

PE:7008 QUARTERLY WATER
QUALITY MONITORING REPORT
OCTOBER 1 THROUGH DECEMBER 31,
2019

Quinsam Coal

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SUMMARY OF EVENTS FOR THE THIRD QUARTER:

A permit amendment application, titled “*PE:7008 Monitoring Program Reduction Request*” was submitted to the Ministry of Environmental and Climate Change Strategy (ENV) on October 17th, 2019 from Quinsam Coal. An amendment to the monitoring requirements of effluent permit 7008 was received on November 1st, 2019. The following amendments to authorization 7008, Section 4 are approved:

Section 4.1 Effluent and In-Mine Sites: the following monitoring sites are removed from the monitoring program:

E292126 (south dyke sump) – this monitoring site captures seepage that is pumped underground into 2-north mine pool and does not discharge directly to the receiving environment.

E292128 (1977 bulk sample pit) – data show results here have been stable over time; also, the water from this site is captured at other monitoring sites (4S-Lo, SPC and LLE).

E292129 (culvert downstream of 4 south access road) – data show results here have been stable over time; also, the water from this site is captured at LLE.

E225796 – Block 242 decant and E225797 – Block 242 underground settling pond effluent
The above two monitoring sites are in an area that has been reclaimed, and they no longer represent effluent from the Block 242 area. The most effective way to monitor for any impacts here is in the groundwater, which will continue to be sampled.

Section 4.1 Effluent and In-Mine Sites: the following monitoring sites have reduction in the frequency of pH and conductivity monitoring amended from weekly to monthly reduce.

E207412 - north pit sump water, (WP),

E283433 -2-north portal sump effluent (2NPS)

E217015 - 3-south pit main sump water (3S)

E292127- 2-south pit water (2S)

E207411 - culvert at Middle Quinsam Lake Road (WC)

E217014 - downstream discharge from settling pond 1 (SPC)

Section 4.1 Effluent and In-Mine Sites: the following monitoring sites have reduction in the frequency of the bi-weekly TSS monitoring requirement is removed from sites:

E207411- WC

E217014- SPC

For the site E292069 -7-south surface decant (7SSD) - The monitoring frequency at this location is reduced from monthly to quarterly when no discharge is occurring.

Reduction in daily composite total suspended solid sampling at sites both permitted locations Settling Pond 1 and 4. E207409- Settling pond 4 discharge (WD) and E218582 Settling pond 4 discharge (SPD). This has been changed to weekly samples based on flows greater than 0.054 m³/s. An additional analysis of dissolved metals was also included in the monthly frequency to strengthen the data set.

Compliance with Effluent Permit 7008:

Most environmental monitoring obligations as per the Effluent Permit 7008 (PE-7008) were completed this quarter. Permit non-compliances (PNC) were experienced with flow meters not operating correctly at Settling Pond #1 (SPD) and 2-South outflow. The discharge information was collected from SPD meter and but is currently being reviewed and verified. This will be submitted once completed. The flow meter at SPD was replaced on December 9th, 2019 with a new flow meter. This data meter was downloaded recently, and it was discovered that it does not include a maximum flow rate. The permit requires both maximum and average continuous flow rates. This is a permit non-compliance from December 9th to present. A new flow meter is on order.

At the 2-South pit continuous discharge is required. The flow meter installed at this location was recording continuous flow, but the meter would not connect to the laptop. There was a series of software issues and finally once connected the meter erased all stored data and performed a factory reset. This occurred on January 28th, 2019. All data from July to present was lost. The meter has a display that provides a water level reading in the H-Flume. This has been recorded daily since July, the data was converted to flow based on the H-Flume weir calculation. The water level / flow rate at this location is fairly consistent when there is limited precipitation on site.

There was one permit limit exceedance that occurred at SPD related to dissolved iron above the permit limit of 0.5 mg/L resulting in 0.517 mg/L on December 4th, 2019. Provincial Emergency Program (PEP) was informed with a spill report number generated (DGI-193640).

Discharge from Settling #1 and Settling Pond #4 was collected for 96-Hr LC- 50 (100% Survival) Rainbow Trout bioassays. Each sample passed with 100 % survival rates. Toxicity sampling at 7SSD and 7S did not occur this quarter due to there being zero discharge from 7SSD.

During the 3rd quarter (Fall 2019), the receiving environment monitoring program for both lakes and river/stream stations was completed. There was one sample that was not collected on the Iron River at IR6. This occurred due to a mix up in the monitoring locations where IR8 was collected instead of IR6.

The “*fall flush*” receiving environment monitoring program followed the 5 samples in 30 days sampling period, spanning from October 15th through November 20th. From October 1st through November 20th the mine received 185.50 mm of precipitation. The fall 5 in 30 sampling regime captures the complete fall turnover in the lakes and observes river water quality when flows are highest (fall flush).

