

Quinsam Coal Corporations Quarterly Report (April-June 2020)

For Effluent Permit PE: 7008
Environmental Department

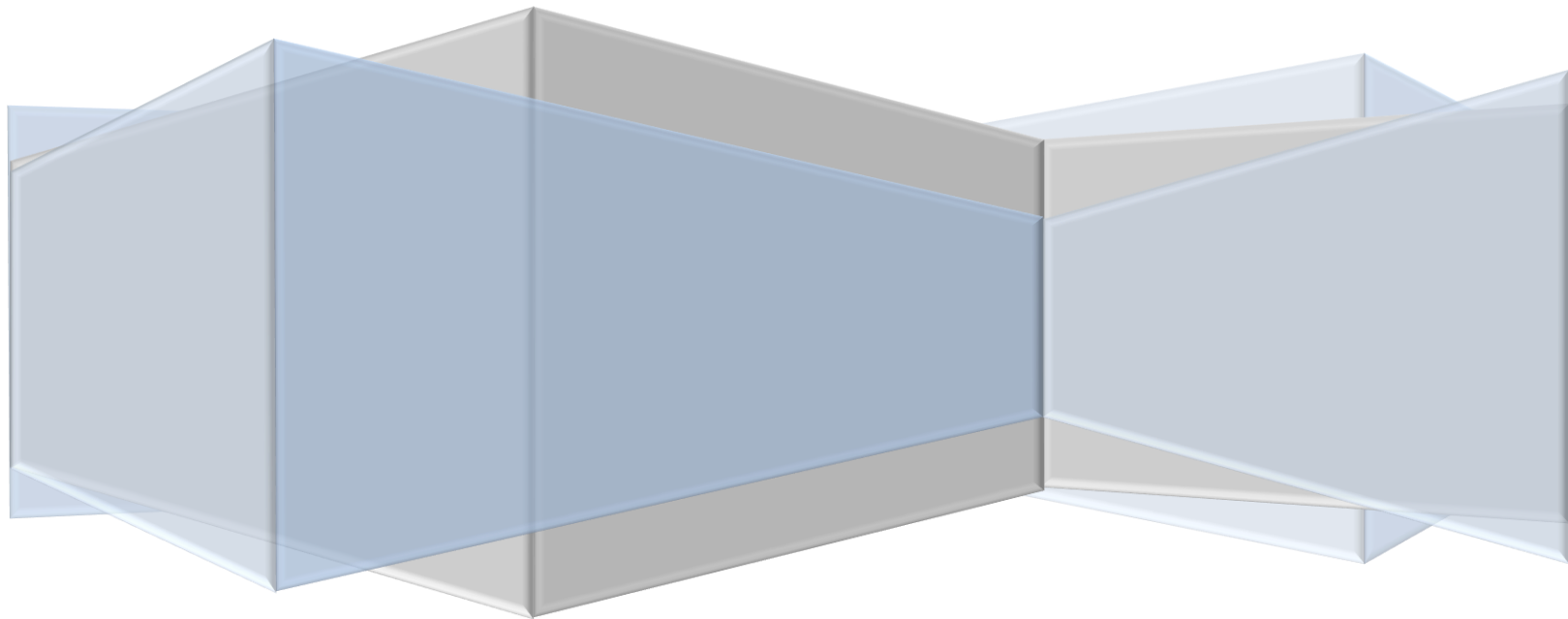


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INTRODUCTION

During Q1 (April 1st through June 30th, 2020) Quinsam Mine maintained the environmental obligations for permits PE: 7008 held with the Ministry of Environment and Climate Change Strategy and the Mines Act permit C-172. The mine continues to be operated in a “*care and maintenance*” mode with The Bowra Group Inc. as the receiver.

For Quarter 1 (Q1), all environmental monitoring was completed as per stipulations in the effluent permit PE:7008. The *Annual Water Quality Monitoring Report* was submitted on June 30th.

NORTH END WATER MANAGEMENT SYSTEM:

Stage pumping / dewatering continued from 7-South Area 5 (7SA5) into 1-Mains 7-South (1M7S) sump, where it then pumps into the 5-South Mine (5SMW) and from there is pumped into 3-Mains, 2-North Mine Pool. The 3-Mains 2-North mine pool pump discharges into Brinco Brook. The 2-North Portal Sump (2NPS) collects seepage water from the tailings dam and underground 2-North mine. This water combined with the 3-Mains water discharges into Brinco Brook.

During Q1 the 5SMW was pumping into 3-Mains 2-North until early May 2020. No pumping has occurred from the 5SMW into 2-North mine pool since this time. All water pumped from 7-South mine has remained in the 5-South Mine pool since May.

The other three major dewatering wells located in the 2-North mine pool include, 1-Mains, 2-North (1M2N) pumps #1 and #2 and 5-Mains #2 (5M#2). Currently only the 1M2N #1 is operating as the 5m#2 failed in February 2020 and has not been replaced. When operating these pumps discharge into either Brinco Brook or by opening gate valves located at the end of the lines, water can be directed into WP.

1M2N #1 has been dewatering the 2-North mine pool continuously to compensate for the 5M#2 pump. Normally both pumps would be turned off in late Q1 as the mine pool would be reduced to have capacity for both tailings’ injections and the fall rains. During Q1 the gate valves were opened directing all water from 1M2N into the 2-North Pond (WP) to supply sufficient water cover over the Potentially Acid Generating, Course Coal Refuse (PAG-CCR). This occurred from April 6th through May 17th.

In order to reduce discharge from Settling Pond #4 (SP4 / WD) the plant processing pump, located in SP4, was turned on intermittently from April 6th through May 17th. This pumps water to the plant, where it overflows out of the holding tank down the plant site collection ditch into WP. The water was not coal processing water or wash plant effluent as it was only pumped from SP4 to the plant and gravity fed to WP.

This also maintained a water cover over the PAG-CCR in WP and reduced discharge from SP4 from April 6th through May 17th, 2020. Reduced discharge results in a reduced load of mine contact water on the receiving environment during low flow periods.

SP4 is the authorized discharge location for the North water management system, where permit limits are applied to water quality and quantity. This quarter all water quality remained within permit limits. Discharge occurred 91 out of 91 days. Water quantity for Q1 discharged at SP4 was calculated as 697334 m³ compared to 2019 Q1 where 863689 m³ was discharged. All water quality remained below effluent permit limits at Settling Pond #4.

SOUTH END WATER MANAGEMENT SYSTEM:

Water in the south end is managed by directing all water from the Passive Treatment System (PTS) into the 2-South and 3-South pits to maintain a water cover over the PAG-CCR during the dry season and maintain the water within the authorized works. The 2-South pump discharges the mine water into the treatment system, this pump failed in winter 2020 and was replaced on May 5th, 2020. Water has been pumped at 5.2 L/s from the 2-South mine pool (INF) into the treatment system cells, Biochemical reactor (BCREFF) where it flows passively, to the Sulphide Polishing Cell (SPCEFF). Once pumped from underground into the PTS, treated water passively flows through each cell from BCREFF into SPCEFF and gravity feed to the 2S pit entering at 2-South Inflow (2SI). At this location there is a V-notch weir coupled with a pressure transducer and a staff gauge (hydrometric station), where continuous flow is monitored. During the spring the 2 gate valves located on the 2-South mine road at the 4km marker were opened (April 6th and closed May 17th). This directs fresh water into the 2-South pit via 2SI. These were closed in May as this spring was much wetter than other years and water levels in the pits were high.

The 3-South pit maintains a water cover over the contained PAG-CCR via seepage from the 2-South pit, overflow from the water cover at 2-South pit and precipitation. This water flows down a channel from 2-South to 3-South. Continuous discharge is measured at location 2-South Culvert (2SC) into 3-South Pit. Here there is an H-flume and a flow meter measuring continuous inflow to 3-South pit and outflow from 2-South pit. Water pumped from the 3-South pit is pumped to Settling Pond #1 during spring, fall and winter. During summer, a gate valve is opened at a junction on the 3S pipeline located on the 2-South highwall. From here the 3-South water can be directed either into the 2S pit or to Settling Pond #1 (SPD). When water pumped from 3S is directed into 2S this maintains a closed loop circuit and aids in maintaining a water cover over the 2-South Pit. As a result, SPD will stop discharging (normally during mid-May) reducing the load from mine contact water on the receiving environment. As stated above this spring was much wetter than previous years. The valve directing water from 3S to 2S was only opened from April 6th to May 17th since then all water has been directed to Settling Pond #1 (SP1/SPD).

SP1 is the authorized discharge location for the South water management system where permit limits are applied to water quality and quantity. This quarter all water quality remained within permit limits. Discharge occurred for 91 out of 91 days. With a cumulative quarterly total of 119,698 m³ compared to last year Q1 where 64,75m³ was discharged. All water quality remained below effluent permit limits at Settling Pond #1.

7-SOUTH (7SSD) WATER MANAGEMENT:

Discharge did not occur during Q1 at 7SSD. Sedimentation pond outflow is controlled by pumping water accumulated in the pre-settling pond to the 7-South Portal Sump. This procedure reduces discharge, decreasing the overall parameter loading and the potential for adverse aquatic impact in the receiving environment; as the biological availability for parameters of concern is much lower than under constant discharge conditions.

A quarterly sample was obtained from the ponded water (7SSD) and the results are available in Appendix I, Table 20.

This quarter, parameters of interest remained within the specified limits of the Water Quality Guidelines (WQG) during all sampling events at 7S. The water quality results corresponding to Stream 1, 7S are available in Table 21.

QUARTERLY MONITORING:

During the 1st Quarter (Q1) (Spring 2020), the receiving environment monitoring program for both lakes and river/stream stations was completed. Quarterly monitoring was performed for groundwater quality, effluent and with-in (in-situ) mine releases. All environmental sampling and obligations pertaining to permit PE-7008 were completed and results are available in Appendix I.

The reader should note that concentrations for most parameters of interest were not elevated above water quality guideline (WQG) levels in the receiving environment throughout the 5 in 30 sampling period, with the exception of 3 parameters occurring at different locations. Those include pH, dissolved copper and iron. The majority of the exceedances of WQG were observed with dissolved copper. This may be subject to review as the dissolved copper guideline has recently been developed, requiring certain parameters such as dissolved organic carbon (DOC) in order to accurately calculate the acute and chronic dissolved copper guideline used for each sample. There were only 4 out of the 5 weeks where DOC was sampled. Further monitoring is required to determine if copper is actually above the WQG using site specific water quality, Appendix I, Table 3.

In addition to the aforementioned monitoring, the Quinsam Environmental Department sampled groundwater wells, underground sumps and dewatering wells throughout the 2-3 North, 2-3 South 4-South, and 7-South mine areas. Ex-situ groundwater is compared to the British Columbia Contaminated Site Regulation (CSR) (BC reg.375/96. O.C. 1480/96), Schedule 6, Aquatic life (CSR-AW). There are certain parameters that continually result above the CSR-AW. These include arsenic, chloride and sulphide as H₂S. Selenium is also observed periodically in the ex-situ deep groundwater of QU1105D in the River Barrier Pillar of the 5-South mine Appendix I, Table 55.

The environmental department also conducted routine inspections and completed any required maintenance of the water management structures.

NON-COMPLIANCE EVENTS:

There were no non-compliance events to report this quarter.

RECEIVING ENVIRONMENT WATER QUALITY:

Preamble – Water Hardness

For the purposes of this report, the water quality guideline(s) (WQG) for hardness dependent parameters has been derived using site appropriate background values (i.e. monitoring location WA hardness ~30mg/L). Quinsam Coal has adopted this approach for the Iron River to provide a conservative comparison of receiving environment water quality.

PRECIPITATION

The amount of precipitation accumulated this quarter was 90.2 mm, higher than Q1 last year (70.2 mm). Precipitation in Q1 occurred mostly in May (49.10 mm). This is displayed in Appendix I, Table 58. The receiving environment monitoring program followed the 5 samples in 30 days schedule with sampling

events spanning April 14th through May 13th, indicating the “spring freshet” was captured during this monitoring period.

LAKES

Lake sampling commenced April 15th following the 5 samples in 30 days approach. This program included No Name Lake (NNL), Long Lake (LLM), Middle Quinsam Lake (MQL) and Lower Quinsam Lake (LQL). Appendix I, Table 30 displays the depth profiling and field results with Tables 31 through 46 displaying the water quality results compared to guidelines.

Table 1: Summary of Water Quality Guideline Observation for Lakes

SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT RECEIVING MONITORING LOCATIONS						
MS ID & Station Code	Date	Parameter	Water Quality Guidelines		Results above Guidelines	
			WQG-Max	WQG-Ave	Max	Spring 5 in 30 Average
			mg/L	mg/L	mg/L	mg/L
E217018 - NNL	Spring 5 in 30	pH	<6.5 (min)		20 results >6.5	
E217018 - NNL1	29-Apr-20	Cu-D	0.002	0.0003	0.00723	0.00174
E217018 - NNL4	29-Apr-20	Cu-D	0.002	0.0003	0.0206	0.00445
E217018 - NNL9	29-Apr-20	Cu-D	0.002	0.0003	0.00798	0.00189
E217018 - NNLB	5 in 30	Cu-D	0.002	0.0003		0.00065
E206619 - LLM1	29-Apr-20	Cu-D	0.002	0.0003	0.00250	0.00076
E206619 - LLM4	5 in 30	Cu-D	0.002	0.0003		0.00043
E206619 - LLM9	5 in 30	Cu-D	0.002	0.0003		0.00041
E206619 - LLMB	5 in 30	Cu-D	0.002	0.0003		0.00044
E206618 - MQL1	29-Apr-20	Cu-D	0.002	0.0003	0.0279	0.00601
E206618 - MQL4	29-Apr-20	Cu-D	0.002	0.0003	0.0755	0.01552
E206618 - MQL9	29-Apr-20	Cu-D	0.002	0.0003	0.0263	0.00565
E206618 - MQLB	29-Apr-20	Cu-D	0.002	0.0003	0.00547	0.00148
E292118 - LQL1	5 in 30	Cu-D	0.002	0.0003		0.00081
E292118 - LQL4	1-May-20	Cu-D	0.002	0.0003	0.00395	0.00138
E292118 - LQL9	1-May-20	Cu-D	0.002	0.0003	0.00366	0.00117
E292118 - LQLB	5 in 30	Cu-D	0.002	0.0003		0.00065

Noteworthy observations resulting from the lake monitoring program include:

- Average sulphate concentrations were measured at or below the water quality guideline (130 mg/L) in all lakes with Long Lake displaying the highest results at a depth of 9m.
- Average sulphate concentrations resulted in 130 mg/L at 9 metres and 120 mg/L from the 1 metre from bottom (1mb), on Long Lake during spring sampling.

- Sulphate in Middle Quinsam lake remained well below average guideline levels throughout the lake averaging 24 mg/L to 31 mg/L, respectively from surface to bottom.
- No Name lake experience acidic conditions where pH fell below the minimum guideline of 6.5
- Dissolved copper was above the chronic guideline of 0.003 mg/L in all lakes at all depths for 16 out of 16 average results and above the acute guideline of 0.002 mg/L less frequently with elevated results occurring in 10 out of 16 events. These guidelines provide a conservative comparison.

STREAMS AND RIVERS

The 5 samples in 30 days receiving environment program at river and stream sites commenced April 14th and concluded May 11th. Appendix I, Tables 47 through 52 display water quality results from this program compared to water quality guidelines for the Middle Quinsam Lake Sub-basin and Iron River.

Monitoring stations captured within the Middle Quinsam Lake sub-basin include:

- Middle Quinsam Lake Inlet (WA),
- Middle Quinsam Lake Outlet (WB),
- No Name Lake Outlet (NNO),
- Long Lake Outlet (LLO),
- 7-South Quinsam River (7SQR),
- Quinsam River downstream of the confluence with Iron River (IRQR).

Monitoring stations on the Iron River include:

- Iron River Upstream of future 7-South Area 5 development (IR6), and
- Iron River above the confluence with Quinsam River (IR8).

While monitoring location LLE is considered the initial dilution zone (for water quality evaluation purposes) it is important to note that this location is a wetland and represents the uppermost extent of an initial dilution zone for the South water management system discharge into Long Lake.

The Long Lake Seeps are not considered receiving environment sites but are provided in this table for comparison purposes only.

Table 2: Summary of Guideline Observations for Rivers / Streams, Seeps (LLS, LLSM) and wetland (LLE)

SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT RECEIVING MONITORING LOCATIONS						
EMS ID & Station Code	Date	Parameter	Water Quality Guidelines		Results above Guidelines	
			WQG-Max	WQG-Ave	Max	Spring 5 in 30 Average
			mg/L	mg/L	mg/L	mg/L
E217017 - NNO	5 in 30	Cu-D	0.002	0.0003		0.00036
E219412 - LLO	5 in 30	Cu-D	0.002	0.0003		0.00033
E0126402 - WA	5 in 30	Cu-D	0.002	0.0003		0.00055
E0900504 - WB	5 in 30	Cu-D	0.002	0.0003		0.00051
E292113 - 7SQR	5 in 30	Cu-D	0.002	0.0003		0.00047
E299256 - IRQR	5 in 30	Cu-D	0.002	0.0003		0.00059
E292131 - LLS	06-Apr-20	As-T	0.005		0.00505	
	Apr 6, May 4, Jun 2	Fe-T	1		2.54, 1.98, 1.69	
	Apr 6, May 4, Jun 2	Fe-D	0.35		2.39, 2.07, 1.62	
E292131 - LLSM	01-May-04	Fe-T	1		1.32	
	Apr 6, May 4, Jun 2	Fe-D	0.35		0.894, 1.00, 0.715	
E292130 - LLE	Apr 6, May 4, Jun 2	Fe-D	0.35		0.558, 0.776, 0.549	
	Q1	SO-4		130		11 out of 14 weeks for rolling averages

Noteworthy observations resulting from the river/stream monitoring program include:

- Dissolved copper was above the chronic -WQG (0.003 mg/L) for the averaged results at all river/stream sites (WA, WB, 7SQR, IRQR, NNO and LLO). These guidelines provide a conservative comparison.
- All other parameters were below the chronic and acute WQG's for rivers and streams during the spring monitoring.

Noteworthy observations resulting from the Seeps and LLE wetland monitoring locations:

- Long Lake Seeps (LLS and LLSM) display elevated iron in both forms (Fe²⁺ and Fe³⁺), with the smaller seep having a higher frequency of elevated results. Concentrations decrease as flows decline.
- Arsenic was also observed just above acute- WQG of 0.005 mg/L resulting in 0.00505 mg/L at LLS
- LLE displays elevated concentrations of the dissolved form of iron, Ferric iron (Fe³⁺) due to low dissolved oxygen in the wetland (anoxic conditions).
- Rolling averages for weekly sulphate samples were above chronic-WQG of 130 mg/L for 11 out of 14 weeks using a rolling average
- Peak sulphate concentrations at LLE are observed with decreased flow rates

GROUNDWATER

Groundwater wells are categorized as either ‘in-situ’ or ‘ex-situ’; the definition for each is as follows:

- In-situ: groundwater wells located within the mine workings (disturbance footprint) and therefore represent water accumulated within the mining void. In the absence of groundwater well samples, underground sump samples are used for comparison.
- Ex-situ: groundwater wells located outside the mine workings (disturbance footprint) which reflect water quality flowing from the mine void towards the receiving environment. This also includes baseline and background (up-gradient of workings) groundwater wells.

The groundwater wells outside the mine footprint (ex-situ) are compared to the British Columbia Contaminated Site Regulation (CSR) (BC reg.37/96. O.C. 1480/96), describing water quality standards for freshwater Aquatic Life (AW). The aquatic life standard assumes that a minimum 1:10 dilution is available for groundwater discharged to a freshwater system; together, they are referred to as CSR-AW.

Through Q1, 13 ex-situ groundwater wells, 14 in-situ groundwater wells were monitored. Appendix 1, Tables 54 and 57 provide a description of wells and results of the mine pool / groundwater chemistry.

Exceedances of the CSR-AW in ex-situ groundwater were observed for dissolved concentrations of arsenic, chloride, selenium and sulphide as H₂S as displayed in Table 3 below. Arsenic is naturally elevated in the groundwater and is associated with perched water tables interacting with the Dunsmuir sandstone. This has been observed in baseline groundwater monitoring.

Table 3: Summary of Parameters above CSR-AW in Ex-Situ Groundwater

BC CSR Aquatic Life 2019 - Lowest Level Exceedances for Ex-situ Groundwater															
Area Well No.		Freshwater Aquatic Life (C)	7-South		2- 3 North						River Barrier Pillar			4-South	
Date			QU0813A	QU0813B	QU0821GD	QU0821GS	QU1010D	QU1010S	QU1011D	QU1011S	QU1105D	QU1105S	QU1109S	QU1009S	QU1009D
Parameter	Units		27-May-20	27-May-20	1-Jun-20	1-Jun-20	4-Jun-20	4-Jun-20	11-Jun-20	11-Jun-20	28-May-20	28-May-20	26-May-20	15-Jun-20	15-Jun-20
Cl-D	mg/L	1500					2600								
As-D	mg/L	0.05	0.443	0.499	0.164	0.208		0.103				0.0881	0.0945	0.0825	0.104
Se-D	mg/L										0.0637				
H2SEquiv	mg/L	0.02	0.159	0.0457	0.117			0.0840	0.0532		69.1	0.0404	0.255		0.0861

PASSIVE TREATMENT SYSTEM (PTS)

The PTS was operational from May 12th to present. The 15-horsepower pump in borehole QU11-11 (INF) was replaced on May 5th, 2020 and the flange at the well head required repair and was replaced May 11th. The treatment system was operating at 5.2 L/s at a frequency of 44.6 hertz, equates to 449, 280 L/day for 49 days in Q1 totaling 22,014,720 L of pumped mine water. The mine pool water level was measured at 12.5 m above the pump on May 12th and decreased to 9.3 m at the end of June.

Average concentrations of dissolved sulphate have been entering the system from the 2-South mine pool measured at INF resulting in 664 mg/L and leaving the system at SPCEFF resulting in 391 mg/L. This has led to a reduction in average sulphate concentrations of 273 mg/L. The station 2-South Inflow (2SI), receives discharge from the PTS, had an average sulphate concentration of 288 mg/L and SP1 averaged 281 mg/L from May 18th through Jul 5th. Overall average sulphate reduction from INF to SPD from May 18th through Jul 5th was 383 mg/L. This is a result of warmer ambient temperatures increasing microbial metabolic activity within the BCR.

The PTS will continue to operate as it aids in maintaining water cover over the PAG-CCR in 2-South pit and reduces discharge at the Middle Seep into Long Lake during low flow periods, by decreasing the elevation of the mine pool below the elevation of the seep. The period of “no flow” at the Middle Seep into Long Lake (LLSM) has been observed to be extended by pumping down the mine pool.

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

QUALITY ASSURANCE QUALITY CONTROL

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

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

CONCLUSION:

Quinsam Coal is dedicated to reducing the environmental impacts as a result of mining on the environment. Overall, there were no permit limit exceedances and few provincial water quality guideline observations on site and in the receiving environment this quarter. This exemplifies that the environmental management practices employed by the environmental department are effective in reducing impacts to the surrounding environment. In closing, we trust the information presented in this report satisfies the conditions under Effluent Permit PE-7008. Please contact the Quinsam Coal Environmental Department if you have any questions or comments.

Table 20
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Appendix I

Table 20
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Table 1	Description of Effluent, In-Mine Releases & Receiving Environment Monitoring Sites
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Table 1
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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	MW
	Small seep near the plant (PDS) & groundwater surface near road entering MQL (PDSR)	PDS & PDSR	GW & MW
Receiving Environment Monitoring Sites - Initial Zone of Dilution (IDZ)			
Initial Dilution Zone (IDZ) Monitoring Sites			
E292130	Long Lake Entrance (South end water entering Long Lake)	LLE	IDZ
E292109	Road Crossing Bridge on Stream 1 above the Lower Wetland (Downstream of 7SSD).The site name is Stream 1, 7S.	7S	IDZ
Receiving Water (Streams & 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
* MW= Mine Water, FW= Freshwater, GW =Groundwater IDZ = Intial Dilution Zone			

Table 2
Q1 Report 2020

SUMMARY OF PERMIT LIMIT EXCEEDANCES & PERMIT NON-COMPLIANCES							Number of events or period for PNC, P or spill event.
EMS ID & Site Name	Permit Limit Exceedance (P) or Non-Compliance (PNC)	Parameter Exceeded / Other	Result (mg/L)	Requirement	Date	Non-Compliance Reason	
There were no permit limit exceedances or non-compliance in Q1							

Table 3
Q1 Report 2020

SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT RECEIVING MONITORING LOCATIONS						
EMS ID & Station Code	Date	Parameter	Water Quality Guidelines		Results above Guidelines	
			WQG-Max	WQG-Ave	Max	Spring 5 in 30 Average
			mg/L	mg/L	mg/L	mg/L
E217017 -NNO	5 in 30	Cu-D	0.002	0.0003		0.00036
E219412 - LLO	5 in 30	Cu-D	0.002	0.0003		0.00033
E0126402 - WA	5 in 30	Cu-D	0.002	0.0003		0.00055
E0900504 - WB	5 in 30	Cu-D	0.002	0.0003		0.00051
E292113 -7SQR	5 in 30	Cu-D	0.002	0.0003		0.00047
E299256 - IRQR	5 in 30	Cu-D	0.002	0.0003		0.00059
E292131 - LLS	06-Apr-20	As-T	0.005		0.00505	
	Apr 6, May 4, Jun 2	Fe-T	1		2.54, 1.98, 1.69	
	Apr 6, May 4, Jun 2	Fe-D	0.35		2.39, 2.07, 1.62	
E292131 - LLSM	01-May-04	Fe-T	1		1.32	
	Apr 6, May 4, Jun 2	Fe-D	0.35		0.894, 1.00, 0.715	
E292130 - LLE	Apr 6, May 4, Jun 2	Fe-D	0.35		0.558, 0.776, 0.549	
	Q1	SO-4		130		11 out of 14 weeks for rolling averages

Table 4
Q1 Report 2020

EMS ID	E207409																			
Stn.Name	Settling Pond #4 - Authorized Discharge Location for North Mine Area																			
Stn.Code	WD																			
Date	Units	North (P)	7-Apr-20	15-Apr-20	20-Apr-20	27-Apr-20	4-May-20	11-May-20	20-May-20	25-May-20	2-Jun-20	9-Jun-20	15-Jun-20	22-Jun-20	30-Jun-20	Aver	Min	Max	Count	
pH	pH Units	6.0 - 8.5	7.66	7.63	7.76	7.68	7.7	7.58	7.71	7.4	7.44	7.76	7.88	7.78	7.8	7.68	7.4	7.88	13	
Cond	uS/cm		1760	1987	2104	2100	2440	2221	1998	1802	1660	1983	2011	2015	2000	2006	1660	2440	13	
SO4-D	mg/L		760	600	760	740	740	750	740	810	760	750	720	700	730	735	600	810	13	
TSS	mg/L	25	2.4	2.0	3.0	3.2	3.2	2.8	2.9	3.2	3.6	4.0	6.4	4.0	3.6	3.41	2.0	6.4	13	
Alk-T	mg/L		420			400	430				430					420	400	430	4	
Acidity83	mg/L		4.2			3.2	1.6				5.5					3.6	1.6	5.5	4	
Hard-T	mg/L		468			457	477				459					465	457	477	4	
Ag-D	mg/L		<0.000020			<0.000020	<0.000020				<0.000020					0.0000100	<0.000020	<0.000020	4	
Ag-T	mg/L		<0.000020			<0.000020	<0.000020				<0.000040					0.0000125	<0.000020	<0.000040	4	
Al-D	mg/L	0.5	<0.0030			<0.0030	<0.0030				<0.0030					0.00150	<0.0030	<0.0030	4	
Al-T	mg/L		0.0048			0.0038	0.0039				<0.0060					0.00388	<0.0060	0.0048	4	
As-D	mg/L		0.0008			0.00074	0.00095				0.0008					0.00082	0.00074	0.00095	4	
As-T	mg/L		0.00170			0.00139	0.00197				0.0019					0.00174	0.00139	0.00197	4	
Ba-D	mg/L		0.0218			0.0223	0.0219				0.0196					0.0214	0.0196	0.0223	4	
Ba-T	mg/L		0.0232			0.0221	0.0233				0.0216					0.0226	0.0216	0.0233	4	
B-D	mg/L		0.794			0.833	0.957				0.911					0.874	0.794	0.957	4	
Be-D	mg/L		<0.00010			<0.00010	<0.00010				<0.00010					0.000050	<0.00010	<0.00010	4	
Be-T	mg/L		<0.00010			<0.00010	<0.00010				<0.00020					0.000062	<0.00010	<0.00020	4	
Bi-D	mg/L		<0.0010			<0.0010	<0.0010				<0.0010					0.00050	<0.0010	<0.0010	4	
Bi-T	mg/L		<0.0010			<0.0010	<0.0010				<0.0020					0.00062	<0.0010	<0.0020	4	
B-T	mg/L		0.854			0.845	0.917				1.06					0.919	0.845	1.06	4	
Ca-D	mg/L		155			162	162				158					159.2	155	162	4	
Ca-T	mg/L		158			156	163				155					158.0	155	163	4	
Cd-D	mg/L		<0.000010			<0.000010	<0.000010				<0.000010					0.0000050	<0.000010	<0.000010	4	
Cd-T	mg/L		<0.000010			<0.000010	0.000022				<0.000020					0.0000105	<0.000010	0.000022	4	
Co-D	mg/L		<0.00020			<0.00020	<0.00020				<0.00020					0.000100	<0.00020	<0.00020	4	
Co-T	mg/L		<0.00020			<0.00020	<0.00020				<0.00040					0.000125	<0.00020	<0.00040	4	
Cr-D	mg/L		<0.0010			<0.0010	<0.0010				<0.0010					0.00050	<0.0010	<0.0010	4	
Cr-T	mg/L		<0.0010			<0.0010	<0.0010				<0.0020					0.00062	<0.0010	<0.0020	4	
Cu-D	mg/L	0.02	0.0004			0.00049	0.00037				0.0004					0.00041	0.00035	0.00049	4	
Cu-T	mg/L		0.0015			0.00107	0.00153				0.0013					0.00134	0.00107	0.00153	4	
Fe-D	mg/L	0.3	0.0107			0.0207	0.0119				0.0157					0.0148	0.0107	0.0207	4	
Fe-T	mg/L		0.962			0.723	1.04				0.975					0.925	0.723	1.04	4	
Hard-D	mg/L		457			474	475				461					466.8	457	475	4	
Hg-D	mg/L		<0.0000019			<0.0000019	<0.0000019				<0.0000019					0.00000095	<0.0000019	<0.0000019	4	
Hg-T	mg/L		<0.0000019			<0.0000019	<0.0000019				<0.0000019					0.00000095	<0.0000019	<0.0000019	4	
K-D	mg/L		4.63			4.88	5.01				4.93					4.86	4.63	5.01	4	
K-T	mg/L		4.78			4.57	5.32				5.11					4.94	4.57	5.32	4	
Li-D	mg/L		0.0126			0.0128	0.0135				0.0112					0.0125	0.0112	0.0135	4	
Li-T	mg/L		0.0134			0.0129	0.0137				0.0140					0.0135	0.0129	0.0140	4	
Mg-D	mg/L		17.1			16.5	17.4				16.0					16.8	16.0	17.4	4	
Mg-T	mg/L		17.6			16.4	16.8				17.1					17.0	16.4	17.6	4	
Mn-D	mg/L		0.102			0.0795	0.152				0.106					0.1099	0.0795	0.152	4	
Mn-T	mg/L		0.108			0.0789	0.152				0.124					0.1157	0.0789	0.152	4	
Mo-D	mg/L		<0.0010			<0.0010	<0.0010				<0.0010					0.00050	<0.0010	<0.0010	4	
Mo-T	mg/L		<0.0010			<0.0010	<0.0010				<0.0020					0.00062	<0.0010	<0.0020	4	
Na-D	mg/L		344			307	361				333					336.2	307	361	4	
Na-T	mg/L		352			303	345				365					341.2	303	365	4	
Ni-D	mg/L		<0.0010			<0.0010	<0.0010				<0.0010					0.00050	<0.0010	<0.0010	4	
Ni-T	mg/L		<0.0010			<0.0010	<0.0010				<0.0020					0.00062	<0.0010	<0.0020	4	
Pb-D	mg/L	0.05	<0.00020			<0.00020	<0.00020				<0.00020					0.000100	<0.00020	<0.00020	4	
Pb-T	mg/L		<0.00020			<0.00020	<0.00020				<0.00040					0.000125	<0.00020	<0.00040	4	
S-D	mg/L		263			267	275				237					260.5	237	275	4	
Se-D	mg/L		<0.00010			<0.00010	<0.00010				<0.00010					0.000050	<0.00010	<0.00010	4	
Se-T	mg/L		<0.00010			<0.00010	<0.00010				<0.00020					0.000062	<0.00010	<0.00020	4	
Si-D	mg/L		2.80			2.69	3.05				2.53					2.77	2.53	3.05	4	
Si-T	mg/L		2.92			2.64	3.16				2.62					2.84	2.62	3.16	4	
Sn-D	mg/L		<0.0050			<0.0050	<0.0050				<0.0050					0.00250	<0.0050	<0.0050	4	
Sn-T	mg/L		<0.0050			<0.0050	<0.0050				<0.010					0.00312	<0.0050	<0.010	4	
Sr-D	mg/L		1.49			1.76	1.59				1.49					1.58	1.49	1.76	4	
Sr-T	mg/L		1.55			1.65	1.76				1.50					1.62	1.50	1.76	4	
S-T	mg/L		284			259	268				266					269.2	259	284	4	
Ti-D	mg/L		<0.0050			<0.0050	<0.0050				<0.0050					0.00250	<0.0050	<0.0050	4	
Ti-T	mg/L		<0.0050			<0.0050	<0.0050				<0.010					0.00312	<0.0050	<0.010	4	
Tl-D	mg/L		<0.000010			<0.000010	<0.000010				<0.000010					0.0000050	<0.000010	<0.000010	4	
Tl-T	mg/L		<0.000010			<0.000010	<0.000010				<0.000020					0.0000063	<0.000010	<0.000020	4	
Zn-D	mg/L	0.1	<0.0050			<0.0050	<0.0050				<0.0050					0.00250	<0.0050	<0.0050	4	
Zn-T	mg/L		<0.0050			<0.0050	<0.0050				<0.010					0.00312	<0.0050	<0.010	4	
O&G	mg/L	10	<1.0								<1.0					0.50	<1.0	<1.0	2	
Notes:																				
Factor applied to less-than results when calculating statistics: 0.5																				

