-Oct-19	<4.0	12-Nov-19	4.4
14-Apr-19	<4.0	18-May-19	<4.0	24-Jun-19	<4.0	3-Oct-19	<4.0	18-Nov-19	<4.0
15-Apr-19	5.1	19-May-19	<4.0	26-Jun-19	<4.0	4-Oct-19	<4.0	25-Nov-19	<4.0
16-Apr-19	5.7	20-May-19	<4.0	3-Jul-19	<4.0	5-Oct-19	<4.0	4-Dec-19	<4.0
17-Apr-19	5.9	21-May-19	1.9	10-Jul-19	<4.0	6-Oct-19	<4.0	9-Dec-19	<16
18-Apr-19	<4.0	22-May-19	1.7	12-Aug-19	5.6	7-Oct-19	<4.0	16-Dec-19	2.4
19-Apr-19	<4.0	23-May-19	<1.0	15-Aug-19	<4.0	8-Oct-19	<4.0	23-Dec-19	2.4
20-Apr-19	6.0	24-May-19	1.4	16-Aug-19	6.8	9-Oct-19	<4.0	31-Dec-19	<1.0
21-Apr-19	5.6	25-May-19	2.7	17-Aug-19	<4.0	10-Oct-19	<4.0	6-Jan-20	3.6
22-Apr-19	5.2	26-May-19	<1.0	18-Aug-19	<4.0	11-Oct-19	<4.0	15-Jan-20	4.0
23-Apr-19	7.2	27-May-19	<1.0	11-Sep-19	1.7	12-Oct-19	<4.0	20-Jan-20	<1.0
24-Apr-19	<4.0	28-May-19	<1.0	12-Sep-19	1.5	13-Oct-19	<4.0	27-Jan-20	2.4
25-Apr-19	<4.0	29-May-19	1.5	13-Sep-19	1.2	14-Oct-19	4.4	3-Feb-20	3.6
26-Apr-19	<4.0	5-Jun-19	<4.0	14-Sep-19	1.4	15-Oct-19	3.3	10-Feb-20	1.6
27-Apr-19	4.4	6-Jun-19	4.4	15-Sep-19	1.1	16-Oct-19	2.2	18-Feb-20	1.6
28-Apr-19	<4.0	7-Jun-19	<4.0	16-Sep-19	<4.0	17-Oct-19	<4.0	2-Mar-20	2.4
2-May-19	<4.0	8-Jun-19	<4.0	17-Sep-19	<4.0	18-Oct-19	<4.0	9-Mar-20	3.2
3-May-19	5.2	9-Jun-19	<4.0	18-Sep-19	<4.0	19-Oct-19	<4.0	16-Mar-20	6.0
4-May-19	4.4	10-Jun-19	<4.0	19-Sep-19	<4.0	20-Oct-19	<4.0	24-Mar-20	2.8
								30-Mar-20	2.8

Notes: TSS composite sample is required: monthly - no decant flow, weekly when max daily flow < 0.054m³/s & (until November 1st 2019) daily when max daily flow > 0.054m³/s

Values highlighted in **bold red** indicate a permit limit exceedance

PNC (Permit Non-Compliance) indicates a required TSS sample was not collected

Permit amendment occurred on November 1, 2019 removing the daily composite TSS sample requirement

Table 25

Settling Pond # 1 - Total Suspended Solid Results (SPD)									
EMS ID									
Site Description		Settling Pond #1 (SPD)							
TSS Permit Limit: 25.0 mg/L									
Date	TSS mg/L	Date	TSS mg/L	Date	TSS mg/L	Date	TSS mg/L	Date	TSS mg/L
1-Apr-19	<4.0	2-May-19	4.4	6-Aug-19	<4.0	9-Oct-19	<4.0	9-Dec-19	<16
2-Apr-19	<4.0	3-May-19	<4.0	12-Aug-19	4.4	10-Oct-19	<4.0	16-Dec-19	<1.0
3-Apr-19	<4.0	4-May-19	<4.0	19-Aug-19	<4.0	11-Oct-19	<4.0	23-Dec-19	2.8
4-Apr-19	<4.0	5-May-19	<4.0	9-Sep-19	<4.0	12-Oct-19	<4.0	31-Dec-19	<1.0
5-Apr-19	<4.0	6-May-19	2.0	13-Sep-19	1.9	13-Oct-19	4.4	6-Jan-20	1.2
6-Apr-19	<4.0	6-May-19	<4.0	14-Sep-19	2.8	14-Oct-19	<4.0	15-Jan-20	3.6
7-Apr-19	<4.0	7-May-19	<1.0	15-Sep-19	1.1	15-Oct-19	<4.0	20-Jan-20	<1.0
8-Apr-19	<4.0	8-May-19	<6.0	16-Sep-19	<4.0	16-Oct-19	3.6	27-Jan-20	2.8
9-Apr-19	<4.0	9-May-19	<1.0	17-Sep-19	1.8	17-Oct-19	3.7	3-Feb-20	<1.0
10-Apr-19	<4.0	10-May-19	<1.0	18-Sep-19	<4.0	18-Oct-19	4.0	10-Feb-20	2.8
11-Apr-19	<4.0	11-May-19	1.9	19-Sep-19	<4.0	19-Oct-19	<4.0	18-Feb-20	<1.0
12-Apr-19	<4.0	12-May-19	1.5	20-Sep-19	<4.0	20-Oct-19	<4.0	2-Mar-20	<1.0
13-Apr-19	<4.0	13-May-19	2.3	21-Sep-19	4.4	21-Oct-19	<4.0	9-Mar-20	2.4
14-Apr-19	<4.0	14-May-19	<4.0	22-Sep-19	5.2	22-Oct-19	<4.0	16-Mar-20	<1.0
15-Apr-19	3.8	15-May-19	<4.0	23-Sep-19	<4.0	23-Oct-19	<4.0	24-Mar-20	<1.0
16-Apr-19	2.2	16-May-19	<4.0	24-Sep-19	6.4	24-Oct-19	<4.0	30-Mar-20	<1.0
17-Apr-19	1.6	17-May-19	<4.0	25-Sep-19	27.6 P	25-Oct-19	<4.0		
18-Apr-19	<4.0	18-May-19	<4.0	27-Sep-19	<4.0	26-Oct-19	<4.0		
19-Apr-19	<4.0	19-May-19	<4.0	28-Sep-19	<4.0	27-Oct-19	<4.0		
20-Apr-19	<4.0	20-May-19	<4.0	29-Sep-19	<4.0	28-Oct-19	<4.0		
21-Apr-19	<4.0	21-May-19	1.9	30-Sep-19	<4.0	29-Oct-19	<4.0		
22-Apr-19	<4.0	22-May-19	1.6	1-Oct-19	<4.0	30-Oct-19	<4.0		
23-Apr-19	<4.0	23-May-19	1.2	2-Oct-19	<4.0	31-Oct-19	<4.0		
24-Apr-19	<4.0	24-May-19	<1.0	4-Oct-19	<4.0	6-Nov-19	<4.0		
25-Apr-19	<4.0	25-May-19	<1.0	5-Oct-19	<4.0	12-Nov-19	<4.0		
26-Apr-19	<4.0	26-May-19	1.3	6-Oct-19	<4.0	18-Nov-19	<4.0		
27-Apr-19	<4.0	11-Jun-19	<4.0	7-Oct-19	<4.0	25-Nov-19	<4.0		
28-Apr-19	<4.0	10-Jul-19	4.0	8-Oct-19	<4.0	4-Dec-19	4.8		
Notes: TSS composite sample is required: monthly - no decant flow, weekly when max daily flow < 0.046m³/s & (until November 1st 2019) daily when max daily flow > 0.046m³/s									
Values highlighted in bold red indicate a permit limit exceedance									
PNC (Permit Non-Compliance) indicates a required TSS sample was not collected.									
Permit amendment occurred on November 1, 2019									

Table 26

E207409												
DISCHARGE FROM SETTLING POND # 4 (WD)												
Date	April	April	May	May	June	June	July	July	August	August	September	September
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	0.1960	0.1586	0.1960	0.1671	0.0000	0.0000	0.0200	0.0118	0.0000	0.0000	0.0180	0.0050
2	0.1810	0.1628	0.1770	0.1563	0.0000	0.0000	0.0210	0.0057	0.0000	0.0000	0.0000	0.0000
3	0.1800	0.1605	0.1960	0.1816	0.0000	0.0000	0.0210	0.0060	0.0000	0.0000	0.0000	0.0000
4	0.1840	0.1709	0.2140	0.2027	0.0260	0.0075	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.1940	0.1857	0.2160	0.2062	0.0260	0.0204	0.0000	0.0000	0.0050	0.0000	0.0000	0.0000
6	0.2010	0.1891	0.2160	0.1828	0.0280	0.0206	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.2050	0.1984	0.2180	0.2061	0.0270	0.0177	0.0160	0.0030	0.0150	0.0050	0.0000	0.0000
8	0.2050	0.1928	0.2180	0.1954	0.0260	0.0173	0.0200	0.0140	0.0220	0.0130	0.0000	0.0000
9	0.2030	0.1848	0.2120	0.1889	0.0290	0.0208	0.0190	0.0040	0.0210	0.0160	0.0600	0.0170
10	0.1860	0.1800	0.2070	0.2011	0.0290	0.0208	0.0000	0.0000	0.0210	0.0050	0.0660	0.0590
11	0.1910	0.1673	0.2120	0.2078	0.0260	0.0169	0.0000	0.0000	0.0110	0.0020	0.0760	0.0660
12	0.1950	0.1854	0.2110	0.1981	0.0280	0.0189	0.0000	0.0000	0.0100	0.0010	0.0910	0.0820
13	0.2040	0.1996	0.1990	0.1718	0.0280	0.0184	0.0000	0.0000	0.0000	0.0000	0.1300	0.1070
14	0.1910	0.1634	0.1860	0.1721	0.0300	0.0175	0.0180	0.0050	0.0100	0.0030	0.1430	0.1350
15	0.1610	0.1279	0.1770	0.1712	0.0270	0.0175	0.0220	0.0140	0.0170	0.0030	0.1320	0.1250
16	0.1680	0.1518	0.1920	0.1720	0.0270	0.0180	0.0190	0.0030	0.0000	0.0000	0.1450	0.1330
17	0.1710	0.1466	0.1920	0.1804	0.0280	0.0193	0.0000	0.0000	0.0100	0.0010	0.1500	0.1390
18	0.1850	0.1639	0.1920	0.1822	0.0260	0.0172	0.0000	0.0000	0.0000	0.0000	0.1570	0.1400
19	0.2150	0.1988	0.1960	0.1894	0.0280	0.0178	0.0000	0.0000	0.0000	0.0000	0.1700	0.1590
20	0.2190	0.2065	0.2020	0.1974	0.0270	0.0167	0.0000	0.0000	0.0000	0.0000	0.1920	0.1820
21	0.2190	0.2045	0.2000	0.1453	0.0250	0.0166	0.0000	0.0000	0.0000	0.0000	0.1940	0.1890
22	0.2090	0.2027	0.1440	0.0654	0.0250	0.0162	0.0000	0.0000	0.0000	0.0000	0.1940	0.1920
23	0.2160	0.2075	0.1690	0.1033	0.0270	0.0186	0.0000	0.0000	0.0000	0.0000	0.1950	0.1920
24	0.2120	0.2009	0.0450	0.0322	0.0260	0.0162	0.0000	0.0000	0.0030	0.0000	0.1860	0.1720
25	0.1910	0.1678	0.0420	0.0313	0.0260	0.0131	0.0000	0.0000	0.0180	0.0110	0.1600	0.1490
26	0.2150	0.1968	0.0410	0.0296	0.0110	0.0019	0.0000	0.0000	0.0190	0.0040	0.1640	0.1560
27	0.2090	0.2035	0.0420	0.0099	0.0000	0.0000	0.0000	0.0000	0.0090	0.0010	0.1740	0.1640
28	0.2080	0.1989	0.0160	0.0016	0.0120	0.0007	0.0000	0.0000	0.0000	0.0000	0.1670	0.1530
29	0.2050	0.1751	0.0370	0.0152	0.0210	0.0134	0.0000	0.0000	0.0000	0.0000	0.1460	0.1340
30	0.1830	0.1597	0.0370	0.0083	0.0190	0.0114	0.0000	0.0000	0.0000	0.0000	0.1480	0.1380
31			0.0000	0.0000			0.0000	0.0000	0.0110	0.0020		
Monthly Max	0.2190		0.2180		0.0300		0.0220		0.0220		0.1086	
Monthly Avg		0.1804		0.1346		0.0137		0.0021		0.0022		0.0996
P = Permit Limit Exceedance												
Bold = TSS composite sample is required: monthly - no decant flow, weekly when max daily flow < 0.054m³/s & when max daily flow > 0.054m³/s												
PNC = Permit Non-compliance												

Table 27

E207409												
DISCHARGE FROM SETTLING POND # 4 (WD)												
Date	October Max. (m3/s)	October Daily (m3/s)	November Max. (m3/s)	November Daily (m3/s)	December Max. (m3/s)	December Daily (m3/s)	January Max. (m3/s)	January Daily (m3/s)	February Max. (m3/s)	February Daily (m3/s)	March Max. (m3/s)	March Daily (m3/s)
1	0.1460	0.1310	0.1220	0.0952	0.129	0.117	0.1540	0.0990	0.2380	0.1931	0.0900	0.0836
2	0.1510	0.1390	0.1100	0.0925	0.136	0.130	0.1110	0.0982	0.2270	0.2165	0.0990	0.0859
3	0.1580	0.1540	0.0990	0.0894	0.151	0.141	0.1540	0.0937	0.2150	0.1714	0.1050	0.0898
4	0.1580	0.1490	0.1180	0.0952	0.151	0.145	0.1700	0.1015	0.1810	0.1749	0.0910	0.0823
5	0.1490	0.1400	0.1220	0.0824	0.135	0.124	0.1870	0.1765	0.1880	0.1831	0.0960	0.0877
6	0.1440	0.1370	0.1080	0.0911	0.133	0.121	0.1630	0.1369	0.1800	0.1678	0.1120	0.0902
7	0.1500	0.1440	0.1000	0.0891	0.141	0.128	0.1970	0.1738	0.1590	0.1277	0.0940	0.0856
8	0.1700	0.1620	0.1120	0.0914	0.133	0.127	0.1980	0.1897	0.1530	0.1433	0.0920	0.0854
9	0.1680	0.1270	0.1460	0.1325	0.13	0.109	0.1840	0.1308	0.1480	0.1412	0.0920	0.0794
10	0.1310	0.1040	0.1380	0.1139	0.132	0.117	0.1590	0.1161	0.1430	0.1350	0.1070	0.0919
11	0.1330	0.1120	0.1160	0.0997	0.14	0.132	0.1360	0.1322	0.1440	0.1382	0.0980	0.0835
12	0.1460	0.1160	0.1350	0.1233	0.149	0.140	0.1340	0.1093	0.1450	0.1360	0.1120	0.0873
13	0.1540	0.1480	0.1250	0.0976	0.134	0.127	0.1210	0.0430	0.1330	0.1290	0.1190	0.0919
14	0.1540	0.1410	0.1070	0.0945	0.132	0.124	0.1300	0.0663	0.1310	0.1218	0.0910	0.0800
15	0.1400	0.1260	0.1350	0.1284	0.13	0.113	0.1320	0.0354	0.1320	0.1273	0.0850	0.0764
16	0.1340	0.1220	0.1320	0.1093	0.131	0.103	0.0510	0.0184	0.1270	0.1120	0.1010	0.0808
17	0.1120	0.1050	0.1700	0.1587	0.136	0.132	0.0600	0.0268	0.1120	0.0995	0.1010	0.0861
18	0.1320	0.1280	0.1600	0.1525	0.141	0.132	0.0770	0.0548	0.1130	0.0997	0.0970	0.0845
19	0.1390	0.1347	0.1490	0.1119	0.132	0.121	0.0560	0.0340	0.1060	0.0921	0.0910	0.0808
20	0.1380	0.1240	0.1210	0.0993	0.136	0.120	0.1350	0.0885	0.1160	0.0883	0.0900	0.0798
21	0.1390	0.1200	0.1290	0.1015	0.133	0.122	0.2000	0.1711	0.1210	0.0932	0.0980	0.0790
22	0.1230	0.0852	0.1150	0.0978	0.132	0.113	0.2000	0.1817	0.1120	0.0889	0.1170	0.0903
23	0.0770	0.0643	0.1480	0.1357	0.097	0.087	0.2210	0.1936	0.0920	0.0824	0.1060	0.0877
24	0.0860	0.0794	0.1450	0.1386	0.106	0.091	0.2200	0.2007	0.0870	0.0822	0.1120	0.0865
25	0.0940	0.0803	0.1300	0.1202	0.13	0.106	0.2050	0.1860	0.0890	0.0838	0.0900	0.0758
26	0.0710	0.0517	0.1320	0.1171	0.093	0.081	0.2120	0.2054	0.1110	0.0864	0.1030	0.0862
27	0.0630	0.0534	0.1390	0.1069	0.107	0.087	0.2060	0.1906	0.1240	0.0911	0.1160	0.0879
28	0.0620	0.0540	0.1470	0.1285	0.111	0.100	0.1990	0.1959	0.1310	0.1191	0.1290	0.1084
29	0.0620	0.0256	0.1260	0.1117	0.102	0.092	0.2010	0.1910	0.1110	0.0875	0.1210	0.0913
30	0.0480	0.0226	0.1200	0.1075	0.124	0.103	0.2000	0.1927			0.1030	0.0868
31	0.0910	0.0570			0.153	0.134	0.2290	0.2077			0.1090	0.0920
Monthly Max	0.1700		0.1700		0.1530		0.2290		0.2380		0.1290	
Monthly Avg		0.1077		0.1104		0.1167		0.1304		0.1246		0.0860
P = Permit Limit Exceedance												
Bold = TSS composite sample is required: monthly - no decant flow, weekly when max daily flow < 0.054m³/s & (until November 1st 2019) when max daily flow > 0.054m³/s												
PNC = Permit Non-compliance												