Table 5
Q1 Report 2020

EMS ID	E207412									
Site Description	2-North Pit Sump (WP) CCR Water Cover									
Site Name	WP									
Date	7-Apr-20		4-May-20		2-Jun-20		Aver	Min	Max	Count
Parameter	Units									
pH	pH Units	7.42	7.20	7.27	7.3	720.00	7.42	3		
Cond	uS/cm	2010	2000	2003	2004	2000	2010	3		
SO4-D	mg/L	660	780	730	723	660	780	3		
TSS	mg/L	2.8	5.2	2.8	3.6	2.8	5.2	3		
Alk-T	mg/L	180	330	310	273	180	330	3		
Acidity#3	mg/L	2.5	2.8	<1.0	1.93	<1.0	2.8	3		
Hard-T	mg/L	606	479	407	497	407	606	3		
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	0.0000100	<0.000020	<0.000020	3		
Ag-T	mg/L	<0.000020	<0.000020	<0.000040	0.0000133	<0.000020	<0.000040	3		
Al-D	mg/L	0.0032	<0.0030	<0.0030	0.00207	<0.0030	0.0032	3		
Al-T	mg/L	0.0279	0.0350	0.0094	0.0241	0.0094	0.0350	3		
As-D	mg/L	0.00113	0.00056	0.00051	0.00073	0.00051	0.00113	3		
As-T	mg/L	0.00138	0.00159	0.00074	0.00124	0.00074	0.00159	3		
Ba-D	mg/L	0.0147	0.0213	0.0164	0.0175	0.0147	0.0213	3		
Ba-T	mg/L	0.0162	0.0222	0.0173	0.0186	0.0162	0.0222	3		
B-D	mg/L	0.433	0.809	0.850	0.697	0.433	0.850	3		
Be-D	mg/L	<0.00010	<0.00010	<0.00010	0.000050	<0.00010	<0.00010	3		
Be-T	mg/L	<0.00010	<0.00010	<0.00020	0.000067	<0.00010	<0.00020	3		
Bi-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	<0.0010	<0.0010	3		
Bi-T	mg/L	<0.0010	<0.0010	<0.0020	0.00067	<0.0010	<0.0020	3		
B-T	mg/L	0.468	0.755	0.93	0.718	0.468	0.93	3		
Ca-D	mg/L	175	158	128	153.7	128	175	3		
Ca-T	mg/L	196	160	131	162.3	131	196	3		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	0.0000050	<0.000010	<0.000010	3		
Cd-T	mg/L	<0.000010	<0.000010	<0.000020	0.0000067	<0.000010	<0.000020	3		
Co-D	mg/L	0.00051	<0.00020	<0.00020	0.000237	<0.00020	0.00051	3		
Co-T	mg/L	0.00058	0.00021	<0.00040	0.000330	<0.00040	0.00058	3		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	<0.0010	<0.0010	3		
Cr-T	mg/L	<0.0010	<0.0010	<0.0020	0.00067	<0.0010	<0.0020	3		
Cu-D	mg/L	0.00172	0.00062	0.00046	0.00093	0.00046	0.00172	3		
Cu-T	mg/L	0.00212	0.00145	<0.0010	0.00136	<0.0010	0.00212	3		
Fe-D	mg/L	0.0600	0.0098	0.0086	0.0261	0.0086	0.0600	3		
Fe-T	mg/L	0.304	0.785	0.162	0.417	0.162	0.785	3		
Hard-D	mg/L	548	479	396	474	396	548	3		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	3		
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	3		
K-D	mg/L	3.01	4.23	4.60	3.95	3.01	4.60	3		
K-T	mg/L	3.22	4.50	4.56	4.09	3.22	4.56	3		
Li-D	mg/L	0.0063	0.0109	0.0098	0.0090	0.0063	0.0109	3		
Li-T	mg/L	0.0070	0.0114	0.0109	0.0098	0.0070	0.0114	3		
Mg-D	mg/L	26.8	20.4	18.8	22.0	18.8	26.8	3		
Mg-T	mg/L	28.5	19.6	19.1	22.4	19.1	28.5	3		
Mn-D	mg/L	0.0590	0.0647	<0.0010	0.04140	<0.0010	0.0647	3		
Mn-T	mg/L	0.0670	0.0927	0.0170	0.0589	0.0170	0.0927	3		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	<0.0010	<0.0010	3		
Mo-T	mg/L	<0.0010	<0.0010	<0.0020	0.00067	<0.0010	<0.0020	3		
Na-D	mg/L	139	291	309	246	139	309	3		
Na-T	mg/L	148	278	321	249	148	321	3		
Ni-D	mg/L	0.0025	<0.0010	<0.0010	0.00117	<0.0010	0.0025	3		
Ni-T	mg/L	0.0028	0.0010	<0.0020	0.00160	<0.0020	0.0028	3		
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	0.000100	<0.00020	<0.00020	3		
Pb-T	mg/L	<0.00020	<0.00020	<0.00040	0.000133	<0.00020	<0.00040	3		
Sb-D	mg/L	<0.00050	<0.00050	<0.00050	0.000250	<0.00050	<0.00050	3		
Sb-T	mg/L	<0.00050	<0.00050	<0.0010	0.000333	<0.00050	<0.0010	3		
S-D	mg/L	220	255	245	240.0	220	255	3		
Se-D	mg/L	0.00014	<0.00010	<0.00010	0.000080	<0.00010	0.00014	3		
Se-T	mg/L	0.00015	<0.00010	<0.00020	0.000100	<0.00010	0.00015	3		
Si-D	mg/L	1.53	2.75	2.19	2.16	1.53	2.75	3		
Si-T	mg/L	1.76	2.91	2.29	2.32	1.76	2.91	3		
Sn-D	mg/L	<0.0050	<0.0050	<0.0050	0.00250	<0.0050	<0.0050	3		
Sn-T	mg/L	<0.0050	<0.0050	<0.010	0.00333	<0.0050	<0.010	3		
Sr-D	mg/L	1.24	1.46	1.44	1.38	1.24	1.46	3		
Sr-T	mg/L	1.37	1.63	1.37	1.46	1.37	1.63	3		
S-T	mg/L	240	255	256	250.3	240	256	3		
Ti-D	mg/L	<0.0050	<0.0050	<0.0050	0.00250	<0.0050	<0.0050	3		
Ti-T	mg/L	<0.0050	<0.0050	<0.010	0.00333	<0.0050	<0.010	3		
Tl-D	mg/L	<0.000010	<0.000010	<0.000010	0.0000050	<0.000010	<0.000010	3		
Tl-T	mg/L	<0.000010	<0.000010	<0.000020	0.0000067	<0.000010	<0.000020	3		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	0.00250	<0.0050	<0.0050	3		
Zn-T	mg/L	<0.0050	<0.0050	<0.010	0.00333	<0.0050	<0.010	3		
P-T	mg/L	0.0068	0.0032	<0.0030	0.00383	<0.0030	0.0068	3		
N-NH3	mg/L	<0.015	0.062	<0.015	0.0257	<0.015	0.062	3		
N-NO23	mg/L	<0.020	0.035	<0.020	0.0183	<0.020	0.035	3		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										

Table 6
Q1 Report 2020

EMS ID	E283433							
Site Description	2-North Portal Sump Effluent							
Site Name	2NPS							
Date	7-Apr-20	4-May-20	2-Jun-20	Aver	Min	Max	Count	
Parameter	Unit							
pH	pH Units	7.96	8.05	8.13	8.05	7.96	8.13	3
Cond	uS/cm	1983	2200	2100	2094.0	1983	2200	3
SO4-D	mg/L	940	940	1000	960.0	940	1000	3
Alk-T	mg/L	260	280	280	273.3	260	280	3
Acidity83	mg/L	3.8	10.1	9.5	7.8	3.8	10.1	3
Hard-T	mg/L	743	779	754	758.7	743	779	3
Ag-D	mg/L	<0.000020	<0.000040	<0.000020	0.0000133	<0.000020	<0.000040	3
Ag-T	mg/L	<0.000020	<0.000040	<0.000040	0.0000167	<0.000020	<0.000040	3
Al-D	mg/L	0.0166	0.0090	0.0054	0.0103	0.0054	0.0166	3
Al-T	mg/L	0.0312	0.0537	0.0276	0.0375	0.0276	0.0537	3
As-D	mg/L	0.00063	0.00073	0.00051	0.00062	0.00051	0.00073	3
As-T	mg/L	0.00087	0.00102	0.00071	0.00087	0.00071	0.00102	3
Ba-D	mg/L	0.0121	0.0113	0.0107	0.0114	0.0107	0.0121	3
Ba-T	mg/L	0.0124	0.0117	0.0106	0.0116	0.0106	0.0124	3
B-D	mg/L	0.607	0.74	0.694	0.680	0.607	0.74	3
Be-D	mg/L	<0.00010	<0.00020	<0.00010	0.000067	<0.00010	<0.00020	3
Be-T	mg/L	<0.00010	<0.00020	<0.00020	0.000083	<0.00010	<0.00020	3
Bi-D	mg/L	<0.0010	<0.0020	<0.0010	0.00067	<0.0010	<0.0020	3
Bi-T	mg/L	<0.0010	<0.0020	<0.0020	0.00083	<0.0010	<0.0020	3
B-T	mg/L	0.655	0.68	0.74	0.692	0.655	0.74	3
Ca-D	mg/L	244	258	262	254.7	244	262	3
Ca-T	mg/L	253	265	257	258.3	253	265	3
Cd-D	mg/L	<0.000010	<0.000020	<0.000010	0.0000067	<0.000010	<0.000020	3
Cd-T	mg/L	<0.000010	<0.000020	<0.000020	0.0000083	<0.000010	<0.000020	3
Co-D	mg/L	0.00115	0.00131	0.00080	0.00109	0.00080	0.00131	3
Co-T	mg/L	0.00121	0.00130	0.00084	0.00112	0.00084	0.00130	3
Cr-D	mg/L	<0.0010	<0.0020	<0.0010	0.00067	<0.0010	<0.0020	3
Cr-T	mg/L	<0.0010	<0.0020	<0.0020	0.00083	<0.0010	<0.0020	3
Cu-D	mg/L	0.00023	<0.00040	<0.00020	0.000177	<0.00020	0.00023	3
Cu-T	mg/L	<0.00050	<0.0010	<0.0010	0.000417	<0.00050	<0.0010	3
Fe-D	mg/L	<0.0050	0.042	0.0070	0.01717	<0.0050	0.042	3
Fe-T	mg/L	0.178	0.366	0.257	0.267	0.178	0.366	3
Hard-D	mg/L	722	767	768	752.3	722	768	3
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	3
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	3
K-D	mg/L	3.57	3.74	3.64	3.65	3.57	3.74	3
K-T	mg/L	3.61	3.71	3.56	3.63	3.56	3.71	3
Li-D	mg/L	0.0100	0.0123	0.0103	0.0109	0.0100	0.0123	3
Li-T	mg/L	0.0109	0.0127	0.0101	0.0112	0.0101	0.0127	3
Mg-D	mg/L	27.4	30.0	27.8	28.4	27.4	30.0	3
Mg-T	mg/L	27.2	28.4	27.4	27.7	27.2	28.4	3
Mn-D	mg/L	0.222	0.253	0.180	0.218	0.180	0.253	3
Mn-T	mg/L	0.229	0.246	0.169	0.215	0.169	0.246	3
Mo-D	mg/L	<0.0010	<0.0020	<0.0010	0.00067	<0.0010	<0.0020	3
Mo-T	mg/L	<0.0010	<0.0020	<0.0020	0.00083	<0.0010	<0.0020	3
Na-D	mg/L	218	226	217	220.3	217	226	3
Na-T	mg/L	216	212	223	217.0	212	223	3
Ni-D	mg/L	0.0031	0.0028	0.0022	0.0027	0.0022	0.0031	3
Ni-T	mg/L	0.0032	0.0027	0.0025	0.0028	0.0025	0.0032	3
Pb-D	mg/L	<0.00020	<0.00040	<0.00020	0.000133	<0.00020	<0.00040	3
Pb-T	mg/L	<0.00020	<0.00040	<0.00040	0.000167	<0.00020	<0.00040	3
Sb-D	mg/L	<0.00050	<0.0010	<0.00050	0.000333	<0.00050	<0.0010	3
Sb-T	mg/L	<0.00050	<0.0010	<0.0010	0.000417	<0.00050	<0.0010	3
S-D	mg/L	316	327	303	315.3	303	327	3
Se-D	mg/L	<0.00010	<0.00020	<0.00010	0.000067	<0.00010	<0.00020	3
Se-T	mg/L	<0.00010	<0.00020	<0.00020	0.000083	<0.00010	<0.00020	3
Si-D	mg/L	2.50	2.95	2.71	2.72	2.50	2.95	3
Si-T	mg/L	2.67	3.03	2.64	2.78	2.64	3.03	3
Sn-D	mg/L	<0.0050	<0.010	<0.0050	0.00333	<0.0050	<0.010	3
Sn-T	mg/L	<0.0050	<0.010	<0.010	0.00417	<0.0050	<0.010	3
Sr-D	mg/L	1.82	1.87	1.93	1.87	1.82	1.93	3
Sr-T	mg/L	1.92	2.15	1.76	1.94	1.76	2.15	3
S-T	mg/L	331	318	300	316.3	300	331	3
Ti-D	mg/L	<0.0050	<0.010	<0.0050	0.00333	<0.0050	<0.010	3
Ti-T	mg/L	<0.0050	<0.010	<0.010	0.00417	<0.0050	<0.010	3
Tl-D	mg/L	<0.000010	<0.000020	<0.000010	0.0000067	<0.000010	<0.000020	3
Tl-T	mg/L	<0.000010	<0.000020	<0.000020	0.0000083	<0.000010	<0.000020	3
Zn-D	mg/L	<0.0050	<0.010	<0.0050	0.00333	<0.0050	<0.010	3
Zn-T	mg/L	<0.0050	<0.010	<0.010	0.00417	<0.0050	<0.010	3
Notes:								
Factor applied to less-than results when calculating statistics: 0.5								

Table 7
Q1 Report 2020

EMS ID	E207411							
Site Description	Culvert at Middle Quinsam Lake Road							
Site Name	WC							
Date	7-Apr-20	4-May-20	2-Jun-20	Aver	Min	Max	Count	
Parameter	Unit							
pH	pH Units	8.01	7.82	8.22	8.01	7.82	8.22	3
Cond	uS/cm	865	848	2009	572.0	848	2009	3
SO4-D	mg/L	590	700	740	676	590	740	3
TSS	mg/L	<1.0	2.8	<1.0	1.27	<1.0	2.8	3
Alk-T	mg/L	320			320.0	320	320	1
Acidity83	mg/L	<1.0			0.50	<1.0	<1.0	1
Hard-T	mg/L	393	401	375	389.7	375	401	3
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	0.0000100	<0.000020	<0.000020	3
Ag-T	mg/L	<0.000020	<0.000020	<0.000040	0.0000133	<0.000020	<0.000040	3
Al-D	mg/L	0.0036	<0.0030		0.00220	<0.0030	0.0036	3
Al-T	mg/L	0.0069	<0.0030	<0.0060	0.00380	<0.0030	0.0069	3
As-D	mg/L	0.00048	0.00048	0.00048	0.00048	0.00048	0.00048	3
As-T	mg/L	0.00064	0.00054	0.00062	0.00060	0.00054	0.00064	3
Ba-D	mg/L	0.0192	0.0201	0.0188	0.0194	0.0188	0.0201	3
Ba-T	mg/L	0.0203	0.0202	0.0189	0.0198	0.0189	0.0203	3
B-D	mg/L	0.737	0.905	0.903	0.848	0.737	0.905	3
Be-D	mg/L	<0.00010	<0.00010	<0.00010	0.000050	<0.00010	<0.00010	3
Be-T	mg/L	<0.00010	<0.00010	<0.00020	0.000067	<0.00010	<0.00020	3
Bi-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	<0.0010	<0.0010	3
Bi-T	mg/L	<0.0010	<0.0010	<0.0020	0.00067	<0.0010	<0.0020	3
B-T	mg/L	0.780	0.848	0.99	0.873	0.780	0.99	3
Ca-D	mg/L	129	132	124	128.3	124	132	3
Ca-T	mg/L	131	134	124	129.7	124	134	3
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	0.0000050	<0.000010	<0.000010	3
Cd-T	mg/L	<0.000010	<0.000010	<0.000020	0.0000067	<0.000010	<0.000020	3
Co-D	mg/L	<0.00020	<0.00020	<0.00020	0.000100	<0.00020	<0.00020	3
Co-T	mg/L	<0.00020	<0.00020	<0.00040	0.000133	<0.00020	<0.00040	3
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	<0.0010	<0.0010	3
Cr-T	mg/L	<0.0010	<0.0010	<0.0020	0.00067	<0.0010	<0.0020	3
Cu-D	mg/L	0.00033	0.00043	0.00028	0.00035	0.00028	0.00043	3
Cu-T	mg/L	0.0141	<0.00050	<0.0010	0.004950	<0.00050	0.0141	3
Fe-D	mg/L	0.0140	0.0164	0.0108	0.0137	0.0108	0.0164	3
Fe-T	mg/L	0.176	0.134	0.144	0.151	0.134	0.176	3
Hard-D	mg/L	385	399	375	386.3	375	399	3
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	3
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	3
K-D	mg/L	4.15	4.71	4.78	4.55	4.15	4.78	3
K-T	mg/L	4.33	4.89	4.59	4.60	4.33	4.89	3
Li-D	mg/L	0.0101	0.0118	0.0105	0.0108	0.0101	0.0118	3
Li-T	mg/L	0.0108	0.0121	0.0117	0.0115	0.0108	0.0121	3
Mg-D	mg/L	15.4	17.2	16.1	16.2	15.4	17.2	3
Mg-T	mg/L	16.0	16.3	16.0	16.1	16.0	16.3	3
Mn-D	mg/L	0.0198	0.0166	0.0105	0.0156	0.0105	0.0198	3
Mn-T	mg/L	0.0213	0.0164	0.0119	0.0165	0.0119	0.0213	3
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	<0.0010	<0.0010	3
Mo-T	mg/L	<0.0010	<0.0010	<0.0020	0.00067	<0.0010	<0.0020	3
Na-D	mg/L	311	344	339	331.3	311	344	3
Na-T	mg/L	318	326	339	327.7	318	339	3
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	<0.0010	<0.0010	3
Ni-T	mg/L	<0.0010	<0.0010	<0.0020	0.00067	<0.0010	<0.0020	3
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	0.000100	<0.00020	<0.00020	3
Pb-T	mg/L	<0.00020	<0.00020	<0.00040	0.000133	<0.00020	<0.00040	3
Sb-D	mg/L	<0.00050	<0.00050	<0.00050	0.000250	<0.00050	<0.00050	3
Sb-T	mg/L	<0.00050	<0.00050	<0.0010	0.000333	<0.00050	<0.0010	3
S-D	mg/L	230	264	238	244.0	230	264	3
Se-D	mg/L	<0.00010	<0.00010	<0.00010	0.000050	<0.00010	<0.00010	3
Se-T	mg/L	<0.00010	<0.00010	<0.00020	0.000067	<0.00010	<0.00020	3
Si-D	mg/L	2.51	2.51	2.36	2.46	2.36	2.51	3
Si-T	mg/L	2.62	2.59	2.39	2.53	2.39	2.62	3
Sn-D	mg/L	<0.0050	<0.0050	<0.0050	0.00250	<0.0050	<0.0050	3
Sn-T	mg/L	<0.0050	<0.0050	<0.010	0.00333	<0.0050	<0.010	3
Sr-D	mg/L	1.28	1.40	1.44	1.37	1.28	1.44	3
Sr-T	mg/L	1.36	1.58	1.33	1.42	1.33	1.58	3
S-T	mg/L	242	256	245	247.7	242	256	3
Ti-D	mg/L	<0.0050	<0.0050	<0.0050	0.00250	<0.0050	<0.0050	3
Ti-T	mg/L	<0.0050	<0.0050	<0.010	0.00333	<0.0050	<0.010	3
Tl-D	mg/L	<0.000010	<0.000010	<0.000010	0.0000050	<0.000010	<0.000010	3
Tl-T	mg/L	<0.000010	<0.000010	<0.000020	0.0000067	<0.000010	<0.000020	3
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	0.00250	<0.0050	<0.0050	3
Zn-T	mg/L	<0.0050	<0.0050	<0.010	0.00333	<0.0050	<0.010	3
Notes:								
Factor applied to less-than results when calculating statistics: 0.5								

Table 8
Q1 Report 2020

Site Description	Groundwater / Surface Water from 2N Area at Road						
Site Name	PDSR						
Date		7-Apr-20	4-May-20	Aver	Min	Max	Count
Parameter	Unit						
pH	pH Units	7.58	8.11	7.84	7.58	8.11	2
Cond	uS/cm	1347	1600	1473	1347	1600	2
SO4-D	mg/L	470	710	590	470	710	2
TSS	mg/L		1.2	1.2	1.2	1.2	1
Alk-T	mg/L	160	190	175.0	160	190	2
Acidity83	mg/L	3.3	2.0	2.6	2.0	3.3	2
Hard-T	mg/L	616	819	717	616	819	2
Ag-D	mg/L	<0.000020	<0.000040	0.0000150	<0.000020	<0.000040	2
Ag-T	mg/L	<0.000020	<0.000040	0.0000150	<0.000020	<0.000040	2
Al-D	mg/L	0.0060	0.0068	0.0064	0.0060	0.0068	2
Al-T	mg/L	0.0084	0.0110	0.0097	0.0084	0.0110	2
As-D	mg/L	0.00011	<0.00020	0.000105	<0.00020	0.00011	2
As-T	mg/L	0.00013	<0.00020	0.000115	<0.00020	0.00013	2
Ba-D	mg/L	0.0184	0.0291	0.0238	0.0184	0.0291	2
Ba-T	mg/L	0.0182	0.0295	0.0238	0.0182	0.0295	2
B-D	mg/L	0.189	0.32	0.254	0.189	0.32	2
Be-D	mg/L	<0.00010	<0.00020	0.000075	<0.00010	<0.00020	2
Be-T	mg/L	<0.00010	<0.00020	0.000075	<0.00010	<0.00020	2
Bi-D	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Bi-T	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
B-T	mg/L	0.204	0.29	0.247	0.204	0.29	2
Ca-D	mg/L	193	248	220.5	193	248	2
Ca-T	mg/L	193	260	226.5	193	260	2
Cd-D	mg/L	<0.000010	<0.000020	0.0000075	<0.000010	<0.000020	2
Cd-T	mg/L	<0.000010	<0.000020	0.0000075	<0.000010	<0.000020	2
Co-D	mg/L	<0.00020	<0.00040	0.000150	<0.00020	<0.00040	2
Co-T	mg/L	<0.00020	<0.00040	0.000150	<0.00020	<0.00040	2
Cr-D	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Cr-T	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Cu-D	mg/L	0.00028	0.00044	0.00036	0.00028	0.00044	2
Cu-T	mg/L	0.00054	<0.0010	0.00052	<0.0010	0.00054	2
Fe-D	mg/L	<0.0050	<0.010	0.00375	<0.0050	<0.010	2
Fe-T	mg/L	<0.010	<0.020	0.0075	<0.010	<0.020	2
Hard-D	mg/L	615	792	703	615	792	2
Hg-D	mg/L	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	2
Hg-T	mg/L	<0.0000019	<0.0000019	0.00000095	<0.0000019	<0.0000019	2
K-D	mg/L	1.42	1.89	1.65	1.42	1.89	2
K-T	mg/L	1.43	2.01	1.72	1.43	2.01	2
Li-D	mg/L	<0.0020	<0.0040	0.00150	<0.0020	<0.0040	2
Li-T	mg/L	<0.0020	<0.0040	0.00150	<0.0020	<0.0040	2
Mg-D	mg/L	32.1	42.1	37.1	32.1	42.1	2
Mg-T	mg/L	32.4	41.1	36.8	32.4	41.1	2
Mn-D	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Mn-T	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Mo-D	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Mo-T	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Na-D	mg/L	48.1	61.4	54.8	48.1	61.4	2
Na-T	mg/L	48.8	59.8	54.3	48.8	59.8	2
Ni-D	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Ni-T	mg/L	<0.0010	<0.0020	0.00075	<0.0010	<0.0020	2
Pb-D	mg/L	<0.00020	<0.00040	0.000150	<0.00020	<0.00040	2
Pb-T	mg/L	<0.00020	<0.00040	0.000150	<0.00020	<0.00040	2
Sb-D	mg/L	<0.00050	<0.0010	0.000375	<0.00050	<0.0010	2
Sb-T	mg/L	<0.00050	<0.0010	0.000375	<0.00050	<0.0010	2
S-D	mg/L	184	244	214.0	184	244	2
Se-D	mg/L	<0.00010	<0.00020	0.000075	<0.00010	<0.00020	2
Se-T	mg/L	<0.00010	<0.00020	0.000075	<0.00010	<0.00020	2
Si-D	mg/L	3.17	3.45	3.31	3.17	3.45	2
Si-T	mg/L	3.30	3.78	3.54	3.30	3.78	2
Sn-D	mg/L	<0.0050	<0.010	0.00375	<0.0050	<0.010	2
Sn-T	mg/L	<0.0050	<0.010	0.00375	<0.0050	<0.010	2
Sr-D	mg/L	1.17	1.57	1.37	1.17	1.57	2
Sr-T	mg/L	1.20	1.85	1.52	1.20	1.85	2
S-T	mg/L	190	247	218.5	190	247	2
Ti-D	mg/L	<0.0050	<0.010	0.00375	<0.0050	<0.010	2
Ti-T	mg/L	<0.0050	<0.010	0.00375	<0.0050	<0.010	2
Tl-D	mg/L	<0.000010	<0.000020	0.0000075	<0.000010	<0.000020	2
Tl-T	mg/L	<0.000010	<0.000020	0.0000075	<0.000010	<0.000020	2
Zn-D	mg/L	<0.0050	<0.010	0.00375	<0.0050	<0.010	2
Zn-T	mg/L	<0.0050	<0.010	0.00375	<0.0050	<0.010	2
Notes:							
Factor applied to less-than results when calculating statistics: 0.5							