Table 28

EMS ID		E218582										
DISCHARGE FROM SETTLING POND # 1 (SPD)												
Date	April	April	May	May	June	June	July	July	August	August	September	September
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	0.0410	0.0306	0.0840	0.0679	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0440	0.0316	0.0580	0.0323	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0480	0.0252	0.0340	0.0221	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.0040	0.0020	0.0310	0.0214	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0350	0.0107	0.0320	0.0192	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0620	0.0490	0.0280	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0460	0.0322	0.0290	0.0172	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	0.0280	0.0193	0.0270	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0180	0.0082	0.0280	0.0173	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.0120	0.0079	0.0270	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	0.0110	0.0086	0.0250	0.0143	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.0090	0.0047	0.0300	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	0.0080	0.0054	0.0300	0.0229	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0000
14	0.0210	0.0098	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0460	0.0020
15	0.0140	0.0057	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1290	0.0390
16	0.0050	0.0034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1340	0.0500
17	0.0060	0.0027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0420	0.0360
18	0.0470	0.0188	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3390	0.0830
19	0.0470	0.0229	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0280	0.0240
20	0.0320	0.0142	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0280	0.0210
21	0.0260	0.0123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0260	0.0240
22	0.0410	0.0219	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0310	0.0260
23	0.0420	0.0245	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0330	0.0280
24	0.0130	0.0041	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0240	0.0170
25	0.0050	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0610	0.0350
26	0.0050	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0640	0.0510
27	0.0030	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0640	0.0550
28	0.0260	0.0055	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0600	0.0460
29	0.0440	0.0184	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0550	0.0420
30	0.0800	0.0439	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0520	0.0390
31			0.0000	0.0000			0.0000	0.0000	0.0000	0.0000		
Monthly Max	0.0800		0.0840		0.0000		0.0000		0.0000		0.0050	
Monthly Avg		0.01494		0.00971		0.0000		0.0000		0.00000		0.00360
Beaver dam / activity from August to November 12th, 2019												
PNC = Permit Non-compliance												
Bold = TSS composite sample is required: monthly - no decant flow, weekly when max daily flow < 0.046m ³ /s & daily when max daily flow > 0.046m ³ /s												
No Flow= NF												

Table 29

EMS ID		E218582										
DISCHARGE FROM SETTLING POND # 1 (SPD)												
Date	October	October	November	November	December	December	January	January	February	February	March	March
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	0.0580	0.0400	0.0640	0.0390	0.0470	0.0010	0.0989	0.0877	0.1667	0.1279	0.0250	0.0250
2	0.0680	0.0600	0.0620	0.0150	0.0120	0.0110	0.0989	0.0877	0.0764	0.0639	0.0250	0.0250
3	0.1470	0.0960	0.0550	0.0220	0.0239	0.0280	0.1970	0.1816	0.0639	0.0443	0.1970	0.0341
4	0.1460	0.1330	0.0530	0.0230	0.0510	0.0470	0.1970	0.1970	0.0639	0.0443	0.0989	0.0639
5	0.1270	0.1150	0.0190	0.0130	0.0310	0.0270	0.1970	0.1816	0.0639	0.0534	0.0534	0.0341
6	0.1220	0.1200	0.0120	0.0070	Sensor Failure / PNC		0.1970	0.1185	0.0534	0.0534	0.0989	0.0534
7	0.1340	0.1290	0.0310	0.0110			0.1970	0.1667	0.0534	0.0534	0.0639	0.0341
8	0.1660	0.1350	0.0330	0.0050			0.0989	0.0764	0.0534	0.0534	0.0341	0.0160
9	0.1540	0.1090	0.0310	0.0240	0.1090	0.0030	0.0639	0.0443	0.0534	0.0534	0.0639	0.0443
10	0.1140	0.0850	0.0590	0.0240	0.0920	0.0030	0.0443	0.0341	0.0534	0.0341	0.0250	0.0091
11	0.1090	0.0760	0.0610	0.0340	0.0960	0.0250	0.0341	0.0341	0.0250	0.0250	0.0091	0.0000
12	0.0830	0.0780	0.0780	0.0390	0.0764	0.0032	0.0250	0.0091	0.0250	0.0250	0.0764	0.0160
13	0.0760	0.0570	0.0810	0.0290	0.0160	0.0032	0.0443	0.0032	0.0250	0.0250	0.0534	0.0091
14	0.0650	0.0590	0.0710	0.0210	0.0341	0.0091	0.0341	0.0032	0.0250	0.0250	0.0091	0.0900
15	0.0890	0.0650	0.0880	0.0600	0.0443	0.0160	0.0341	0.0032	0.0250	0.0250	0.0639	0.0091
16	0.1100	0.0960	0.1270	0.0690	0.0341	0.0160	0.0341	0.0000	0.0250	0.0250	0.0443	0.0032
17	0.2020	0.1410	0.2770	0.2270	0.0630	0.0110	0.0443	0.0250	0.0250	0.0250	0.0443	0.0091
18	0.2150	0.2070	0.2960	0.2570	0.0443	0.0091	0.0160	0.0032	0.0250	0.0250	0.0443	0.0160
19	0.2160	0.2140	0.2360	0.1750	0.0534	0.0341	0.1382	0.0534	0.0250	0.0250	0.0877	0.0639
20	0.2160	0.1780	0.1880	0.0630	0.0534	0.0341	0.1667	0.1185	0.0250	0.0091	0.0639	0.0250
21	0.2230	0.2180	0.0750	0.0040	0.0534	0.0443	0.1667	0.1522	0.0032	0.0032	0.0639	0.0341
22	0.2250	0.2190	0.1050	0.0110	0.0877	0.0534	0.1185	0.0877	0.0032	0.0032	0.0534	0.0341
23	0.2280	0.1670	0.1310	0.0280	0.0480	0.0020	0.1088	0.0989	0.0032	0.0032	0.0877	0.0443
24	0.1070	0.0550	0.1290	0.0470	0.0639	0.0443	0.0989	0.0877	0.0032	0.0032	0.0534	0.0341
25	0.1420	0.1240	0.1090	0.0030	0.0639	0.0534	0.0764	0.0534	0.0032	0.0032	0.0639	0.0341
26	0.1330	0.1040	0.0920	0.0030	0.0989	0.0639	0.1522	0.1185	0.0032	0.0032	0.0639	0.0639
27	0.0910	0.0550	0.0960	0.0250	0.1088	0.0877	0.0989	0.0877	0.0250	0.0160	0.1667	0.1088
28	0.0470	0.0230	0.0630	0.0110	0.0764	0.0764	0.0989	0.0764	0.0250	0.0250	0.1185	0.0877
29	0.0390	0.0220	0.0000	0.0000	0.0764	0.0764	0.1088	0.0877	0.0250	0.0250	0.1088	0.0764
30	0.0250	0.0090	0.0480	0.0020	0.0470	0.0010	0.0989	0.0764			0.0989	0.0764
31	0.0550	0.0160			0.0989	0.0639	0.1522	0.0877			0.1382	0.0989
Monthly Max	0.228		0.296		0.109		0.197		0.167		0.197	
Monthly Avg		0.103		0.043		0.030		0.079		0.031		0.041
Beaver dam / activity from August to November 12th, 2019												
PNC = Permit Non-compliance												
Bold = TSS composite sample is required: monthly - no decant flow, weekly when max daily flow < 0.046m³/s & (until November 1st 2019) daily when max daily flow > 0.046m³/s												
No Flow= NF												

Table 30

EMS ID E292069												
DISCHARGE FROM 7-SOUTH SURFACE DECANT (7SSD)												
Date	April	May	June	July	August	September	October	November	December	January	February	March
	Daily Average L/S											
1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND= No Discharge												
Cummulative Daily Totalizer Value (m ³ /day)												
For Maximum Decant Flow (5.00 L/s)												

Table 31

Weekly/Monthly Sulphate (SO4-D)											
EMS ID:		E207409	E207411	E218582	E217014					E292130	E219412
From	To	WD	WC	SPD	SPC	INF	BCREFF	SPCEFF	2SI	LLE	LLO
1-Apr-19	7-Apr-19	778	726	334	84.6					117	76.9
8-Apr-19	14-Apr-19	620		193						90.2	
15-Apr-19	21-Apr-19	531		184						73.1	2.9
22-Apr-19	28-Apr-19	435		249						77.4	40.6
29-Apr-19	5-May-19										34.4
6-May-19	12-May-19	437	468	269	138				120	133	42.1
13-May-19	19-May-19	486		304		542	212	229	201	138	50.6
20-May-19	26-May-19	416		241						153	56.5
27-May-19	2-Jun-19	580		320						180	59
10-Jun-19	16-Jun-19	789	681	260					221	241	65.5
17-Jun-19	23-Jun-19	856				550	350	250	250	419	69.1
24-Jun-19	30-Jun-19	870				600	410	340	330	550	75
1-Jul-19	7-Jul-19	830				530	430	290	270		
8-Jul-19	14-Jul-19	880	650	230							
15-Jul-19	21-Jul-19					590	440	380	400	440	
29-Jul-19	4-Aug-19									430	
5-Aug-19	11-Aug-19			290		590	530	410	430	540	79
12-Aug-19	18-Aug-19	940	680	270		640	530	400	380	380	86
19-Aug-19	25-Aug-19										78
26-Aug-19	1-Sep-19	970		320		640	600	440	440		88
2-Sep-19	8-Sep-19	1000		280		580	580	370	340	620	94
9-Sep-19	15-Sep-19	840	660	260		600	510	360	360	600	92
16-Sep-19	22-Sep-19	340		270		610	550	340	270	330	97
23-Sep-19	29-Sep-19	390		330	54	560	440	390	380	150	94
30-Sep-19	6-Oct-19	380	300	320	69	580	430	420	390	140	
7-Oct-19	13-Oct-19	330		300		550	430	380	320	86	82
14-Oct-19	20-Oct-19	400		360		630	400	440	180	110	76
21-Oct-19	27-Oct-19	280		390		610		360	290	110	62
28-Oct-19	3-Nov-19	460		220		600	440	360	300	120	45
4-Nov-19	10-Nov-19	360	380	220	170	600	530	420	350	140	39
11-Nov-19	17-Nov-19	310		160		590	450	410	280	130	34
18-Nov-19	24-Nov-19	180		170		550	420	340	190	57	
25-Nov-19	1-Dec-19	370		390		630		450	59	130	
2-Dec-19	8-Dec-19	510	500	61	100	630	530	400	450	110	
9-Dec-19	15-Dec-19	500		290		660	550	450	510	180	
16-Dec-19	22-Dec-19	420		140		650	520	480	410	140	
23-Dec-19	29-Dec-19	430		170		670	600	360	400	150	
30-Dec-19	5-Jan-20	440		100		620	650	520	250	150	
6-Jan-20	12-Jan-20	410	390	240	140	650	600	540	430	110	
13-Jan-20	19-Jan-20	500		230		650	580	520	450	170	
20-Jan-20	26-Jan-20	160		47		650	610	120	290	74	
27-Jan-20	2-Feb-20	420		220					160	70	
3-Feb-20	9-Feb-20	530		220						93	
10-Feb-20	16-Feb-20	470	370	110	91				180	80	
17-Feb-20	23-Feb-20	540		250					160	120	
2-Mar-20	8-Mar-20	590	560	320	110				180	110	
9-Mar-20	15-Mar-20	740		310						100	
16-Mar-20	22-Mar-20	770		340						150	
23-Mar-20	29-Mar-20	840		270						150	
30-Mar-20	5-Apr-20	730		380						180	
Average		549	530	254	106.3	605	491	385	303	196.0	64.8
Minimum		160	300	47	54	530	212	120	59	57	2.9
Maximum		1000	726	390	170	670	650	540	510	620	97

Table 32

Weekly/Monthly Total Suspended Solids (TSS)											
EMS ID:		E207411		E217014				E292130		E219412	
From	To	WC	SPC	INF	BCREFF	SPCEFF	2SI	LLE	LLO		
1-Apr-19	7-Apr-19	<16	<16					<16	<4.0		
8-Apr-19	14-Apr-19								<4.0		
15-Apr-19	21-Apr-19	<4.0	<4.0						<4.0		
22-Apr-19	28-Apr-19								<4.0		
29-Apr-19	5-May-19								<4.0		
6-May-19	12-May-19	<4.0	14.8				<4.0	<4.0			
13-May-19	19-May-19	<1.0	1.1	6.4	7.6	13.6	4.4				
27-May-19	2-Jun-19	<1.0	1.7								
10-Jun-19	16-Jun-19	<4.0					4.4	<4.0			
17-Jun-19	23-Jun-19			8.8	6.9	13					
24-Jun-19	30-Jun-19	1.7									
8-Jul-19	14-Jul-19	4.8									
15-Jul-19	21-Jul-19			9.6			<4.0	5.2			
5-Aug-19	11-Aug-19								<4.0		
12-Aug-19	18-Aug-19	<4.0		9.6	<4.0	10.8	<4.0	4.0	<1.0		
19-Aug-19	25-Aug-19								<1.0		
26-Aug-19	1-Sep-19								<4.0		
9-Sep-19	15-Sep-19	<4.0		10.0	<4.0	<4.0	<4.0				
16-Sep-19	22-Sep-19	<1.0									
23-Sep-19	29-Sep-19		7.2								
30-Sep-19	6-Oct-19	<4.0	<4.0					<4.0			
7-Oct-19	13-Oct-19	<4.0	6.8								
14-Oct-19	20-Oct-19								<4.0		
21-Oct-19	27-Oct-19	4.0	<4.0						4.0		
28-Oct-19	3-Nov-19								<4.0		
4-Nov-19	10-Nov-19	<4.0	<4.0					<4.0	<4.0		
11-Nov-19	17-Nov-19								<4.0		
2-Dec-19	8-Dec-19	<4.0	4.0	10.8	11.6	9.6	<4.0	4.4			
6-Jan-20	12-Jan-20	1.2	<1.0	10	26	5.6	1.6	1.6			
10-Feb-20	16-Feb-20	<1.0	3.2					2.4			
2-Mar-20	8-Mar-20	2.4	1.6					<1.0			
Average		3.69	5.24	9.3	10.02	9.43	3.80	4.60	3.57		
Minimum		<1.0	<1.0	6.4	<4.0	<4.0	1.6	<1.0	<1.0		
Maximum		<16	<16	10.8	26	13.6	4.4	<16	4.0		