Table 9
Q1 Report 2020

EMS ID E218582																	
Site Description		Settling Pond # 1 - Authorized Discharge Location for South Mining Operation															
Site Nam		SPD															
Date			6-Apr-20	15-Apr-20	20-Apr-20	4-May-20	20-May-20	25-May-20	2-Jun-20	9-Jun-20	15-Jun-20	22-Jun-20	30-Jun-20	Aver	Min	Max	Count
Parametr	Unit	Limit-															
pH	pH Unit	6.0 - 8.5	7.98	8.02	7.73	7.97	7.94	7.99	7.99	7.80	7.73	7.75	7.78	7.88	7.73	8.02	11
Cond	uS/cm		790.0	780.0	782.0	750.0	730.0	740.0	760.0	750.0	772.0	686.0	685.0	748.0	685.0	790	11
SO4-D	mg/L		340	210	290	370	370	310	310	280	260	290	240	297	210	370	11
TSS	mg/L	25	<1.0	3.2	1.6		<1.0	<1.0	2.0	1.8	2.4	5.2	2.8	2.05	<1.0	5.2	10
Alk-T	mg/L		100				86		89					91.7	86	100	3
Acidity83	mg/L		1.6				1.5		<1.0					1.20	<1.0	1.6	3
Hard-T	mg/L		447						360					403.5	360	447	2
Ag-D	mg/L		<0.000020			<0.000020			<0.000020					0.0000100	<0.000020	<0.000020	3
Ag-T	mg/L		<0.000020						<0.000020					0.0000100	<0.000020	<0.000020	2
Al-D	mg/L	0.5	0.0036			<0.0030			<0.0030					0.00220	<0.0030	0.0036	3
Al-T	mg/L		0.0110						0.0034					0.0072	0.0034	0.0110	2
As-D	mg/L		0.00039			0.00055			0.00072					0.00055	0.00039	0.00072	3
As-T	mg/L		0.00051						0.00079					0.00065	0.00051	0.00079	2
Ba-D	mg/L		0.0110			0.0132			0.0143					0.0128	0.0110	0.0143	3
Ba-T	mg/L		0.0114						0.0139					0.0126	0.0114	0.0139	2
B-D	mg/L		0.168			0.176			0.173					0.172	0.168	0.176	3
Be-D	mg/L		<0.00010			<0.00010			<0.00010					0.000050	<0.00010	<0.00010	3
Be-T	mg/L		<0.00010						<0.00010					0.000050	<0.00010	<0.00010	2
Bi-D	mg/L		<0.0010			<0.0010			<0.0010					0.00050	<0.0010	<0.0010	3
Bi-T	mg/L		<0.0010						<0.0010					0.00050	<0.0010	<0.0010	2
B-T	mg/L		0.172						0.198					0.185	0.172	0.198	2
Ca-D	mg/L		146			132			120					132.7	120	146	3
Ca-T	mg/L		148						118					133.0	118	148	2
Cd-D	mg/L		<0.000010			<0.000010			<0.000010					0.0000050	<0.000010	<0.000010	3
Cd-T	mg/L		<0.000010						<0.000010					0.0000050	<0.000010	<0.000010	2
Co-D	mg/L		<0.00020			<0.00020			<0.00020					0.000100	<0.00020	<0.00020	3
Co-T	mg/L		<0.00020						<0.00020					0.000100	<0.00020	<0.00020	2
Cr-D	mg/L		<0.0010			<0.0010			<0.0010					0.00050	<0.0010	<0.0010	3
Cr-T	mg/L		<0.0010						<0.0010					0.00050	<0.0010	<0.0010	2
Cu-D	mg/L	0.02	0.00023			0.00035			0.00035					0.00031	0.00023	0.00035	3
Cu-T	mg/L		0.00102						<0.00050					0.000635	<0.00050	0.00102	2
Fe-D	mg/L	0.5	0.0312			0.0697			0.110					0.0703	0.0312	0.110	3
Fe-T	mg/L		0.180						0.152					0.166	0.152	0.180	2
Hard-D	mg/L		439			405			366					403.3	366	439	3
Hg-D	mg/L		<0.0000019			<0.0000019			<0.0000019					0.00000095	<0.0000019	<0.0000019	3
Hg-T	mg/L		<0.0000019						<0.0000019					0.00000095	<0.0000019	<0.0000019	2
K-D	mg/L		1.36			1.32			1.36					1.32	1.40	1.36	3
K-T	mg/L		1.39						1.32					1.36	1.32	1.39	2
Li-D	mg/L		0.0047			0.0049			0.0041					0.0046	0.0041	0.0049	3
Li-T	mg/L		0.0050						0.0040					0.0045	0.0040	0.0050	2
Mg-D	mg/L		18.3			18.1			16.2					17.5	16.2	18.3	3
Mg-T	mg/L		18.6						15.7					17.2	15.7	18.6	2
Mn-D	mg/L		0.0158			0.0220			0.0352					0.0243	0.0158	0.0352	3
Mn-T	mg/L		0.0272						0.0419					0.0346	0.0272	0.0419	2
Mo-D	mg/L		<0.0010			<0.0010			<0.0010					0.00050	<0.0010	<0.0010	3
Mo-T	mg/L		<0.0010						<0.0010					0.00050	<0.0010	<0.0010	2
Na-D	mg/L		20.9			21.0			20.2					20.7	20.2	21.0	3
Na-T	mg/L		20.7						20.0					20.4	20.0	20.7	2
Ni-D	mg/L		<0.0010			<0.0010			<0.0010					0.00050	<0.0010	<0.0010	3
Ni-T	mg/L		0.0013						<0.0010					0.00090	<0.0010	0.0013	2
Pb-D	mg/L	0.05	<0.00020			<0.00020			<0.00020					0.000100	<0.00020	<0.00020	3
Pb-T	mg/L		<0.00020						<0.00020					0.000100	<0.00020	<0.00020	2
S-D	mg/L		126			121			101					116.0	101	126	3
Se-D	mg/L		<0.00010			<0.00010			<0.00010					0.000050	<0.00010	<0.00010	3
Se-T	mg/L		<0.00010						<0.00010					0.000050	<0.00010	<0.00010	2
Si-D	mg/L		1.84			0.62			0.46					0.97	0.46	1.84	3
Si-T	mg/L		1.93						0.45					1.19	0.45	1.93	2
Sn-D	mg/L		<0.0050			<0.0050			<0.0050					0.00250	<0.0050	<0.0050	3
Sn-T	mg/L		<0.0050						<0.0050					0.00250	<0.0050	<0.0050	2
Sr-D	mg/L		0.819			0.820			0.745					0.795	0.745	0.820	3
Sr-T	mg/L		0.867						0.697					0.782	0.697	0.867	2
S-T	mg/L		128						98.7					113.4	98.7	128	2
Ti-D	mg/L		<0.0050			<0.0050			<0.0050					0.00250	<0.0050	<0.0050	3
Ti-T	mg/L		<0.0050						<0.0050					0.00250	<0.0050	<0.0050	2
Tl-D	mg/L		<0.000010			<0.000010			<0.000010					0.0000050	<0.000010	<0.000010	3
Tl-T	mg/L		<0.000010						<0.000010					0.0000050	<0.000010	<0.000010	2
Zn-D	mg/L	0.2	<0.0050			<0.0050			<0.0050					0.00250	<0.0050	<0.0050	3
Zn-T	mg/L		<0.0050						<0.0050					0.00250	<0.0050	<0.0050	2
O&G	mg/L	10	<1.0						<1.0					0.50	<1.0	<1.0	2
Notes:																	
Factor applied to less-than results when calculating statistics: 0.5																	

Table 10
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Site Description		Passive Treatment System (PTS) Influent (2-South Mine Pool)										
Site Name	INF	Water is pumped from the underground 2-South Mine Pool (INF) into the Biochemical Reactor Cell (BCR)										
Date		20-May-20	25-May-20	2-Jun-20	9-Jun-20	15-Jun-20	22-Jun-20	30-Jun-20				
Parameter	Unit								Ave	Count	Min	Max
SO4-D	mg/L	630	710	610	680	680	670	670	664	7	610	710
TSS	mg/L	11							11.0	1	11	11
Alk-T	mg/L	250							250.0	1	250	250
Acidity83	mg/L	20.1							20.1	1	20.1	20.1
N-NO23	mg/L			<0.020					0.0100	1	<0.020	<0.020
Al-T	mg/L	<0.0030		<0.0030					0.00150	2	<0.0030	<0.0030
As-T	mg/L	0.00424		0.00416					0.00420	2	0.00416	0.00424
Ba-T	mg/L	0.0206		0.0226					0.0216	2	0.0206	0.0226
B-T	mg/L	0.747		0.729					0.738	2	0.729	0.747
Cd-T	mg/L	<0.000010		<0.000010					0.0000050	2	<0.000010	<0.000010
Ca-T	mg/L	233		250					241.5	2	233	250
Cr-T	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Co-T	mg/L	0.00066		0.00060					0.00063	2	0.00060	0.00066
Cu-T	mg/L	<0.00050		0.00266					0.001455	2	<0.00050	0.00266
Hard-T	mg/L	644		687					665.5	2	644	687
Fe-T	mg/L	3.96		4.15					4.06	2	3.96	4.15
P-T	mg/L			<0.0030					0.00150	1	<0.0030	<0.0030
Pb-T	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Mg-T	mg/L	15.1		15.4					15.2	2	15.1	15.4
Mn-T	mg/L	0.398		0.423					0.410	2	0.398	0.423
Hg-T	mg/L	<0.0000019							0.00000095	1	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Ni-T	mg/L	0.0011		0.0010					0.0011	2	0.0010	0.0011
K-T	mg/L	1.86		1.98					1.92	2	1.86	1.98
S-T	mg/L	225		220					222.5	2	220	225
Se-T	mg/L	<0.00010		<0.00010					0.000050	2	<0.00010	<0.00010
Si-T	mg/L	3.21		3.07					3.14	2	3.07	3.21
Ag-T	mg/L	<0.000020		<0.000020					0.0000100	2	<0.000020	<0.000020
Na-T	mg/L	121		125					123.0	2	121	125
Sr-T	mg/L	2.32		2.28					2.30	2	2.28	2.32
Zn-T	mg/L	<0.0050		<0.0050					0.00250	2	<0.0050	<0.0050
Al-D	mg/L	<0.0030		<0.0030					0.00150	2	<0.0030	<0.0030
As-D	mg/L	0.00410		0.00384					0.00397	2	0.00384	0.00410
Ba-D	mg/L	0.0220		0.0233					0.0226	2	0.0220	0.0233
B-D	mg/L	0.682		0.699					0.690	2	0.682	0.699
Cd-D	mg/L	<0.000010		<0.000010					0.0000050	2	<0.000010	<0.000010
Ca-D	mg/L	245		239					242.0	2	239	245
Cr-D	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Co-D	mg/L	0.00069		0.00057					0.00063	2	0.00057	0.00069
Cu-D	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Hard-D	mg/L	677		660					668.5	2	660	677
Fe-D	mg/L	4.16		4.03					4.10	2	4.03	4.16
Pb-D	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Mg-D	mg/L	15.5		15.4					15.4	2	15.4	15.5
Mn-D	mg/L	0.406		0.416					0.411	2	0.406	0.416
Hg-D	mg/L	<0.0000019							0.00000095	1	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Ni-D	mg/L	0.0011		0.0010					0.0011	2	0.0010	0.0011
K-D	mg/L	1.97		2.04					2.00	2	1.97	2.04
S-D	mg/L	227		213					220.0	2	213	227
Se-D	mg/L	<0.00010		<0.00010					0.000050	2	<0.00010	<0.00010
Si-D	mg/L	2.97		2.97					2.97	2	2.97	2.97
Na-D	mg/L	126		120					123.0	2	120	126
Sr-D	mg/L	2.34		2.29					2.32	2	2.29	2.34
Zn-D	mg/L	<0.0050		0.0052					0.00385	2	<0.0050	0.0052
Notes:												
Factor applied to less-than results when calculating statistics: 0.5												

Table 11
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Passive Treatment System (PTS) Biochemical Reactor												
Site Description	Water is pumped from the underground 2-South Mine Pool into the Biochemical Reactor Cell (BCR)											
Site Name	BCREFF											
Date		20-May-20	25-May-20	2-Jun-20	9-Jun-20	15-Jun-20	22-Jun-20	30-Jun-20				
Parameter	Unit								Average	Count	Minimum	Maximum
SO4-D	mg/L	460	580	590	630	610	640	650	594	7	460	650
TSS	mg/L	3.3							3.3	1	3.3	3.3
Alk-T	mg/L	230							230.0	1	230	230
Acidity83	mg/L	5.1							5.1	1	5.1	5.1
N-NO23	mg/L			<0.020					0.0100	1	<0.020	<0.020
Al-T	mg/L	0.0098		0.0032					0.0065	2	0.0032	0.0098
As-T	mg/L	0.00235		0.00107					0.00171	2	0.00107	0.00235
Ba-T	mg/L	0.0272		0.0232					0.0252	2	0.0232	0.0272
B-T	mg/L	0.648		0.738					0.693	2	0.648	0.738
Cd-T	mg/L	<0.000010		<0.000010					0.0000050	2	<0.000010	<0.000010
Ca-T	mg/L	181		211					196.0	2	181	211
Cr-T	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Co-T	mg/L	0.00034		<0.00020					0.000220	2	<0.00020	0.00034
Cu-T	mg/L	<0.00050		<0.00050					0.000250	2	<0.00050	<0.00050
Hard-T	mg/L	501		587					544.0	2	501	587
Fe-T	mg/L	0.926		0.407					0.666	2	0.407	0.926
P-T	mg/L			0.0035					0.0035	1	0.0035	0.0035
Pb-T	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Mg-T	mg/L	11.9		14.9					13.4	2	11.9	14.9
Mn-T	mg/L	0.259		0.0752					0.1671	2	0.0752	0.259
Hg-T	mg/L	<0.0000019							0.00000095	1	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Ni-T	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
K-T	mg/L	1.74		1.91					1.82	2	1.74	1.91
S-T	mg/L	164		207					185.5	2	164	207
Se-T	mg/L	<0.00010		<0.00010					0.000050	2	<0.00010	<0.00010
Si-T	mg/L	2.66		2.22					2.44	2	2.22	2.66
Ag-T	mg/L	<0.000020		<0.000020					0.0000100	2	<0.000020	<0.000020
Na-T	mg/L	95.5		120					107.8	2	95.5	120
Sr-T	mg/L	1.83		2.09					1.96	2	1.83	2.09
Zn-T	mg/L	<0.0050		<0.0050					0.00250	2	<0.0050	<0.0050
Al-D	mg/L	<0.0030		<0.0030					0.00150	2	<0.0030	<0.0030
As-D	mg/L	0.00139		0.00086					0.00112	2	0.00086	0.00139
Ba-D	mg/L	0.0283		0.0243					0.0263	2	0.0243	0.0283
B-D	mg/L	0.624		0.704					0.664	2	0.624	0.704
Cd-D	mg/L	<0.000010		<0.000010					0.0000050	2	<0.000010	<0.000010
Ca-D	mg/L	196		218					207.0	2	196	218
Cr-D	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Co-D	mg/L	0.00032		<0.00020					0.000210	2	<0.00020	0.00032
Cu-D	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Hard-D	mg/L	542		607					574.5	2	542	607
Fe-D	mg/L	0.108		0.119					0.113	2	0.108	0.119
Pb-D	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Mg-D	mg/L	12.6		15.2					13.9	2	12.6	15.2
Mn-D	mg/L	0.258		0.0546					0.1563	2	0.0546	0.258
Hg-D	mg/L	<0.0000019							0.00000095	1	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Ni-D	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
K-D	mg/L	1.84		1.93					1.88	2	1.84	1.93
S-D	mg/L	171		205					188.0	2	171	205
Se-D	mg/L	<0.00010		<0.00010					0.000050	2	<0.00010	<0.00010
Si-D	mg/L	2.47		2.31					2.39	2	2.31	2.47
Na-D	mg/L	104		118					111.0	2	104	118
Sr-D	mg/L	1.88		2.16					2.02	2	1.88	2.16
Zn-D	mg/L	<0.0050		<0.0050					0.00250	2	<0.0050	<0.0050
Notes:												
Factor applied to less-than results when calculating statistics: 0.5												

Table 12
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Site Description		Passive Treatment System (PTS) Sulphide Polishing Cell										
Site Name	SPCEFF	Passive flow from BCR to SPCEFF										
Date		20-May-20	25-May-20	2-Jun-20	9-Jun-20	15-Jun-20	22-Jun-20	30-Jun-20				
Parameter	Unit								Average	Count	Minimum	Maximum
SO4-D	mg/L	240	260	340	440	500	490	470	391	7	240	500
TSS	mg/L	6.3							6.3	1	6.3	6.3
Alk-T	mg/L	490							490.0	1	490	490
Acidity83	mg/L	18.4							18.4	1	18.4	18.4
N-NO23	mg/L			<0.020					0.0100	1	<0.020	<0.020
Al-T	mg/L	0.0131		0.0114					0.0122	2	0.0114	0.0131
As-T	mg/L	0.00380		0.00511					0.00446	2	0.00380	0.00511
Ba-T	mg/L	0.0537		0.0633					0.0585	2	0.0537	0.0633
B-T	mg/L	0.694		0.791					0.742	2	0.694	0.791
Cd-T	mg/L	0.000013		<0.000010					0.0000090	2	<0.000010	0.000013
Ca-T	mg/L	170		209					189.5	2	170	209
Cr-T	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Co-T	mg/L	0.00189		0.00039					0.00114	2	0.00039	0.00189
Cu-T	mg/L	0.0105		0.00278					0.00664	2	0.00278	0.0105
Hard-T	mg/L	483		578					530.5	2	483	578
Fe-T	mg/L	1.05		1.61					1.33	2	1.05	1.61
P-T	mg/L			0.035					0.035	1	0.035	0.035
Pb-T	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Mg-T	mg/L	14.1		13.7					13.9	2	13.7	14.1
Mn-T	mg/L	0.324		0.0982					0.2111	2	0.0982	0.324
Hg-T	mg/L	<0.0000019							9.5E-07	1	<0.0000019	<0.0000019
Mo-T	mg/L	0.0013		<0.0010					0.00090	2	<0.0010	0.0013
Ni-T	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
K-T	mg/L	1.91		2.17					2.04	2	1.91	2.17
S-T	mg/L	71.6		121					96.3	2	71.6	121
Se-T	mg/L	<0.00010		<0.00010					0.000050	2	<0.00010	<0.00010
Si-T	mg/L	4.26		4.78					4.52	2	4.26	4.78
Ag-T	mg/L	<0.000020		<0.000020					0.0000100	2	<0.000020	<0.000020
Na-T	mg/L	117		112					114.5	2	112	117
Sr-T	mg/L	1.94		2.05					2.00	2	1.94	2.05
Zn-T	mg/L	<0.0050		<0.0050					0.00250	2	<0.0050	<0.0050
Al-D	mg/L	<0.0030		0.0031					0.00230	2	<0.0030	0.0031
As-D	mg/L	0.00286		0.00199					0.00242	2	0.00199	0.00286
Ba-D	mg/L	0.0548		0.0626					0.0587	2	0.0548	0.0626
B-D	mg/L	0.632		0.746					0.689	2	0.632	0.746
Cd-D	mg/L	<0.000010		<0.000010					0.0000050	2	<0.000010	<0.000010
Ca-D	mg/L	176		190					183.0	2	176	190
Cr-D	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
Co-D	mg/L	0.00176		0.00034					0.00105	2	0.00034	0.00176
Cu-D	mg/L	0.00396		<0.00020					0.002030	2	<0.00020	0.00396
Hard-D	mg/L	496		533					514.5	2	496	533
Fe-D	mg/L	0.0361		0.0246					0.0304	2	0.0246	0.0361
Pb-D	mg/L	<0.00020		<0.00020					0.000100	2	<0.00020	<0.00020
Mg-D	mg/L	14.1		14.3					14.2	2	14.1	14.3
Mn-D	mg/L	0.315		0.0936					0.2043	2	0.0936	0.315
Hg-D	mg/L	<0.0000019							9.5E-07	1	<0.0000019	<0.0000019
Mo-D	mg/L	0.0013		<0.0010					0.00090	2	<0.0010	0.0013
Ni-D	mg/L	<0.0010		<0.0010					0.00050	2	<0.0010	<0.0010
K-D	mg/L	1.96		2.20					2.08	2	1.96	2.20
S-D	mg/L	71.4		123					97.2	2	71.4	123
Se-D	mg/L	<0.00010		<0.00010					0.000050	2	<0.00010	<0.00010
Si-D	mg/L	3.80		4.28					4.04	2	3.80	4.28
Na-D	mg/L	120		110					115.0	2	110	120
Sr-D	mg/L	1.93		2.15					2.04	2	1.93	2.15
Zn-D	mg/L	<0.0050		<0.0050					0.00250	2	<0.0050	<0.0050
Notes:												
Factor applied to less-than results when calculating statistics: 0.5												

Table 13
Q1 Report 2020

Site Description		2-South Inflow										
Site Name	2SI	Water from SPCEFF flows into 2-South Pit at the 2-South Inflow										
Date		7-Apr-20	20-May-20	2-Jun-20	9-Jun-20	15-Jun-20	22-Jun-20	30-Jun-20				
Parameter	Unit								Average	Count	Minimum	Maximum
SO4-D	mg/L	100	140	300	330	390	440	430	304	7	100	440
TSS	mg/L		1.7						1.7	1	1.7	1.7
Alk-T	mg/L	55	120						87.5	2	55	120
Acidity83	mg/L	2.5	2.4						2.4	2	2.4	2.5
Al-T	mg/L	0.0135	0.0045	0.0049					0.0076	3	0.0045	0.0135
As-T	mg/L	0.00011	0.00020	0.00055					0.00029	3	0.00011	0.00055
Ba-T	mg/L	0.0077	0.0140	0.0421					0.0213	3	0.0077	0.0421
B-T	mg/L	0.062	0.195	0.663					0.307	3	0.062	0.663
Cd-T	mg/L	<0.000010	<0.000010	<0.000010					0.0000050	3	<0.000010	<0.000010
Ca-T	mg/L	45.4	68.1	194					102.5	3	45.4	194
Cr-T	mg/L	<0.0010	<0.0010	<0.0010					0.00050	3	<0.0010	<0.0010
Co-T	mg/L	0.00029	<0.00020	0.00020					0.000197	3	<0.00020	0.00029
Cu-T	mg/L	0.00062	0.00061	<0.00050					0.000493	3	<0.00050	0.00062
Hard-T	mg/L	137	202	540					293	3	137	540
Fe-T	mg/L	0.239	0.101	0.259					0.200	3	0.101	0.259
Pb-T	mg/L	<0.00020	<0.00020	<0.00020					0.000100	3	<0.00020	<0.00020
Mg-T	mg/L	5.67	7.67	13.6					8.98	3	5.67	13.6
Mn-T	mg/L	0.125	0.104	0.0714					0.1001	3	0.0714	0.125
Hg-T	mg/L	<0.0000019	<0.0000019						0.00000095	2	<0.0000019	<0.0000019
Mo-T	mg/L	<0.0010	<0.0010	<0.0010					0.00050	3	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010					0.00050	3	<0.0010	<0.0010
K-T	mg/L	0.309	0.435	1.76					0.835	3	0.309	1.76
S-T	mg/L	31.2	45.0	118					64.7	3	31.2	118
Se-T	mg/L	<0.00010	<0.00010	<0.00010					0.000050	3	<0.00010	<0.00010
Si-T	mg/L	3.64	3.98	4.61					4.08	3	3.64	4.61
Ag-T	mg/L	<0.000020	<0.000020	<0.000020					0.0000100	3	<0.000020	<0.000020
Na-T	mg/L	5.92	24.0	96.9					42.27	3	5.92	96.9
Sr-T	mg/L	0.241	0.470	1.68					0.797	3	0.241	1.68
Zn-T	mg/L	<0.0050	<0.0050	<0.0050					0.00250	3	<0.0050	<0.0050
Al-D	mg/L	0.0075	<0.0030	0.0035					0.00417	3	<0.0030	0.0075
As-D	mg/L	0.00010	0.00020	0.00052					0.00027	3	0.00010	0.00052
Ba-D	mg/L	0.0077	0.0138	0.0470					0.0228	3	0.0077	0.0470
B-D	mg/L	0.059	0.173	0.651					0.294	3	0.059	0.651
Cd-D	mg/L	<0.000010	<0.000010	<0.000010					0.0000050	3	<0.000010	<0.000010
Ca-D	mg/L	44.0	68.1	172					94.7	3	44.0	172
Cr-D	mg/L	<0.0010	<0.0010	<0.0010					0.00050	3	<0.0010	<0.0010
Co-D	mg/L	0.00028	<0.00020	0.00031					0.000230	3	<0.00020	0.00031
Cu-D	mg/L	0.00046	0.00057	0.00021					0.00041	3	0.00021	0.00057
Hard-D	mg/L	133	202	486					273	3	133	486
Fe-D	mg/L	0.180	0.0427	0.0557					0.0928	3	0.0427	0.180
Pb-D	mg/L	<0.00020	<0.00020	<0.00020					0.000100	3	<0.00020	<0.00020
Mg-D	mg/L	5.57	7.71	13.6					8.96	3	5.57	13.6
Mn-D	mg/L	0.123	0.100	0.125					0.116	3	0.100	0.125
Hg-D	mg/L	<0.0000019	<0.0000019						0.00000095	2	<0.0000019	<0.0000019
Mo-D	mg/L	<0.0010	<0.0010	<0.0010					0.00050	3	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010					0.00050	3	<0.0010	<0.0010
K-D	mg/L	0.300	0.444	1.79					0.845	3	0.300	1.79
S-D	mg/L	30.0	45.7	117					64.2	3	30.0	117
Se-D	mg/L	<0.00010	<0.00010	<0.00010					0.000050	3	<0.00010	<0.00010
Si-D	mg/L	3.43	3.53	4.01					3.66	3	3.43	4.01
Na-D	mg/L	5.83	24.6	93.8					41.41	3	5.83	93.8
Sr-D	mg/L	0.232	0.460	1.73					0.807	3	0.232	1.73
Zn-D	mg/L	<0.0050	<0.0050	<0.0050					0.00250	3	<0.0050	<0.0050
Notes:												
Factor applied to less-than results when calculating statistics: 0.5												

Table 14
Q1 Report 2020

EMS ID	E292127								
Site Description 2 South Pit in Pit Water Cover (CCR Water Cover)									
Site Name	25								
Parameter	Unit								
Date		6-Apr-20	4-May-20	2-Jun-20					
Parameter	Unit				Average	Count	Minimum	Maximum	
pH	pH Units	7.48	8.01	8.05	7.85	3	7.48	8.05	
Cond	uS/cm	630	616	729	658	3	616	729	
SO4-D	mg/L	210	210	220	213.3	3	210	220	
TSS	mg/L								
Alk-T	mg/L	120	67	81	89.3	3	67	120	
Acidity83	mg/L	<1.0	<1.0	<1.0	0.50	3	<1.0	<1.0	
Al-T	mg/L	0.0082	0.0172	0.0071	0.0108	3	0.0071	0.0172	
As-T	mg/L	0.00270	0.00052	0.00210	0.00177	3	0.00052	0.00270	
Ba-T	mg/L	0.0132	0.0111	0.0138	0.0127	3	0.0111	0.0138	
B-T	mg/L	0.260	0.137	0.321	0.239	3	0.137	0.321	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	0.0000050	3	<0.000010	<0.000010	
Ca-T	mg/L	108	95.2	91.5	98.2	3	91.5	108	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020	
Cu-T	mg/L	<0.00050	0.00075	0.00080	0.0006	3	<0.00050	0.00080	
Hard-T	mg/L	320	288	277	295.0	3	277	320	
Fe-T	mg/L	0.042	0.036	0.015	0.031	3	0.015	0.042	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020	
Mg-T	mg/L	12.3	12.2	11.8	12.1	3	11.8	12.3	
Mn-T	mg/L	0.0147	0.0076	0.0190	0.0138	3	0.0076	0.0190	
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	3	<0.0000019	<0.0000019	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010	
K-T	mg/L	1.35	0.886	1.46	1.232	3	0.886	1.46	
S-T	mg/L	101	84.9	89.7	91.9	3	84.9	101	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	0.000050	3	<0.00010	<0.00010	
Si-T	mg/L	1.32	1.69	0.38	1.13	3	0.38	1.69	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	0.0000100	3	<0.000020	<0.000020	
Na-T	mg/L	42.8	17.0	39.5	33.1	3	17.0	42.8	
Sr-T	mg/L	0.773	0.689	0.714	0.725	3	0.689	0.773	
Zn-T	mg/L	<0.0050	0.0115	<0.0050	0.0055	3	<0.0050	0.0115	
Al-D	mg/L	<0.0030	0.0045	0.0031	0.00303	3	<0.0030	0.0045	
As-D	mg/L	0.00223	0.00046	0.00196	0.00155	3	0.00046	0.00223	
Ba-D	mg/L	0.0131	0.0113	0.0134	0.0126	3	0.0113	0.0134	
B-D	mg/L	0.258	0.143	0.296	0.232	3	0.143	0.296	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	0.0000050	3	<0.000010	<0.000010	
Ca-D	mg/L	105	90.9	82.9	92.9	3	82.9	105	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020	
Cu-D	mg/L	0.00022	0.00076	0.00068	0.00055	3	0.00022	0.00076	
Hard-D	mg/L	314	278	258	283.3	3	258	314	
Fe-D	mg/L	<0.0050	0.0115	0.0066	0.00687	3	<0.0050	0.0115	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020	
Mg-D	mg/L	12.3	12.2	12.3	12.3	3	12.2	12.3	
Mn-D	mg/L	0.0055	0.0026	0.0083	0.0055	3	0.0026	0.0083	
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	0.00000095	3	<0.0000019	<0.0000019	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010	
K-D	mg/L	1.30	0.849	1.49	1.213	3	0.849	1.49	
S-D	mg/L	98.3	81.4	89.0	89.6	3	81.4	98.3	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	0.000050	3	<0.00010	<0.00010	
Si-D	mg/L	1.22	1.50	0.34	1.02	3	0.34	1.50	
Na-D	mg/L	43.5	17.4	39.7	33.5	3	17.4	43.5	
Sr-D	mg/L	0.755	0.585	0.744	0.695	3	0.585	0.755	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	0.00250	3	<0.0050	<0.0050	
Notes:									
Factor applied to less-than results when calculating statistics: 0.5									

Table 15
Q1 Report 2020

EMS ID	E217015								
Site Description	3 South Pit Main Water Sump (CCR Water Cover)								
Site Name	3S								
Parameter	Unit								
Date		6-Apr-20	4-May-20	2-Jun-20					
Parameter	Unit				Average	Count	Minimum	Maximum	
pH	pH Units	7.97	7.75	7.90	7.84	3	7.75	7.97	
Cond	uS/cm	1036	1304	1091	1144	3	1036	1304	
SO4-D	mg/L	640	540	510	563	3	510	640	
TSS	mg/L								
Alk-T	mg/L	170	150	140	153.3	3	140	170	
Acidity83	mg/L	2.7	2.7	2.5	2.6	3	2.5	2.7	
Al-T	mg/L	0.0093		0.0082	0.0088	2	0.0082	0.0093	
As-T	mg/L	0.00050		0.00068	0.00059	2	0.00050	0.00068	
Ba-T	mg/L	0.0136		0.0161	0.0148	2	0.0136	0.0161	
B-T	mg/L	0.277		0.350	0.314	2	0.277	0.350	
Cd-T	mg/L	<0.000010		<0.000010	0.0000050	2	<0.000010	<0.000010	
Ca-T	mg/L	237		204	220.5	2	204	237	
Cr-T	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010	
Co-T	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020	
Cu-T	mg/L	<0.00050		0.00101	0.000630	2	<0.00050	0.00101	
Hard-T	mg/L	713		618	665.5	2	618	713	
Fe-T	mg/L	0.030		0.032	0.031	2	0.030	0.032	
Pb-T	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020	
Mg-T	mg/L	29.4		26.5	28.0	2	26.5	29.4	
Mn-T	mg/L	0.0093		0.0166	0.0130	2	0.0093	0.0166	
Hg-T	mg/L	<0.0000019		<0.0000019	0.00000095	2	<0.0000019	<0.0000019	
Mo-T	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010	
Ni-T	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010	
K-T	mg/L	2.20		2.44	2.32	2	2.20	2.44	
S-T	mg/L	207		178	192.5	2	178	207	
Se-T	mg/L	0.00013		0.00011	0.00012	2	0.00011	0.00013	
Si-T	mg/L	1.87		0.74	1.31	2	0.74	1.87	
Ag-T	mg/L	<0.000020		<0.000020	0.0000100	2	<0.000020	<0.000020	
Na-T	mg/L	35.1		40.7	37.9	2	35.1	40.7	
Sr-T	mg/L	1.45		1.31	1.38	2	1.31	1.45	
Zn-T	mg/L	<0.0050		<0.0050	0.00250	2	<0.0050	<0.0050	
Al-D	mg/L	<0.0030		<0.0030	0.00150	2	<0.0030	<0.0030	
As-D	mg/L	0.00047		0.00069	0.00058	2	0.00047	0.00069	
Ba-D	mg/L	0.0132		0.0148	0.0140	2	0.0132	0.0148	
B-D	mg/L	0.284		0.323	0.304	2	0.284	0.323	
Cd-D	mg/L	<0.000010		<0.000010	0.0000050	2	<0.000010	<0.000010	
Ca-D	mg/L	233		195	214.0	2	195	233	
Cr-D	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010	
Co-D	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020	
Cu-D	mg/L	0.00024		0.00043	0.00034	2	0.00024	0.00043	
Hard-D	mg/L	701		599	650	2	599	701	
Fe-D	mg/L	0.0059		0.0192	0.0125	2	0.0059	0.0192	
Pb-D	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020	
Mg-D	mg/L	28.8		27.1	28.0	2	27.1	28.8	
Mn-D	mg/L	0.0070		0.0139	0.0104	2	0.0070	0.0139	
Hg-D	mg/L	<0.0000019		<0.0000019	0.00000095	2	<0.0000019	<0.0000019	
Mo-D	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010	
Ni-D	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010	
K-D	mg/L	2.21		2.57	2.39	2	2.21	2.57	
S-D	mg/L	204		180	192.0	2	180	204	
Se-D	mg/L	0.00013		<0.00010	0.000090	2	<0.00010	0.00013	
Si-D	mg/L	1.81		0.70	1.25	2	0.70	1.81	
Na-D	mg/L	35.1		41.0	38.0	2	35.1	41.0	
Sr-D	mg/L	1.39		1.37	1.38	2	1.37	1.39	
Zn-D	mg/L	<0.0050		<0.0050	0.00250	2	<0.0050	<0.0050	
Notes:									
Factor applied to less-than results when calculating statistics: 0.5									