Table 33

Field Conductivity (uS/cm) & pH (North Mine Area & 7-South)																		
EMS ID	E283433		E207409		E207412		E207411		E292069		E292109		GW and SW from 2N Area at Road		E292126			
Site Name	2-N-Portal Sump		Settling Pond #4		2 North Pit Sump		North Pit Culvert		7 South Portal Sump		Settling Pond at 75		Stream 1 -75				South Dyke Sump	
Site Code	2NPS		WD		WP		WC		7SPS		7SSD		7S		PDSR		SDS	
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH
April 2019	1478.00	7.49	1616.00	7.55	1308.00	8.03	1581.00	8.15	717.00	6.29	335.00	7.68	30.80	7.14	1078.00	7.57	472.00	7.26
	1373.00	7.51	1567.00	7.57			1316.00	8.12	332.00	6.75	239.00	8.05	49.00	6.72			489.00	7.30
	1525.00	7.39	1334.00	7.58	1329.00	8.02	1272.00	7.99	447.00	6.76	201.00	8.30	50.79	6.76			685.00	7.57
	1524.00	7.33	1127.00	7.50	1296.00	8.01	1182.00	8.15	436.00	6.71	266.00	7.90	77.20	6.80			284.00	7.62
	1548.00	7.57	1273.00	7.82	1295.00	8.13	1336.00	8.24	505.00	7.05	242.00	8.26	109.80	7.39			1420.00	7.77
May 2019	2.23	7.27	1756.00	7.69	1832.00	7.84	1684.00	8.06	771.00	7.08	dry	dry	118.30	7.42	1103.00	7.66	2.21	7.42
	1548.00	7.57	1771.00	7.64	1789.00	7.88	1638.00	7.94	815.00	7.26	dry	dry	dry	dry	dry	dry	dry	dry
	2.23	7.27	1273.00	7.82	1819.00	7.60	1684.00	8.06	771.00	7.08	dry	dry	dry	dry	dry	dry	dry	dry
	1557.00	7.58	1756.00	7.69	1832.00	7.84	1638.00	7.94	815.00	7.26	dry	dry	dry	dry	dry	dry	dry	dry
June 2019											dry	dry	dry	dry	dry	dry	dry	dry
	2.01	8.01	1771.00	7.64	1789.00	7.88	1175.00	8.25	557.00	7.51	dry	dry	dry	dry	dry	dry	dry	dry
	2.04	7.70	1309.00	7.97	1238.00	8.16	1198.00	8.05	1082.00	8.03	dry	dry	dry	dry	dry	dry	dry	dry
	2.1	7.93	2.21	7.85	1994.00	8.22	1957.00	8.34	830.00	6.91	dry	dry	dry	dry	dry	dry	dry	dry
July 2019	2.16	7.59	2.21	7.85	1912	8.37	1970	8.08	1838	6.8	257	8.0	dry	dry	dry	dry	dry	dry
	2.01	8.01	2.33	7.93	1914	8.22	1198	8.05	1082	7.03			dry	dry	dry	dry	dry	dry
	2.04	7.7	2.32	7.89	1944	8.37	1957	8.34	830	6.91			dry	dry	dry	dry	dry	dry
	2.1	7.93	2.22	7.96	1796	8.18	1860	8.35	1086	6.52			dry	dry	dry	dry	dry	dry
August 2019	2.14	7.83	2.13	8.05	1892	8.56	1834	8.03	1057	6.02	286	8.16	dry	dry	dry	dry	dry	dry
	2.13	7.80	2.16	7.59	1909	8.29	1805	8.04	1062	6.45			dry	dry	dry	dry	dry	dry
	2.31	7.43	2.01	7.38	1923	8.02	1837	8.01	1050	6.48			dry	dry	dry	dry	dry	dry
	2.26	7.56	2.04	8.33	1962	8.04	1805	7.96	1009	6.58			dry	dry	dry	dry	dry	dry
September 2019	2.27	7.32	2.16	7.72	2.05	8.11	1862	8.11	1075	7.18	310	8.68	dry	dry	dry	dry	dry	dry
	1962	7.74	1986	7.70	1816	7.83	1972	7.84	986	6.99			dry	dry	dry	dry	dry	dry
	1990	7.6	1538	7.23	1463	7.18	1840	7.38	1076	7.34			dry	dry	dry	dry	dry	dry
October 2019	1986	7.45	1781	7.34	1530	7.98	1860	8.25	930	6.29			dry	dry	dry	dry	dry	dry
	1932	7.51	1530	7.76	1402	7.9	1716	8.17	1253	5.25	299	7.98	dry	dry	dry	dry	dry	dry
	1946	7.5	1476	7.58	1456	7.68	1568	7.96	591	6.71			dry	dry	dry	dry	1398	7.68
	1987	7.54	1506	7.97	1898	7.36	1356	8.29	975	6.16			dry	dry	dry	dry	1405	7.52
November 2019	1899	7.62	1680	7.68	1353	8.21	1377	8.36	451	6.6			dry	dry	dry	dry	531	7.71
	2.36	7.73	1740	7.8	2.04	7.92	1360	8.13	1069	6.35			dry	dry	dry	dry	1390	7.3
	2.36	7.73	1752	7.97	2.01	7.64	1530	7.99	938	6.74			89.6	7.02	1556	7.5	1098	7.23
			1203	7.95														
December 2019			1630	7.8														
			1680	7.73														
	2.29	7.4	1839	7.7	1989	7.96	1730	8.3	1068	6.89			210	7.22	1549	7.78		
			1635	7.7														
January 2020			1906	7.72														
			1896	7.86														
	1349	8.02	1547	7.35	1639	7.96	1426	7.65	633	6.08	537	7.2	114.1	6.57	938	7.5	959	7.29
			1546	7.58														
February 2020																		
	2.97	8.01	7.89	1692	825	7.9	1475	8.13	680	7.28			77.5	7.29	905	8.04	1369	8
			1895	7.65														
			2114	7.78														
March 2020			2032	7.64														
	2048	7.33	2100	7.57	1431	7.39	1842	7.52	604	6.66			51	7.34	1241	7.89	1386	7.55
			2114	7.78														
			2032	7.64														
April 2020			2100	7.57														
	1673	7.53	1760	7.66	1285	7.85	865	8.01	602	7.51	dry	dry	52.3	8.16	595	7.94	1390	7.30

Table 34

Field Conductivity (uS/cm) & pH (South Mine Area)																				
EMS ID	E292127		E217015		E218582		E292128		E292129		E217014		E292130		E292131		E292131		E292131	
Site Name	2 South Pit CCR Water Cover		3 South Pit CCR Water Cover		LLSTS Settling Pond Effluent		Settling Pond # 1		3577		4 South Lower		South Pit Culvert		Long Lake Entry		Seep into Long Lake		Long Lake Middle Seep	
Site Code	2S (25S)		3S		SPEFF		SPD		3577		4SLO		SPC		LLE		LLS		LLSM	
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH
April 2019	430.00	8.10	885.00	8.03	1243.30	7.31	598.00	7.69	357.00	7.23	273.00	7.30	170.10	7.42	253.00	7.06	1073.00	7.12	961.00	7.26
	321.00	7.76	833.00	7.96			207.00	7.33	354.00	7.56	262.00	7.62	205.00	7.90	221.00	7.72	1094.00	7.26	866.00	7.38
	320.00	7.59	812.00	7.82			345.00	7.52	389.00	7.69	260.00	7.36	172.10	7.48	157.70	7.36	1042.00	7.26	794.00	7.28
	269.00	7.40	766.00	7.80			381.00	7.51	333.00	7.19	272.00	7.25	170.10	7.45	184.10	7.47	1497.00	6.93	1216.00	7.16
	2.74	7.51	850.00	8.06			545.00	7.92	398.00	7.31	293.00	7.52	262.00	7.71	244.00	7.26	1236.00	7.14	980.00	7.20
May 2019	408.00	8.21	1222.00	7.75	1267.00	7.40	742.00	7.51	580.00	7.11	425.00	7.18	267.00	7.29	426.00	7.27	1042.00	7.26	794.00	7.28
	525.00	8.19	1231.00	7.85			733.00	7.55	570.00	7.17	421.00	7.28	213.00	7.59	455.00	7.35	1497.00	6.93	1216.00	7.16
	690.00	8.06	867.00	8.09			630.00	7.49	480.00	7.28	380.00	7.30	178.00	7.46	560.00	7.40	1380.00	7.20	1108.00	7.23
	740.00	7.91	875.00	7.90			580.00	7.50	445.00	7.30	326.00	7.35	165.00	7.48	598.00	7.38	1320.00	7.13	1180.00	7.42
June 2019	751.00	7.95	986.00	7.94	1258.00	7.48	530.00	7.90	448.00	7.39	305.00	7.52	126.40	7.52	1153.00	7.16	1436.00	7.17	1336.00	7.16
	851.00	8.07	1306.00	7.96	1080.00	7.49	873.00	7.67	756.00	7.73	dry	dry	dry	dry	835.00	6.92	1646.00	7.18	1510.00	7.33
	750.00	7.90	1287.00	8.09	1498.00	7.41	841.00	7.62	630.00	7.68	dry	dry	dry	dry	dry	dry				
	1036	8.20	1365.00	7.98	1397.00	7.49	801.00	7.71			dry	dry	dry	dry	1309.00	7.39				
	1724	8.04	1494.00	7.86	1354.00	7.44	858.00	7.70	571.00	7.58	dry	dry	dry	dry	1071.00	7.41				
July 2019	599	8.13	1058.00	7.59	1480.00	7.84	724.00	7.60	582.00	7.50	dry	dry	dry	dry	1322.00	7.56	1267.00	7.63	1151.0	7.20
	746	8.03	1149.00	7.63	1581.00	7.60	770.00	7.98	661.00	7.93	dry	dry	dry	dry	1692.00	7.31				
	767	8.08	1232.00	7.60	1497.00	7.81	739.00	7.60	709.00	7.61	dry	dry	dry	dry	1220.00	7.84				
	654	8.18	1458.00	7.49	1676.00	7.76	730.00	7.58	721.00	7.59	dry	dry	dry	dry	1319.00	7.82			dry	dry
	712	8.25	1477.00	7.62	1594.00	7.51	752.00	7.61	723.00	7.72	dry	dry	dry	dry	1379.00	7.24			dry	dry
August 2019	1416	7.56	1102.00	7.58	1520.00	7.48	803.00	7.53	680.00	7.98	dry	dry	dry	dry	1379.00	7.10	dry	dry	dry	dry
	1416	7.80	1197.00	8.02	1493.00	7.57	779.00	7.74	756.00	7.73	dry	dry	dry	dry	1505.00	7.17	dry	dry	dry	dry
	1182	7.24	1164.00	7.40	1517.00	7.75	760.00	7.57	480.00	7.27	dry	dry	dry	dry	1321.00	7.10	dry	dry	dry	dry
	1059	7.40	1040.00	7.52	1462.00	7.59	827.00	7.34	560.00	7.30	dry	dry	dry	dry	1298.00	7.25	dry	dry	dry	dry
	1109.00	8.15	1098.00	8.13	1434.00	7.55	801.00	7.53	415.00	7.85	dry	dry	283.10	7.32	485.20	7.34	dry	dry	dry	dry
September 2019	1031.00	7.97	1127.00	7.95	1344.00	7.43	811.00	7.42	680.00	6.91	dry	dry	210.70	7.23	427.30	6.84	dry	dry	dry	dry
	1031.00	7.97	1127.00	7.95	1344.00	7.43	811.00	7.42	680.00	6.91	460.20	7.28	86.70	7.61	279.00	7.08	dry	dry	dry	dry
	962.00	8.04	1397.00	7.86	1394.00	7.96	741.00	7.44	630.00	7.02	573.00	7.24	444.00	7.67	593.00	7.44	dry	dry	dry	dry
	1006.00	8.12	1144.00	7.71	1357.00	7.67	875.00	7.50	617.00	7.12	455.00	7.29	284.00	7.65	308.00	7.43	dry	dry	dry	dry
	900.00	8.08	647.00	7.84	1513.00	7.47	850.00	7.54	728.00	7.32	657.00	7.34	513.00	7.82	390.00	7.28	dry	dry	dry	dry
October 2019	1173.00	8.22	998.00	8.05	1491.00	7.51	727.00	7.28	670.00	7.56	586.00	7.48	448.00	7.79	400.00	7.10	1115.00	7.26	dry	dry
	1158.00	7.94			1491.00	7.51	625.00	7.18							396.00	7.18			dry	dry
					1513.00	7.47	767.00	7.55							412.00	7.10			dry	dry
					1394.00	7.96	727.00	7.28							428.00	7.57			dry	dry
	930.00	8.00	889.00	7.69	1284.00	7.34	937.00	7.03					309.00	7.60	557.00	7.24	1298.00	7.46	1003.00	7.44
November 2019					1237.00	7.33	1017.00	7.12							414.00	7.12				
					1592.00	7.12	327.00	6.83							432.00	7.14				
					1590.00	7.42	395.00	6.97							482.00	7.34				
	1111.00	7.55	959.00	7.29	1696.00	7.30	730.00	7.09					425.00	7.74	518.00	7.43	1198.00	7.00	925.00	7.15
							480	6.59												
December 2019							290	6.49												
							553	7.26												
	691	7.99	1369	8			486	7.22					387	7.61	340	7.16	1466	7.31	1356	7.42
							359	6.86												
							486	7.22												
January 2020							803	7.44												
	383.2	7.60	1386	7.55			842	7.16					163	7.31	313	7.18	1290	6.98	1441	7.20
							614.2	7.34												
							643	8.14												
							585	7.14												
February 2020	630	7.48	1036	7.97			641	7.87					367	8.05	331.8	6.56	1051	7.65	1110	7.45

Table 35

Field Conductivity (uS/cm) & pH (Rivers & Wetland)																	
EMS ID	E297230		E297231		E297232		E0126402		E0900504		E286930		E292113		E299256		
Site Name	Iron River Upstream Site 1		Iron River Site 6		Iron River Site 8		Mid Quinsam Lake Inlet		Mid Quinsam Lake Outlet		Quinsam River Downstream 1		7 South Quinsam River		Iron River & Quinsam River		
Site Code	IR1		IR6		IR8		WA		WB		QRDS1		7SQR		IRQR		
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	
April 2019	73.90	7.63	43.10	7.67	47.80	7.60	47.50	7.39	126.00	7.76	243.00	7.70	173.00	7.72	137.00	7.78	
	47.10	7.73	48.20	7.73	46.50	7.69	49.90	7.51	156.00	7.76	127.00	7.50	134.00	7.90	95.70	7.56	
	58.10	7.60	42.10	7.32	66.00	7.90	78.00	7.51	144.40	7.70	180.00	7.80	140.00	7.50	113.00	8.10	
	48.70	8.00	66.00	8.00	41.40	7.43	51.00	7.28	138.20	7.81	210.00	7.73	194.80	7.48	142.00	7.38	
	65.40	7.31	39.30	7.24	50.00	7.37	82.00	7.51	140.00	8.14	172.00	7.51	128.30	7.34	138.00	7.61	
May 2019	48.70	7.44	52.50	7.26	55.40	7.46	35.30	6.88	137.30	7.61	135.10	7.33	167.60	7.15	136.00	7.70	
June 2019																	
	120.00	7.81	114.70	7.32	123.90	7.32	34.00	7.05	141.00	7.54	130.00	7.56	121.50	7.51	122.00	7.70	
July 2019																	
	131.00	7.58	128.00	7.57	128.00	7.58	35.70	7.84	150.00	7.50	152.00	7.48	148.50	7.51	140.16	7.52	
August 2019	123.00	7.52	121.00	7.60	120.30	7.61	32.10	7.57	143.60	7.61	140.50	7.59	138.00	7.57	128.00	7.68	
	136.00	7.41	135.00	7.48	134.00	7.49	40.00	7.61	142.00	7.53	141.20	7.53	140.00	7.50	148.00	7.52	
	129.00	7.38	130.00	7.41	132.00	7.41	41.20	7.45	138.00	7.43	137.00	7.43	138.00	7.45	135.00	7.37	
	132.00	7.52	134.00	7.55	136.00	7.53	58.10	7.38	126.90	7.42	127.40	7.40	131.00	7.41	146.00	7.62	
September 2019																	
	110.70	7.67	91.90	7.74	98.20	7.55							104.00	7.23	99.60	7.28	
October 2019																	
					68.30	7.52	105.50	7.58	178.30	7.60			186.00	7.67	98.90	7.58	
			50.30	7.48	56.40	7.43	153.60	7.51	182.90	7.54			151.10	7.42	96.50	7.37	
			70.80	7.56	76.50	7.58	142.00	7.48	184.90	7.70			246.00	8.11	199.20	8.08	
November 2019			60.70	7.60	68.96	7.68	122.90	7.28	167.50	7.78			349.00	7.49	239.00	7.50	
			96.40	7.57	104.70	7.44	175.60	7.66	246.00	7.56			266.00	7.33	171.20	7.54	
December 2019																	
January 2020																	
February 2020																	
March 2020																	
Anril 2020																	

Table 36

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 Dewatering well
	5 Mains#2 (5M#2)	In-situ	No. 1 Seam	Flooded Underground Workings Dewatering well
	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, measure water quality and hydraulic head downstream 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, measure water quality and hydraulic head downstream of 2 North workings
	QU10-13D	In-situ	Caved Zone	Measure hydraulic head above 2 North mine (1 mains), fine tailing disposal
5-South Mine Pool	5SMW	In-situ	Mine Pool (1 Seam)	5-S Mine Pool pumped into 2-North Mine Pool
River Barrier Pillar (RBP)	QU11-05S	Ex-situ	Sandstone	Monitoring water quality and vertical gradients downstream of the RBP and 2-North mine.
	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 & gradients downstream 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 & gradients downstream of the RBP and 2-North workings. Mine pool – CCR backfill in River Barrier Pillar.
2-North Plant Site	MW-00-1S	Ex-situ	Till	Seepage to MQL
	MW-00-1D	Ex-situ	1-Seam	Seepage to MQL
	MW-00-6D	Ex-situ	Till	Seepage to MQL
	MW-00-6S	Ex-situ	Till	Seepage to MQL
4-South	QU10-08D	Ex-situ	No. 3 Seam	4 South (just outside mine pool) up gradient of existing workings
	QU11-01		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
	MW1223	Ex-situ	Silt Stone	2-South seepage to No Name Lake
	MW1224	Ex-situ	Silt Stone	2-South seepage to No Name Lake
	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 Storage Mine Void
7- South Area 5	7SA5	In-Situ	Mine Void	Groundwater draining into mine void
	QU1128	Ex-situ	N0. 4 Seam and 4L	Upgradiernrt of 7SA5. Background 7 South Area 5
	QU1118S	Ex-situ	Till	Down Gradient of 7SA5 - Background info for 7S A5 Subcrop
	QU1118D	Ex-situ	Sandstone	Down Gradient of 7SA5 - Background info for 7S A5 Subcrop
	QU1206S	Ex-situ	Faulted sandstone near No. 4 Seam	Upgradient of 7SA5 along margine with proposed 4S expansion
	QU11-35	Ex-situ	Sandstone above No. 4 Seam	South end of 7SA5 footprint at 100280m N (mine grid)
242 AREA	QU11-36S	Ex-situ	Sandstone below No. 5 seam	Downgradient of 7SA5. Background (Between 242 and IR).
	QU11-36D	Ex-situ	Sandstone below No. 5 seam	Downgradient of 7SA5. Background (Between 242 and IR).
	242MW	In-situ	No. 4 Seam	Mine pool
	242PS	Ex-situ	Shallow groundwater/ rain water	Old Portal Sump

Table 37

Ex-situ Groundwater																			
Date	Stn.Code		QU0821G5	QU0821G5	QU0821G5	QU0821G5	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD	QU0821GD
			23-May-19	3-Sep-19	27-Nov-19	19-Feb-20	23-May-19	3-Sep-19	27-Nov-19	19-Feb-20	23-May-19	3-Sep-19	27-Nov-19	19-Feb-20	23-May-19	3-Sep-19	27-Nov-19	19-Feb-20	23-May-19
Parameter	Units	Freshwater Aquatic Life (C)																	
SO4-D	mg/L	1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	<1.0	3.4	5.8	<1.0	<1.0	<1.0	150	100	130	150
H2SEquiv	mg/L	0.02	0.00372	0.0585	0.0510	0.0755	0.00223	0.0234	0.0553	0.0850	0.255	0.170	0.00957	0.00340	0.117	0.0861	0.0712	15.9	10.2
Alk-T	mg/L		204	200	190	200	202	200	200	210	150	150	87	88	320	200	290	390	380
Acidity83	mg/L		<1.0	<1.0	<1.0	<1.0	2.0	<1.0	2.6	8.8	<1.0	<1.0	5.7	18.7	1.4	<1.0	<1.0	<1.0	<1.0
N-D	mg/L		0.299		0.325	0.307	0.466		0.514	0.512	0.295	0.312	0.998	0.818	0.358	0.196	0.237	0.592	
DOC	mg/L		<2.5		0.87	0.81	<2.5		<2.5	5.3	<0.50	1.1	<10	<10	3.6	1.4	1.9	11	
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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		240	240	220	240	247	250	250	260	190	180	110	110	390	240	350	470	450
Carb	mg/L		4.3	<1.0	3.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	7.0
Cl-D	mg/L	1500	170	1100	90	50	1000	130	1100	900	4.8	4.0	3500	3700	470	2.0	8.3	1300	1300
F-D	mg/L		1.80	0.930	1.8	1.8	1.10	1.70	0.87	1.3	0.65	0.60	<0.050	<0.050	0.49	0.14	0.43	0.070	0.065
Br-D	mg/L		0.26	1.6	0.11	0.069	1.5	0.18	1.6	1.2	<0.010	<0.010	4.7	4.7	0.82	0.012	0.023	2.2	2.1
P-D	mg/L		0.12	0.024	0.18	0.057	0.035	0.17	0.10	0.015	0.021	0.028	0.065	<0.0030	0.072	0.0079	0.0093	0.75	
TSS	mg/L																		
Turb	NTU		2.84	1.0	1.2	0.81	5.44	1.6	9.5	6.4	40	15	81	130	230	6.2	3.6	45	59
Al-D	mg/L		0.0035	<0.030	<0.0060	0.0038	<0.0060	<0.0060	<0.015	<0.015	0.0134	0.0037	0.117	<0.015	0.233	0.0030	<0.0030	0.016	
Ag-D	mg/L		<0.000020	<0.000020	<0.000040	<0.000020	<0.000040	<0.000040	<0.00010	<0.00010	<0.000020	<0.000020	<0.00010	<0.00010	<0.000020	<0.000020	<0.000020	<0.00010	
As-D	mg/L	0.05	0.186	0.125	0.0084	0.222	0.109	0.231	0.140	0.153	0.0969	0.0978	0.0147	0.0149	0.0186	0.0522	0.110	0.0111	
Ba-D	mg/L	10	0.547	2.98	0.317	0.280	2.27	0.467	2.12	2.28	0.372	0.349	1.40	1.29	0.341	0.176	0.146	0.300	
B-D	mg/L	50	1.93	3.41	1.78	1.68	2.79	1.96	2.86	2.93	0.542	0.557	0.29	0.32	1.62	0.618	0.856	0.49	
Be-D	mg/L	0.053	<0.00010	<0.0010	<0.00020	<0.00010	<0.00020	<0.00020	<0.00050	<0.00050	<0.00010	<0.00010	<0.00050	<0.00050	<0.00010	<0.00010	<0.00010	<0.00050	
Bi-D	mg/L		<0.0010	<0.010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0010	<0.0010	<0.0010	<0.0050	
Cd-D	mg/L		<0.0000050	<0.00010	<0.000020	<0.000010	<0.000010	<0.000020	<0.000050	<0.000050	<0.000010	<0.000010	<0.000050	<0.000050	<0.000010	<0.000010	<0.000010	<0.000050	
Ca-D	mg/L		22.4	129	16.2	12.8	95.8	21.7	107	90.5	21.6	23.9	591	632	54.5	52.7	34.1	151	
Cr-D	mg/L	0.010	<0.0010	<0.010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0010	<0.0010	<0.0010	<0.0050	
Co-D	mg/L	0.04	<0.00020	<0.0020	<0.00040	<0.00020	<0.00040	<0.00040	<0.0010	<0.0010	<0.00020	<0.00020	<0.0010	<0.0010	<0.00020	<0.00020	<0.00020	<0.0010	
Cu-D	mg/L		<0.00020	<0.0020	<0.00040	<0.00020	<0.00040	<0.00040	<0.0010	<0.0010	<0.00020	<0.00020	0.0013	<0.0010	0.00081	<0.00020	<0.00020	<0.0010	
Fe-D	mg/L		0.485	1.15	0.585	0.247	0.743	0.891	1.53	0.689	0.181	0.213	9.60	11.0	2.21	1.30	0.824	<0.025	
Hard-D	mg/L	1	78.5	396	56.9	46.6	300	74.1	321	288	76.2	82.4	1520	1630	159	171	114	398	
Pb-D	mg/L		<0.00020	<0.0020	<0.00040	<0.00020	<0.00040	<0.00040	<0.0010	<0.0010	<0.00020	<0.00020	<0.0010	<0.0010	<0.00020	<0.00020	<0.00020	<0.0010	
Mg-D	mg/L		5.47	18.2	4.01	3.58	14.7	4.83	13.0	15.1	5.45	5.50	11.4	11.5	5.48	9.59	6.90	5.22	
Mn-D	mg/L		0.0837	0.144	0.136	0.0403	0.108	0.157	0.238	0.0500	0.0389	0.0448	0.409	0.427	0.267	0.213	0.0862	0.295	
Hg-D	mg/L	0.001	<0.00000020	<0.00000020	<0.00000020	<0.00000019	<0.00000020	<0.00000020	<0.00000020	<0.00000019	<0.00000020	<0.00000020	<0.00000020	<0.00000020	<0.00000019	<0.00000020	<0.00000019	<0.00000020	
Na-D	mg/L		155	660	112	93.9	493	140	583	481	34.5	33.8	1350	1320	362	89.9	121	924	
Mo-D	mg/L	10	<0.0010	<0.010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0010	<0.0010	<0.0010	<0.0050	
Ni-D	mg/L		<0.0010	<0.010	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	<0.0010	<0.0010	<0.0010	<0.0050	
K-D	mg/L		4.56	10.9	4.40	3.79	8.94	4.56	9.41	9.30	3.43	3.42	8.36	8.40	4.82	2.76	3.44	5.23	
S-D	mg/L		<3.0	<30	<6.0	<3.0	<6.0	<6.0	<15	<15	<3.0	<3.0	<15	<15	<3.0	51.2	31.3	68	
Sb-D	mg/L	0.2	<0.00050	<0.0050	<0.0010	<0.00050	<0.0010	<0.0010	<0.0025	<0.0025	<0.00050	<0.00050	<0.0025	<0.0025	<0.00050	<0.00050	<0.00050	<0.0025	
Se-D	mg/L	0.01	<0.00010	<0.0010	<0.00020	<0.00010	<0.00020	<0.00020	<0.00050	<0.00050	<0.00010	0.00081	<0.00050	<0.00050	<0.00010	<0.00010	0.00020	<0.00050	
Si-D	mg/L		2.94	4.5	3.01	3.32	3.37	3.49	4.07	3.73	4.19	4.55	4.41	3.73	6.11	3.27	3.47	5.57	
Sr-D	mg/L		0.555	2.65	0.461	0.387	2.05	0.557	2.18	2.04	0.396	0.430	5.80	6.53	0.863	0.501	0.523	1.49	
Tl-D	mg/L	0.003	<0.000010	<0.00010	<0.000020	<0.000010	<0.000020	<0.000020	<0.000050	<0.000050	<0.000010	<0.000010	<0.000050	0.000098	<0.000010	<0.000010	<0.000010	<0.000050	
Ti-D	mg/L	1.00	<0.0050	<0.050	<0.010	<0.0050	<0.010	<0.010	<0.025	<0.025	<0.0050	<0.0050	<0.025	<0.025	0.0054	<0.0050	<0.0050	<0.025	
U-D	mg/L	3	<0.00010	<0.0010	<0.00020	<0.00010	<0.00020	<0.00020	<0.00050	<0.00050	<0.00010	<0.00010	<0.00050	<0.00050	0.00016	<0.00010	<0.00010	<0.00050	
V-D	mg/L		<0.0050	<0.050	<0.010	<0.0050	<0.010	<0.010	<0.025	<0.025	<0.0050	<0.0050	<0.025	<0.025	<0.0050	<0.0050	<0.0050	<0.025	
Zn-D	mg/L		<0.0050	<0.050	<0.010	<0.0050	<0.010	<0.010	<0.025	<0.025	<0.0050	<0.0050	<0.025	<0.025	<0.0050	<0.0050	<0.0050	<0.025	