Table 16
Q1 Report 2020

EMS ID		E217014						
Site Description		South Pit Culvert- Culvert, Downstream of Settling Pond #1 Discharge						
Site Name		SPC						
Date		6-Apr-20	4-May-20	2-Jun-20				
Parameter	Unit				Average	Count	Minimum	Maximum
pH	pH Units	8.05	7.84	7.47	7.79	3	7.47	8.05
Cond	uS/cm	367	287	224	293	3	224	367
SO4-D	mg/L	160	36	63	86	3	36	160
TSS	mg/L	<1.0	5.2	12	5.90	3	<1.0	12
Alk-T	mg/L	43	26	39	36.0	3	26	43
Acidity83	mg/L	<1.0	3.6	<1.0	1.53	3	<1.0	3.6
Al-T	mg/L	0.0501		0.118	0.0840	2	0.0501	0.118
As-T	mg/L	0.00029		0.00073	0.00051	2	0.00029	0.00073
Ba-T	mg/L	0.0110		0.0081	0.0096	2	0.0081	0.0110
B-T	mg/L	0.073		0.064	0.068	2	0.064	0.073
Cd-T	mg/L	<0.000010		<0.000010	0.0000050	2	<0.000010	<0.000010
Ca-T	mg/L	58.2		28.2	43.2	2	28.2	58.2
Cr-T	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010
Co-T	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020
Cu-T	mg/L	<0.00050		0.00064	0.000445	2	<0.00050	0.00064
Hard-T	mg/L	177		87.0	132.0	2	87.0	177
Fe-T	mg/L	0.079		0.325	0.202	2	0.079	0.325
Pb-T	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020
Mg-T	mg/L	7.70		4.02	5.86	2	4.02	7.70
Mn-T	mg/L	0.0022		0.0103	0.0062	2	0.0022	0.0103
Hg-T	mg/L	<0.0000019		0.0000021	0.00000152	2	<0.0000019	0.0000021
Mo-T	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010
Ni-T	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010
K-T	mg/L	0.537		0.264	0.400	2	0.264	0.537
S-T	mg/L	51.0		17.5	34.2	2	17.5	51.0
Se-T	mg/L	<0.00010		<0.00010	0.000050	2	<0.00010	<0.00010
Si-T	mg/L	2.34		1.96	2.15	2	1.96	2.34
Ag-T	mg/L	<0.000020		<0.000020	0.0000100	2	<0.000020	<0.000020
Na-T	mg/L	9.83		5.82	7.82	2	5.82	9.83
Sr-T	mg/L	0.341		0.166	0.254	2	0.166	0.341
Zn-T	mg/L	<0.0050		<0.0050	0.00250	2	<0.0050	<0.0050
Al-D	mg/L	0.0357		0.0637	0.0497	2	0.0357	0.0637
As-D	mg/L	0.00025		0.00060	0.00042	2	0.00025	0.00060
Ba-D	mg/L	0.0106		0.0078	0.0092	2	0.0078	0.0106
B-D	mg/L	0.071		<0.050	0.0480	2	<0.050	0.071
Cd-D	mg/L	<0.000010		<0.000010	0.0000050	2	<0.000010	<0.000010
Ca-D	mg/L	57.8		29.0	43.4	2	29.0	57.8
Cr-D	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010
Co-D	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020
Cu-D	mg/L	0.00029		0.00057	0.00043	2	0.00029	0.00057
Hard-D	mg/L	176		89.9	133.0	2	89.9	176
Fe-D	mg/L	0.0448		0.156	0.1004	2	0.0448	0.156
Pb-D	mg/L	<0.00020		<0.00020	0.000100	2	<0.00020	<0.00020
Mg-D	mg/L	7.76		4.26	6.01	2	4.26	7.76
Mn-D	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010
Hg-D	mg/L	<0.0000019		0.0000022	0.00000158	2	<0.0000019	0.0000022
Mo-D	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010
Ni-D	mg/L	<0.0010		<0.0010	0.00050	2	<0.0010	<0.0010
K-D	mg/L	0.506		0.286	0.396	2	0.286	0.506
S-D	mg/L	50.4		18.3	34.4	2	18.3	50.4
Se-D	mg/L	<0.00010		<0.00010	0.000050	2	<0.00010	<0.00010
Si-D	mg/L	2.24		1.92	2.08	2	1.92	2.24
Na-D	mg/L	9.71		5.93	7.82	2	5.93	9.71
Sr-D	mg/L	0.335		0.181	0.258	2	0.181	0.335
Zn-D	mg/L	<0.0050		<0.0050	0.00250	2	<0.0050	<0.0050
Notes:								
Factor applied to less-than results when calculating statistics: 0.5								

Table 17
Q1 Report 2020

EMS ID.		E292131							
Site Description		Smaller Seep into Long Lake							
Site Name		LLS							
Date			06-Apr-20	04-May-20	02-Jun-20				
Parameter	Unit	WQG-Max (M)				Aver	Count	Min	Max
pH	pH Units	6.5 - 9.0	7.65	7.27	7.24	7.39	3	7.24	7.65
Cond	uS/cm		1051	1480	1264	1265.0	3	1051	1480
SO4-D	mg/L		660	600	640	633.3	3	600	660
TSS	mg/L	25	4.8	6.0	4.8	5.2	3	4.8	6.0
Alk-T	mg/L		240	240	250	243.3	3	240	250
Acidity83	mg/L		17.6	13.9	19.4	17.0	3	13.9	19.4
Al-T	mg/L		0.0033	0.0033	<0.0030	0.00270	3	<0.0030	0.0033
As-T	mg/L	0.005	0.00505	0.00495	0.00376	0.00459	3	0.00376	0.00505
Ba-T	mg/L	5	0.0193	0.0198	0.0187	0.0193	3	0.0187	0.0198
B-T	mg/L		0.598	0.587	0.623	0.603	3	0.587	0.623
Cd-T	mg/L		<0.000010	<0.000010	<0.000010	0.0000050	3	<0.000010	<0.000010
Ca-T	mg/L		255	253	234	247.3	3	234	255
Cr-T	mg/L		<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Co-T	mg/L	0.11	0.00231	0.00169	0.00138	0.00179	3	0.00138	0.00231
Cu-T	mg/L		<0.00050	<0.00050	<0.00050	0.000250	3	<0.00050	<0.00050
Hard-T	mg/L		725	713	661	699.7	3	661	725
Fe-T	mg/L	1	2.54	1.98	1.69	2.07	3	1.69	2.54
Pb-T	mg/L	0.01763	<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020
Mg-T	mg/L		21.3	19.9	18.6	19.9	3	18.6	21.3
Mn-T	mg/L	0.8706	0.555	0.538	0.491	0.528	3	0.491	0.555
Hg-T	mg/L	0.00001	<0.0000019	<0.0000019	<0.0000019	0.00000095	3	<0.0000019	<0.0000019
Mo-T	mg/L	2	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Ni-T	mg/L	0.025	0.0046	0.0031	0.0024	0.0034	3	0.0024	0.0046
K-T	mg/L		2.57	2.53	2.38	2.49	3	2.38	2.57
S-T	mg/L		237	228	202	222.3	3	202	237
Se-T	mg/L		<0.00010	<0.00010	<0.00010	0.000050	3	<0.00010	<0.00010
Si-T	mg/L		3.07	3.21	2.74	3.01	3	2.74	3.21
Ag-T	mg/L	0.0001	<0.000020	<0.000020	<0.000020	0.0000100	3	<0.000020	<0.000020
Na-T	mg/L		106	99.5	103	102.8	3	99.5	106
Sr-T	mg/L		2.34	2.51	2.13	2.33	3	2.13	2.51
Zn-T	mg/L	0.033	<0.0050	<0.0050	<0.0050	0.00250	3	<0.0050	<0.0050
Al-D	mg/L	0.1	<0.0030	<0.0030	<0.0030	0.00150	3	<0.0030	<0.0030
As-D	mg/L		0.00478	0.00455	0.00374	0.00436	3	0.00374	0.00478
Ba-D	mg/L		0.0186	0.0198	0.0197	0.0194	3	0.0186	0.0198
B-D	mg/L		0.577	0.604	0.638	0.606	3	0.577	0.638
Cd-D	mg/L	0.00017	<0.000010	<0.000010	<0.000010	0.0000050	3	<0.000010	<0.000010
Ca-D	mg/L		246	245	227	239.3	3	227	246
Cr-D	mg/L		<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Co-D	mg/L		0.00226	0.00185	0.00149	0.00187	3	0.00149	0.00226
Cu-D	mg/L	0.002	<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020
Hard-D	mg/L		704	700	650	684.7	3	650	704
Fe-D	mg/L	0.35	2.39	2.07	1.62	2.03	3	1.62	2.39
Pb-D	mg/L		<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020
Mg-D	mg/L		21.4	21.2	20.1	20.9	3	20.1	21.4
Mn-D	mg/L		0.544	0.541	0.502	0.529	3	0.502	0.544
Hg-D	mg/L		<0.0000019	<0.0000019	<0.0000019	0.00000095	3	<0.0000019	<0.0000019
Mo-D	mg/L		<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Ni-D	mg/L		0.0045	0.0033	0.0025	0.0034	3	0.0025	0.0045
K-D	mg/L		2.53	2.49	2.53	2.52	3	2.49	2.53
S-D	mg/L		234	230	208	224.0	3	208	234
Se-D	mg/L		<0.00010	<0.00010	<0.00010	0.000050	3	<0.00010	<0.00010
Si-D	mg/L		2.94	2.99	2.57	2.83	3	2.57	2.99
Na-D	mg/L		105	107	109	107.0	3	105	109
Sr-D	mg/L		2.25	2.22	2.24	2.24	3	2.22	2.25
Zn-D	mg/L		<0.0050	<0.0050	<0.0050	0.00250	3	<0.0050	<0.0050
Notes:									
Factor applied to less-than results when calculating statistics: 0.5									

Table 18
Q1 Report 2020

EMS ID. E292131									
Site Description Long Lake Middle Seep									
Site Name LLSM									
Date			06-Apr-20	04-May-20	02-Jun-20				
Parameter	Unit	WQG-Max (M)				Aver	Count	Min	Max
pH	pH Units	6.5 - 9.0	7.45	7.17	7.15	7.26	3	7.15	7.45
Cond	uS/cm		1110	1367	1413	1297.0	3	1110	1413
SO4-D	mg/L		520	620	530	556	3	520	620
TSS	mg/L	25	<1.0	2.8	3.6	2.30	3	<1.0	3.6
Alk-T	mg/L		210	230	220	220.0	3	210	230
Acidity83	mg/L		9.0	9.4	9.8	9.4	3	9.0	9.8
Al-T	mg/L		0.0037	0.0145	<0.0030	0.00657	3	<0.0030	0.0145
As-T	mg/L	0.005	0.00146	0.00201	0.00145	0.00164	3	0.00145	0.00201
Ba-T	mg/L	5	0.0174	0.0183	0.0173	0.0177	3	0.0173	0.0183
B-T	mg/L		0.482	0.518	0.508	0.503	3	0.482	0.518
Cd-T	mg/L		<0.000010	<0.000010	0.000014	0.0000080	3	<0.000010	0.000014
Ca-T	mg/L		203	218	195	205.3	3	195	218
Cr-T	mg/L		<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Co-T	mg/L	0.11	0.00194	0.00230	0.00129	0.00184	3	0.00129	0.00230
Cu-T	mg/L		<0.00050	<0.00050	<0.00050	0.000250	3	<0.00050	<0.00050
Hard-T	mg/L		581	616	554	583.7	3	554	616
Fe-T	mg/L	1	0.936	1.32	0.822	1.026	3	0.822	1.32
Pb-T	mg/L	0.01763	<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020
Mg-T	mg/L		18.0	17.8	16.4	17.4	3	16.4	18.0
Mn-T	mg/L	0.8706	0.353	0.465	0.359	0.392	3	0.353	0.465
Hg-T	mg/L	0.00001	<0.0000019	<0.0000019	<0.0000019	0.00000095	3	<0.0000019	<0.0000019
Mo-T	mg/L	2	<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Ni-T	mg/L	0.025	0.0042	0.0037	0.0024	0.0034	3	0.0024	0.0042
K-T	mg/L		2.20	2.29	2.17	2.22	3	2.17	2.29
S-T	mg/L		189	199	165	184.3	3	165	199
Se-T	mg/L		<0.00010	<0.00010	<0.00010	0.000050	3	<0.00010	<0.00010
Si-T	mg/L		2.67	2.87	2.39	2.64	3	2.39	2.87
Ag-T	mg/L	0.0001	<0.000020	<0.000020	<0.000020	0.0000100	3	<0.000020	<0.000020
Na-T	mg/L		84.7	88.3	84.2	85.7	3	84.2	88.3
Sr-T	mg/L		1.85	2.18	1.74	1.92	3	1.74	2.18
Zn-T	mg/L	0.033	<0.0050	<0.0050	<0.0050	0.00250	3	<0.0050	<0.0050
Al-D	mg/L	0.1	<0.0030	<0.0030	<0.0030	0.00150	3	<0.0030	<0.0030
As-D	mg/L		0.00136	0.00155	0.00135	0.00142	3	0.00135	0.00155
Ba-D	mg/L		0.0182	0.0185	0.0179	0.0182	3	0.0179	0.0185
B-D	mg/L		0.446	0.525	0.504	0.492	3	0.446	0.525
Cd-D	mg/L	0.00017	<0.000010	<0.000010	<0.000010	0.0000050	3	<0.000010	<0.000010
Ca-D	mg/L		208	215	176	199.7	3	176	215
Cr-D	mg/L		<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Co-D	mg/L		0.00201	0.00241	0.00133	0.00192	3	0.00133	0.00241
Cu-D	mg/L	0.002	<0.00020	<0.00020	0.00020	0.000133	3	<0.00020	0.00020
Hard-D	mg/L		591	615	512	572	3	512	615
Fe-D	mg/L	0.35	0.894	1.00	0.715	0.870	3	0.715	1.00
Pb-D	mg/L		<0.00020	<0.00020	<0.00020	0.000100	3	<0.00020	<0.00020
Mg-D	mg/L		17.3	18.8	17.3	17.8	3	17.3	18.8
Mn-D	mg/L		0.350	0.467	0.357	0.391	3	0.350	0.467
Hg-D	mg/L		<0.0000019	<0.0000019	<0.0000019	0.00000095	3	<0.0000019	<0.0000019
Mo-D	mg/L		<0.0010	<0.0010	<0.0010	0.00050	3	<0.0010	<0.0010
Ni-D	mg/L		0.0042	0.0040	0.0025	0.0036	3	0.0025	0.0042
K-D	mg/L		2.15	2.30	2.27	2.24	3	2.15	2.30
S-D	mg/L		184	198	166	182.7	3	166	198
Se-D	mg/L		<0.00010	<0.00010	<0.00010	0.000050	3	<0.00010	<0.00010
Si-D	mg/L		2.49	2.71	2.16	2.45	3	2.16	2.71
Na-D	mg/L		82.3	92.9	84.1	86.4	3	82.3	92.9
Sr-D	mg/L		1.86	1.94	1.80	1.87	3	1.80	1.94
Zn-D	mg/L		<0.0050	<0.0050	<0.0050	0.00250	3	<0.0050	<0.0050
Notes:									
Factor applied to less-than results when calculating statistics: 0.5									

Table 19
Q1 Report 2020

EMS ID	E292130																		
Site Description	Long Lake Entrance - Last wetland prior to entering Long Lake near the outlet - IDZ																		
Site Name	LLE																		
Date	6-Apr-2015-Apr-2020-Apr-2027-Apr-204-May-2011-May-2020-May-2025-May-2022-Jun-209-Jun-2015-Jun-2022-Jun-2030-Jun-20																		
Parameter	Unit	WQG-Max (M)														Aver	Count	Min	Max
pH	pH Units	6.5 - 9.0	6.56	7.18	7.3	7.47	7.15	7.28	6.9	7.57	7.22	7.56	7.36	7.74	7.73	7.31	13	6.56	7.74
Cond	uS/cm		331.8	350.1	348	490	340	352.00	470	260	329	250	300	400	470	361	13	250	490
SO4-D	mg/L		120	150	160	200	120	290	160	88	120	84	98	140	160	145	13	84	290
TSS	mg/L	25	2.8				1.6				4.4					2.9	3	1.6	4.4
Alk-T	mg/L		38				43				51					44.0	3	38	51
Acidity83	mg/L		1.7				1.8				1.7					1.7	3	1.7	1.8
N-NH3	mg/L	12.9	<0.015				0.15				<0.015					0.0550	3	<0.015	0.15
N-NO23	mg/L		<0.020				<0.020				<0.020					0.0100	3	<0.020	<0.020
Al-T	mg/L		0.0605				0.0450				0.0247					0.0434	3	0.0247	0.0605
As-T	mg/L	0.005	0.00057				0.00054				0.00066					0.00059	3	0.00054	0.00066
Ba-T	mg/L	5	0.0127				0.0149				0.0163					0.0146	3	0.0127	0.0163
B-T	mg/L		0.072				0.090				0.113					0.092	3	0.072	0.113
Cd-T	mg/L		<0.000010				<0.000010				<0.000010					0.0000050	3	<0.000010	<0.000010
Ca-T	mg/L		49.0				46.0				46.1					47.0	3	46.0	49.0
Cr-T	mg/L		<0.0010				<0.0010				<0.0010					0.00050	3	<0.0010	<0.0010
Co-T	mg/L	0.11	<0.00020				<0.00020				<0.00020					0.000100	3	<0.00020	<0.00020
Cu-T	mg/L		<0.00050				<0.00050				<0.00050					0.000250	3	<0.00050	<0.00050
Hard-T	mg/L		150				142				144					145.3	3	142	150
Fe-T	mg/L	1	0.694				0.930				0.657					0.760	3	0.657	0.930
P-T	mg/L		<0.0030				0.0058				0.0040					0.00377	3	<0.0030	0.0058
Pb-T	mg/L	0.01763	<0.00020				<0.00020				<0.00020					0.000100	3	<0.00020	<0.00020
Mg-T	mg/L		6.74				6.54				6.94					6.74	3	6.54	6.94
Mn-T	mg/L	0.8706	0.0452				0.102				0.0665					0.0712	3	0.0452	0.102
Hg-T	mg/L	0.00001	<0.0000019				<0.0000019				<0.0000019					0.00000095	3	<0.0000019	<0.0000019
Mo-T	mg/L	2	<0.0010				<0.0010				<0.0010					0.00050	3	<0.0010	<0.0010
Ni-T	mg/L	0.025	<0.0010				<0.0010				<0.0010					0.00050	3	<0.0010	<0.0010
K-T	mg/L		0.490				0.566				0.539					0.532	3	0.490	0.566
S-T	mg/L		43.6				39.5				37.0					40.0	3	37.0	43.6
Se-T	mg/L		<0.00010				<0.00010				<0.00010					0.000050	3	<0.00010	<0.00010
Si-T	mg/L		2.54				2.34				1.96					2.28	3	1.96	2.54
Ag-T	mg/L	0.0001	<0.000020				<0.000020				<0.000020					0.0000100	3	<0.000020	<0.000020
Na-T	mg/L		9.26				10.7				12.2					10.72	3	9.26	12.2
Sr-T	mg/L		0.288				0.292				0.269					0.283	3	0.269	0.292
Zn-T	mg/L	0.033	<0.0050				<0.0050				<0.0050					0.00250	3	<0.0050	<0.0050
Al-D	mg/L	0.1	0.0276				0.0256				0.0191					0.0241	3	0.0191	0.0276
As-D	mg/L		0.00041				0.00048				0.00061					0.00050	3	0.00041	0.00061
Ba-D	mg/L		0.0119				0.0150				0.0163					0.0144	3	0.0119	0.0163
B-D	mg/L		0.067				0.091				0.095					0.084	3	0.067	0.095
Cd-D	mg/L	0.00017	<0.000010				<0.000010				<0.000010					0.0000050	3	<0.000010	<0.000010
Ca-D	mg/L		46.2				44.4				46.5					45.7	3	44.4	46.5
Cr-D	mg/L		<0.0010				<0.0010				<0.0010					0.00050	3	<0.0010	<0.0010
Co-D	mg/L		<0.00020				<0.00020				<0.00020					0.000100	3	<0.00020	<0.00020
Cu-D	mg/L	0.002	0.00033				0.00058				0.00046					0.00046	3	0.00033	0.00058
Hard-D	mg/L		142				139				144					141.7	3	139	144
Fe-D	mg/L	0.35	0.558				0.776				0.549					0.628	3	0.549	0.776
Pb-D	mg/L		<0.00020				<0.00020				<0.00020					0.000100	3	<0.00020	<0.00020
Mg-D	mg/L		6.46				6.74				6.89					6.70	3	6.46	6.89
Mn-D	mg/L		0.0424				0.107				0.0637					0.0710	3	0.0424	0.107
Hg-D	mg/L		<0.0000019				<0.0000019				<0.0000019					0.00000095	3	<0.0000019	<0.0000019
Mo-D	mg/L		<0.0010				<0.0010				<0.0010					0.00050	3	<0.0010	<0.0010
Ni-D	mg/L		<0.0010				<0.0010				<0.0010					0.00050	3	<0.0010	<0.0010
K-D	mg/L		0.466				0.557				0.555					0.526	3	0.466	0.557
S-D	mg/L		40.3				39.1				36.3					38.6	3	36.3	40.3
Se-D	mg/L		<0.00010				<0.00010				<0.00010					0.000050	3	<0.00010	<0.00010
Si-D	mg/L		2.32				2.11				1.98					2.14	3	1.98	2.32
Na-D	mg/L		8.97				11.4				12.1					10.82	3	8.97	12.1
Sr-D	mg/L		0.269				0.274				0.285					0.276	3	0.269	0.285
Zn-D	mg/L		<0.0050				<0.0050				<0.0050					0.00250	3	<0.0050	<0.0050
Notes:																			
Factor applied to less-than results when calculating statistics: 0.5																			

Table 20
Q1 Report 2020

EMS ID		E292069	
Site Description		Settling Pond at 7S - Permitted discharge location for the 7-South Mining Operation	
Site Name		7SSD	
Date		04-May-2020	
Parameter		Unit	
pH		pH Units	
Cond		uS/cm	
SO4-D		mg/L	
TSS		mg/L	
Alk-T		mg/L	
Acidity 8.3		mg/L	
Al-T		mg/L	
As-T		mg/L	
Ba-T		mg/L	
B-T		mg/L	
Cd-T		mg/L	
Ca-T		mg/L	
Cr-T		mg/L	
Co-T		mg/L	
Cu-T		mg/L	
Hard-T		mg/L	
Fe-T		mg/L	
Pb-T		mg/L	
Mg-T		mg/L	
Mn-T		mg/L	
Hg-T		mg/L	
Mo-T		mg/L	
Ni-T		mg/L	
K-T		mg/L	
S-T		mg/L	
Se-T		mg/L	
Si-T		mg/L	
Ag-T		mg/L	
Na-T		mg/L	
Sr-T		mg/L	
Zn-T		mg/L	
Al-D		mg/L	
As-D		mg/L	
Ba-D		mg/L	
B-D		mg/L	
Cd-D		mg/L	
Ca-D		mg/L	
Cr-D		mg/L	
Co-D		mg/L	
Cu-D		mg/L	
DOC		mg/L	
Hard-D		mg/L	
Fe-D		mg/L	
Pb-D		mg/L	
Mg-D		mg/L	
Mn-D		mg/L	
Hg-D		mg/L	
Mo-D		mg/L	
Ni-D		mg/L	
K-D		mg/L	
S-D		mg/L	
Se-D		mg/L	
Si-D		mg/L	
Na-D		mg/L	
Sr-D		mg/L	
Zn-D		mg/L	

Table 21
Q1 Report 2020

EMS ID		E292109			
Site Description		Stream 1 - Downstream of the 7SSD discharge, prior to entering the Lower Wetland Outlet			
Site Name		7S			
Date		07-Apr-2020		04-May-2020	
Parameter		Unit		June	
				WQG-Max	
pH	pH Units	8.16	7.91	NF	6.5 - 9.0
Cond	uS/cm	52.3	68	NF	
SO4-D	mg/L	3.7	3.7	NF	
TSS	mg/L	<1.0	1.6		25
Alk-T	mg/L	13	20		
Acidity83	mg/L	<1.0	<1.0		
Al-T	mg/L	0.0201	0.0175		
As-T	mg/L	<0.00010	<0.00010		0.005
Ba-T	mg/L	0.0014	0.0018		5
B-T	mg/L	<0.050	<0.050		
Cd-T	mg/L	<0.000010	<0.000010		
Ca-T	mg/L	4.70	5.91		
Cr-T	mg/L	<0.0010	<0.0010		
Co-T	mg/L	<0.00020	<0.00020		0.11
Cu-T	mg/L	<0.00050	<0.00050		0.00482
Hard-T	mg/L	16.4	20.2		
Fe-T	mg/L	<0.010	<0.010		1
Pb-T	mg/L	<0.00020	<0.00020		0.01763
Mg-T	mg/L	1.13	1.33		
Mn-T	mg/L	<0.0010	<0.0010		0.8706
Hg-T	mg/L	<0.0000019	<0.0000019		0.00001
Mo-T	mg/L	<0.0010	<0.0010		2
Ni-T	mg/L	<0.0010	<0.0010		0.025
K-T	mg/L	0.088	0.122		
S-T	mg/L	<3.0	<3.0		
Se-T	mg/L	<0.00010	<0.00010		
Si-T	mg/L	4.09	4.83		
Ag-T	mg/L	<0.000020	<0.000020		0.0001
Na-T	mg/L	1.57	1.76		
Sr-T	mg/L	0.0182	0.0261		
Zn-T	mg/L	<0.0050	<0.0050		0.033
Al-D	mg/L	0.0171	0.0150		0.1
As-D	mg/L	<0.00010	<0.00010		
Ba-D	mg/L	0.0013	0.0017		
B-D	mg/L	<0.050	<0.050		
Cd-D	mg/L	<0.000010	<0.000010		0.00017
Ca-D	mg/L	4.72	5.75		
Cr-D	mg/L	<0.0010	<0.0010		
Co-D	mg/L	<0.00020	<0.00020		
Cu-D	mg/L	0.00020	0.00029		0.002
DOC	mg/L	1.7	0.85		
Hard-D	mg/L	16.2	20.2		
Fe-D	mg/L	<0.0050	<0.0050		0.35
Pb-D	mg/L	<0.00020	<0.00020		
Mg-D	mg/L	1.07	1.41		
Mn-D	mg/L	<0.0010	<0.0010		
Hg-D	mg/L	<0.0000019	<0.0000019		
Mo-D	mg/L	<0.0010	<0.0010		
Ni-D	mg/L	<0.0010	<0.0010		
K-D	mg/L	0.085	0.113		
S-D	mg/L	<3.0	<3.0		
Se-D	mg/L	<0.00010	<0.00010		
Si-D	mg/L	3.84	4.36		
Na-D	mg/L	1.52	1.86		
Sr-D	mg/L	0.0184	0.0241		
Zn-D	mg/L	<0.0050	<0.0050		

Table 22
Q1 Report 2020

Weekly/Monthly Sulphate (SO4-D)													
EMS ID:			E207409	E207411	E218582	E217014		E292130					Rolling average LLE
	From	To	WD	WC	SPD	SPC	INF	BCREFF	SPCEFF	2SI	LLE		
SO4-D													
	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	138	
	6-Apr-20	12-Apr-20	760	590	340	160				100	120	140	
	13-Apr-20	19-Apr-20	600		210						150	150	
	20-Apr-20	26-Apr-20	760		290						160	152	
	27-Apr-20	3-May-20	740	540							200	162	
	4-May-20	10-May-20	740	700	370	36					120	150	
	11-May-20	17-May-20	750								290	184	
	18-May-20	24-May-20	740		370		630	460	240	140	160	186	
	25-May-20	31-May-20	810		310		710	580	260		88	171.6	
	1-Jun-20	7-Jun-20	760	740	310	63	610	590	340	300	120	155.6	
	8-Jun-20	14-Jun-20	750		280		680	630	440	330	84	148.4	
	15-Jun-20	21-Jun-20	720		260		680	610	500	390	98	110	
	22-Jun-20	28-Jun-20	700		290		670	640	490	440	140	106	
	29-Jun-20	5-Jul-20	730		240		670	650	470	430	160	120.4	
Average			735	626	305	92	664	594	391	288	143		
Minimum			590	540	210	36	610	460	240	100	84		
Maximum			840	740	380	160	710	650	500	440	290		
Notes:													
Factor applied to less-than results when calculating statistics: 0.5													
Samples aligned by: Week													

Table 23
01 Report 2020

Weekly/Monthly Total Suspended Solids (TSS)							
EMS ID:			E207409	E207411	E218582	E217014	E292130
	From	To	WD	WC	SPD	SPC	LLE
TSS							
	2-Mar-20	8-Mar-20	2.4	2.4	<1.0	1.6	<1.0
	9-Mar-20	15-Mar-20	3.2		2.4		
	16-Mar-20	22-Mar-20	6.0		<1.0		
	23-Mar-20	29-Mar-20	2.8		<1.0		
	30-Mar-20	5-Apr-20	2.8		<1.0		
	6-Apr-20	12-Apr-20	2.4	<1.0	<1.0	<1.0	2.8
	13-Apr-20	19-Apr-20	2.0		3.2		
	20-Apr-20	26-Apr-20	3.0		1.6		
	27-Apr-20	3-May-20	3.2	1.6			
	4-May-20	10-May-20	3.2	2.8		5.2	1.6
	11-May-20	17-May-20	2.8				
	18-May-20	24-May-20	2.9		<1.0		
	25-May-20	31-May-20	3.2		<1.0		
	1-Jun-20	7-Jun-20	3.6	<1.0	2.0	12	4.4
	8-Jun-20	14-Jun-20	4.0		1.8		
	15-Jun-20	21-Jun-20	6.4		2.4		
	22-Jun-20	28-Jun-20	4.0		5.2		
	29-Jun-20	5-Jul-20	3.6		2.8		
Average			3.4	1.56	1.66	4.82	2.33
Minimum			2.0	<1.0	<1.0	<1.0	<1.0
Maximum			6.4	2.8	5.2	12	4.4
Notes:							
Factor applied to less-than results when calculating statistics: 0.5							
Samples aligned by: Week							

Table 24
Q1 Report 2020

E207409						
DISCHARGE FROM SETTLING POND # 4 (WD)						
Date	April	April	May	May	June	June
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	0.1090	0.0920	0.1160	0.0900	0.1340	0.1150
2	0.1110	0.0890	0.1340	0.1150	0.1400	0.1180
3	0.1150	0.0920	0.1380	0.1090	0.1370	0.1250
4	0.1270	0.0920	0.0880	0.0480	0.1330	0.1100
5	0.1270	0.1000	0.0820	0.0420	0.1390	0.1300
6	0.1190	0.0900	0.0980	0.0450	0.1540	0.1450
7	0.0990	0.0740	0.0850	0.0380	0.1560	0.1530
8	0.0400	0.0250	0.1320	0.1020	0.1590	0.1350
9	0.0450	0.0250	0.0880	0.0450	0.1320	0.1250
10	0.1360	0.0650	0.0830	0.0330	0.1410	0.1340
11	0.1420	0.0890	0.0910	0.0350	0.1170	0.0930
12	0.0510	0.0370	0.0740	0.0340	0.1240	0.1000
13	0.0400	0.0290	0.1170	0.0640	0.1300	0.1000
14	0.0380	0.0270	0.0870	0.0420	0.1240	0.1020
15	0.0850	0.0390	0.0870	0.0470	0.1330	0.1160
16	0.1450	0.1270	0.0920	0.0440	0.1330	0.1190
17	0.1610	0.1310	0.0890	0.0550	0.1370	0.1110
18	0.1330	0.1070	0.1340	0.1180	0.1250	0.0950
19	0.1300	0.0950	0.1420	0.1310	0.1020	0.0910
20	0.1320	0.1130	0.1410	0.0960	0.1020	0.0890
21	0.1360	0.1140	0.1360	0.1210	0.1050	0.0910
22	0.1330	0.0990	0.1320	0.1100	0.1010	0.0890
23	0.1070	0.0530	0.1330	0.1090	0.1010	0.0930
24	0.1090	0.0860	0.1480	0.1340	0.1150	0.1000
25	0.1310	0.0780	0.1520	0.1150	0.1300	0.1130
26	0.0840	0.0640	0.1350	0.1130	0.1140	0.0930
27	0.0760	0.0380	0.1450	0.1300	0.1080	0.0970
28	0.1030	0.0480	0.1440	0.1140	0.1030	0.0870
29	0.0840	0.0420	0.1350	0.1130	0.0970	0.0850
30	0.0820	0.0470	0.1320	0.1090	0.0970	0.0870
31			0.1330	0.1220		
Monthly Max	0.1610		0.1520		0.1590	
Monthly Avg		0.0736		0.0846		0.1080
Weekly TSS is required for decant flow > 0.054 m³/s						

Table 25
Q1 Report 2020

EMS ID		E218582				
DISCHARGE FROM SETTLING POND # 1 (SPD)						
Date	April	April	May	May	June	June
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	0.1088	0.0764	0.0160	0.0032	0.0160	0.0000
2	0.0877	0.0443	0.0160	0.0091	0.0091	0.0032
3	0.0443	0.0250	0.0160	0.0032	0.0091	0.0000
4	0.1185	0.0639	0.0160	0.0091	0.0160	0.0032
5	0.0989	0.0443	0.0160	0.0000	0.0160	0.0032
6	0.0534	0.0341	0.0091	0.0000	0.0877	0.0250
7	0.0534	0.0160	0.0091	0.0000	0.0639	0.0091
8	0.0443	0.0091	0.0091	0.0000	0.0341	0.0091
9	0.0341	0.0032	0.0032	0.0000	0.0341	0.0160
10	0.0160	0.0032	0.0032	0.0000	0.0160	0.0091
11	0.0160	0.0032	0.0032	0.0000	0.0160	0.0032
12	0.0160	0.0032	0.0160	0.0032	0.0534	0.0341
13	0.0091	0.0020	0.0091	0.0032	0.0443	0.0091
14	0.0091	0.0000	0.0091	0.0000	0.0341	0.0091
15	0.0091	0.0000	0.0091	0.0000	0.0989	0.0341
16	0.0091	0.0000	0.0160	0.0091	0.0989	0.0534
17	0.0091	0.0000	0.0341	0.0091	0.0764	0.0341
18	0.0091	0.0000	0.0341	0.0032	0.0639	0.0250
19	0.0032	0.0000	0.0341	0.0032	0.1088	0.0764
20	0.0032	0.0000	0.0160	0.0091	0.0639	0.0443
21	0.0032	0.0000	0.0443	0.0000	0.0764	0.0341
22	0.0032	0.0000	0.0877	0.0341	0.1088	0.0877
23	0.0091	0.0000	0.0160	0.0091	0.0639	0.0443
24	0.0091	0.0000	0.0160	0.0160	0.1279	0.0534
25	0.0032	0.0000	0.0160	0.0091	0.1279	0.0639
26	0.0091	0.0000	0.0341	0.0000	0.0639	0.0443
27	0.0091	0.0000	0.0160	0.0000	0.0639	0.0341
28	0.0091	0.0032	0.0091	0.0000	0.1088	0.0443
29	0.0091	0.0032	0.0534	0.0091	0.0877	0.0341
30	0.0160	0.0032	0.0443	0.0091	0.0534	0.0160
31			0.0091	0.0000		
Monthly Max	0.1185		0.0877		0.1279	
Monthly Avg		0.0113		0.0049		0.0286
PNC = Permit Non-compliance						
TSS is required weekly when max daily flow > 0.046m ³ /s						
NF= No Flow All flow data is subject for review						

Table 26
Q1 Report 2020

EMS ID E292069			
DISCHARGE FROM 7-SOUTH SURFACE DECANT (7SSD)			
	April	May	June
Date	Daily Average L/S		
1	NF	NF	NF
2	NF	NF	NF
3	NF	NF	NF
4	NF	NF	NF
5	NF	NF	NF
6	NF	NF	NF
7	NF	NF	NF
8	NF	NF	NF
9	NF	NF	NF
10	NF	NF	NF
11	NF	NF	NF
12	NF	NF	NF
13	NF	NF	NF
14	NF	NF	NF
15	NF	NF	NF
16	NF	NF	NF
17	NF	NF	NF
18	NF	NF	NF
19	NF	NF	NF
20	NF	NF	NF
21	NF	NF	NF
22	NF	NF	NF
23	NF	NF	NF
24	NF	NF	NF
25	NF	NF	NF
26	NF	NF	NF
27	NF	NF	NF
28	NF	NF	NF
29	NF	NF	NF
30	NF	NF	NF
31	NF	NF	NF
Monthly Avg	0.000	0.000	0.000
Annual Avg			
Cummulative Daily Totalizer Value			
For Maximum Decant Flow (5.00 L/s)			

Table 27
Q3 Report 2019

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			
Site Name	2-N-Portal Sump		Settling Pond #4		2 North Pit Sump		North Pit Culvert		7 South Portal Sump		Settling Pond at 7S		Stream 1 -7S			
Site Code	2NPS		WD		WP		WC		7SPS		7SSD		7S		PDSR	
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH
April 2020	7.96	1983	1760	7.66	2010	7.42	865	8.01	602	7.51	Dry	Dry	52.3	8.16	595	7.94
			1987	7.63												
			2104	7.76												
			2100	7.68												
May 2020	8.05	2200	2440	7.7	2000	7.20	848	7.82	519	7.35	310	7.49	68	7.91	1600	8.11
			2221	7.58												
			1998	7.71												
			1802	7.4												
June 2020	8.13	2100	1660	7.44	2003	7.27	2009	8.22	874	7.01	Dry	Dry	Dry	Dry	Dry	Dry
			1983	7.76												
			2011	7.88												
			2015	7.78												
			2000	7.80												
Min	7.96	1983	1660	7.40	2000	7.20	848	7.82	519	7.01	310	7.49	52.30	7.91	595	7.94
Max	8.13	2200	2440	7.88	2010	7.42	2009	8.22	874	7.51	310	7.49	68.00	8.16	1600	8.11
Average	8.05	2094	2006	7.68	2004	7.30	1241	8.02	665	7.29	310	7.49	60.15	8.04	1098	8.03

Table 28
Q3 Report 2019

Field Conductivity (uS/cm) & pH (South Mine Area)																
EMS ID	E292127		E217015		E218582		E217014		E292130		E292131		E292131			
Site Name	2 South Pit CCR Water Cover		3 South Pit CCR Water Cover		LLSTS Settling Pond Effluent		Settling Pond # 1		South Pit Culvert		Long Lake Entry		Seep into Long Lake		Long Lake Middle Seep	
Site Code	2S (2SS)		3S		SPCEFF		SPD		SPC		LLE		LLS		LLSM	
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH
April 2020	630	7.48	1036	7.97	Pump off	Pump off	790	7.98	367.00	8.05	331.80	6.56	1051	7.65	1110	7.45
					Pump off	Pump off	780	8.02			350.1	7.18				
					Pump off	Pump off	782	7.73			348	7.3				
					Pump off	Pump off	750	7.97			490	7.47				
May 2020	616	8.01	1304	7.75	1278	7.84	730	7.94	287.00	7.84	340	7.15	1480	7.27	1367	7.17
					1402	7.58	740	7.99			352	7.28				
					1336	7.59	760	7.99			470	6.90				
					1358	7.63	750	7.80			260	7.57				
June 2020	729	8.05	1091	7.90	1406	7.60	772	7.73	224.00	7.47	329	7.22	1264	7.24	1413	7.15
					1523	7.61	686	7.75			250	7.56				
					1418	7.50	685	7.78			300	7.36				
					1312	7.68	725	7.59			400	7.74				
					1278	7.61	785	7.80			470	7.73				
Min	616	7.48	1036	7.75	1278	7.50	685	7.59	224	7.47	250	6.56	1051	7.24	1110	7.15
Max	729	8.05	1304	7.97	1523	7.84	790	8.02	367	8.05	490	7.74	1480	7.65	1413	7.45
Average	658	7.85	1144	7.87	1368	7.63	749	7.85	293	7.79	361	7.31	1265	7.39	1297	7.26

Table 29
Q3 Report 2019

Field Conductivity (uS/cm) & pH (Rivers & Wetland)												
EMS ID	E0126402		E0900504		E217017		E219412		E292113		E299256	
Site Name	Quinsam River at Argonaut Bridge		Middle Quinsam Lake Outlet		No Name Lake Outlet		Long Lake Outlet		7 South Quinsam River		Iron River & Quinsam River	
Site Code	WA		WB		NNO		LLO		7SQR		IRQR	
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH
April 2020												
	51.40	7.11	118.60	7.39	32.80	6.92	149.00	7.50	118.30	7.03	90.70	7.00
	61.00	7.28	121.00	7.36	30.10	7.25	152.10	7.48	143.00	7.70	110.00	7.85
	48.00	7.32	143.00	7.77	33.00	7.01	143.00	7.63	164.00	7.38	105.70	8.01
May 2020	51.00	7.52	158.00	7.73	40.30	7.12	121.80	7.67	156.00	7.54	112.00	8.11
	52.40	7.48	141.20	7.82	41.00	7.11	130.00	7.30	161.00	7.57	138.00	7.61
Jun-20												
Min	48	7.11	119	7.36	30	6.92	122	7.30	118	7.03	91	7.00
Max	61	7.52	158	7.82	41	7.25	152	7.67	164	7.70	138	8.11
Average	53	7.34	136	7.61	35	7.08	139	7.52	148	7.44	111	7.72

Table 30

Q1 Report 2020

TABLE 35 DEPTH PROFILING - LAKES

STATION NAME: NO NAME LAKE (NNL)																															
NO NAME LAKE DEPTH PROFILING																															
Sample Date		16-Apr						22-Apr						29-Apr						06-May						12-May					
Parameter	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	
Sample Depth (m)																															
1	11.84	6.75	28.60	102.10	11.05	157.20	11.13	7.13	36.10	100.00	10.50	211.90	11.84	7.44	36.90	97.80	10.56	152.60	11.71	7.81	37.70	986.00	10369.00	1578.00	15.92	7.83	36.70	102.90	10.10	162.20	
2	9.92	6.88	28.60	100.80	11.49	150.20	12.89	7.19	36.20	100.00	10.55	217.70	11.75	7.33	36.70	97.80	10.56	152.70	11.74	7.58	37.60	98.20	10.64	152.10	14.66	7.57	37.50	100.10	10.13	156.10	
3	7.85	6.88	28.40	99.10	11.81	152.00	8.91	6.82	35.70	101.80	11.78	237.20	10.58	6.93	36.90	97.00	10.74	163.40	11.59	7.49	37.60	97.70	10.63	147.00	14.02	7.41	37.10	98.90	10.32	155.50	
4	6.54	6.83	29.20	96.30	11.77	153.60	7.21	6.69	36.30	98.10	11.83	243.90	9.50	6.81	37.60	96.00	11.09	170.80	9.41	7.36	39.20	93.70	10.73	146.40	10.86	7.27	37.00	94.80	10.60	158.00	
5	6.02	6.78	30.50	92.00	11.49	155.40	9.33	6.58	37.40	93.10	11.48	249.60	7.80	6.50	38.20	93.80	11.23	185.50	6.98	7.22	39.50	90.50	10.94	148.90	8.30	7.07	38.30	91.60	10.74	164.80	
6	5.55	6.74	30.40	88.00	1.11	156.30	5.60	6.49	68.90	88.40	11.08	251.40	6.52	6.25	39.80	90.10	11.07	194.80	6.37	7.10	40.10	86.70	10.75	151.30	7.10	6.79	38.70	879.00	10.69	176.00	
7	5.39	6.71	31.40	86.80	10.96	157.90	5.31	6.39	40.20	83.20	10.53	256.60	5.86	6.09	39.70	85.70	10.69	202.00	5.99	6.90	40.10	84.70	10.54	154.70	6.25	6.58	39.00	84.90	10.48	180.00	
8	5.20	6.68	31.90	84.60	10.74	158.50	5.19	6.37	40.80	81.60	10.36	257.30	5.58	6.00	40.30	83.30	10.47	205.60	5.94	6.88	40.30	84.10	10.48	156.60	5.97	6.44	39.30	83.00	10.32	183.70	
9	5.16	6.69	32.10	84.00	10.67	158.60	5.20	6.33	40.70	81.20	10.31	258.30	5.43	6.02	40.70	81.20	10.26	201.90	5.57	6.80	40.90	82.10	10.33	158.30	5.88	6.35	39.40	81.60	10.19	186.90	
10	5.15	6.67	32.40	83.50	10.63	160.10	5.14	6.30	41.30	80.50	10.33	258.80	5.55	6.03	40.50	81.40	10.26	205.90	5.51	6.72	41.50	80.10	10.09	159.70	5.77	6.18	39.60	80.50	10.06	193.30	
11	5.11	6.63	32.60	83.00	10.57	160.10	5.12	6.29	41.60	80.10	10.19	259.30	5.39	5.91	40.90	80.00	10.18	206.30	5.43	6.68	41.60	78.90	9.96	161.10	5.73	6.09	39.70	79.70	9.99	196.20	
12	5.08	6.61	32.80	82.60	10.52	161.50	5.04	6.25	41.80	78.70	10.03	260.50	5.29	5.88	41.30	79.80	10.10	207.90	5.38	6.59	41.90	78.20	9.89	164.70	5.63	6.02	39.90	78.80	9.91	198.40	
1m from Bottom (BS)	5.06	6.62	33.10	82.10	10.48	162.30	4.95	6.20	49.70	76.10	9.51	262.10	5.25	5.83	41.80	78.50	9.94	209.40	5.66	6.50	41.90	77.10	9.75	165.40	5.20	6.01	40.10	78.20	9.86	199.81	
BS=13								BS=13												BS=13											
STATION NAME: LONG LAKE (LLM)																															
LONG LAKE DEPTH PROFILING																															
Sample Date		16-Apr						22-Apr						29-Apr						06-May						12-May					
Parameter	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	TEMP. °C	pH	C µS/cm	% Sat.	D.O. mg/L	ORP mV	
Sample Depth (m)																															
1	11.41	6.95	134.80	102.90	11.25	169.90	12.90	7.24	187.50	101.00	10.66	215.70	12.06	7.03	216.50	97.40	10.48	151.10	12.43	7.15	235.80	99.00	10.56	190.30	15.74	7.21	228.80	101.00	10.02	125.50	
2	9.83	6.98	160.10	102.50	11.64	170.50	12.70	7.24	201.90	101.90	10.84	216.00	12.01	7.06	217.10	97.40	10.49	151.20	12.35	7.19	279.20	98.50	10.53	188.20	14.77	7.22	240.90	99.60	10.18	123.70	
3	8.50	6.95	221.90	100.00	11.64	173.20	9.62	7.19	277.90	101.10	11.51	219.20	11.97	7.06	293.70	97.00	10.48	151.80	12.19	7.22	237.30	98.10	10.52	187.00	12.92	7.21	263.00	97.70	10.34	123.80	
4	6.88	6.92	265.30	99.90	11.36	174.60	7.47	7.13	327.60	93.30	11.18	222.30	9.01	6.92	329.80	93.60	11.01	1578.00	8.95	7.13	318.90	91.10	10.11	190.40	8.80	7.09	349.00	87.60	10.24	127.90	
5	5.77	6.87	296.50	80.10	9.95	176.10	6.17	7.07	365.00	82.40	10.03	225.00	6.64	6.85	370.90	82.70	9.85	160.50	6.46	7.01	382.30	78.50	9.54	192.40	6.39	6.99	377.20	72.40	8.73	129.90	
6	5.38	6.83	207.20	71.20	8.97	177.40	5.53	7.01	381.20	70.20	8.74	227.50	6.17	6.79	387.90	70.20	8.68	162.20	5.63	6.93	396.60	69.00	8.47	193.90	5.59	6.94	384.50	63.90	7.91	131.00	
7	5.15	6.80	313.00	64.40	8.06	178.50	5.20	7.00	388.90	65.30	8.24	228.40	5.38	6.75	395.60	62.70	7.80	163.20	5.45	6.87	399.70	61.40	7.70	194.50	5.43	6.90	386.20	59.30	7.44	121.80	
8	5.04	6.79	317.00	60.50	7.66	178.90	5.07	6.95	393.50	59.30	7.52	229.40	5.17	6.73	398.30	57.30	7.26	164.00	5.33	6.84	400.10	57.60	7.28	194.40	5.28	6.87	388.30	55.30	6.96	132.60	
9	5.00	6.79	318.50	57.80	7.38	178.90	5.04	6.93	395.40	57.40	7.29	229.00	5.14	6.71	399.30	55.90	7.08	164.80	5.12	6.79	404.40	54.20	6.89	194.70	5.22	6.84	389.10	53.30	6.73	133.10	
10	4.97	6.78	319.00	56.50	7.17	178.90	5.00	6.92	397.70	55.20	7.02	230.20	5.08	6.69	400.10	54.40	6.92	165.70	5.14	6.87	405.50	58.80	7.43	182.80	5.18	6.83	389.30	52.40	6.65	133.60	
11	4.95	6.77	320.80	54.70	6.78	179.00	4.98	6.91	398.80	53.60	6.82	230.90	5.03	6.68	402.60	52.10	6.59	166.20	5.08	6.83	406.30	54.00	6.96	183.90	5.12	6.82	389.40	52.00	6.61	134.00	
12	4.93	6.76	321.90	52.20	6.66	179.10	4.93	6.89	400.20	52.30	6.63	231.20	5.01	6.67	403.10	50.90	6.50	166.90	5.05	6.80	406.90	52.60	6.70	184.80	5.08	6.81	390.20	51.10	6.49	134.50	
13	4.91	6.76	322.30	52.20	6.66	179.10	4.91	6.88	401.70	49.80	6.33	231.70	5.00	6.65	403.10	50.50	6.42	167.40	5.00	6.79	408.00	50.90	6.17	185.00	5.06	6.80	391.00	49.90	6.35	135.00	
14	4.88	6.76	323.70	50.30	6.43	179.00	4.90	6.85	402.50	48.10	6.12	232.10	4.95	6.64	404.50	49.10	6.24	168.00	4.98	6.73	408.10	48.02	6.00	185.20	5.04	6.79	391.50	49.10	6.24	135.40	
15	4.89	6.75	323.80	49.00	6.25	178.80	4.90	6.85	402.80	47.00	6.00	232.50	4.93	6.62	406.10	46.70	5.92	168.60	4.95	6.77	409.20	47.50	5.87	185.70	5.02	6.78	392.30	47.80	6.02	135.80	
16	4.88	6.75	324.20	48.60	6.22	178.90	4.90	6.85	403.20	46.70	5.97	232.40	4.92	6.61	406.20	44.90	5.71	169.40	4.95	6.77	409.26	46.91	5.74	185.71	4.99	6.77	392.00	46.20	5.82	136.30	
17	4.88	6.75	324.60	48.20	6.17	178.70	4.90	6.85	403.30	46.30	5.91	232.60	4.92	6.59	406.40	43.50	5.49	170.20	4.95	6.77	409.30	45.18	5.42	186.81	4.97	6.76	393.00	44.40	5.64	136.70	
18	4.88	6.73	324.90	47.50	6.07	178.80	4.90	6.84	403.50	45.80	5.85	232.80	4.92	6.58	406.60	42.70	5.45	170.60	4.95	6.76	409.35	44.00	5.00	186.79	4.96	6.75	393.10	42.60	5.42	137.40	
19	4.89	6.63	326.10	44.00	5.55	171.10	4.90	6.83	403.70	45.20	5.78	232.00	4.92	6.57	406.70	41.50	5.29	171.20	4.96	6.77	410.80	42.50	4.78	188.12	4.95	6.74	394.00	40.20	5.13	137.40	
1m from Bottom (BS)							4.90	6.68	403.80	42.50	5.40	237.50	4.93	6.53	407.40	34.70	4.23	107.10													
BS= 19								BS=20												BS=19											
STATION NAME: MIDDLE QUINSAM LAKE (MQL)																															
MIDDLE QUINSAM LAKE DEPTH PROFILING																															
Sample Date		16-Apr						22-Apr						29-Apr						06-May						12-May					

Table 31
Q1 Report 2020

EMS ID	E217018						Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	No Name Lake 1 metre from surface									Average	Max
StnCode	NNL1										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	2.3	2.3	2.4	2.9	3.0	5	3.0	2.6	130	
Chlr-a	ug/L					2.3	1	2.3	2.3		
Turb	NTU	0.27		0.50	0.29	0.51	4	0.51	0.39	2.5	8.5
Alk-T	mg/L	11	11	10			3	11	10.7		
P-T	mg/L	<0.0030	0.0041	<0.0030			3	0.0041	0.00237	0.007	
Al-T	mg/L	0.0293	0.0268	0.0257	0.0259	0.0242	5	0.0293	0.0264		
As-T	mg/L	0.00019	0.00018	0.00024	0.00025	0.00024	5	0.00025	0.00022		0.005
Ba-T	mg/L	0.0011	0.0011	0.0011	0.0011	0.0011	5	0.0011	0.0011	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	3.93	3.99	4.04	4.18	4.10	5	4.18	4.05		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.0207	<0.00050	<0.00050	5	0.0207	0.004340		
Hard-T	mg/L	13.3	13.5	13.7	14.0	13.8	5	14.0	13.7		
Fe-T	mg/L	0.058	0.057	0.060	0.060	0.054	5	0.060	0.058		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	0.857	0.850	0.867	0.858	0.860	5	0.867	0.858		
Mn-T	mg/L	0.0046	0.0048	0.0051	0.0049	0.0044	5	0.0051	0.0048	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	0.0000022	5	2.2E-06	0.00000120	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.064	0.073	0.084	0.069	0.072	5	0.084	0.072		
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	1.09	1.08	1.16	1.04	1.13	5	1.16	1.10		
Sr-T	mg/L	0.0124	0.0131	0.0135	0.0134	0.0133	5	0.0135	0.0131		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0230	0.0212	0.0221	0.0208	0.0201	5	0.0230	0.0214	0.05	0.1
As-D	mg/L	0.00020	0.00019	0.00023	0.00023	0.00022	5	0.00023	0.00021		
Ba-D	mg/L	0.0011	0.0011	0.0013	0.0012	0.0011	5	0.0013	0.0012		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	3.91	3.97	4.05	4.10	4.07	5	4.10	4.02		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00036	0.00034	0.00723	0.00037	0.00039	5	0.00723	0.00174	0.0003	0.002
Hard-D	mg/L	13.3	13.5	13.7	14.0	13.9	5	14.0	13.7		
DOC	mg/L		2.7	2.4	2.9	2.5	4	2.9	2.6		
Fe-D	mg/L	0.0359	0.0362	0.0407	0.0487	0.0454	5	0.0487	0.0414		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	0.846	0.863	0.865	0.912	0.897	5	0.912	0.877		
Mn-D	mg/L	0.0033	0.0039	0.0045	0.0042	0.0038	5	0.0045	0.0039		
Hg-D	mg/L	<0.0000019	0.0000020	<0.0000019	<0.0000019	<0.0000019	5	0.0000020	0.00000116		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.066	0.068	0.084	0.069	0.071	5	0.084	0.072		
S-D	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	1.02	1.05	1.13	1.10	1.15	5	1.15	1.09		
Sr-D	mg/L	0.0124	0.0130	0.0138	0.0129	0.0135	5	0.0138	0.0131		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 32
Q1 Report 2020

E217018							Count	Max	5 in 30 Ave	Water Quality Guidelines	
StnName	No Name Lake 4 metre from surface									Average	Max
StnCode	NNL4										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	2.7	2.7	2.5	2.7	2.6	5	2.7	2.6	130	
Turb	NTU	0.50		0.44	0.29	0.32	4	0.50	0.39	2.5	8.5
Alk-T	mg/L	11	10	11			3	11	10.7		
P-T	mg/L	<0.0030	<0.0030	0.0060			3	0.0060	0.00300	0.007	
Al-T	mg/L	0.0330	0.0309	0.0294	0.0253	0.0257	5	0.0330	0.0289		
As-T	mg/L	0.00019	0.00019	0.00023	0.00024	0.00026	5	0.00026	0.00022		0.005
Ba-T	mg/L	0.0011	0.0011	0.0012	0.0011	0.0011	5	0.0012	0.0011	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	4.00	4.15	4.06	4.10	4.16	5	4.16	4.09		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.0282	<0.00050	<0.00050	5	0.0282	0.005840		
Hard-T	mg/L	13.6	13.9	13.9	13.8	13.9	5	13.9	13.8		
Fe-T	mg/L	0.071	0.061	0.063	0.059	0.064	5	0.071	0.064		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	0.887	0.860	0.910	0.866	0.856	5	0.910	0.876		
Mn-T	mg/L	0.0050	0.0046	0.0053	0.0049	0.0049	5	0.0053	0.0049	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.067	0.072	0.097	0.071	0.069	5	0.097	0.075		
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	1.08	1.07	1.48	1.04	1.11	5	1.48	1.16		
Sr-T	mg/L	0.0128	0.0134	0.0139	0.0135	0.0137	5	0.0139	0.0135		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0251	0.0230	0.0208	0.0205	0.0196	5	0.0251	0.0218	0.05	0.1
As-D	mg/L	0.00019	0.00019	0.00022	0.00022	0.00023	5	0.00023	0.00021		
Ba-D	mg/L	0.0011	0.0011	0.0011	0.0012	0.0011	5	0.0012	0.0011		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017

Table 33
Q1 Report 2020

E217018							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	No Name Lake 9 metres from surface									Average	Max
StnCode	NNL9										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	3.5	4.0	4.1	4.1	4.1	5	4.1	4.0	130	
Turb	NTU	0.44		0.60	0.32	0.35	4	0.60	0.43	2.5	8.5
Alk-T	mg/L	11	11	10			3	11	10.7		
P-T	mg/L	<0.0030	0.0033	0.0043			3	0.0043	0.00303	0.007	
Al-T	mg/L	0.0383	0.0376	0.0358	0.0318	0.0287	5	0.0383	0.0344		
As-T	mg/L	0.00022	0.00018	0.00021	0.00021	0.00017	5	0.00022	0.00020		0.005
Ba-T	mg/L	0.0013	0.0012	0.0013	0.0013	0.0013	5	0.0013	0.0013	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	4.52	4.52	4.45	4.53	4.39	5	4.53	4.48		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.0169	<0.00050	<0.00050	5	0.0169	0.003580		
Hard-T	mg/L	15.3	15.1	15.0	15.0	14.5	5	15.3	15.0		
Fe-T	mg/L	0.097	0.102	0.085	0.063	0.053	5	0.102	0.080		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	0.969	0.929	0.938	0.892	0.860	5	0.969	0.918		
Mn-T	mg/L	0.0073	0.0081	0.0069	0.0058	0.0048	5	0.0081	0.0066	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	0.0000022	5	2.2E-06	0.00000120	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.071	0.084	0.102	0.077	0.074	5	0.102	0.082		
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	1.10	1.11	1.44	1.05	1.08	5	1.44	1.16		
Sr-T	mg/L	0.0147	0.0157	0.0161	0.0156	0.0151	5	0.0161	0.0154		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0274	0.0287	0.0259	0.0270	0.0247	5	0.0287	0.0267	0.05	0.1
As-D	mg/L	0.00018	0.00017	0.00019	0.00018	0.00017	5	0.00019	0.00018		
Ba-D	mg/L	0.0013	0.0013	0.0012	0.0013	0.0012	5	0.0013	0.0013		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	4.37	4.34	4.39	4.37	4.36	5	4.39	4.37		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00036	0.00040	0.00798	0.00037	0.00035	5	0.00798	0.00189	0.0003	0.002
Hard-D	mg/L	14.7	14.7	14.7	14.8	14.5	5	14.8	14.7		
DOC	mg/L		2.4	2.6	<0.50	2.7	4	2.7	1.988		
Fe-D	mg/L	0.0434	0.0411	0.0353	0.0368	0.0331	5	0.0434	0.0379		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	0.920	0.932	0.912	0.949	0.879	5	0.949	0.918		
Mn-D	mg/L	0.0040	0.0047	0.0032	0.0030	0.0029	5	0.0047	0.0036		
Hg-D	mg/L	<0.0000019	0.0000025	<0.0000019	<0.0000019	<0.0000019	5	2.5E-06	0.00000126		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.075	0.074	0.096	0.076	0.074	5	0.096	0.079		
S-D	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	1.07	1.06	1.27	1.08	1.08	5	1.27	1.11		
Sr-D	mg/L	0.0147	0.0159	0.0160	0.0148	0.0149	5	0.0160	0.0153		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 34
Q1 Report 2020

E217018							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	No Name Lake 1 metre from bottom									Average	Max
StnCode	NNLB										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	4.2	6.2	4.4	4.5	61	5	61	16.1	130	
Turb	NTU	0.47		0.48	0.41	0.44	4	0.48	0.45	2.5	8.5
Alk-T	mg/L	11	10	9.8			3	11	10.3		
P-T	mg/L	<0.0030	<0.0030	<0.0030			3	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0399	0.0395	0.0383	0.0369	0.0320	5	0.0399	0.0373		
As-T	mg/L	0.00020	0.00022	0.00024	0.00021	0.00019	5	0.00024	0.00021		0.005
Ba-T	mg/L	0.0013	0.0014	0.0013	0.0013	0.0013	5	0.0014	0.0013	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	4.57	5.25	4.54	4.58	4.40	5	5.25	4.67		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.00932	<0.00050	<0.00050	5	0.00932	0.002064		
Hard-T	mg/L	15.4	17.3	15.1	15.1	14.6	5	17.3	15.5		
Fe-T	mg/L	0.108	0.175	0.098	0.108	0.072	5	0.175	0.112		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	0.968	1.01	0.923	0.890	0.868	5	1.01	0.932		
Mn-T	mg/L	0.0086	0.0166	0.0082	0.0088	0.0063	5	0.0166	0.0097	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.075	0.083	0.098	0.076	0.077	5	0.098	0.082		
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	1.12	1.14	1.30	1.02	1.06	5	1.30	1.13		
Sr-T	mg/L	0.0171	0.0199	0.0164	0.0161	0.0156	5	0.0199	0.0170		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0284	0.0269	0.0265	0.0277	0.0259	5	0.0284	0.0271	0.05	0.1
As-D	mg/L	0.00020	0.00017	0.00019	0.00019	0.00018	5	0.00020	0.00019		
Ba-D	mg/L	0.0013	0.0014	0.0013	0.0014	0.0013	5	0.0014	0.0013		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017