Table 38

Ex-situ Groundwater																		
	Stn.Code		QU1136D	QU1109S	QU1109S	MW001S	MW001D	MW001D	MW001D	MW006S	MW006S	MW006D	QU0810	QU0813A	QU0813A	QU0813A	QU0813B	QU0813B
Date			16-Mar-20	15-Aug-19	18-Dec-19	29-Jan-20	8-Aug-19	29-Jan-20	12-Feb-20	8-Aug-19	29-Jan-20	8-Aug-19	10-Dec-19	31-Jul-19	26-Nov-19	10-Mar-20	26-Nov-19	10-Mar-20
Parameter	Units	Freshwater Aquatic																
SO4-D	mg/L	1000	12	220	200	400	26	360	11	550	400	12	11	36	28	36	37	32
H2SEquiv	mg/L	0.02	0.00904	0.446	0.191	0.000957	0.0102	0.000957	0.000957	0.000957	0.000957	0.000957	0.0882	0.202	0.0840	0.0659	0.415	0.0776
Alk-T	mg/L		150	420	400	310	94	340	81	160	150	83	150	190	190	180	110	160
Acidity83	mg/L		<1.0	<1.0	<1.0	31.4	<1.0	24.0	<1.0	3.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-D	mg/L		0.180	0.337	0.410	0.470	0.204	0.277	0.181	0.293	0.336	0.295	0.337	0.222	0.160	0.207	0.323	0.160
DOC	mg/L		<0.50	1.1	1.3	3.7	2.4	2.6	0.74	1.5	1.7	0.58	1.5	0.52	<0.50	0.53	1.2	0.67
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	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		190	470	470	370	110	420	99	200	180	100	190	230	230	220	140	200
Carb	mg/L		<1.0	19	11	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0
Cl-D	mg/L	1500	<1.0	38	28	2.9	1.2	3.2	<1.0	5.8	3.4	1.2	<1.0	9.0	9.3	10	<1.0	11
F-D	mg/L		0.70	0.490	0.53	<0.020	0.120	0.032	0.10	0.056	0.059	0.099	0.66	0.750	0.73	0.70	0.37	0.61
Br-D	mg/L		<0.010	0.079	0.067	0.069	0.014	0.055	<0.010	0.10	0.086	<0.010	<0.010	0.010	<0.010	0.018	<0.010	0.018
P-D	mg/L		0.12	0.033		0.0026	0.13	0.027	0.15	0.039	0.048	0.12	0.013	0.020	0.055	0.027	0.067	0.039
TSS	mg/L																	
Turb	NTU		16	0.61	0.75	0.85	22	7.7	0.40	0.28	0.26	0.22	190	1.2	1.3	5.1	400	2.3
Al-D	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	0.0294	0.0053	0.0165	0.0057	<0.0030	0.0164	0.0071	<0.0030	<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	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
As-D	mg/L	0.05	0.932	0.142	0.150	0.00047	0.0195	0.00540	0.0280	0.00187	0.00153	0.0282	0.00057	0.371	0.380	0.398	0.462	0.486
Ba-D	mg/L	10	0.109	0.0545	0.0511	0.0191	0.0034	0.0898	0.0096	0.0319	0.0326	0.0092	0.112	0.246	0.262	0.237	0.0446	0.0707
B-D	mg/L	50	0.573	1.78	1.63	0.384	0.082	0.325	0.051	0.187	0.163	0.051	0.191	0.754	0.717	0.680	0.276	0.634
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<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		<0.000010	<0.000010	<0.000010	0.000065	<0.000010	0.000044	<0.000010	0.000023	0.000022	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L		42.8	32.3	27.5	175	7.96	174	17.6	158	140	17.4	46.4	34.6	35.1	34.2	31.7	34.0
Cr-D	mg/L	0.010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<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	<0.00020	<0.00020	<0.00020	0.00136	<0.00020	0.00530	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Cu-D	mg/L		<0.00020	<0.00020	<0.00020	0.00048	0.00041	0.00036	0.00061	0.00063	0.00080	0.00075	0.00130	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Fe-D	mg/L		0.567	0.147	0.116	0.129	0.0062	0.0230	<0.0050	0.0277	<0.0050	<0.0050	0.0111	0.166	0.182	0.317	0.0594	0.219
Hard-D	mg/L	1	143	118	102	560	20.3	536	46.1	458	403	45.6	154	119	122	120	101	111
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	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L		8.81	9.18	8.14	29.8	0.093	24.5	0.534	15.5	13.1	0.525	9.28	7.92	8.43	8.35	5.28	6.46
Mn-D	mg/L		0.0405	0.0284	0.0230	2.60	0.0041	1.76	0.0032	0.126	0.0432	<0.0010	0.0058	0.0351	0.0349	0.0508	0.0841	0.0673
Hg-D	mg/L	0.001	<0.0000019	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019	<0.0000020	<0.0000019
Na-D	mg/L		10.6	254	235	79.5	44.2	85.2	20.2	156	137	20.5	3.25	48.8	48.0	46.1	23.3	41.2
Mo-D	mg/L	10	0.0034	<0.0010	<0.0010	<0.0010	0.0107	0.0023	0.0035	0.0294	0.0305	0.0035	<0.0010	<0.0010	<0.0010	<0.0010	0.0025	0.0016
Ni-D	mg/L		<0.0010	<0.0010	<0.0010	0.0012	<0.0010	0.0069	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
K-D	mg/L		0.849	3.50	3.27	1.82	0.510	1.72	0.704	2.30	2.13	0.656	2.39	2.22	2.23	2.22	1.45	1.70
S-D	mg/L		3.9	87.1	68.1	142	8.0	128	4.0	210	185	4.0	3.4	12.0	13.6	12.1	11.9	10.0
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	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	<0.00010	0.00018	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00029	0.00028	<0.00010	<0.00010	<0.00010	0.00046	0.00016	<0.00010	<0.00010
Si-D	mg/L		4.37	6.45	6.13	7.02	2.56	6.44	3.61	4.76	4.04	3.35	3.71	3.58	3.60	3.65	4.08	3.99
Sr-D	mg/L		0.402	0.455	0.409	1.13	0.0291	0.973	0.0810	0.979	0.803	0.0816	0.395	0.433	0.484	0.473	0.257	0.321
Ti-D	mg/L	0.003	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Tl-D	mg/L	1.00	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<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	0.00136	0.00075	0.00257	0.00074	0.00689	0.00611	0.00070	0.00033	<0.00010	<0.00010	<0.00010	0.00012	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	0.0052	<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		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Table 39

Ex-situ Groundwater								
	Stn.Code		QU1008D	QU1009S	QU1009S	QU1009D	QU1009D	MW1224
Date			18-Mar-20	27-May-19	5-Sep-19	27-May-19	5-Sep-19	16-May-19
Parameter	Units	Freshwater Aquatic						
SO4-D	mg/L	1000	<1.0	120	100	69	76	128
H2SEquiv	mg/L	0.02	0.0893	0.00925	0.0117	0.106	0.128	0.0638
Alk-T	mg/L		260	137	140	177	190	431
Acidity83	mg/L		<1.0	3.0	16.6	<1.0	3.2	<1.0
N-D	mg/L			0.108	0.178	0.136	0.230	0.513
DOC	mg/L		3.1	1.2	1.5	0.97	0.95	
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		290	167	170	215	230	496
Carb	mg/L		9.8	<1.0	<1.0	<1.0	<1.0	14.9
Cl-D	mg/L	1500	4.3	1.4	<1.0	2.3	2.0	12
F-D	mg/L		2.0	0.055	0.062	0.260	0.28	0.280
Br-D	mg/L		<0.010	0.044	0.038	0.023	0.022	<0.10
P-D	mg/L		0.17	0.014	0.0055	0.020	0.013	0.0040
TSS	mg/L							
Turb	NTU		44	67.0	37	3.49	3.7	1930
Al-D	mg/L		<0.015	<0.0030	0.0209	<0.0030	<0.0030	0.0211
Ag-D	mg/L		<0.00010	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
As-D	mg/L	0.05	0.152	0.0722	0.0921	0.0993	0.122	0.00297
Ba-D	mg/L	10	0.0228	0.130	0.128	0.109	0.126	0.0193
B-D	mg/L	50	1.81	<0.050	0.062	0.539	0.595	0.343
Be-D	mg/L	0.053	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L		<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd-D	mg/L		<0.000050	<0.0000050	<0.000010	<0.0000050	<0.000010	0.0000110
Ca-D	mg/L		2.51	68.6	72.0	48.6	51.1	7.47
Cr-D	mg/L	0.010	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.04	<0.0010	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Cu-D	mg/L		<0.0010	<0.00020	<0.00020	<0.00020	<0.00020	0.00140
Fe-D	mg/L		0.104	4.75	4.37	0.477	0.472	0.0305
Hard-D	mg/L	1	6.28	213	223	160	171	19.8
Pb-D	mg/L		<0.0010	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L		<0.25	10.2	10.6	9.49	10.6	0.267
Mn-D	mg/L		0.168	0.377	0.350	0.0581	0.0502	0.0475
Hg-D	mg/L	0.001	<0.0000019	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Na-D	mg/L		126	8.39	8.99	33.1	43.3	213
Mo-D	mg/L	10	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	0.0151
Ni-D	mg/L		<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	0.0027
K-D	mg/L		0.67	0.660	0.701	1.65	1.95	1.00
S-D	mg/L		<15	34.3	34.8	22.7	25.6	26.6
Sb-D	mg/L	0.2	<0.0025	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	0.00023
Si-D	mg/L		4.83	7.84	9.23	9.10	9.64	1.86
Sr-D	mg/L		0.0618	0.267	0.273	0.906	0.985	0.0959
Tl-D	mg/L	0.003	<0.000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	1.00	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
U-D	mg/L	3	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	0.00637
V-D	mg/L		<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-D	mg/L		<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Table 40

In-situ Mine Water														
	Stn.Code	QU1410	QU1410	QU1410	QU1410	QU1410	QU1410	1M7S	1M7S	1M7S	1M7S	1M7S	1M7S	7SA5BRD
Date		30-Apr-19	11-Sep-19	20-Nov-19	28-Jan-20	24-Feb-20	19-Mar-20	3-Apr-19	21-May-19	10-Sep-19	4-Dec-19	27-Jan-20	26-Feb-20	6-May-19
Parameter	Units													
SO4-D	mg/L	1770	1700	1800	1800	1800	1900	285	107	380	350	140	230	8.0
H2SEquiv	mg/L	0.00101	0.000957	0.000957	0.000957	0.000957	0.00648	0.00101		0.00298		0.000957	0.00255	
Alk-T	mg/L	308	310	290	290	300	300	144	155	58	50	49	110	184
Acidity83	mg/L		12.0	19.1	22.2	15.8	32.4	3.2	<1.0	1.2	9.8	2.9	2.6	<1.0
N-D	mg/L	0.28	0.311	0.487		0.232	0.274	0.147	0.238			0.212	0.184	0.40
DOC	mg/L	1.2	1.2	1.9	1.6	0.88	1.1	1.1	0.86			2.3		1.2
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	<1.0	<1.0
Bicarb	mg/L	376	380	360	350	370	370	176	189	71	62	59	130	225
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	<1.0	<1.0
Cl-D	mg/L	5.7	5.4	5.8	5.1	5.0	5.5	17	7.1	7.2	1.2	<1.0	1.5	<1.0
F-D	mg/L	0.180	0.16	0.17	0.17	0.16	0.19	0.370	0.500	0.095	<0.050	<0.050	0.094	0.440
Br-D	mg/L	0.39	0.34	0.25	0.29	0.27	0.25	0.042	0.025	0.15	0.099	0.033	0.084	<0.010
P-D	mg/L	0.022	<0.0030	0.0031	0.0045	0.0030	0.012	0.0026	<0.0030			<0.0030	<0.0030	0.017
TSS	mg/L							14.8	8.4	30.8				<4.0
Turb	NTU	20.1	16	19	5.9	21	20	3.48			200	29	37	0.70
Al-D	mg/L	<0.0060	<0.015	<0.015	<0.015	<0.0060	<0.015	<0.0030	<0.0030	0.0052	0.0048	0.0172	0.0046	<0.0030
Ag-D	mg/L	<0.000040	<0.00010	<0.00010	<0.00010	<0.000040	<0.00010	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
As-D	mg/L	0.0894	0.0921	0.0905	0.109	0.0949	0.0926	0.00199	0.0104	0.00080	0.00054	0.00071	0.00424	0.295
Ba-D	mg/L	0.0162	0.0155	0.0157	0.0172	0.0146	0.0158	0.0654	0.124	0.0934	0.0154	0.0087	0.0400	0.538
B-D	mg/L	1.26	1.10	1.20	1.13	0.98	1.12	0.474	0.497	0.165	0.062	<0.050	0.158	0.492
Be-D	mg/L	<0.00020	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	<0.0020	<0.0050	<0.0050	<0.0050	<0.0020	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd-D	mg/L	<0.000010	<0.000050	<0.000050	<0.000050	<0.000020	<0.000050	0.0000058	<0.0000050	0.000020	0.000063	0.000020	0.000015	<0.0000050
Ca-D	mg/L	520	507	511	517	493	519	118	62.4	132	104	44.5	103	40.0
Cr-D	mg/L	<0.0020	<0.0050	<0.0050	<0.0050	<0.0020	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00048	<0.0010	<0.0010	<0.0010	0.00049	<0.0010	0.00393	0.00126	0.00501	0.0117	0.00367	0.00240	<0.00020
Cu-D	mg/L	<0.00040	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.00020	0.00034	0.00041	0.00132	0.00151	0.00043	<0.00020
Fe-D	mg/L	1.60	1.70	1.66	1.74	1.68	1.69	0.330	0.0390	0.563	16.2	2.63	2.60	0.0571
Hard-D	mg/L	2050	2010	2040	2010	1900	2060	399	208	440	374	150	350	130
Pb-D	mg/L	<0.00040	<0.0010	<0.0010	<0.0010	<0.00040	<0.0010	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	182	180	187	174	163	186	25.3	12.7	27.0	27.8	9.50	22.4	7.29
Mn-D	mg/L	1.35	1.42	1.53	1.51	1.35	1.47	0.287	0.0869	0.358	0.573	0.182	0.247	0.0324
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019	<0.0000019	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000019	<0.0000020
Na-D	mg/L	55.0	52.7	55.4	51.5	51.6	57.5	26.3	24.4	17.3	8.79	2.94	11.0	21.5
Mo-D	mg/L	<0.0020	<0.0050	<0.0050	<0.0050	<0.0020	<0.0050	0.0045	0.0054	<0.0010	0.0018	0.0272	<0.0010	<0.0010
Ni-D	mg/L	0.0031	<0.0050	<0.0050	<0.0050	0.0024	<0.0050	0.0104	0.0096	0.0111	0.0198	0.0070	0.0057	<0.0010
K-D	mg/L	7.61	7.41	7.77	7.33	7.14	7.80	2.96	2.65	2.52	0.985	0.566	1.41	2.48
S-D	mg/L	671	613	645	665	595	614	107	36.2	137	113	37.3	87.5	<3.0
Sb-D	mg/L	<0.0010	<0.0025	<0.0025	<0.0025	<0.0010	<0.0025	0.00082	0.00075	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	<0.00020	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00010	<0.00010	0.00025	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.26	3.00	3.35	3.51	2.74	2.94	3.58	3.52	3.56	6.48	4.35	4.55	4.28
Sr-D	mg/L	4.34	4.28	4.48	5.11	4.39	4.42	0.855	0.543	0.558	0.415	0.171	0.509	0.509
Tl-D	mg/L	<0.000020	<0.000050	<0.000050	<0.000050	<0.000020	<0.000050	<0.000010	<0.000010	0.000011	<0.000010	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	<0.010	<0.025	<0.025	<0.025	<0.010	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
U-D	mg/L	0.00095	0.00101	0.00095	0.00098	0.00094	0.00092	0.00023	0.00014	0.00011	0.00019	<0.00010	0.00022	<0.00010
V-D	mg/L	<0.010	<0.025	<0.025	<0.025	<0.010	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Zn-D	mg/L	<0.010	<0.025	<0.025	<0.025	<0.010	<0.025	<0.0050	0.0117	<0.0050	0.0378	0.0130	0.0122	<0.0050