Table 35
Q1 Report 2020

EMS ID	E206619									Water Quality Guidelines	
StnName	Long Lake Middle 1 metre from surface										
StnCode	LLM1										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20	Count	Maximum	5 in 30 Ave	Average	Max
SO4-D	mg/L	43	52	62	70	65	5	70	58.4	130	
Chlr-a	ug/L					0.97	1	0.97	0.97		
Turb	NTU	0.43	0.48	0.51	0.35	0.35	5	0.51	0.42	2.5	8.5
Alk-T	mg/L	26	27	29	31		4	31	28.2		
P-T	mg/L	<0.0030	<0.0030	0.0047	<0.0030		4	0.0047	0.00230	0.007	
Al-T	mg/L	0.0267	0.0238	0.0148	0.0179	0.0160	5	0.0267	0.0198		
As-T	mg/L	0.00033	0.00035	0.00033	0.00034	0.00036	5	0.00036	0.00034		0.005
Ba-T	mg/L	0.0040	0.0043	0.0046	0.0050	0.0050	5	0.0050	0.0046	1	5
B-T	mg/L	<0.050	<0.050	0.052	0.055	0.066	5	0.066	0.0446	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	18.7	20.3	23.1	25.3	26.9	5	26.9	22.9		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.00126	<0.00050	<0.00050	5	0.00126	0.000452		
Hard-T	mg/L	56.9	61.7	69.9	75.6	80.5	5	80.5	68.9		
Fe-T	mg/L	0.093	0.087	0.050	0.074	0.065	5	0.093	0.074		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	2.47	2.65	2.93	3.04	3.22	5	3.22	2.86		
Mn-T	mg/L	0.0134	0.0155	0.0159	0.0194	0.0190	5	0.0194	0.0166	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.221	0.242	0.292	0.289	0.305	5	0.305	0.270		
S-T	mg/L	14.1	16.6	19.2	19.8	22.2	5	22.2	18.4		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	5.97	6.78	8.01	8.43	9.09	5	9.09	7.66		
Sr-T	mg/L	0.117	0.140	0.168	0.177	0.199	5	0.199	0.160		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0195	0.0179	0.0227	0.0133	0.0127	5	0.0227	0.0172	0.05	0.1
As-D	mg/L	0.00031	0.00032	0.00035	0.00032	0.00034	5	0.00035	0.00033		
Ba-D	mg/L	0.0040	0.0045	0.0055	0.0050	0.0052	5	0.0055	0.0048		
B-D	mg/L	<0.050	<0.050	0.051	0.055	0.062	5	0.062	0.0436		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	18.6	20.2	23.6	25.3	26.9	5	26.9	22.9		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00033	0.00034	0.00250	0.00030	0.00032	5	0.00250	0.00076	0.0003	0.002
Hard-D	mg/L	56.1	61.2	70.9	76.0	80.1	5	80.1	68.9		
DOC	mg/L		2.6	2.6	2.5	2.7	4	2.7	2.6		
Fe-D	mg/L	0.0626	0.0567	0.0833	0.0491	0.0431	5	0.0833	0.0590		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	2.37	2.60	2.90	3.13	3.16	5	3.16	2.83		
Mn-D	mg/L	0.0119	0.0138	0.0189	0.0173	0.0171	5	0.0189	0.0158		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	0.0000022	<0.0000019	5	2.2E-06	0.00000120		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.223	0.254	0.292	0.308	0.300	5	0.308	0.275		
S-D	mg/L	14.7	16.7	19.5	21.4	21.4	5	21.4	18.7		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	5.70	6.69	7.90	8.72	9.19	5	9.19	7.64		
Sr-D	mg/L	0.124	0.145	0.173	0.191	0.205	5	0.205	0.168		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 36
Q1 Report 2020

E206619							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Long Lake Middle 4 metres from surface									Average	Max
StnCode	LLM4										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	89	80	68	70	80	5	89	77.4	130	
Turb	NTU	0.45	0.42	0.49	0.36	0.38	5	0.49	0.42	2.5	8.5
Alk-T	mg/L	38	34	30	30		4	38	33.0		
P-T	mg/L	<0.0030	<0.0030	<0.0030	<0.0030		4	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0246	0.0232	0.0197	0.0172	0.0160	5	0.0246	0.0201		
As-T	mg/L	0.00032	0.00032	0.00035	0.00035	0.00036	5	0.00036	0.00034		0.005
Ba-T	mg/L	0.0055	0.0052	0.0049	0.0050	0.0054	5	0.0055	0.0052	1	5
B-T	mg/L	0.069	0.064	0.055	0.054	0.074	5	0.074	0.063	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	30.8	28.8	24.1	24.6	31.2	5	31.2	27.9		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.00240	<0.00050	<0.00050	5	0.00240	0.000680		
Hard-T	mg/L	92.1	86.5	72.8	73.4	92.6	5	92.6	83.5		
Fe-T	mg/L	0.109	0.099	0.083	0.077	0.078	5	0.109	0.089		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	3.69	3.52	3.06	2.92	3.57	5	3.69	3.35		
Mn-T	mg/L	0.0320	0.0283	0.0205	0.0195	0.0253	5	0.0320	0.0251	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	0.0000020	<0.0000019	5	0.0000020	0.00000116	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.361	0.338	0.306	0.286	0.346	5	0.361	0.327		
S-T	mg/L	26.2	25.2	20.3	19.5	25.5	5	26.2	23.3		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	11.3	10.3	8.38	8.34	10.6	5	11.3	9.78		
Sr-T	mg/L	0.235	0.214	0.183	0.178	0.231	5	0.235	0.208		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0176	0.0167	0.0144	0.0142	0.0120	5	0.0176	0.0150	0.05	0.1
As-D	mg/L	0.00033	0.00033	0.00035	0.00031	0.00034	5	0.00035	0.00033		
Ba-D	mg/L	0.0057	0.0052	0.0048	0.0051	0.0056	5	0.0057	0.0053		
B-D	mg/L	0.072	0.063	0.054	0.055	0.070	5	0.072	0.063		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	32.0	28.5	24.4	25.1	31.4	5	32.0	28.3		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00030	0.00034	0.00080	0.00039	0.00030	5	0.00080	0.00043	0.0003	0.002
Hard-D	mg/L	94.8	85.1	73.3	75.7	93.3	5	94.8	84.4		
DOC	mg/L		2.7	1.9	2.4	2.6	4	2.7	2.4		
Fe-D	mg/L	0.0707	0.0638	0.0506	0.0516	0.0460	5	0.0707	0.0565		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	3.64	3.35	3.02	3.14	3.59	5	3.64	3.35		
Mn-D	mg/L	0.0306	0.0241	0.0169	0.0176	0.0204	5	0.0306	0.0219		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.373	0.331	0.300	0.304	0.347	5	0.373	0.331		
S-D	mg/L	28.0	23.4	20.4	21.1	26.1	5	28.0	23.8		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	11.0	9.70	8.33	8.62	10.7	5	11.0	9.67		
Sr-D	mg/L	0.240	0.210	0.182	0.189	0.241	5	0.241	0.212		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 37
Q1 Report 2020

E206619							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
Stn ID	Long Lake Middle 9 metres from surface									Average	Max
StnCode	LLM9										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	130	130	130	130	130	5	130	130.0	130	
Turb	NTU	0.47	0.35	0.38	0.32	0.39	5	0.47	0.38	2.5	8.5
Alk-T	mg/L	49	48	48	46		4	49	47.8		
P-T	mg/L	<0.0030	<0.0030	<0.0030	<0.0030		4	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0195	0.0172	0.0163	0.0153	0.0158	5	0.0195	0.0168		
As-T	mg/L	0.00027	0.00023	0.00026	0.00024	0.00023	5	0.00027	0.00025		0.005
Ba-T	mg/L	0.0074	0.0071	0.0072	0.0071	0.0072	5	0.0074	0.0072	1	5
B-T	mg/L	0.104	0.100	0.099	0.095	0.115	5	0.115	0.103	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	44.9	45.4	43.8	42.7	48.5	5	48.5	45.1		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.00359	<0.00050	0.00061	5	0.00359	0.000990		
Hard-T	mg/L	133	134	130	126	142	5	142	133.0		
Fe-T	mg/L	0.074	0.071	0.053	0.051	0.056	5	0.074	0.061		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	5.18	5.10	4.87	4.72	5.19	5	5.19	5.01		
Mn-T	mg/L	0.134	0.128	0.110	0.110	0.118	5	0.134	0.120	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	0.0000019	5	1.9E-06	0.00000114	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.535	0.537	0.528	0.508	0.564	5	0.564	0.534		
S-T	mg/L	40.1	41.3	39.5	37.1	43.7	5	43.7	40.3		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	17.5	16.7	16.0	15.8	17.5	5	17.5	16.7		
Sr-T	mg/L	0.360	0.356	0.357	0.332	0.372	5	0.372	0.355		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0128	0.0121	0.0115	0.0125	0.0113	5	0.0128	0.0120	0.05	0.1
As-D	mg/L	0.00024	0.00020	0.00024	0.00023	0.00023	5	0.00024	0.00023		
Ba-D	mg/L	0.0071	0.0071	0.0069	0.0074	0.0072	5	0.0074	0.0071		
B-D	mg/L	0.101	0.101	0.099	0.097	0.106	5	0.106	0.101		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	45.2	43.7	43.6	43.8	46.4	5	46.4	44.5		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00031	0.00029	0.00085	0.00030	0.00032	5	0.00085	0.00041	0.0003	0.002
Hard-D	mg/L	133	129	129	130	136	5	136	131.4		
DOC	mg/L		2.1	2.2	2.6	2.4	4	2.6	2.3		
Fe-D	mg/L	0.0333	0.0312	0.0286	0.0286	0.0269	5	0.0333	0.0297		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	4.96	4.84	4.90	4.99	4.90	5	4.99	4.92		
Mn-D	mg/L	0.122	0.116	0.0992	0.100	0.0976	5	0.122	0.1070		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.559	0.520	0.535	0.534	0.526	5	0.559	0.535		
S-D	mg/L	40.8	39.1	39.7	39.5	40.3	5	40.8	39.9		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	16.2	16.2	16.3	16.3	16.7	5	16.7	16.3		
Sr-D	mg/L	0.349	0.351	0.366	0.357	0.372	5	0.372	0.359		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 38
Q1 Report 2020

EMS ID	E206619						Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Long Lake Middle 1 metre from bottom									Average	Max
StnCode	LLMB										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	130	110	120	130	110	5	130	120.0	130	
Turb	NTU	1.0	0.78	1.2	0.47	0.42	5	1.2	0.77	2.5	8.5
Alk-T	mg/L	50	42	48	47		4	50	46.8		
P-T	mg/L	<0.0030	<0.0030	<0.0030	<0.0030		4	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0183	0.0194	0.0156	0.0137	0.0309	5	0.0309	0.0196		
As-T	mg/L	0.00027	0.00027	0.00028	0.00023	0.00022	5	0.00028	0.00025		0.005
Ba-T	mg/L	0.0080	0.0064	0.0080	0.0072	0.0024	5	0.0080	0.0064	1	5
B-T	mg/L	0.109	0.086	0.101	0.098	<0.050	5	0.109	0.0838	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	47.0	38.1	44.4	44.6	11.2	5	47.0	37.1		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00078	<0.00050	0.00303	<0.00050	<0.00050	5	0.00303	0.000912		
Hard-T	mg/L	139	114	132	131	34.7	5	139	110.1		
Fe-T	mg/L	0.086	0.080	0.067	0.055	0.075	5	0.086	0.073		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	5.24	4.48	5.04	4.86	1.64	5	5.24	4.25		
Mn-T	mg/L	0.208	0.120	0.155	0.114	0.0230	5	0.208	0.1240	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.540	0.454	0.550	0.518	0.158	5	0.550	0.444		
S-T	mg/L	40.7	34.5	40.8	37.8	7.8	5	40.8	32.3		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	17.8	14.3	16.8	16.2	3.66	5	17.8	13.75		
Sr-T	mg/L	0.359	0.295	0.367	0.339	0.0656	5	0.367	0.2851		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0098	0.0125	0.0086	0.0103	0.0240	5	0.0240	0.0130	0.05	0.1
As-D	mg/L	0.00024	0.00023	0.00020	0.00020	0.00018	5	0.00024	0.00021		
Ba-D	mg/L	0.0074	0.0063	0.0073	0.0070	0.0021	5	0.0074	0.0060		
B-D	mg/L	0.107	0.085	0.101	0.099	<0.050	5	0.107	0.0834		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	46.4	37.2	44.5	44.6	10.5	5	46.4	36.6		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00031	0.00030	0.00094	0.00029	0.00036	5	0.00094	0.00044	0.0003	0.002
Hard-D	mg/L	137	110	132	132	32.8	5	137	108.8		
DOC	mg/L		2.0	2.4	2.4	2.6	4	2.6	2.4		
Fe-D	mg/L	0.0250	0.0339	0.0185	0.0239	0.0371	5	0.0371	0.0277		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	5.08	4.14	4.94	4.92	1.56	5	5.08	4.13		
Mn-D	mg/L	0.127	0.0719	0.0555	0.0813	0.0150	5	0.127	0.0701		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.580	0.441	0.544	0.536	0.143	5	0.580	0.449		
S-D	mg/L	43.0	32.6	39.6	39.8	7.0	5	43.0	32.4		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	17.1	13.3	16.6	16.4	3.40	5	17.1	13.36		
Sr-D	mg/L	0.358	0.290	0.368	0.356	0.0643	5	0.368	0.2873		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 39
Q1 Report 2020

EMS ID	E206618						Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Middle Quinsam Lake 1 metre from surface									Average	Max
StnCode	MQL1										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	23	24	26	24	25	5	26	24.4	130	
Chlr-a	ug/L					<0.50	1	<0.50	0.250		
Turb	NTU	0.22	0.32	0.25	0.24	0.20	5	0.32	0.25	2.5	8.5
Alk-T	mg/L	29	26	26			3	29	27.0		
P-T	mg/L	<0.0030	<0.0030	<0.0030			3	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0197	0.0182	0.0172	0.0167	0.0171	5	0.0197	0.0178		
As-T	mg/L	0.00011	0.00012	0.00013	0.00012	0.00012	5	0.00013	0.00012		0.005
Ba-T	mg/L	0.0015	0.0015	0.0016	0.0015	0.0015	5	0.0016	0.0015	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	11.0	10.9	10.8	10.5	10.7	5	11.0	10.8		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00065	0.00058	0.0376	0.00057	0.00057	5	0.0376	0.00799		
Hard-T	mg/L	33.0	32.5	32.4	31.5	32.1	5	33.0	32.3		
Fe-T	mg/L	0.026	0.027	0.028	0.025	0.025	5	0.028	0.026		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.33	1.26	1.29	1.25	1.30	5	1.33	1.29		
Mn-T	mg/L	0.0037	0.0048	0.0048	0.0050	0.0050	5	0.0050	0.0047	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.182	0.195	0.193	0.184	0.188	5	0.195	0.188		
S-T	mg/L	7.4	8.0	8.0	8.0	9.1	5	9.1	8.1		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	9.91	9.89	10.1	10.1	10.3	5	10.3	10.06		
Sr-T	mg/L	0.0477	0.0521	0.0523	0.0492	0.0504	5	0.0523	0.0503		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0147	0.0145	0.0133	0.0129	0.0145	5	0.0147	0.0140	0.05	0.1
As-D	mg/L	0.00012	<0.00010	0.00012	0.00012	0.00011	5	0.00012	0.000104		
Ba-D	mg/L	0.0015	0.0015	0.0015	0.0015	0.0015	5	0.0015	0.0015		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	10.8	10.7	10.4	10.2	10.4	5	10.8	10.5		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00052	0.00052	0.0279	0.00053	0.00056	5	0.0279	0.00601	0.0003	0.002
Hard-D	mg/L	32.3	32.0	31.4	30.7	31.5	5	32.3	31.6		
DOC	mg/L		2.3	2.8	2.0	3.6	4	3.6	2.7		
Fe-D	mg/L	0.0170	0.0174	0.0169	0.0175	0.0194	5	0.0194	0.0176		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.28	1.25	1.30	1.28	1.30	5	1.30	1.28		
Mn-D	mg/L	0.0028	0.0032	0.0030	0.0032	0.0040	5	0.0040	0.0032		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.185	0.190	0.191	0.190	0.194	5	0.194	0.190		
S-D	mg/L	7.9	7.8	7.9	7.4	9.5	5	9.5	8.1		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	9.45	9.70	10.1	10.3	10.5	5	10.5	10.01		
Sr-D	mg/L	0.0489	0.0511	0.0505	0.0494	0.0501	5	0.0511	0.0500		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 40
Q1 Report 2020

EMS ID E206618							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Middle Quinsam Lake 4 metres from surface									Average	Max
StnCode	MQL4										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	23	25	25	24	25	5	25	24.4	130	
Turb	NTU	0.23	0.20	0.42	0.24	0.26	5	0.42	0.27	2.5	8.5
Alk-T	mg/L	29	29	28			3	29	28.7		
P-T	mg/L	<0.0030	<0.0030	0.0085			3	0.0085	0.00383	0.007	
Al-T	mg/L	0.0167	0.0176	0.0176	0.0162	0.0154	5	0.0176	0.0167		
As-T	mg/L	0.00010	0.00011	0.00014	0.00010	0.00011	5	0.00014	0.00011		0.005
Ba-T	mg/L	0.0014	0.0015	0.0017	0.0015	0.0015	5	0.0017	0.0015	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	10.4	11.1	10.5	10.6	10.7	5	11.1	10.7		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00078	0.00090	0.0813	0.00056	0.00056	5	0.0813	0.01682		
Hard-T	mg/L	31.4	32.9	31.6	31.5	32.0	5	32.9	31.9		
Fe-T	mg/L	0.026	0.027	0.028	0.025	0.018	5	0.028	0.025		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.31	1.29	1.29	1.24	1.30	5	1.31	1.29		
Mn-T	mg/L	0.0038	0.0049	0.0048	0.0049	0.0028	5	0.0049	0.0042	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.178	0.198	0.193	0.180	0.192	5	0.198	0.188		
S-T	mg/L	7.3	8.1	7.9	7.7	9.0	5	9.0	8.0		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	9.80	10.4	10.1	10.1	10.4	5	10.4	10.16		
Sr-T	mg/L	0.0465	0.0539	0.0516	0.0492	0.0504	5	0.0539	0.0503		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0144	0.0142	0.0138	0.0156	0.0158	5	0.0158	0.0148	0.05	0.1
As-D	mg/L	0.00011	<0.00010	0.00013	0.00012	0.00012	5	0.00013	0.000106		
Ba-D	mg/L	0.0015	0.0015	0.0015	0.0015	0.0015	5	0.0015	0.0015		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	10.8	10.8	10.5	10.3	10.7	5	10.8	10.6		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00052	0.00052	0.0755	0.00051	0.00055	5	0.0755	0.01552	0.0003	0.002
Hard-D	mg/L	32.0	32.2	31.6	31.1	32.1	5	32.2	31.8		
DOC	mg/L		2.6	1.6	1.8	2.0	4	2.6	2.0		
Fe-D	mg/L	0.0166	0.0171	0.0171	0.0178	0.0239	5	0.0239	0.0185		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.24	1.25	1.28	1.27	1.30	5	1.30	1.27		
Mn-D	mg/L	0.0024	0.0027	0.0026	0.0033	0.0045	5	0.0045	0.0031		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.177	0.187	0.193	0.190	0.193	5	0.193	0.188		
S-D	mg/L	7.3	8.0	7.9	7.4	8.4	5	8.4	7.8		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	9.15	10.0	10.0	10.2	10.4	5	10.4	9.95		
Sr-D	mg/L	0.0479	0.0523	0.0508	0.0485	0.0507	5	0.0523	0.0500		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 41
Q1 Report 2020

EMS ID E206618							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Middle Quinsam Lake 9 metres from surface									Average	Max
StnCode	MQL9										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	29	31	30	29	32	5	32	30.2	130	
Turb	NTU	0.25	0.19	0.24	0.17	0.18	5	0.25	0.21	2.5	8.5
Alk-T	mg/L	31	31	32			3	32	31.3		
P-T	mg/L	<0.0030	<0.0030	<0.0030			3	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0166	0.0157	0.0157	0.0154	0.0149	5	0.0166	0.0157		
As-T	mg/L	0.00012	0.00013	0.00011	0.00012	0.00010	5	0.00013	0.00012		0.005
Ba-T	mg/L	0.0016	0.0016	0.0017	0.0016	0.0017	5	0.0017	0.0016	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	11.8	11.5	11.3	11.5	11.9	5	11.9	11.6		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00053	0.00052	0.0472	0.00053	0.00057	5	0.0472	0.00987		
Hard-T	mg/L	35.5	34.4	33.9	34.4	35.7	5	35.7	34.8		
Fe-T	mg/L	0.024	0.021	0.021	0.019	0.016	5	0.024	0.020		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.48	1.38	1.39	1.37	1.49	5	1.49	1.42		
Mn-T	mg/L	0.0033	0.0030	0.0029	0.0029	0.0024	5	0.0033	0.0029	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	0.0000025	<0.0000019	5	2.5E-06	0.00000126	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.214	0.215	0.213	0.201	0.215	5	0.215	0.212		
S-T	mg/L	9.2	9.4	9.3	9.4	10.2	5	10.2	9.5		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	12.8	12.6	12.1	12.0	12.2	5	12.8	12.3		
Sr-T	mg/L	0.0576	0.0616	0.0587	0.0572	0.0599	5	0.0616	0.0590		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0131	0.0126	0.0135	0.0118	0.0113	5	0.0135	0.0125	0.05	0.1
As-D	mg/L	0.00012	<0.00010	0.00010	0.00012	0.00012	5	0.00012	0.000102		
Ba-D	mg/L	0.0017	0.0016	0.0016	0.0017	0.0016	5	0.0017	0.0016		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	12.0	11.7	11.6	11.0	11.4	5	12.0	11.5		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00049	0.00050	0.0263	0.00049	0.00049	5	0.0263	0.00565	0.0003	0.002
Hard-D	mg/L	35.7	35.0	34.8	33.1	34.5	5	35.7	34.6		
DOC	mg/L		2.3	2.8	2.0	<0.50	4	2.8	1.838		
Fe-D	mg/L	0.0136	0.0114	0.0110	0.0129	0.0098	5	0.0136	0.0117		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.42	1.41	1.43	1.39	1.44	5	1.44	1.42		
Mn-D	mg/L	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	5	0.0013	0.00066		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.213	0.217	0.220	0.212	0.209	5	0.220	0.214		
S-D	mg/L	9.7	9.8	9.8	8.9	9.4	5	9.8	9.5		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	12.1	12.7	12.5	11.9	12.1	5	12.7	12.3		
Sr-D	mg/L	0.0594	0.0600	0.0611	0.0565	0.0586	5	0.0611	0.0591		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 42
Q1 Report 2020

E206618							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Middle Quinsam Lake 1 metre from bottom									Average	Max
StnCode	MQLB										
Date	Unit	16-Apr-20	22-Apr-20	29-Apr-20	6-May-20	12-May-20					
SO4-D	mg/L	30	29	30	33	31	5	33	30.6	130	
Turb	NTU	0.26	0.20	0.29	0.30	0.23	5	0.30	0.26	2.5	8.5
Alk-T	mg/L	33	33	33			3	33	33.0		
P-T	mg/L	<0.0030	<0.0030	<0.0030			3	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0161	0.0168	0.0144	0.0137	0.0126	5	0.0168	0.0147		
As-T	mg/L	0.00011	<0.00010	0.00012	0.00011	0.00011	5	0.00012	0.000100		0.005
Ba-T	mg/L	0.0018	0.0017	0.0018	0.0017	0.0018	5	0.0018	0.0018	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	12.4	12.2	11.6	12.1	12.1	5	12.4	12.1		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00053	0.00052	0.0163	0.00052	0.00052	5	0.0163	0.00368		
Hard-T	mg/L	37.4	36.4	35.1	36.2	36.4	5	37.4	36.3		
Fe-T	mg/L	0.023	0.022	0.022	0.018	0.016	5	0.023	0.020		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.59	1.45	1.49	1.48	1.48	5	1.59	1.50		
Mn-T	mg/L	0.0047	0.0039	0.0056	0.0041	0.0033	5	0.0056	0.0043	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.212	0.215	0.211	0.207	0.208	5	0.215	0.211		
S-T	mg/L	9.7	9.8	10.0	10.0	10.5	5	10.5	10.0		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	13.1	12.5	12.3	12.6	12.2	5	13.1	12.5		
Sr-T	mg/L	0.0583	0.0612	0.0605	0.0607	0.0616	5	0.0616	0.0605		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0127	0.0118	0.0108	0.0106	0.0098	5	0.0127	0.0111	0.05	0.1
As-D	mg/L	0.00012	0.00011	<0.00010	0.00011	0.00010	5	0.00012	0.000098		
Ba-D	mg/L	0.0018	0.0017	0.0018	0.0019	0.0017	5	0.0019	0.0018		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	12.3	12.0	11.9	11.8	11.8	5	12.3	12.0		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00048	0.00051	0.00547	0.00050	0.00046	5	0.00547	0.00148	0.0003	0.002
Hard-D	mg/L	37.1	36.0	35.9	35.8	36.0	5	37.1	36.2		
DOC	mg/L		2.9	2.9	2.0	1.0	4	2.9	2.2		
Fe-D	mg/L	0.0120	0.0111	0.0100	0.0107	0.0089	5	0.0120	0.0105		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.55	1.47	1.52	1.52	1.55	5	1.55	1.52		
Mn-D	mg/L	0.0025	0.0013	0.0018	0.0014	<0.0010	5	0.0025	0.00150		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.223	0.214	0.213	0.217	0.210	5	0.223	0.215		
S-D	mg/L	10.3	9.8	10.1	9.7	10.5	5	10.5	10.1		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	12.4	12.6	12.6	12.5	12.4	5	12.6	12.5		
Sr-D	mg/L	0.0611	0.0604	0.0614	0.0605	0.0614	5	0.0614	0.0610		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 44
Q1 Report 2020

E292118							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Lower Quinsam Lake 4 metres from surface									Average	Max
StnCode	LQL4										
Date	Unit	15-Apr-20	22-Apr-20	1-May-20	5-May-20	13-May-20					
SO4-D	mg/L	19	16	17	16	15	5	19	16.6	130	
Turb	NTU	0.38	0.39	0.37	0.49	0.38	5	0.49	0.40	2.5	8.5
Alk-T	mg/L	28	28				2	28	28.0		
P-T	mg/L	<0.0030	<0.0030				2	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0253	0.0342	0.0310	0.0343	0.0365	5	0.0365	0.0323		
As-T	mg/L	0.00061	0.00055	0.00053	0.00057	0.00056	5	0.00061	0.00056		0.005
Ba-T	mg/L	0.0033	0.0031	0.0031	0.0031	0.0031	5	0.0033	0.0031	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	11.3	10.8	10.6	10.7	10.0	5	11.3	10.7		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00056	0.00061	0.00686	0.00056	0.00062	5	0.00686	0.00184		
Hard-T	mg/L	34.1	31.8	31.4	31.6	29.4	5	34.1	31.7		
Fe-T	mg/L	0.075	0.065	0.070	0.067	0.061	5	0.075	0.068		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.41	1.16	1.16	1.16	1.07	5	1.41	1.19		
Mn-T	mg/L	0.0053	0.0041	0.0043	0.0044	0.0041	5	0.0053	0.0044	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.202	0.195	0.191	0.199	0.182	5	0.202	0.194		
S-T	mg/L	6.2	5.1	5.1	5.1	5.0	5	6.2	5.3		
Se-T	mg/L	<0.00010	0.00010	<0.00010	<0.00010	<0.00010	5	0.00010	0.000060	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	8.36	6.64	6.72	6.45	5.99	5	8.36	6.83		
Sr-T	mg/L	0.0516	0.0492	0.0479	0.0512	0.0446	5	0.0516	0.0489		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0374	0.0244	0.0231	0.0215	0.0262	5	0.0374	0.0265	0.05	0.1
As-D	mg/L	0.00060	0.00051	0.00047	0.00048	0.00053	5	0.00060	0.00052		
Ba-D	mg/L	0.0044	0.0029	0.0030	0.0030	0.0030	5	0.0044	0.0033		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	0.000012	<0.000010	<0.000010	<0.000010	<0.000010	5	0.000012	0.0000064	0.000087	0.00017
Ca-D	mg/L	13.9	10.6	10.5	10.7	10.3	5	13.9	11.2		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00132	0.00056	0.00395	0.00049	0.00060	5	0.00395	0.00138	0.0003	0.002
Hard-D	mg/L	43.5	31.3	31.0	31.5	30.0	5	43.5	33.5		
DOC	mg/L		2.2	1.4	3.2	1.3	4	3.2	2.0		
Fe-D	mg/L	0.0594	0.0349	0.0350	0.0347	0.0373	5	0.0594	0.0403		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.40	1.17	1.18	1.15	1.06	5	1.40	1.19		
Mn-D	mg/L	0.0044	0.0020	0.0017	0.0016	0.0013	5	0.0044	0.0022		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	0.0902	<0.0010	<0.0010	<0.0010	<0.0010	5	0.0902	0.01844		
K-D	mg/L	0.234	0.196	0.193	0.213	0.181	5	0.234	0.203		
S-D	mg/L	6.1	5.4	5.1	5.3	4.2	5	6.1	5.2		
Se-D	mg/L	<0.00010	0.00010	<0.00010	<0.00010	<0.00010	5	0.00010	0.000060		
Na-D	mg/L	7.76	6.64	6.71	6.62	5.90	5	7.76	6.73		
Sr-D	mg/L	0.0537	0.0475	0.0484	0.0507	0.0452	5	0.0537	0.0491		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 45
Q1 Report 2020

E292118							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Lower Quinsam Lake 9 metres from surface									Average	Max
StnCode	LQL9										
Date	Unit	15-Apr-20	22-Apr-20	1-May-20	5-May-20	13-May-20					
SO4-D	mg/L	19	19	17	17	17	5	19	17.8	130	
Turb	NTU	0.27	0.38	0.31	0.36	0.35	5	0.38	0.33	2.5	8.5
Alk-T	mg/L		30				1	30	30.0		
P-T	mg/L	<0.0030	<0.0030				2	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0275	0.0244	0.0299	0.0305	0.0283	5	0.0305	0.0281		
As-T	mg/L	0.00059	0.00051	0.00052	0.00059	0.00056	5	0.00059	0.00055		0.005
Ba-T	mg/L	0.0031	0.0030	0.0031	0.0031	0.0030	5	0.0031	0.0031	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	11.3	10.7	10.6	11.0	10.7	5	11.3	10.9		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00056	0.00056	0.00579	0.00054	0.00059	5	0.00579	0.00161		
Hard-T	mg/L	33.9	32.0	31.4	32.2	31.6	5	33.9	32.2		
Fe-T	mg/L	0.083	0.066	0.066	0.062	0.065	5	0.083	0.068		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.40	1.27	1.20	1.18	1.18	5	1.40	1.25		
Mn-T	mg/L	0.0057	0.0051	0.0048	0.0046	0.0052	5	0.0057	0.0051	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.204	0.200	0.192	0.201	0.190	5	0.204	0.197		
S-T	mg/L	6.3	5.9	5.4	5.3	6.1	5	6.3	5.8		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	8.56	7.81	6.95	6.81	6.76	5	8.56	7.38		
Sr-T	mg/L	0.0522	0.0513	0.0485	0.0525	0.0484	5	0.0525	0.0506		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0187	0.0190	0.0202	0.0214	0.0205	5	0.0214	0.0200	0.05	0.1
As-D	mg/L	0.00053	0.00058	0.00050	0.00051	0.00052	5	0.00058	0.00053		
Ba-D	mg/L	0.0031	0.0029	0.0030	0.0031	0.0031	5	0.0031	0.0030		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	11.1	10.8	10.6	11.0	10.7	5	11.1	10.8		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00053	0.00058	0.00366	0.00051	0.00056	5	0.00366	0.00117	0.0003	0.002
Hard-D	mg/L	33.1	32.3	31.5	32.4	31.5	5	33.1	32.2		
DOC	mg/L	1.7	2.0	1.9	2.9	1.3	5	2.9	2.0		
Fe-D	mg/L	0.0490	0.0421	0.0350	0.0354	0.0351	5	0.0490	0.0393		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.32	1.28	1.20	1.16	1.17	5	1.32	1.23		
Mn-D	mg/L	0.0033	0.0024	0.0016	0.0019	0.0017	5	0.0033	0.0022		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.203	0.200	0.193	0.211	0.195	5	0.211	0.200		
S-D	mg/L	6.7	6.1	5.4	5.2	5.1	5	6.7	5.7		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	8.09	7.97	7.00	6.74	6.78	5	8.09	7.32		
Sr-D	mg/L	0.0512	0.0513	0.0475	0.0516	0.0483	5	0.0516	0.0500		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 46
Q1 Report 2020