Table 41

In-situ Mine Water										
	Stn.Code	INF	INF	INF	INF	INF	INF	INF	INF	INF
Date		16-May-19	20-Jun-19	16-Jul-19	12-Aug-19	9-Sep-19	1-Oct-19	6-Nov-19	4-Dec-19	9-Jan-20
Parameter	Units									
SO4-D	mg/L	542	550	590	640	600	580	600	630	650
H2SEquiv	mg/L	0.00101				0.000957				0.000957
Alk-T	mg/L	260	250	260	270	270		250	270	230
Acidity83	mg/L	9.1	8.1	15.1	8.3	13.8		15.1	11.1	11.1
N-D	mg/L									
DOC	mg/L									
Hydrox	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
Bicarb	mg/L	320	300	300	330	330		310	330	290
Carb	mg/L	<1.0	3.6	5.5	<1.0	<1.0		<1.0	<1.0	<1.0
Cl-D	mg/L									
F-D	mg/L									
Br-D	mg/L									
P-D	mg/L	<0.0020			<0.030					
TSS	mg/L	6.4	8.8	9.6	9.6	10.0			10.8	10
Turb	NTU	40.6								
Al-D	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.012	<0.0030	<0.0030	0.0046	0.0437
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000080	<0.000020	<0.000020	<0.000020	<0.000020
As-D	mg/L	0.00313	0.00358	0.00377	0.00399	0.00492	0.00491	0.00511	0.00541	0.00463
Ba-D	mg/L	0.0222	0.0230	0.0234	0.0227	0.0216	0.0227	0.0230	0.0257	0.0250
B-D	mg/L	0.733	0.679	0.722	0.739	0.78	0.744	0.637	0.736	0.668
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00040	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010
Cd-D	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.000010	<0.000040	<0.000010	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	212	227	241	224	216	221	213	233	233
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00054	0.00036	0.00041	0.00036	<0.00080	0.00034	0.00071	0.00117	0.00280
Cu-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00080	<0.00020	<0.00020	<0.00020	<0.00020
Fe-D	mg/L	3.23	3.53	3.84	3.48	3.65	3.63	4.02	4.42	4.50
Hard-D	mg/L	584	623	664	618	599	613	592	643	649
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00080	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	13.4	13.5	15.3	14.5	14.3	15.0	14.7	14.8	16.1
Mn-D	mg/L	0.318	0.358	0.376	0.352	0.363	0.376	0.402	0.472	0.494
Hg-D	mg/L	<0.0000020	0.0000029	<0.0000020	<0.0000020	<0.0000020	<0.0000020		<0.0000020	<0.0000020
Na-D	mg/L	107	104	121	119	120	128	123	118	115
Mo-D	mg/L	<0.0010	0.0044	<0.0010	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0040	<0.0010	0.0013	0.0020	0.0052
K-D	mg/L	1.76	1.90	1.96	1.88	1.83	1.96	1.87	1.89	1.90
S-D	mg/L	198	217	231	209	206	211	196	220	216
Sb-D	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.0020	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00040	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.30	3.43	3.40	3.34	3.13	3.07	2.87	3.38	3.23
Sr-D	mg/L	1.92	2.01	2.10	2.06	2.03	2.08	2.01	2.18	2.27
Tl-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000040	<0.000010	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.0050
U-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00040	<0.00010	<0.00010	<0.00010	<0.00010
V-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.0050
Zn-D	mg/L	0.0093	<0.0050	0.0052	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	0.0075

Table 42

In-situ Mine Water									
	Stn.Code	MW002	MW002	MW002	MW002	MW004	MW004	MW004	MW004
Date		15-May-19	27-Aug-19	5-Dec-19	25-Feb-20	15-May-19	27-Aug-19	5-Dec-19	25-Feb-20
Parameter	Units								
SO4-D	mg/L	1300	1400	1200	1300	280	420	210	290
H2SEquiv	mg/L	0.00101	0.000957	0.000957	0.000957	0.00101	0.0117		0.000957
Alk-T	mg/L	258	270		290	110	170		77
Acidity83	mg/L	10.3	13.6	12.7	13.6	1.8	4.6		1.0
N-D	mg/L	0.196	0.232	0.224	0.253	0.165	0.120		0.200
DOC	mg/L	0.57	0.96	0.91	0.77	1.8	1.8		1.5
Hydrox	mg/L	<1.0	<1.0		<1.0	<1.0	<1.0		<1.0
Bicarb	mg/L	315	330		360	134	200		94
Carb	mg/L	<1.0	<1.0		<1.0	<1.0	<1.0		<1.0
Cl-D	mg/L	2.2	1.7	2.2	1.8	<1.0	<1.0	<1.0	<1.0
F-D	mg/L	0.120	0.120	0.130	0.14	0.080	0.084	0.075	0.068
Br-D	mg/L	0.30	0.19	0.18	0.24	0.042	0.070	0.040	0.045
P-D	mg/L	<0.0030	<0.0030		0.0014	<0.0030	<0.0030		<0.0010
TSS	mg/L								
Turb	NTU	51.6	51	39	49	0.44	0.39		0.96
Al-D	mg/L	<0.0060	<0.0060	<0.015	<0.0060	0.0040	0.0058	0.0033	0.0060
Ag-D	mg/L	<0.000040	<0.000040	<0.00010	<0.000040	<0.000020	<0.000020	<0.000020	<0.000020
As-D	mg/L	0.00188	0.00232	0.00186	0.00184	0.00020	0.00047	0.00020	0.00021
Ba-D	mg/L	0.0130	0.0141	0.0146	0.0137	0.0219	0.0362	0.0255	0.0190
B-D	mg/L	0.83	0.67	0.77	0.74	0.240	0.286	0.207	0.162
Be-D	mg/L	<0.00020	<0.00020	<0.00050	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	<0.0020	<0.0020	<0.0050	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010
Cd-D	mg/L	<0.000010	<0.000020	<0.000050	<0.000020	<0.0000050	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	465	452	468	454	97.1	164	119	118
Cr-D	mg/L	<0.0020	<0.0020	<0.0050	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00349	0.00379	0.0036	0.00332	<0.00020	0.00034	<0.00020	0.00046
Cu-D	mg/L	<0.00040	<0.00040	<0.0010	0.00043	0.00069	0.00032	0.00174	0.00140
Fe-D	mg/L	4.27	4.40	3.84	3.92	<0.0050	0.0181	<0.0050	0.0303
Hard-D	mg/L	1350	1320	1380	1320	289	483	351	356
Pb-D	mg/L	<0.00040	<0.00040	<0.0010	<0.00040	<0.00020	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	46.7	47.0	51.3	46.4	11.2	18.0	13.2	14.6
Mn-D	mg/L	1.37	1.27	1.54	1.44	<0.0010	0.0685	0.0021	0.0198
Hg-D	mg/L	0.0000068	0.0000022	<0.0000020	<0.0000019	<0.0000020	<0.0000020		<0.0000019
Na-D	mg/L	78.7	73.2	76.0	68.9	28.1	46.8	30.2	23.8
Mo-D	mg/L	<0.0020	<0.0020	<0.0050	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	0.0029	0.0027	<0.0050	0.0024	<0.0010	0.0011	0.0013	0.0023
K-D	mg/L	4.28	4.72	5.05	4.91	1.30	1.86	1.52	1.23
S-D	mg/L	430	412	434	401	85.6	144	105	105
Sb-D	mg/L	<0.0010	<0.0010	<0.0025	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050
Se-D	mg/L	<0.00020	<0.00020	<0.00050	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.31	3.34	3.69	3.10	2.45	2.65	3.02	3.01
Sr-D	mg/L	3.77	3.96	3.98	3.83	0.816	1.35	0.939	0.837
Tl-D	mg/L	<0.000020	<0.000020	<0.000050	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	<0.010	<0.010	<0.025	<0.010	<0.0050	<0.0050	<0.0050	<0.0050
U-D	mg/L	0.00078	0.00038	<0.00050	0.00044	<0.00010	<0.00010	<0.00010	<0.00010
V-D	mg/L	<0.010	<0.010	<0.025	<0.010	<0.0050	<0.0050	<0.0050	<0.0050
Zn-D	mg/L	<0.010	<0.010	<0.025	<0.010	<0.0050	<0.0050	0.0176	0.0091

Table 43

In-situ Mine Water															
	Stn.Code	5M#2	5M#2	5M#2	5M#2	5M#2	5M#2	1M2N	1M2N	1M2N	1M2N	1M2N	1M2N	1M2N	1M2N
Date		3-Apr-19	21-May-19	10-Sep-19	18-Nov-19	4-Dec-19	27-Jan-20	3-Apr-19	21-May-19	10-Sep-19	18-Nov-19	4-Dec-19	27-Jan-20	26-Feb-20	25-Mar-20
Parameter	Units														
SO4-D	mg/L	214	187	160	160	170	180	994	444	340	290	490	380	560	720
H2SEquiv	mg/L	0.00521		0.00298			0.000957	0.138		0.0255			0.0574	0.266	
Alk-T	mg/L	520	518	550	500	480	540	484	491	460	420	420	420	480	490
Acidity83	mg/L	1.1	<1.0	<1.0	9.1	2.0	3.3	36.5	<1.0	<1.0	10.9	4.7	7.9	4.2	12.1
N-D	mg/L	0.075	0.120				0.167	0.42	0.296				0.285	0.350	0.370
DOC	mg/L	1.2	0.92				1.2	1.1	<0.50				1.6		0.85
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	<1.0	<1.0	<1.0
Bicarb	mg/L	607	609	640	610	560	660	590	585	540	520	510	510	570	590
Carb	mg/L	13.8	11.5	13	<1.0	12	<1.0	<1.0	6.6	7.7	<1.0	<1.0	<1.0	8.2	<1.0
Cl-D	mg/L	10	12	14		12	9.3	20	51	41		21	13	11	11
F-D	mg/L	0.078	0.070	0.073		0.064	0.059	0.130	0.160	0.210		0.14	0.15	0.12	0.11
Br-D	mg/L	0.038	0.034	0.040		0.023	0.024	0.21	0.16	0.13		0.098	0.066	0.12	0.16
P-D	mg/L	0.0034	<0.0030				<0.0030	0.0047	<0.0030				<0.0030	<0.0030	<0.0030
TSS	mg/L	<4.0	<4.0	<4.0				19.2	6.8	10.0					
Turb	NTU	1.57			2.8	2.5	3.1	32.6			11	30	26	28	34
Al-D	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.015	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0060
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.00010	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040
As-D	mg/L	0.00681	0.00585	0.00846	0.00465	0.00525	0.00441	0.00997	0.00752	0.00908	0.0233	0.0108	0.0116	0.00548	0.00640
Ba-D	mg/L	0.0279	0.0275	0.0300	0.0339	0.0345	0.0357	0.0285	0.0214	0.0284	0.0524	0.0321	0.0388	0.0329	0.0346
B-D	mg/L	0.955	0.813	0.882	0.808	0.800	0.816	1.30	1.12	1.07	1.03	0.964	0.911	1.01	1.01
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020
Bi-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020
Cd-D	mg/L	<0.0000050	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000025	<0.0000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020
Ca-D	mg/L	52.3	53.6	53.4	60.2	64.6	62.2	172	85.5	73.9	85.1	97.8	83.6	124	154
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020
Co-D	mg/L	0.00023	<0.00020	<0.00020	<0.00020	0.00023	<0.00020	<0.0010	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00040
Cu-D	mg/L	<0.00020	<0.00020	<0.00020	0.00022	<0.00020	<0.00020	<0.0010	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00027	0.00053
Fe-D	mg/L	0.436	0.462	0.524	0.460	0.448	0.328	6.93	2.68	1.65	2.07	2.60	1.99	3.11	4.64
Hard-D	mg/L	149	151	152	170	183	174	500	247	215	249	282	238	357	447
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.0010	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00040
Mg-D	mg/L	4.47	4.08	4.46	4.87	5.36	4.49	17.2	8.12	7.32	8.86	9.26	7.20	11.3	14.8
Mn-D	mg/L	0.0981	0.0947	0.0996	0.105	0.114	0.0961	0.749	0.294	0.211	0.243	0.280	0.227	0.357	0.506
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000022	<0.0000020	<0.0000020	<0.0000020	<0.0000019	<0.0000019
Na-D	mg/L	255	233	254	249	243	234	434	323	295	302	305	248	351	397
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	0.0039	<0.0010	<0.0010	<0.0050	0.0016	<0.0010	0.0020	<0.0010	<0.0010	0.0021	<0.0020
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010	0.0029	<0.0010	<0.0010	<0.0010	<0.0020
K-D	mg/L	2.54	2.30	2.57	2.58	2.70	2.54	6.32	4.22	4.22	4.37	4.44	3.96	4.93	5.74
S-D	mg/L	74.6	57.0	59.3	53.5	58.0	56.2	336	145	134	150	159	135	205	276
Sb-D	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0025	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020
Si-D	mg/L	3.06	2.88	3.21	3.50	3.42	3.54	4.04	3.04	3.46	3.77	3.66	3.82	3.74	3.91
Sr-D	mg/L	0.600	0.536	0.563	0.618	0.722	0.715	1.86	0.839	0.776	0.919	1.10	0.967	1.30	1.65
Tl-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000050	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020
Ti-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010
U-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020
V-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010
Zn-D	mg/L	<0.0050	<0.0050	0.0060	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	0.0067	<0.0050	<0.0050	<0.0050	<0.010

Table 44

In-situ Mine Water												
	Stn.Code	QU1013D	QU1013D	QU1013D	242PS	242MW	242MW	QU1101	QU1109M	QU1109M	55MW	55MW
Date		24-Sep-19	31-Dec-19	11-Mar-20	25-Sep-19	15-Aug-19	10-Dec-19	23-Dec-19	15-Aug-19	18-Dec-19	10-Dec-19	27-Jan-20
Parameter	Units											
SO4-D	mg/L	270	330	560	60	34	40	1400	680	650	220	250
H2SEquiv	mg/L		0.000957	0.191		0.00829	0.00287	0.00957	0.0149	0.0510	0.0287	0.000957
Alk-T	mg/L	560	510	510	33	100	90	100	480	460	400	380
Acidity83	mg/L	8.6	<1.0	8.3	4.4	1.6	12.8	196	<1.0	4.3	13.9	7.3
N-D	mg/L	0.292	0.274	0.287		0.205	0.190	0.525	0.264	0.353	0.458	0.302
DOC	mg/L	1.3		1.6		1.2	0.94		0.79	1.2	2.5	2.7
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	680	610	630	40	120	110	130	570	560	490	470
Carb	mg/L	4.7	7.2	<1.0	<1.0	<1.0	<1.0	<1.0	9.6	<1.0	<1.0	<1.0
Cl-D	mg/L	67	68	20		<1.0	1.6	2.2	50	49	14	17
F-D	mg/L	0.170	0.16	0.13		0.100	0.096	0.390	0.110	0.12	0.20	0.21
Br-D	mg/L	<0.20	0.15	0.11		<0.010	<0.010	0.25	0.19	0.18	0.043	0.055
P-D	mg/L	<0.0030		0.011		<0.0030	0.010	<0.0030	<0.0030		<0.0030	0.018
TSS	mg/L				<4.0							
Turb	NTU	4.2		15		0.0030	110	500	68	85	11	8.2
Al-D	mg/L	<0.0030	<0.0030	<0.0030	0.0083	<0.00050	0.0064	<0.015	0.0061	<0.0030	0.0056	0.0072
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.00010	<0.000040	<0.000020	<0.000020	<0.000020
As-D	mg/L	0.00398	0.00070	0.00361	0.00461	0.00050	0.0670	0.101	0.00288	0.00250	0.00537	0.00619
Ba-D	mg/L	0.0239	0.0247	0.0947	0.0354	0.0718	0.0669	0.0125	0.0132	0.0133	0.0433	0.0397
B-D	mg/L	1.35	1.20	1.25	0.069	0.082	0.077	1.12	0.97	0.849	0.992	0.875
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050	<0.00020	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	<0.0020	<0.0010	<0.0010	<0.0010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000050	<0.000020	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	51.0	49.8	73.2	30.4	39.5	42.6	372	86.1	78.0	55.2	48.7
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	<0.0020	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00028	<0.00020	<0.00020	0.00041	0.00252	0.00223	<0.0010	<0.00040	<0.00020	0.00053	0.00148
Cu-D	mg/L	0.00031	0.00069	0.00064	0.00078	<0.00020	<0.00020	<0.0010	<0.00040	<0.00020	0.00031	0.00054
Fe-D	mg/L	0.549	<0.0050	1.17	0.164	9.13	12.2	190	7.25	5.58	3.37	2.20
Hard-D	mg/L	142	142	203	91.4	113	121	1160	249	227	170	150
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.0010	<0.00040	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	3.58	4.21	4.91	3.74	3.58	3.48	56.9	8.31	7.88	7.89	6.89
Mn-D	mg/L	0.272	<0.0010	0.285	0.124	0.734	0.788	3.00	0.173	0.158	0.141	0.133
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000019	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Na-D	mg/L	363	379	407	2.67	3.88	3.29	128	433	420	244	209
Mo-D	mg/L	0.0022	0.0023	0.0015	<0.0010	<0.0010	<0.0010	<0.0050	0.0043	0.0041	0.0422	0.0021
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	0.0012	0.0020	0.0018	<0.0050	<0.0020	<0.0010	0.0011	0.0023
K-D	mg/L	3.40	3.59	3.76	0.895	0.531	0.521	6.73	4.68	4.55	5.07	4.51
S-D	mg/L	101	104	187	21.0	11.0	12.1	511	235	224	88.3	81.6
Sb-D	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.0030	<0.00050	<0.0025	<0.0010	<0.00050	<0.00050	<0.00050
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050	<0.00020	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.66	3.21	3.89	1.71	3.56	3.58	5.76	2.98	2.97	3.19	3.05
Sr-D	mg/L	0.540	0.571	0.867	0.0822	0.0890	0.0861	2.12	1.00	0.994	0.811	0.720
Tl-D	mg/L	<0.000010	<0.000010	<0.000010	0.000022	0.000015	0.000039	<0.000050	<0.000020	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.010	<0.0050	<0.0050	<0.0050
U-D	mg/L	0.00021	0.00018	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050	<0.00020	<0.00010	<0.00010	<0.00010
V-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.010	<0.0050	<0.0050	<0.0050
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.010	<0.0050	<0.0050	<0.0050