E292118							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Lower Quinsam Lake 1 metre from bottom									Average	Max
StnCode	LQLB										
Date	Unit	15-Apr-20	22-Apr-20	1-May-20	5-May-20	13-May-20					
SO4-D	mg/L	20	21	20	20	20	5	21	20.2	130	
Turb	NTU	0.50	0.47	0.47	0.53	0.67	5	0.67	0.53	2.5	8.5
Alk-T	mg/L	28	29				2	29	28.5		
P-T	mg/L	<0.0030	<0.0030				2	<0.0030	0.00150	0.007	
Al-T	mg/L	0.0257	0.0243	0.0236	0.0248	0.0235	5	0.0257	0.0244		
As-T	mg/L	0.00061	0.00055	0.00068	0.00069	0.00070	5	0.00070	0.00065		0.005
Ba-T	mg/L	0.0032	0.0031	0.0035	0.0035	0.0037	5	0.0037	0.0034	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	11.1	10.8	10.9	11.0	11.1	5	11.1	11.0		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00104	0.00052	0.00323	0.00056	0.00057	5	0.00323	0.00118		
Hard-T	mg/L	33.4	32.3	32.9	32.7	33.6	5	33.6	33.0		
Fe-T	mg/L	0.109	0.123	0.155	0.150	0.176	5	0.176	0.143		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.38	1.28	1.38	1.30	1.40	5	1.40	1.35		
Mn-T	mg/L	0.0095	0.0139	0.0243	0.0268	0.0381	5	0.0381	0.0225	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.198	0.201	0.211	0.211	0.210	5	0.211	0.206		
S-T	mg/L	6.3	6.3	6.7	6.3	7.6	5	7.6	6.6		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	8.45	8.10	8.43	7.77	7.91	5	8.45	8.13		
Sr-T	mg/L	0.0515	0.0531	0.0532	0.0571	0.0539	5	0.0571	0.0538		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0159	0.0152	0.0135	0.0154	0.0126	5	0.0159	0.0145	0.05	0.1
As-D	mg/L	0.00058	0.00053	0.00055	0.00057	0.00061	5	0.00061	0.00057		
Ba-D	mg/L	0.0032	0.0031	0.0033	0.0035	0.0036	5	0.0036	0.0033		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	11.2	10.7	10.7	11.1	11.1	5	11.2	11.0		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00049	0.00049	0.00128	0.00048	0.00053	5	0.00128	0.00065	0.0003	0.002
Hard-D	mg/L	33.6	32.2	32.2	33.2	33.4	5	33.6	32.9		
DOC	mg/L		2.1	1.7	2.4	2.7	4	2.7	2.2		
Fe-D	mg/L	0.0667	0.0711	0.0812	0.0779	0.0956	5	0.0956	0.0785		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.37	1.32	1.35	1.31	1.36	5	1.37	1.34		
Mn-D	mg/L	0.0077	0.0117	0.0183	0.0207	0.0298	5	0.0298	0.0176		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.208	0.206	0.202	0.222	0.207	5	0.222	0.209		
S-D	mg/L	6.9	6.5	6.5	6.5	6.8	5	6.9	6.6		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	8.34	8.25	8.20	7.99	7.92	5	8.34	8.14		
Sr-D	mg/L	0.0528	0.0535	0.0514	0.0553	0.0534	5	0.0553	0.0533		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 47
Q1 Report 2020

EMS ID E217017							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	No Name Lake Outlet									Average	Max
StnCode	NNO										
Date		14-Apr-20	20-Apr-20	27-Apr-20	5-May-20	11-May-20					
Parameter	Unit										
SO4-D	mg/L	2.5	2.5	3.1	2.8	2.9	5	3.1	2.8	130	
TSS	mg/L	2.4	1.6	<1.0	4.0	1.2	5	4.0	1.94	5	25
Alk-T	mg/L	11	10	11	11	10	5	11	10.6		
Al-T	mg/L	0.0311	0.0273	0.0274	0.0268	0.0256	5	0.0311	0.0276		
As-T	mg/L	0.00021	0.00022	0.00023	0.00024	0.00028	5	0.00028	0.00024		0.005
Ba-T	mg/L	0.0011	0.0011	0.0011	0.0011	0.0011	5	0.0011	0.0011	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	3.89	4.03	4.18	4.20	4.09	5	4.20	4.08		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250		
Hard-T	mg/L	13.5	13.6	14.0	14.1	13.7	5	14.1	13.8		
Fe-T	mg/L	0.059	0.056	0.059	0.058	0.059	5	0.059	0.058		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	0.908	0.859	0.860	0.884	0.851	5	0.908	0.872		
Mn-T	mg/L	0.0045	0.0041	0.0048	0.0044	0.0051	5	0.0051	0.0046	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.067	0.069	0.066	0.071	0.069	5	0.071	0.068		
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	1.10	1.10	1.05	1.10	1.12	5	1.12	1.09		
Sr-T	mg/L	0.0128	0.0133	0.0144	0.0146	0.0135	5	0.0146	0.0137		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0231	0.0223	0.0200	0.0201	0.0201	5	0.0231	0.0211	0.05	0.1
As-D	mg/L	0.00019	0.00020	0.00023	0.00023	0.00023	5	0.00023	0.00022		
Ba-D	mg/L	0.0011	0.0010	0.0011	0.0012	0.0011	5	0.0012	0.0011		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	4.03	4.05	4.10	4.16	4.07	5	4.16	4.08		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00037	0.00036	0.00034	0.00038	0.00036	5	0.00038	0.00036	0.0003	0.002
Hard-D	mg/L	13.6	13.7	13.6	14.1	13.8	5	14.1	13.8		
DOC	mg/L		2.8	2.7	2.4	2.1	4	2.8	2.5		
Fe-D	mg/L	0.0346	0.0377	0.0368	0.0449	0.0455	5	0.0455	0.0399		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	0.860	0.870	0.823	0.904	0.882	5	0.904	0.868		
Mn-D	mg/L	0.0029	0.0032	0.0033	0.0036	0.0033	5	0.0036	0.0033		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.070	0.071	0.068	0.068	0.069	5	0.071	0.069		
S-D	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	1.02	1.12	1.02	1.13	1.13	5	1.13	1.08		
Sr-D	mg/L	0.0127	0.0134	0.0141	0.0135	0.0135	5	0.0141	0.0134		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 48
Q1 Report 2020

EMS ID E219412							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Long Lake Outlet									Average	Max
StnCode	LLO										
Date		14-Apr-20	20-Apr-20	27-Apr-20	5-May-20	11-May-20					
Parameter	Unit										
SO4-D	mg/L	45	52	64	65	64	5	65	58.0	130	
TSS	mg/L	<1.0	3.6	3.6	1.2	1.6	5	3.6	2.10	5	25
Alk-T	mg/L	25	27	29	30	30	5	30	28.2		
Al-T	mg/L	0.0271	0.0249	0.0230	0.0191	0.0192	5	0.0271	0.0227		
As-T	mg/L	0.00035	0.00037	0.00039	0.00036	0.00036	5	0.00039	0.00037		0.005
Ba-T	mg/L	0.0043	0.0047	0.0050	0.0051	0.0051	5	0.0051	0.0048	1	5
B-T	mg/L	<0.050	<0.050	0.053	0.060	0.059	5	0.060	0.0444	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	19.4	21.5	23.4	26.3	25.7	5	26.3	23.3		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	<0.00050	<0.00050	0.00068	<0.00050	<0.00050	5	0.00068	0.000336		
Hard-T	mg/L	58.7	65.8	70.7	78.8	76.5	5	78.8	70.1		
Fe-T	mg/L	0.093	0.105	0.084	0.077	0.074	5	0.105	0.087		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	2.52	2.95	2.95	3.20	3.01	5	3.20	2.93		
Mn-T	mg/L	0.0106	0.0142	0.0140	0.0142	0.0140	5	0.0142	0.0134	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.232	0.271	0.282	0.304	0.294	5	0.304	0.277		
S-T	mg/L	14.8	18.3	19.8	21.8	22.0	5	22.0	19.3		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	6.14	7.06	7.56	8.68	8.69	5	8.69	7.63		
Sr-T	mg/L	0.127	0.144	0.177	0.195	0.187	5	0.195	0.166		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0187	0.0156	0.0133	0.0122	0.0115	5	0.0187	0.0143	0.05	0.1
As-D	mg/L	0.00032	0.00030	0.00032	0.00032	0.00033	5	0.00033	0.00032		
Ba-D	mg/L	0.0042	0.0046	0.0047	0.0051	0.0050	5	0.0051	0.0047		
B-D	mg/L	<0.050	<0.050	<0.050	0.055	0.059	5	0.059	0.0378		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	19.3	21.3	22.8	25.5	25.3	5	25.5	22.8		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00036	0.00032	0.00031	0.00035	0.00029	5	0.00036	0.00033	0.0003	0.002
Hard-D	mg/L	58.5	64.9	68.4	77.1	76.2	5	77.1	69.0		
DOC	mg/L		2.5	2.4	3.0	2.5	4	3.0	2.6		
Fe-D	mg/L	0.0651	0.0638	0.0470	0.0536	0.0408	5	0.0651	0.0541		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	2.48	2.84	2.81	3.23	3.14	5	3.23	2.90		
Mn-D	mg/L	0.0072	0.0095	0.0080	0.0092	0.0068	5	0.0095	0.0081		
Hg-D	mg/L	<0.0000019	0.0000019	<0.0000019	<0.0000019	<0.0000019	5	0.0000019	0.00000114		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.233	0.271	0.274	0.308	0.302	5	0.308	0.278		
S-D	mg/L	15.8	17.7	18.7	21.3	21.0	5	21.3	18.9		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	5.91	6.96	7.08	8.86	8.89	5	8.89	7.54		
Sr-D	mg/L	0.128	0.142	0.171	0.194	0.186	5	0.194	0.164		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 49
Q1 Report 2020

EMS ID E0126402							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Quinsam River at Argonaut Bridge									Average	Max
StnCode	WA										
Date	14-Apr-20	20-Apr-20	27-Apr-20	5-May-20	11-May-20						
Parameter	Unit										
SO4-D	mg/L	1.1	1.1	1.7	1.3	1.5	5	1.7	1.3	130	
TSS	mg/L	<1.0	2.0	1.6	1.2	1.2	5	2.0	1.30	5	25
Alk-T	mg/L	17	17	20	17	16	5	20	17.4		
Al-T	mg/L	0.0217	0.0228	0.0213	0.0231	0.0220	5	0.0231	0.0222		
As-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		0.005
Ba-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	6.77	6.85	6.62	6.89	6.73	5	6.89	6.77		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00073	0.00062	0.00077	0.00062	0.00337	5	0.00337	0.00122		
Hard-T	mg/L	20.0	20.1	19.5	20.2	19.7	5	20.2	19.9		
Fe-T	mg/L	0.013	0.013	0.011	0.013	0.013	5	0.013	0.013		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	0.758	0.718	0.713	0.729	0.713	5	0.758	0.726		
Mn-T	mg/L	<0.0010	0.0012	<0.0010	0.0013	0.0013	5	0.0013	0.00096	0.737	0.8706
Hg-T	mg/L	<0.0000019	0.0000021	<0.0000019	<0.0000019	0.0000026	5	0.0000026	0.00000151	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.058	0.061	0.057	0.091	0.057	5	0.091	0.065		
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	0.658	0.647	0.569	0.596	0.606	5	0.658	0.615		
Sr-T	mg/L	0.0112	0.0113	0.0115	0.0120	0.0113	5	0.0120	0.0115		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0173	0.0182	0.0162	0.0166	0.0166	5	0.0182	0.0170	0.05	0.1
As-D	mg/L	<0.00010	<0.00010	<0.00010	0.00010	<0.00010	5	0.00010	0.000060		
Ba-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017

Table 50
Q1 Report 2020

EMS ID E0900504							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Middle Quinsam Lake Outlet									Average	Max
StnCode	WB										
Date	14-Apr-20	20-Apr-20	27-Apr-20	5-May-20	11-May-20						
Parameter	Unit										
SO4-D	mg/L	27	26	27	28	27	5	28	27.0	130	
TSS	mg/L	<1.0	3.2	<1.0	<1.0	1.2	5	3.2	1.18	5	25
Alk-T	mg/L	30	28	30	29	28	5	30	29.0		
Al-T	mg/L	0.0167	0.0181	0.0170	0.0158	0.0156	5	0.0181	0.0166		
As-T	mg/L	0.00012	0.00010	0.00012	0.00013	0.00013	5	0.00013	0.00012		0.005
Ba-T	mg/L	0.0017	0.0017	0.0017	0.0018	0.0017	5	0.0018	0.0017	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	11.4	11.3	10.9	12.2	10.8	5	12.2	11.3		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00055	0.00090	0.00072	<0.00050	0.00055	5	0.00090	0.000594		
Hard-T	mg/L	34.1	33.8	32.6	36.3	32.6	5	36.3	33.9		
Fe-T	mg/L	0.028	0.031	0.027	0.028	0.024	5	0.031	0.028		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.38	1.34	1.28	1.43	1.36	5	1.43	1.36		
Mn-T	mg/L	0.0039	0.0051	0.0050	0.0051	0.0051	5	0.0051	0.0048	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.191	0.188	0.188	0.206	0.186	5	0.206	0.192		
S-T	mg/L	8.1	8.2	8.4	9.3	8.2	5	9.3	8.4		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	10.3	9.45	9.35	10.1	9.86	5	10.3	9.81		
Sr-T	mg/L	0.0544	0.0559	0.0574	0.0650	0.0546	5	0.0650	0.0575		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0142	0.0144	0.0132	0.0126	0.0133	5	0.0144	0.0135	0.05	0.1
As-D	mg/L	0.00012	0.00011	0.00014	0.00014	0.00012	5	0.00014	0.00013		
Ba-D	mg/L	0.0017	0.0017	0.0017	0.0019	0.0016	5	0.0019	0.0017		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	11.4	11.3	11.2	11.8	11.1	5	11.8	11.4		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00049	0.00053	0.00046	0.00050	0.00059	5	0.00059	0.00051	0.0003	0.002
Hard-D	mg/L	34.2	33.9	33.1	35.6	33.3	5	35.6	34.0		
DOC	mg/L		1.9	2.4	2.0	2.5	4	2.5	2.2		
Fe-D	mg/L	0.0185	0.0192	0.0158	0.0203	0.0190	5	0.0203	0.0186		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.39	1.35	1.26	1.47	1.37	5	1.47	1.37		
Mn-D	mg/L	0.0029	0.0038	0.0031	0.0035	0.0037	5	0.0038	0.0034		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.197	0.190	0.195	0.208	0.194	5	0.208	0.197		
S-D	mg/L	9.0	8.3	8.4	8.6	8.2	5	9.0	8.5		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	10.3	9.49	9.32	10.2	10.2	5	10.3	9.90		
Sr-D	mg/L	0.0550	0.0557	0.0595	0.0626	0.0544	5	0.0626	0.0574		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 51
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EMS ID E292113							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	7-South Quinsam River									Average	Max
StnCode	7SQR										
Date	14-Apr-20	20-Apr-20	27-Apr-20	5-May-20	11-May-20						
Parameter	Unit										
SO4-D	mg/L	28	26	28	26	29	5	29	27.4	130	
TSS	mg/L	<1.0	1.6	1.6	<1.0	1.6	5	1.6	1.16	5	25
Alk-T	mg/L	33	30	32	34	31	5	34	32.0		
Al-T	mg/L	0.0245	0.0224	0.0222	0.0207	0.0239	5	0.0245	0.0227		
As-T	mg/L	0.00044	0.00047	0.00048	0.00044	0.00058	5	0.00058	0.00048		0.005
Ba-T	mg/L	0.0026	0.0025	0.0026	0.0025	0.0029	5	0.0029	0.0026	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050		
Ca-T	mg/L	12.0	11.3	11.6	12.2	11.9	5	12.2	11.8		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00057	0.00052	0.00052	<0.00050	0.00053	5	0.00057	0.000478		
Hard-T	mg/L	36.1	34.1	34.8	36.6	35.9	5	36.6	35.5		
Fe-T	mg/L	0.070	0.069	0.068	0.069	0.078	5	0.078	0.071		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.51	1.43	1.45	1.48	1.48	5	1.51	1.47		
Mn-T	mg/L	0.0044	0.0049	0.0052	0.0051	0.0059	5	0.0059	0.0051	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.223	0.216	0.222	0.221	0.228	5	0.228	0.222		
S-T	mg/L	8.7	8.5	8.9	9.0	8.8	5	9.0	8.8		
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	11.9	10.7	10.9	11.2	11.7	5	11.9	11.3		
Sr-T	mg/L	0.0609	0.0589	0.0638	0.0652	0.0633	5	0.0652	0.0624		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0122	0.0119	0.0125	0.0099	0.0095	5	0.0125	0.0112	0.05	0.1
As-D	mg/L	0.00045	0.00041	0.00042	0.00036	0.00050	5	0.00050	0.00043		
Ba-D	mg/L	0.0026	0.0024	0.0025	0.0024	0.0027	5	0.0027	0.0025		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017
Ca-D	mg/L	11.8	11.4	12.0	11.5	11.5	5	12.0	11.6		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00050	0.00048	0.00044	0.00046	0.00046	5	0.00050	0.00047	0.0003	0.002
Hard-D	mg/L	35.6	34.2	36.0	34.8	34.8	5	36.0	35.1		
DOC	mg/L		1.8	2.8	1.9	2.3	4	2.8	2.2		
Fe-D	mg/L	0.0398	0.0377	0.0373	0.0411	0.0474	5	0.0474	0.0407		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.50	1.40	1.49	1.47	1.50	5	1.50	1.47		
Mn-D	mg/L	0.0034	0.0036	0.0039	0.0039	0.0051	5	0.0051	0.0040		
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	5	<0.0000019	0.00000095		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.234	0.215	0.224	0.215	0.224	5	0.234	0.222		
S-D	mg/L	9.2	8.1	9.1	8.1	8.6	5	9.2	8.6		
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050		
Na-D	mg/L	11.6	10.5	11.7	10.9	11.4	5	11.7	11.2		
Sr-D	mg/L	0.0622	0.0598	0.0640	0.0616	0.0611	5	0.0640	0.0617		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 52
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EMS ID E299256							Count	Maximum	5 in 30 Ave	Water Quality Guidelines	
StnName	Iron River & Quinsam River									Average	Max
StnCode	IRQR										
Date	14-Apr-20	20-Apr-20	1-May-20	5-May-20	11-May-20						
Parameter	Unit										
SO4-D	mg/L	18	14	14	15	12	5	18	14.6	130	
TSS	mg/L	3.2	3.6	4.0	1.2	1.2	5	4.0	2.6	5	25
Alk-T	mg/L	31	28	28	30	25	5	31	28.4		
Al-T	mg/L	0.0357	0.0487	0.0470	0.0440	0.0535	5	0.0535	0.0458		
As-T	mg/L	0.00065	0.00060	0.00052	0.00059	0.00061	5	0.00065	0.00059		0.005
Ba-T	mg/L	0.0033	0.0030	0.0030	0.0030	0.0028	5	0.0033	0.0030	1	5
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2	
Cd-T	mg/L	<0.000010	0.000016	<0.000010	<0.000010	0.000010	5	0.000016	0.0000082		
Ca-T	mg/L	11.4	10.8	10.5	10.3	8.96	5	11.4	10.39		
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11
Cu-T	mg/L	0.00062	0.00071	0.00065	0.00067	0.00077	5	0.00077	0.00068		
Hard-T	mg/L	33.7	31.3	30.7	30.2	26.1	5	33.7	30.4		
Fe-T	mg/L	0.058	0.057	0.074	0.061	0.054	5	0.074	0.061		1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763
Mg-T	mg/L	1.26	1.06	1.09	1.10	0.902	5	1.26	1.082		
Mn-T	mg/L	0.0031	0.0030	0.0034	0.0037	0.0031	5	0.0037	0.0033	0.737	0.8706
Hg-T	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	0.0000029	5	0.0000029	0.00000134	0.00002	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025	0.025
K-T	mg/L	0.200	0.191	0.190	0.183	0.165	5	0.200	0.186		
S-T	mg/L	5.6	4.6	4.7	4.6	4.0	5	5.6	4.7		
Se-T	mg/L	0.00013	0.00011	0.00010	0.00010	<0.00010	5	0.00013	0.000098	0.002	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001
Na-T	mg/L	7.66	5.69	6.25	6.35	5.00	5	7.66	6.19		
Sr-T	mg/L	0.0516	0.0465	0.0445	0.0447	0.0389	5	0.0516	0.0452		
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033
Al-D	mg/L	0.0221	0.0358	0.0311	0.0270	0.0432	5	0.0432	0.0318	0.05	0.1
As-D	mg/L	0.00062	0.00057	0.00047	0.00056	0.00060	5	0.00062	0.00056		
Ba-D	mg/L	0.0032	0.0029	0.0029	0.0029	0.0028	5	0.0032	0.0029		
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250		
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000012	5	0.000012	0.0000064	0.000087	0.00017
Ca-D	mg/L	11.5	10.6	10.2	10.3	9.10	5	11.5	10.34		
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Cu-D	mg/L	0.00050	0.00064	0.00057	0.00055	0.00068	5	0.00068	0.00059	0.0003	0.002
Hard-D	mg/L	33.8	30.8	29.8	30.1	26.7	5	33.8	30.2		
DOC	mg/L		2.2	2.2	2.7	2.6	4	2.7	2.4		
Fe-D	mg/L	0.0295	0.0292	0.0318	0.0324	0.0337	5	0.0337	0.0313		0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		
Mg-D	mg/L	1.24	1.06	1.05	1.09	0.953	5	1.24	1.079		
Mn-D	mg/L	0.0021	0.0021	0.0021	0.0028	0.0025	5	0.0028	0.0023		
Hg-D	mg/L	<0.0000019	0.0000020	<0.0000019	0.0000024	<0.0000019	5	0.0000024	0.00000145		
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		
K-D	mg/L	0.198	0.188	0.180	0.187	0.176	5	0.198	0.186		
S-D	mg/L	6.1	4.3	4.4	4.6	3.7	5	6.1	4.6		
Se-D	mg/L	0.00013	0.00012	<0.00010	<0.00010	<0.00010	5	0.00013	0.000080		
Na-D	mg/L	7.49	5.65	5.88	6.29	5.23	5	7.49	6.11		
Sr-D	mg/L	0.0515	0.0456	0.0456	0.0464	0.0399	5	0.0515	0.0458		
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		
Notes:											
Factor applied to less-than results when calculating statistics: 0.5											

Table 53
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Spring Taxa and Abundance of Zooplankton Samples					
level of id. : lowest/lowest					
Site Name		LLM	MQL	NNL	LQL
FES Sample Number		200018	200019	200020	200021
Sampling Date(s)		May 12, 2020	May 12, 2020	May 12, 2020	May 13, 2020
units = total organisms/sample					
	stage				
Sub-class : Copepoda					
Order : Cyclopoida					
<i>Cryptocyclops bicolor</i>	adult	25	6		54
<i>Diacyclops thomasi</i>	adult	102	25	75	27
<i>Microcyclops varicans</i>	adult	101	12	336	54
<i>Orthocyclops modestus</i>	adult				27
<i>Tropocyclops prasinus</i>	adult			75	
UID	copepodid	280	31	118	459
Order : Calanoida					
Family : Diaptomidae					
<i>Hesperodiaptomus novemde</i>	adult		6	14	
<i>Skistodiaptomus oregonensi</i>	adult	9	6	102	15
UID	copepodid		14	333	16
UID Calanoida / Cyclopoida	nauplii	1,208	925	389	817
Order : Cladocera					
<i>Bosmina longirostris</i>	adult	404	14	225	26
<i>Bosmina longirostris</i>	juvenile	232	29	118	47
<i>Daphnia ambigua</i>	adult	39	2	261	3
<i>Daphnia longiremis</i>	adult			26	5
<i>Daphnia rosea</i>	adult		356	58	22
<i>Daphnia sp.</i>	juvenile		136	138	21
<i>Holopedium gibberum</i>	adult			461	12
<i>Holopedium gibberum</i>	juvenile			128	17
<i>Polyphemus pediculus</i>	adult		5		
Phylum : Rotifera					
<i>Asplanchna sp.</i>		542	2		22
<i>Conochilus sp.</i>	colonies	4		51	88
<i>Kellicottia longispina</i>		619	57	348	17
<i>Keratella cochlearis</i>		6,880	72	10	127
<i>Keratella quadrata</i>		88	5		
<i>Polyarthra sp.</i>		4,558		210	127
UID					
TOTAL		15,091	1,703	3,476	2,003
UID = unidentified due to lack of size and/or missing morphological characters.					

Table 54 Q1 Report 2020				
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	Upgradiernt 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 55
Q1 Report 2020

BC CSR Aquatic Life 2019 - Lowest Level Exceedances for Ex-situ Groundwater															
Date	Area	Freshwater	7-South		2- 3 North						River Barrier Pillar			4-South	
	Well No.		QU0813A	QU0813B	QU0821GD	QU0821GS	QU1010D	QU1010S	QU1011D	QU1011S	QU1105D	QU1105S	QU1109S	QU1009S	QU1009D
Parameter	Units	Aquatic Life (C)	27-May-20	27-May-20	1-Jun-20	1-Jun-20	4-Jun-20	4-Jun-20	11-Jun-20	11-Jun-20	28-May-20	28-May-20	26-May-20	15-Jun-20	15-Jun-20
Cl-D	mg/L	1500					2600								
As-D	mg/L	0.05	0.443	0.499	0.164	0.208		0.103				0.0881	0.0945	0.0825	0.104
Se-D	mg/L										0.0637				
H2SEquiv	mg/L	0.02	0.159	0.0457	0.117			0.0840	0.0532		69.1	0.0404	0.255		0.0861

Table 56
Q1 Report 2020

Ex-Situ Ground Water															
Date	Area	Freshwater	7-South		QU0821GD	QU0821GS	2- 3 North				River Barrier Pillar			4-South	
	Well No.		QU0813A	QU0813B			QU1010D	QU1010S	QU1011D	QU1011S	QU1105D	QU1105S	QU1109S	QU1009S	QU1009D
Parameter	Units	Aquatic Life (C)	27-May-20	27-May-20	1-Jun-20	1-Jun-20	4-Jun-20	4-Jun-20	11-Jun-20	11-Jun-20	28-May-20	28-May-20	26-May-20	15-Jun-20	15-Jun-20
SO4-D	mg/L	1280	29	44	<1.0	<1.0	<1.0	1.1	<1.0	5.3	280	100	180	120	82
Turb	NTU		4.1	5.2	10	0.78	240	14	71	2.6	120	6.5	20	50	5.2
Alk-T	mg/L		170	150	200	190	110	170	340	160	310	180	460	140	170
Acidity83	mg/L		<1.0	<1.0	4.4	<1.0	8.9	<1.0	8.5	3.6	<1.0	<1.0	<1.0	4.1	<1.0
N-D	mg/L		0.218	0.164	0.644	0.181	0.750	0.278	0.398	0.112	0.428	0.205	0.392	0.085	0.145
DOC	mg/L		<0.50	<0.50	23	<0.50	17	0.73	8.0	0.83	<50	1.3	0.73	0.88	0.82
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		200	180	250	230	140	210	420	200	380	220	550	170	210
Carb	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.7	<1.0	<1.0
Cl-D	mg/L	1500	13	10	1000	70	2600	26	470	5.4	1400	2.8	44	<1.0	1.4
F-D	mg/L	*	0.69	0.51	1.2	1.7	<0.050	0.71	0.38	0.14	<0.050	0.27	0.77	0.063	0.26
Br-D	mg/L		0.020	0.020	1.3	0.092	3.4	0.036	0.79	0.010	2.1	0.024	0.090	0.037	0.025
P-D	mg/L		0.058	0.059	0.021	0.059	0.10	0.028	0.082	0.016	0.19	0.011	<0.0030	0.0065	0.0095
Al-D	mg/L		0.0068	<0.0030	<0.015	<0.0060	<0.015	<0.0030	<0.0060	<0.0030	<0.015	<0.0030	<0.0060	0.0035	<0.0030
Ag-D	mg/L	*	<0.000020	<0.000020	<0.00010	<0.000040	<0.00010	<0.000020	<0.000040	<0.000020	<0.00010	<0.000020	<0.000040	<0.000020	<0.000020
As-D	mg/L	0.05	0.443	0.499	0.164	0.208	0.0150	0.103	0.0127	0.00213	0.00441	0.0881	0.0945	0.0825	0.104
Ba-D	mg/L	10	0.234	0.0819	2.59	0.304	1.02	0.349	0.348	0.255	0.168	0.0928	0.0486	0.127	0.111
B-D	mg/L	50	0.619	0.529	3.49	1.95	0.37	0.842	1.85	0.299	0.43	0.678	1.94	0.052	0.470
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00050	<0.00020	<0.00050	<0.00010	<0.00020	<0.00010	<0.00050	<0.00010	<0.00020	<0.00010	<0.00010
Bi-D	mg/L		<0.0010	<0.0010	<0.0050	<0.0020	<0.0050	<0.0010	<0.0020	<0.0010	<0.0050	<0.0010	<0.0020	<0.0010	<0.0010
Cd-D	mg/L	*	<0.000010	<0.000010	<0.000050	<0.000020	<0.000050	<0.000010	<0.000020	<0.000010	<0.000050	<0.000010	<0.000020	<0.000010	<0.000010
Ca-D	mg/L		34.9	37.6	113	15.1	500	24.8	56.5	35.2	156	27.6	22.2	69.2	50.3
Cr-D	mg/L	0.01	<0.0010	<0.0010	<0.0050	<0.0020	<0.0050	<0.0010	<0.0020	<0.0010	<0.0050	<0.0010	<0.0020	<0.0010	<0.0010
Co-D	mg/L	0.04	<0.00020	<0.00020	<0.0010	<0.00040	<0.0010	<0.00020	<0.00040	<0.00020	<0.0010	<0.00020	<0.00040	<0.00020	<0.00020
Cu-D	mg/L	*	<0.00020	<0.00020	<0.0010	<0.00040	<0.0010	<0.00020	<0.00040	<0.00020	<0.0010	<0.00020	<0.00040	<0.00020	<0.00020
Fe-D	mg/L		0.273	0.240	0.835	0.337	8.94	0.193	2.67	1.03	<0.025	1.02	0.263	4.54	0.534
Hard-D	mg/L		122	123	348	53.1	1290	84.3	164	121	411	92.5	78.2	215	167
Pb-D	mg/L	*	<0.00020	<0.00020	<0.0010	<0.00040	<0.0010	<0.00020	<0.00040	<0.00020	<0.0010	<0.00020	<0.00040	<0.00020	<0.00020
Mg-D	mg/L		8.39	6.96	16.3	3.75	10.3	5.43	5.67	7.92	5.19	5.72	5.53	10.3	10.0
Mn-D	mg/L		0.0506	0.0637	0.0628	0.0532	0.385	0.0343	0.279	0.112	0.0727	0.110	0.0199	0.360	0.0485
Hg-D	mg/L	0.001	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019
Na-D	mg/L		40.3	34.4	563	104	1170	52.4	370	24.1	897	82.9	286	8.51	33.3
Mo-D	mg/L	10	<0.0010	0.0016	<0.0050	<0.0020	<0.0050	<0.0010	<0.0020	<0.0010	<0.0050	<0.0010	<0.0020	<0.0010	<0.0010
Ni-D	mg/L	*	<0.0010	<0.0010	<0.0050	<0.0020	<0.0050	<0.0010	<0.0020	<0.0010	<0.0050	<0.0010	<0.0020	<0.0010	<0.0010
K-D	mg/L		2.14	1.67	9.79	3.82	7.70	3.34	5.02	1.90	4.90	2.75	3.57	0.662	1.64
S-D	mg/L		10.5	14.2	<15	<6.0	<15	<3.0	<6.0	<3.0	168	32.9	69.1	33.0	22.9
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.0025	<0.0010	<0.0025	<0.00050	<0.0010	<0.00050	<0.0025	<0.00050	<0.0010	<0.00050	<0.00050
Se-D	mg/L	0.01	0.00078	<0.00010	<0.00050	<0.00020	<0.00050	0.00061	<0.00020	<0.00010	0.0637	0.00026	0.00468	<0.00010	0.00010
Si-D	mg/L		3.90	4.23	4.33	3.59	3.84	4.16	5.55	3.56	4.57	3.38	5.29	8.45	9.39
Sr-D	mg/L		0.472	0.369	2.35	0.412	4.92	0.427	0.843	0.420	1.91	0.387	0.371	0.259	0.888
Tl-D	mg/L	0.003	<0.000010	<0.000010	<0.000050	<0.000020	<0.000050	<0.000010	<0.000020	<0.000010	<0.000050	<0.000010	<0.000020	<0.000010	<0.000010
Ti-D	mg/L	1	<0.0050	<0.0050	<0.025	<0.010	<0.025	<0.0050	<0.010	<0.0050	<0.025	<0.0050	<0.010	<0.0050	<0.0050
U-D	mg/L	3	<0.00010	<0.00010	<0.00050	<0.00020	<0.00050	<0.00010	<0.00020	<0.00010	<0.00050	<0.00010	<0.00020	<0.00010	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.025	<0.010	<0.025	<0.0050	<0.010	<0.0050	<0.025	<0.0050	<0.010	<0.0050	<0.0050
Zn-D	mg/L	*	<0.0050	<0.0050	<0.025	<0.010	<0.025	<0.0050	<0.010	0.0185	<0.025	<0.0050	<0.010	<0.0050	<0.0050
H2SEquiv	mg/L	0.02	0.159	0.0457	0.117	0.0138	0.00957	0.0840	0.0532	0.000957	69.1	0.0404	0.255	0.00223	0.0861

Table 57
Q1 Report 2020

In-Situ Mine Water															
Date Parameter	Area	2-North Mine Pool				7-South Underground Sumps		242 Mine Pool	3-South Pit	2-South Mine Pool			River Barrier Pillar	7-South	
	Well No.	1M2N	1M2N	3M2N	3M2N	1M7SA5	1M7SA5	242MW	MW002	MW004	INF	INF	Water Cover Over QUI109M	Water Cover Over QUI1410	Water Cover Over PAG-CCR QUI1410
	Units	21-May-20	18-Jun-20	21-May-20	18-Jun-20	21-May-20	18-Jun-20	10-Jun-20	3-Jun-20	3-Jun-20	20-May-20	2-Jun-20	26-May-20	20-May-20	17-Jun-20
SO4-D	mg/L	670	710	710	940	280	190	38	1300	370	630	610	580	1800	1800
Turb	NTU	51	47	5.4	8.0	27	5.2	51	45	0.42			110	18	25
Alk-T	mg/L	500	510	400	290	120	140	90	270	140	250		440	290	290
Acidity83	mg/L	10.5	9.1	11.5	12.7	1.6	<1.0	12.4	21.9	4.1	20.1		<1.0	22.4	20.6
N-D	mg/L	0.344	0.346	0.189	0.116	0.151	0.220	0.095	0.194	0.099			0.383	0.389	0.402
DOC	mg/L	0.90	0.92	0.69	0.57	1.9	0.89	0.53	0.89	1.7			1.4	1.9	1.4
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	610	620	490	360	150	180	110	330	170	310		540	360	360
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	11	12	5.8	10	1.9	2.0	<1.0	1.9	1.3			38	5.5	6.3
F-D	mg/L	0.12	0.11	0.15	0.11	0.18	0.40	0.090	0.13	0.086			0.11	0.19	0.17
Br-D	mg/L	0.15	0.16	0.15	0.20	0.095	0.032	<0.010	0.24	0.075			0.17	0.34	0.42
P-D	mg/L	<0.0030	<0.0010	<0.0030	<0.0010	<0.0030	0.0037	<0.0030	0.0077	<0.0030			0.032	0.016	0.013
Al-D	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0060	0.0033	<0.0030	<0.0030	<0.0060	<0.0060	<0.015
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040	<0.000020	<0.000020	<0.000020	<0.000040	<0.000040	<0.00010
As-D	mg/L	0.00853	0.00842	0.00026	0.00212	0.00643	0.00998	0.0747	0.00166	0.00020	0.00410	0.00384	0.00365	0.0986	0.0905
Ba-D	mg/L	0.0292	0.0269	0.0144	0.0112	0.0769	0.143	0.0730	0.0141	0.0286	0.0220	0.0233	0.0162	0.0163	0.0175
B-D	mg/L	1.04	1.08	0.775	0.808	0.255	0.469	0.067	0.72	0.225	0.682	0.699	0.87	1.13	1.28
Be-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020	<0.00050
Bi-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0050
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020	<0.000010	<0.000010	<0.000010	<0.000020	<0.000020	<0.000050
Ca-D	mg/L	132	128	127	239	106	86.6	44.1	458	152	245	239	82.0	515	517
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0050
Co-D	mg/L	<0.00020	<0.00020	0.00123	0.00142	0.00096	0.00048	0.00224	0.00359	<0.00020	0.00069	0.00057	<0.00040	0.00052	<0.0010
Cu-D	mg/L	0.00046	0.00043	<0.00020	<0.00020	0.00061	0.00039	0.00105	<0.00040	0.00053	<0.00020	<0.00020	<0.00040	0.00164	0.0021
Fe-D	mg/L	4.13	4.19	0.0652	0.656	0.127	0.121	12.5	4.32	0.0056	4.16	4.03	7.34	1.73	1.80
Hard-D	mg/L	382	369	390	703	351	288	125	1340	451	677	660	243	1970	2020
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00040	<0.00020	<0.00020	<0.00020	<0.00040	<0.00040	<0.0010
Mg-D	mg/L	12.7	12.2	17.8	26.0	21.0	17.5	3.51	47.8	17.4	15.5	15.4	9.34	167	178
Mn-D	mg/L	0.441	0.437	0.230	0.454	0.0902	0.0377	0.760	1.57	0.0114	0.406	0.416	0.239	1.37	1.47
Hg-D	mg/L	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019	<0.0000019		<0.0000019	<0.0000019	<0.0000019
Na-D	mg/L	389	380	333	231	14.0	20.1	2.81	68.2	38.4	126	120	354	53.1	54.8
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0050
Ni-D	mg/L	<0.0010	<0.0010	0.0013	0.0020	0.0032	0.0022	0.0016	0.0024	<0.0010	0.0011	0.0010	<0.0020	0.0043	<0.0050
K-D	mg/L	5.22	5.20	3.65	3.52	1.85	2.45	0.485	5.12	1.78	1.97	2.04	5.05	7.30	7.03
S-D	mg/L	239	228	243	307	89.1	61.9	12.8	387	128	227	213	196	608	626
Sb-D	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010	<0.0025
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	<0.00010	<0.00020	<0.00010	<0.00010	<0.00010	0.00070	<0.00020	<0.00050
Si-D	mg/L	3.80	3.79	3.20	3.06	4.26	3.91	3.86	3.32	2.59	2.97	2.97	3.33	3.11	3.09
Sr-D	mg/L	1.49	1.38	1.38	1.88	0.606	0.699	0.0761	4.06	1.28	2.34	2.29	1.00	4.83	4.52
Tl-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000022	<0.000020	<0.000010	<0.000010	<0.000010	<0.000020	<0.000020	<0.000050
Ti-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.025
U-D	mg/L	<0.00010	<0.00010	<0.00010	0.00016	0.00024	0.00012	<0.00010	0.00042	<0.00010	<0.00010	<0.00010	<0.00020	0.00093	0.00083
V-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.025
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.0052	<0.010	<0.010	<0.025
H2SEquiv	mg/L							0.0117	0.000957	0.000957			0.0553	0.000957	0.000957

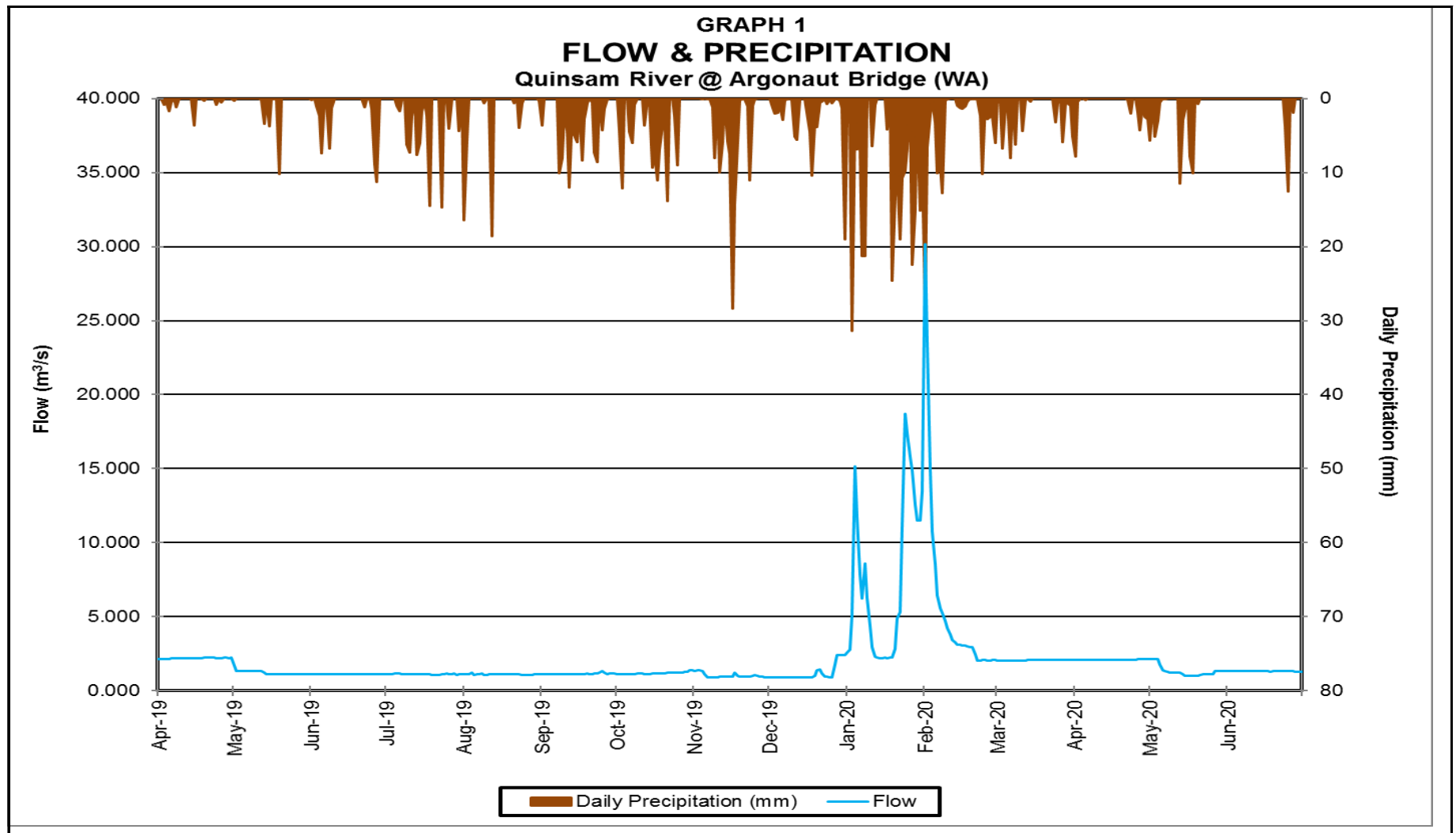
Table 58
Q1 Report 2020

Daily Precipitation (mm)			
DATE	APRIL	MAY	JUNE
1	7.8	5.7	0
2	0.4	0	0
3	0	5.1	0
4	0	3	0
5	0.2	0.5	0
6	0	0	0
7	0	0.1	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	11.5	0
14	0	2.9	0
15	0	1.6	0
16	0	0	0
17	0	7.8	0
18	0	10.1	0
19	0	0.1	0
20	0	0.7	0
21	0	0	0
22	0.2	0	0
23	2	0	0
24	0	0	3.8
25	0	0	12.6
26	1.9	0	0
27	4.3	0	1.9
28	0.7	0	0
29	2.5	0	0
30	2.8	0	0
31		0	
Monthly Total (mm)	22.80	49.10	18.30
2020 Q1 Total (mm)	90.20		

Table 20
Q1 Report 2020

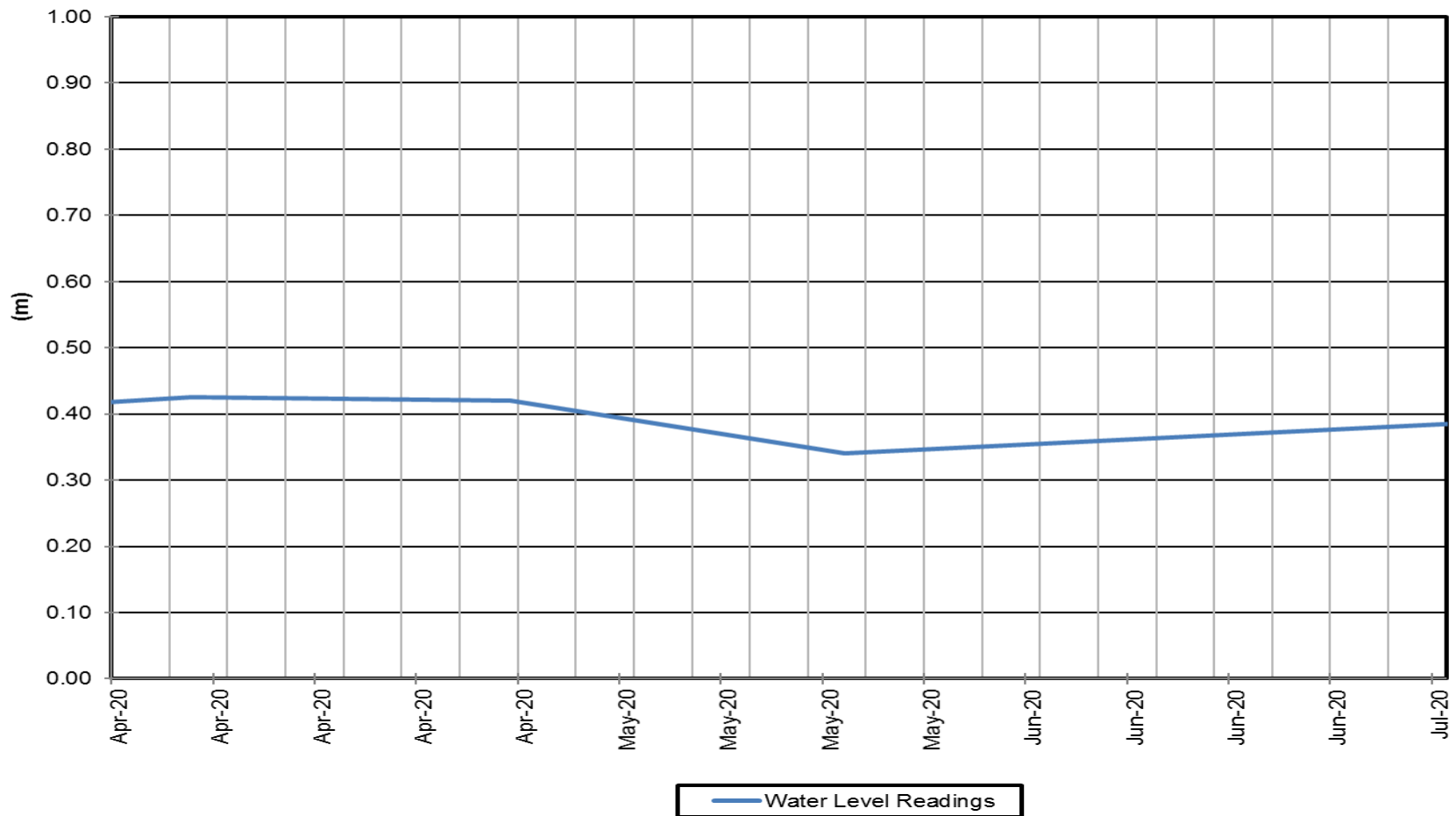
Date	2S Inflow Water Level			2S Outflow Culvert into 3S Pit Flow Rate (L/s)		
	April	May	June	April	May	June
1	0.308	0.280	0.414	6.220	4.952	4.557
2	0.300	0.284	0.414	6.079	5.092	4.908
3	0.297	0.287	0.411	5.895	4.871	4.583
4	0.295	0.320	0.417	6.035	4.999	4.964
5	0.297	0.346	0.415	5.614	4.534	4.967
6	0.300	0.350	0.423	5.457	4.210	4.993
7	0.300	0.340	0.421	5.419	4.289	4.646
8	0.296	0.338	0.415	5.290	4.202	5.384
9	0.295	0.337	0.416	5.224	4.209	7.294
10	0.294	0.333	0.413	5.309	4.058	6.896
11	0.294	0.330	0.411	5.151	4.244	6.295
12	0.290	0.350	0.410	5.097	4.803	10.720
13	0.288	0.347	0.409	5.142	4.453	9.386
14	0.287	0.348	0.410	5.026	4.279	7.386
15	0.286	0.381	0.418	4.910	4.376	9.460
16	0.285	0.380	0.418	4.938	4.940	14.960
17	0.286	0.395	0.411	5.043	5.004	8.476
18	0.285	0.389	0.407	4.912	4.568	6.548
19	0.285	0.379	0.408	4.963	4.372	10.523
20	0.277	0.365	0.413	5.028	4.762	8.406
21	0.283	0.402	0.410	5.038	4.366	7.210
22	0.272	0.406	0.407	5.087	4.530	11.887
23	0.270	0.406	0.407	4.801	4.920	8.589
24	0.265	0.409	0.427	5.024	5.196	11.278
25	0.269	0.420	0.412	4.603	4.959	14.121
26	0.266	0.428	0.411	4.969	4.508	8.670
27	0.263	0.423	0.407	4.839	4.578	7.051
28	0.276	0.422	0.406	5.224	4.387	8.285
29	0.278	0.419	0.402	5.186	4.453	9.119
30	0.283	0.417	0.392	5.055	4.575	6.071
31		0.418			4.693	

Q1 Report 2020



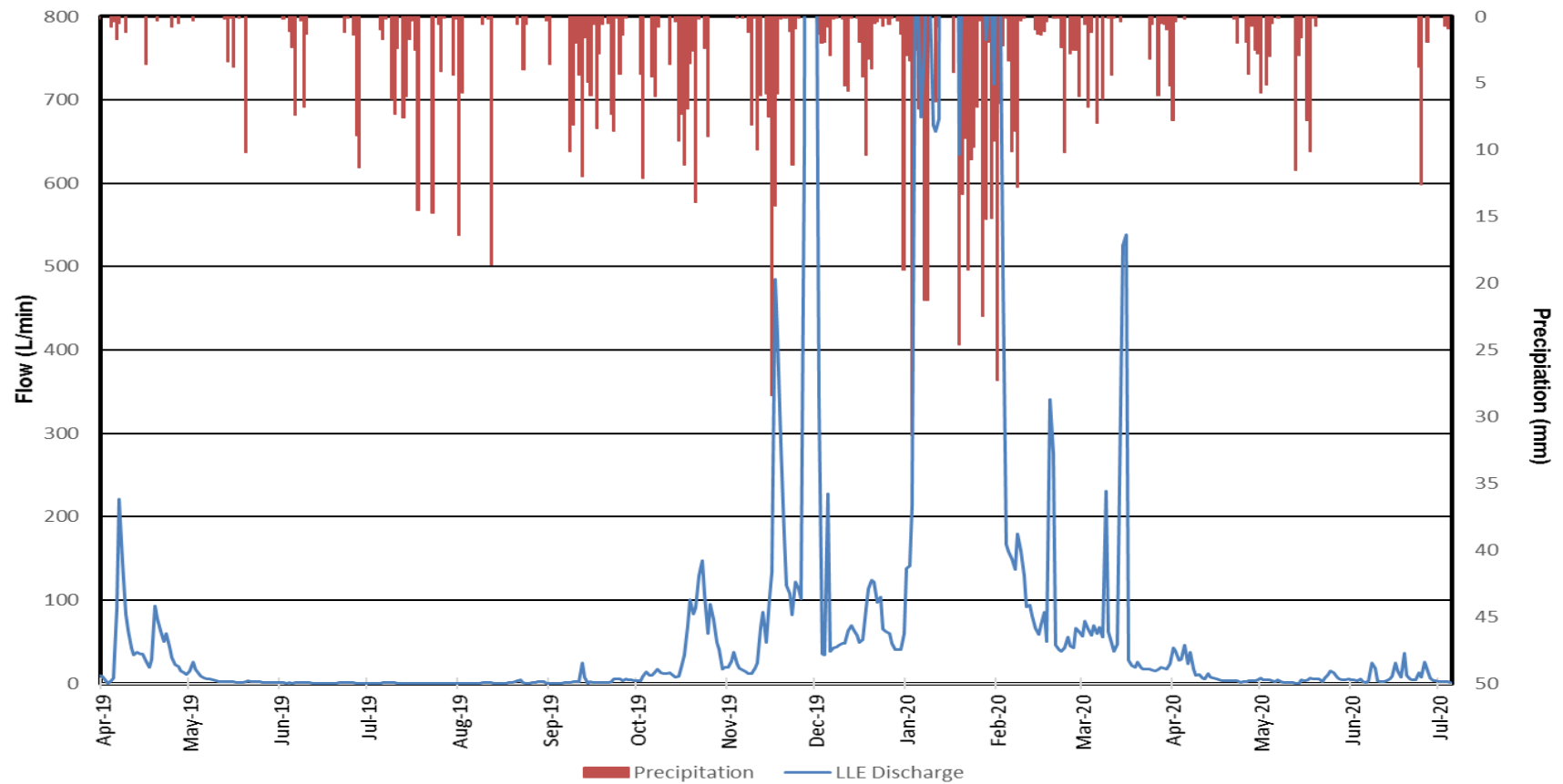
Q1 Report 2020

Graph 2
WATER LEVEL
WB



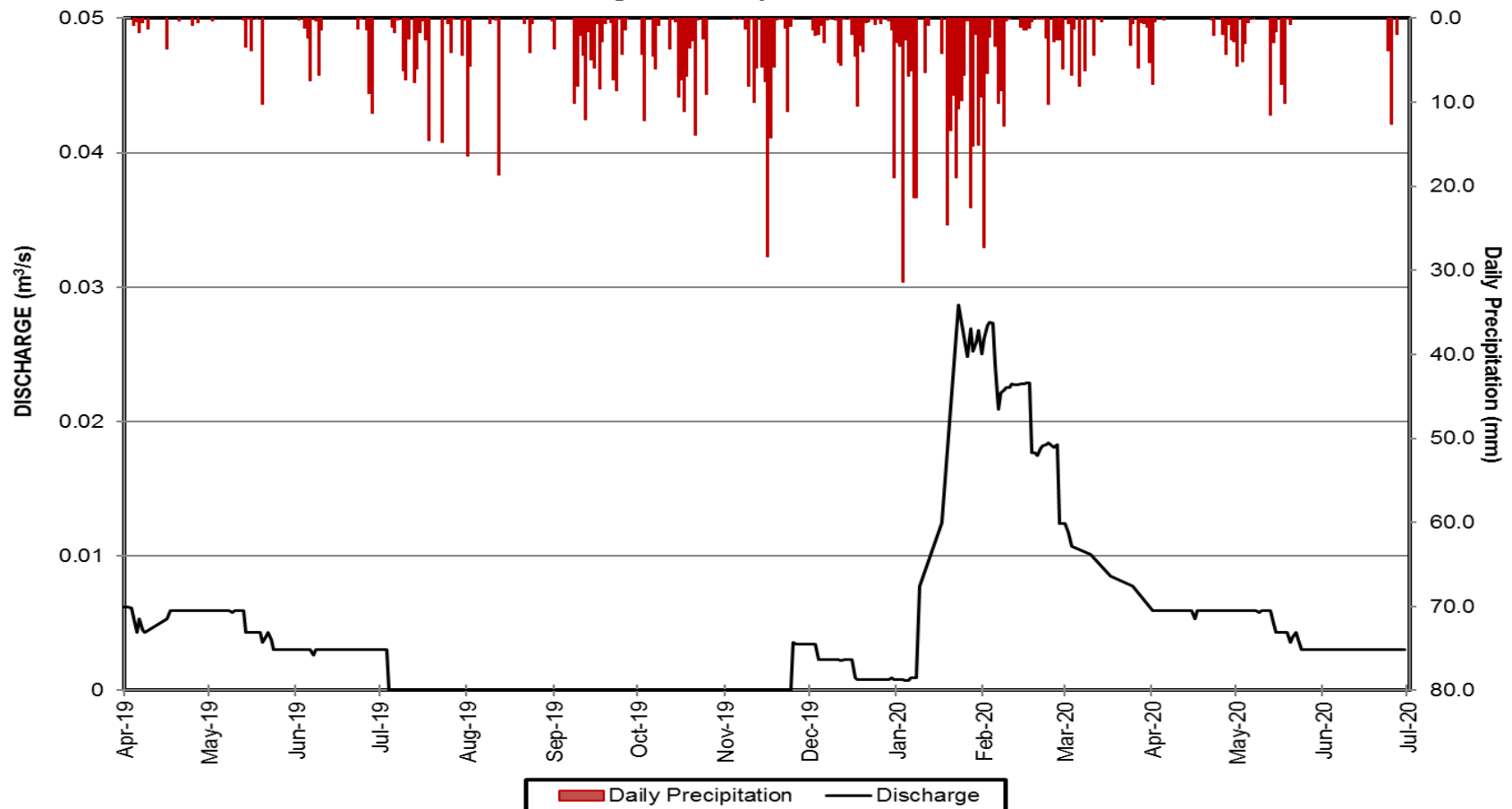
Q1 Report 2020

GRAPH 3
DISCHARGE vs PRECIPITATION
Long Lake Entry - LLE

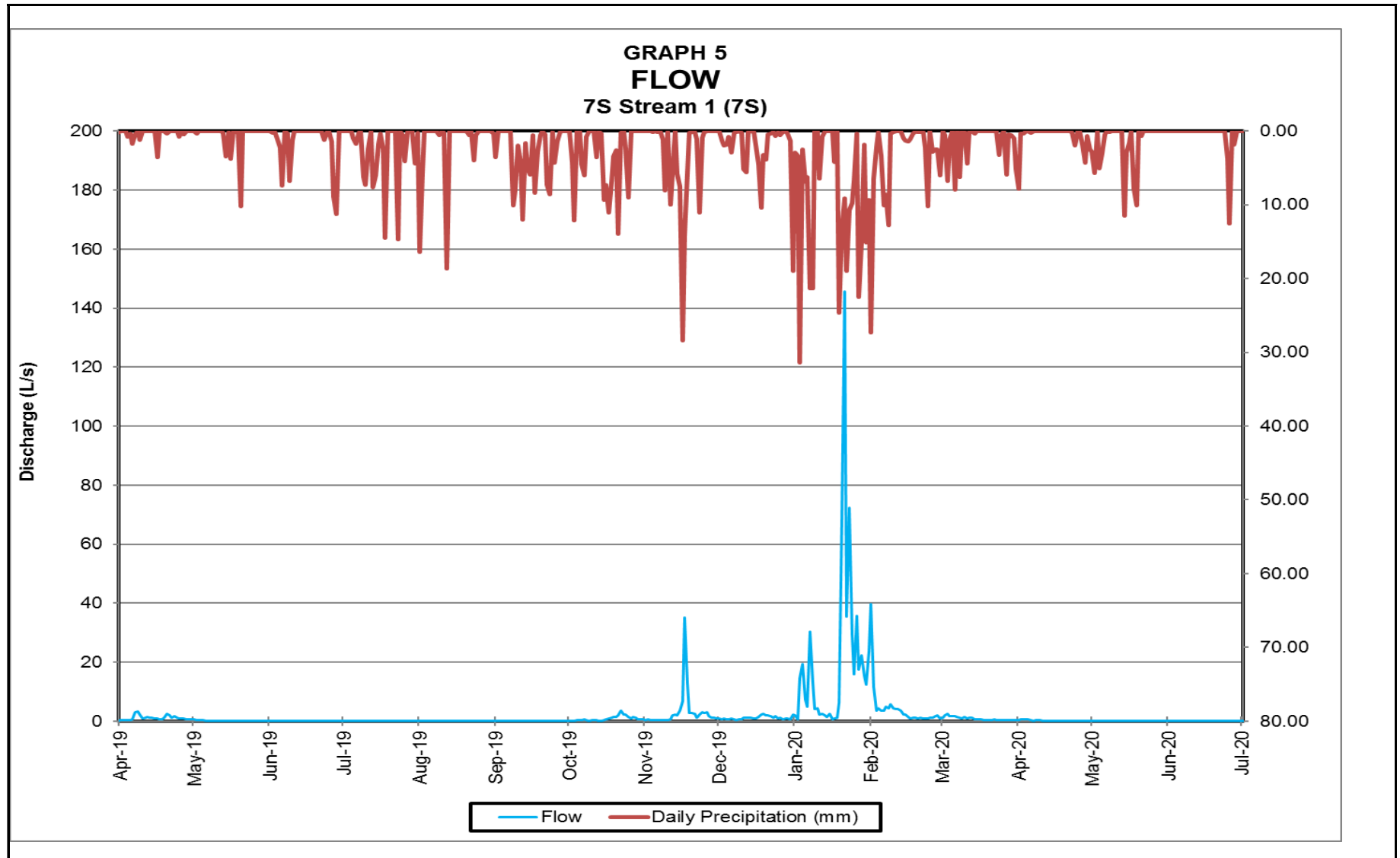


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GRAPH 4
DISCHARGE vs PRECIPITATION
Long Lake Seep Middle - LLSM



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GRAPH 6
FLOW vs PRECIPITATION
Iron River - IR8