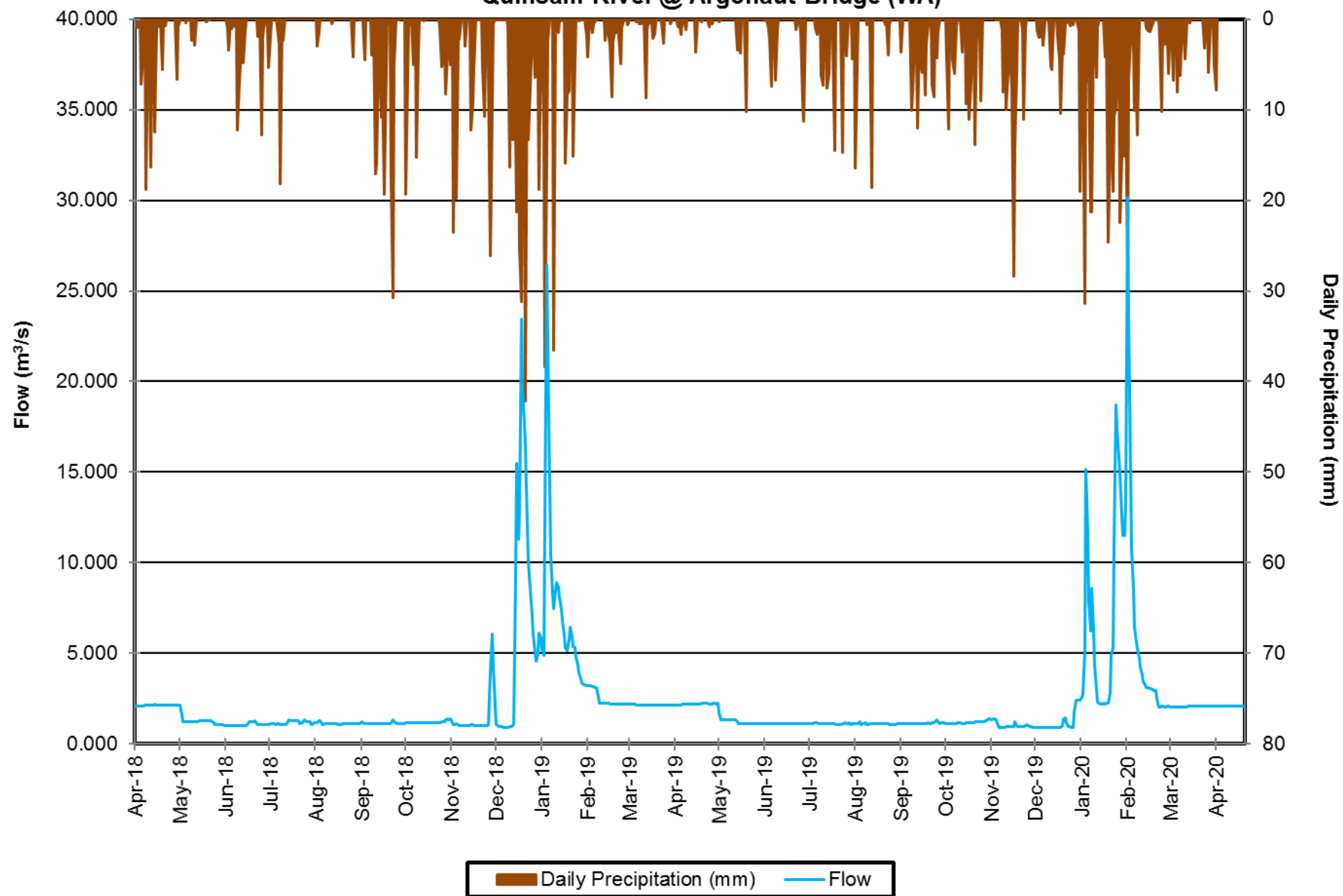
TABLE 45

In-situ Mine Water		7S-Portal Sump												
Stn.Code		7SPS	7SPS	7SPS	7SPS	7SPS	7SPS	7SPS	7SPS	7SPS	7SPS	7SPS	7SPS	7SPS
Date		1-Apr-19	6-May-19	21-May-19	11-Jun-19	15-Jul-19	12-Aug-19	9-Sep-19	1-Oct-19	6-Nov-19	4-Dec-19	9-Jan-20	26-Feb-20	2-Mar-20
Parameter	Units													
SO4-D	mg/L	335	249	237	257	330	400	440	810	300	280	240	240	260
H2SEquiv	mg/L												0.00308	
Alk-T	mg/L	120	108	116	150	49	46	55	<1.0	63	80	23	92	77
Acidity83	mg/L	17.4	2.4	1.1	<1.0	5.3	5.4	4.3	161	17.4	4.3	8.4	3.4	4.2
N-D	mg/L			0.164									0.167	
DOC	mg/L	2.2	2.6	3.5				2.9						
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	<1.0	<1.0
Bicarb	mg/L	146	132	141	180	59	56	67	<1.0	77	97	28	110	94
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	<1.0	<1.0
Cl-D	mg/L			7.2									1.5	
F-D	mg/L			0.057									<0.050	
Br-D	mg/L			0.13									0.086	
P-D	mg/L	0.0026		<0.0030									<0.0030	
TSS	mg/L	20	9.6	22.4	<4.0	21.6	25.2	8.0	14.0	30.4	30.0	23		22
Turb	NTU												32	
Al-D	mg/L	<0.0030	0.0040	0.0047	0.0055	<0.0030	<0.0030	<0.0030	1.13	0.0033	0.0077	0.0221	0.0046	0.0100
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	<0.000020	<0.000020
As-D	mg/L	0.00125	0.00038	0.00048	0.00036	0.00022	0.00046	0.00028	0.00077	0.00078	0.00059	0.00074	0.00115	0.00110
Ba-D	mg/L	0.0530	0.0177	0.0254	0.0306	0.0351	0.0311	0.0297	0.0326	0.0220	0.0164	0.0119	0.0149	0.0141
B-D	mg/L	0.375	0.056	0.065	0.083	0.130	0.145	0.148	0.179	0.061	0.057	0.054	0.075	0.069
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00036	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bi-D	mg/L	<0.0010	<0.0010	<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	0.0000270	0.0000190	0.0000160	<0.0000050	0.0000460	0.000052	0.000025	0.000295	0.000057	0.000039	0.000064	0.000014	0.000016
Ca-D	mg/L	137	100	107	135	123	137	139	179	119	91.4	69.5	83.2	77.6
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0017	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00765	0.00506	0.00240	0.00146	0.00660	0.0114	0.00598	0.0525	0.0148	0.00702	0.0103	0.00226	0.00311
Cu-D	mg/L	<0.00020	0.00024	0.00057	0.00059	0.00065	<0.00020	0.00029	0.0668	<0.00020	0.00042	0.00505	0.00039	0.00063
Fe-D	mg/L	4.44	0.787	0.0232	0.0553	0.174	12.3	0.181	71.9	17.0	10.9	10.7	3.12	3.80
Hard-D	mg/L	467	348	357	460	395	468	466	654	430	330	250	288	272
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	<0.00020	<0.00020
Mg-D	mg/L	30.2	23.7	21.8	29.9	21.3	30.7	29.1	50.2	32.4	24.8	18.4	19.5	19.0
Mn-D	mg/L	0.492	0.444	0.246	0.170	0.401	0.582	0.445	1.35	0.708	0.521	0.380	0.236	0.243
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000041	<0.0000020	<0.0000020	0.0000043	<0.0000020	<0.0000019	<0.0000019
Na-D	mg/L	21.3	10.4	14.5	19.9	14.8	16.8	18.1	12.3	10.6	9.53	4.55	7.30	6.37
Mo-D	mg/L	0.0027	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0015	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	0.0151	0.0094	0.0046	0.0047	0.0101	0.0203	0.0125	0.0882	0.0249	0.0126	0.0184	0.0050	0.0068
K-D	mg/L	2.55	1.13	1.63	1.90	2.43	2.26	2.56	2.33	1.15	1.01	0.869	0.939	0.919
S-D	mg/L	134	95.7	89.2	120	120	154	152	263	130	89.1	76.5	68.6	68.6
Sb-D	mg/L	0.00055	<0.00050	<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	<0.00010	<0.00010	0.00017	<0.00010	0.00045	0.00018	0.00022	0.00017	<0.00010	<0.00010	0.00011	<0.00010	<0.00010
Si-D	mg/L	4.90	5.33	3.93	5.21	4.02	5.76	4.13	7.51	6.39	5.49	4.80	4.64	4.45
Sr-D	mg/L	0.775	0.406	0.393	0.496	0.424	0.508	0.576	0.720	0.481	0.336	0.275	0.311	0.294
Tl-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	<0.000010	0.000027	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Ti-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	<0.0050	<0.0050
U-D	mg/L	0.00025	0.00028	0.00030	0.00040	<0.00010	0.00014	0.00012	0.00111	0.00018	0.00024	<0.00010	0.00023	0.00020
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	<0.0050	<0.0050
Zn-D	mg/L	0.0112	0.0082	<0.0050	<0.0050	0.0079	0.0235	0.0051	0.174	0.0374	0.0227	0.0333	0.0108	0.0134

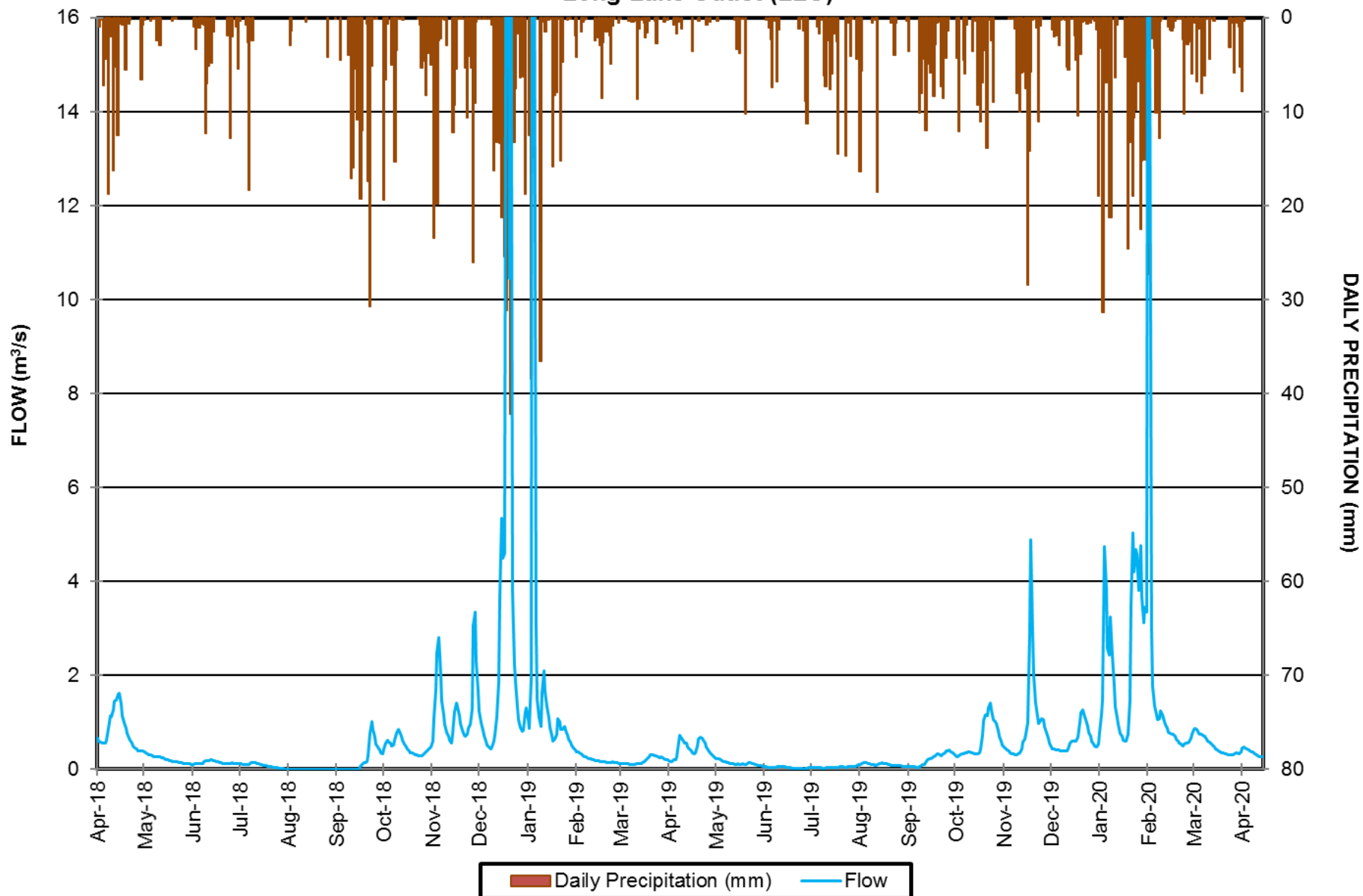
Table 46

Daily Precipitation (mm)												
DATE	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR
1	0.0	0.0	0.0	0.0	0.2	0.3	0.00	0.00	0.00	2.9	27.3	0.0
2	0.0	0.3	0.2	0.0	16.4	3.6	4.30	0.00	1.30	3.3	6.5	0.6
3	0.0	0.0	0.0	0.0	5.7	0.0	12.10	0.00	2.00	31.4	2.2	6.8
4	0.8	0.0	1.1	0.0	0.0	0.0	0.00	0.10	1.90	2.5	0.1	1.2
5	0.4	0.0	2.3	0.0	0.0	0.0	0.00	0.00	0.80	6.9	3.3	0.0
6	1.7	0.0	7.4	1.0	0.0	0.0	4.50	0.10	2.90	6.2	10.1	8.0
7	0.5	0.0	0.0	1.7	0.0	0.0	6.00	0.00	0.20	21.3	8.6	0.0
8	0.0	0.0	0.3	0.2	0.0	0.0	0.80	1.20	0.10	21.3	12.8	6.2
9	1.2	0.0	6.8	0.0	0.0	10.1	0.00	8.10	0.00	0.0	0.3	0.0
10	0.0	0.0	1.3	6.2	0.6	8.1	0.00	0.10	0.20	0.0	0.1	0.1
11	0.0	0.0	0.0	7.3	0.0	2.0	0.00	10.00	5.20	6.4	0.0	4.4
12	0.0	0.0	0.0	2.4	0.2	4.4	3.60	5.90	5.60	0.8	0.0	0.1
13	0.0	0.2	0.0	0.0	18.6	12.0	0.00	0.00	0.10	0.0	0.0	0.0
14	0.0	3.4	0.0	7.6	0.0	1.6	0.40	5.80	0.00	0.0	1.0	0.4
15	0.0	0.1	0.0	6.0	0.0	4.9	9.30	7.50	0.10	0.0	1.3	0.0
16	3.6	3.8	0.0	1.7	0.0	5.9	7.30	28.40	1.90	0.0	1.4	0.0
17	0.0	0.0	0.0	0.3	0.0	0.6	11.10	14.20	4.50	4.2	1.1	0.0
18	0.0	0.1	0.0	2.5	0.0	8.4	6.90	5.80	10.40	0.0	0.4	0.0
19	0.0	0.0	0.0	14.5	0.0	2.8	3.50	0.20	3.20	24.6	0.0	0.0
20	0.3	10.2	0.0	0.0	0.0	0.6	2.60	0.10	3.90	13.3	0.1	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	13.90	0.10	0.50	9.1	0.1	0.0
22	0.0	0.0	0.0	0.0	0.6	0.5	0.20	1.10	0.40	19.0	0.1	0.0
23	0.0	0.0	1.2	0.0	0.0	7.3	0.00	11.10	0.10	10.7	2.3	0.0
24	0.0	0.0	0.1	14.7	4.0	8.6	2.40	0.90	0.70	9.8	10.2	3.2
25	0.8	0.0	0.0	0.0	0.6	0.1	9.00	0.10	0.10	6.8	0.0	0.6
26	0.0	0.0	1.4	0.6	0.0	4.3	0.00	0.00	0.60	0.3	2.8	0.0
27	0.5	0.0	8.9	4.1	0.0	1.4	0.00	0.00	0.10	22.5	2.5	5.9
28	0.0	0.0	11.3	0.1	0.0	0.1	0.00	0.00	0.00	15.2	2.5	0.5
29	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.30	1.9	6.0	0.6
30	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	1.30	15.1		1.0
31		0.0		4.4	0.0		0.00		19.00	9.3		5.2
Monthly Total (mm)	9.80	18.10	42.30	75.30	46.90	87.60	97.90	100.80	67.40	264.80	103.10	44.80
2019 - 2020 Total (mm)	958.80											

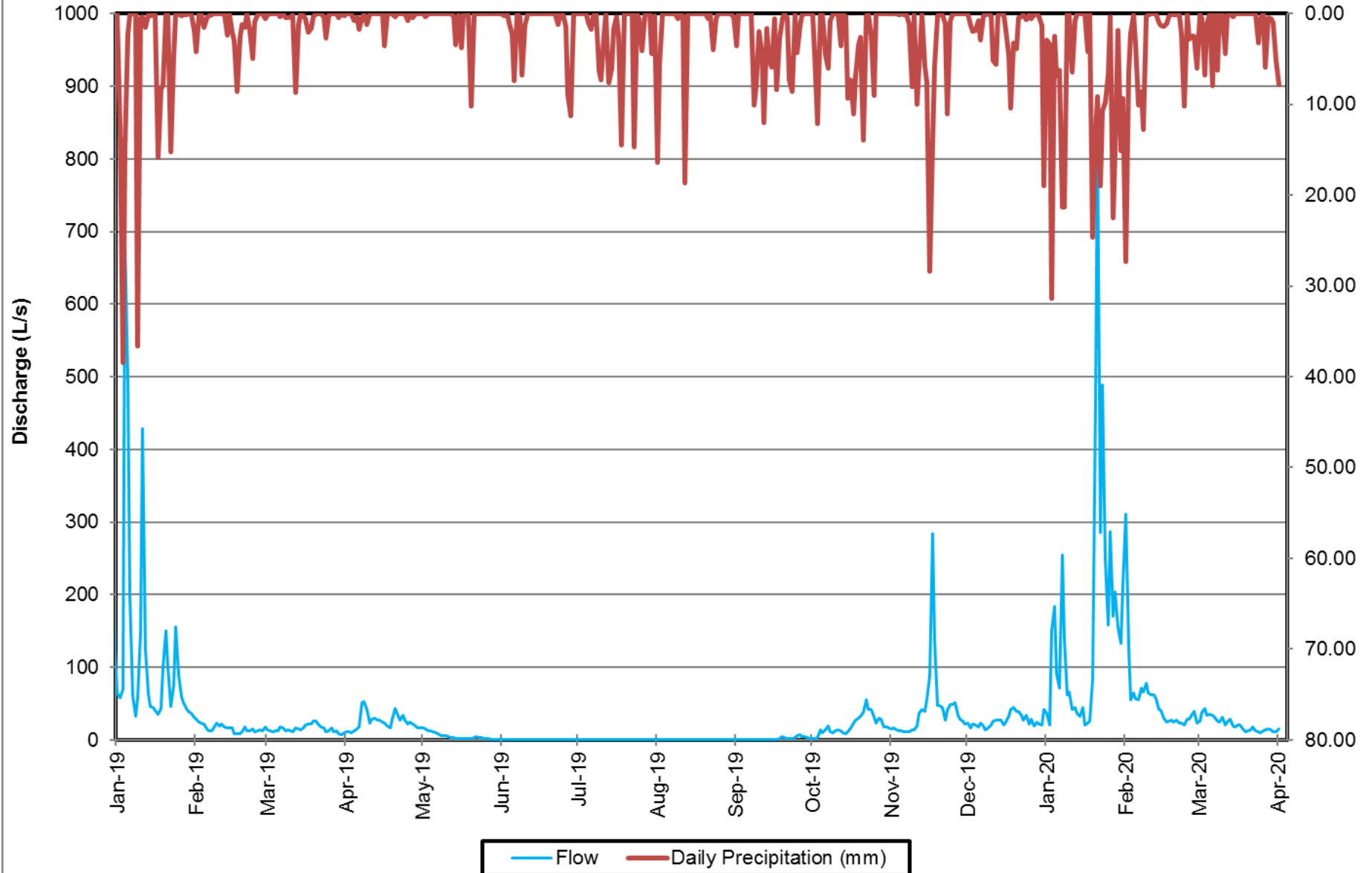
GRAPH 1
FLOW & PRECIPITATION
Quinsam River @ Argonaut Bridge (WA)



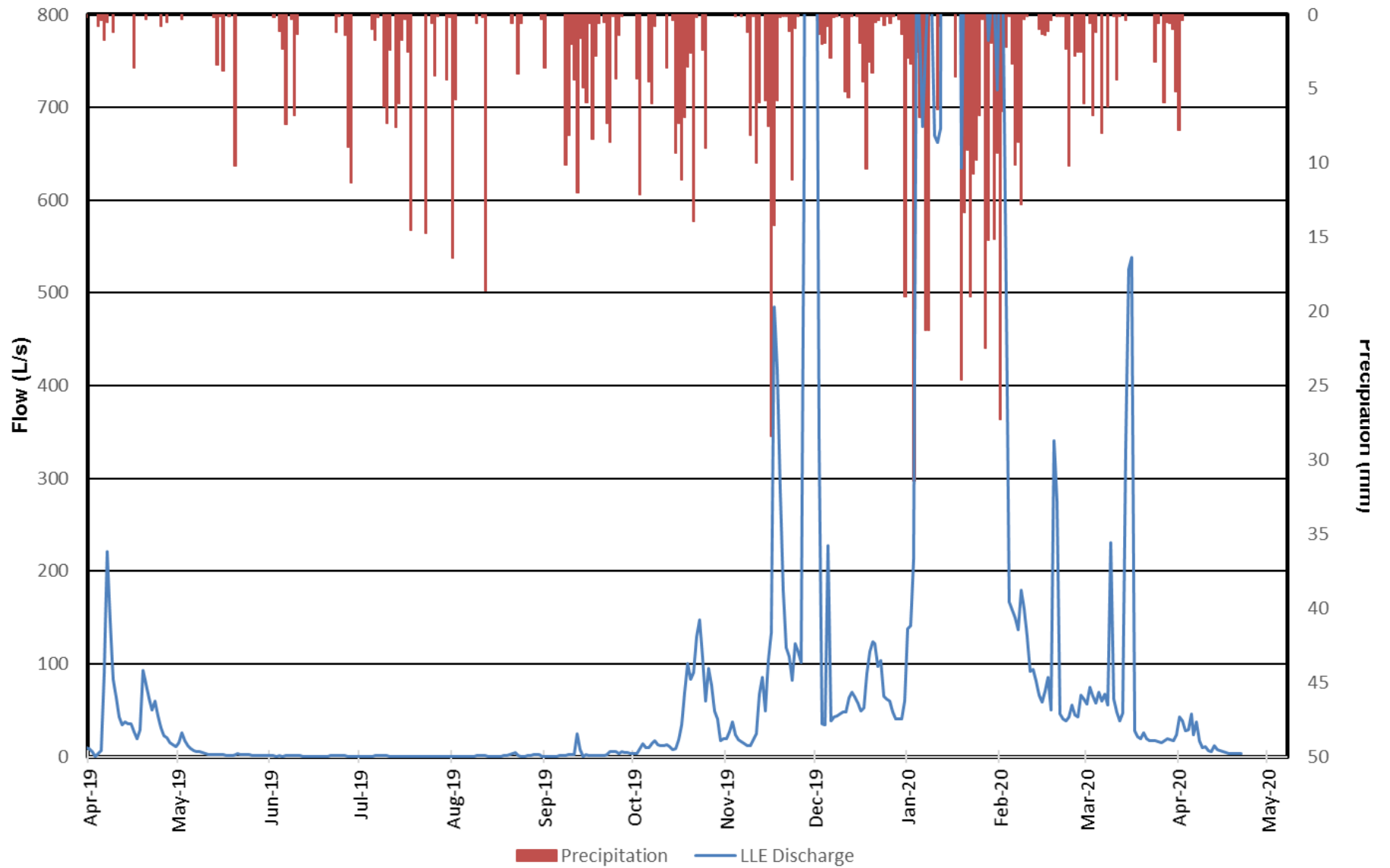
GRAPH 2
FLOW vs PRECIPITATION
Long Lake Outlet (LLO)



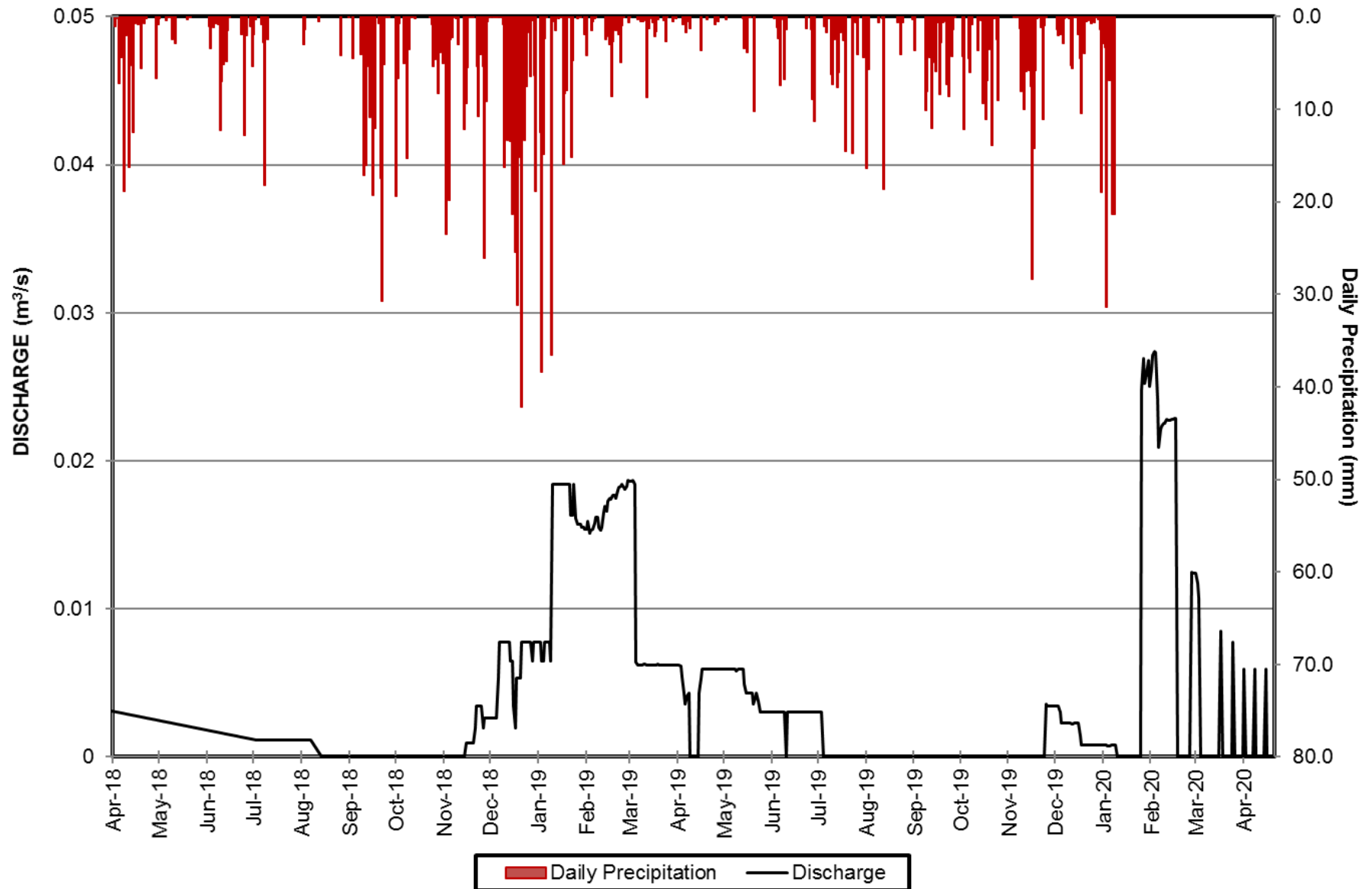
GRAPH 3
FLOW
7S Stream 1 (7S)



GRAPH 4
DISCHARGE vs PRECIPITATION
Long Lake Entry - LLE



GRAPH 5
DISCHARGE vs PRECIPITATION
Long Lake Seep Middle - LLSM



GRAPH 6
FLOW vs PRECIPITATION
Iron River - IR8