The Long Lake Seep Passive Treatment system has been functioning since August 2018. The discharge from the treatment system is directed into the inlet of 2-South pit that flows into the 3-South Pit and then is pumped to Settling Pond #1. Taking this route, with treatment system

discharge eliminates the last two treatment ponds (aeration lagoon and last settling pond) and keeps the effluent within the authorized works.

The treatment system was receiving 4.5 L/s throughout the quarter. The 2-South pit maintained a 2 m water cover over the PAG-CCR with intermittent discharge to 3-South pit. This system works well at providing adequate water cover for both 2-South and 3-South pits.

The Long Lake Seep started flowing on November 25th, 2019 with flow directed through the H-Flume and discharge captured by the flow meter at Long Lake Seep Middle (LLSM).

1. SETTLING PONDS

1.1 WATER QUANTITY

The decant riser was blocked by a beaver dam until November 12th, 2019 at Settling Pond 1. The flow meter was replaced on December 9th, 2019. Flow is being verified before submitted.

At Settling Pond 4 discharged 887191m³ of water at an average flow rate of 0.112m³/s this quarter. The maximum flow rate observed was measured as 0.17m³/s. samples.

7SSD did not discharge this quarter all water quality samples were collected from the ponded water with no discharge occurring.

1.2 WATER QUALITY

All other measured water quality parameters were below the required permit limits for all three settling ponds.

As mentioned previously the treatment system discharge was directed to the 2-South pit and overflows into the 3-South pit where the water is pumped to Settling Pond #1. Weekly sulphate concentrations ranged from 61mg/L to 390 mg/L and averaged 234 mg/L. Weekly sulphate did decrease with increased flow rates and discharge from the settling pond trend. Concentrations of most parameters displayed a slight reduction contributed from the amount of precipitation received throughout the quarter. Dissolved iron expressed an increase from October compared to December sampling event (0.157 mg/L to 0.517 mg/L) resulting in a permit limit exceedance of 0.017 mg/L.

The 2-North pool receives water from the 7-South and 5-South mine combined as well as discharge from the tailings dam and previously injection of the 7 South fine tailings. The 5-South Mine pump was started on November 26th, 2019. In order to maintain the water level underground and maintain the mines underground infrastructure, dewatering wells were installed. The 2-North mine pool

water is discharged into Brinco Brook and flows into Settling Pond #4 and then into a series of wetlands before entering Middle Quinsam Lake, near the inlet.

At Settling Pond #4, weekly sulphate concentrations ranged from 180 mg/L to 510 mg/L averaging 384 mg/L. Highest concentrations were observed in December. All permitted parameters remained below permit limits.

Parameters of interest such as arsenic, aluminum, copper, lead, manganese, selenium, sulphate and zinc are closely monitored at these sites to ensure compliance with permit limits and downstream water quality guidelines.

2. RECEIVING ENVIRONMENTS

2.1 LAKES

Lake sampling commenced on October 4th following the 5 in 30 program schedule, which included Long Lake (LLM) and Middle Quinsam Lake (MQL). Appendix I, Table 3 summarizes the parameters above provincial water quality guidelines for receiving environments during fall. Appendix I, Table 34 displays the depth profiling and field results with Tables 35 through 43 displaying the water quality results compared to guidelines.

Noteworthy observations resulting from the lake monitoring program include:

- The water quality at most lakes remained below guideline levels during the fall sampling event; exceedances occurred at LLM 1mb
- LLM 1mb average dissolved sulphate (138 mg/L) was elevated above the WQG average of 128 mg/L using background hardness of 30 mg/L.
- LLM depths 1 m through 9 m average sulphate concentrations of ranged from 34 mg/L to 109 mg/L, respectively
- Concentrations of Mn-T were elevated above Max and Ave (WQG) in LLM at 1mb resulting in an average of 1.030 mg/L and maximum of 1.24 mg/L
- Elevated Mn-T are directly related to low dissolved oxygen levels at depth (below 2 mg/L).
- MQL average sulphate concentrations resulted in 33 mg/L at 1m and 4m, 29 mg/L at 9m and 36 mg/L at 1mb during fall sampling
- There were no parameters exceeding guidelines in MQL.

2.2 STREAMS AND RIVERS

The 5 samples in 30 days receiving environment program at river and stream sites took place on October 15th through November 18th, 2019. Appendix I, Tables 43 through 50 display water quality results of this program compared to water quality guidelines for the Middle Quinsam Lake Sub-basin and Iron River stations.

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).

Noteworthy observations resulting from the Middle Quinsam Lake sub-basin river/stream and Iron River monitoring program include:

- Extensive clear-cut logging has occurred throughout the Iron River watershed impacting the tributaries contributing to the Iron River in the IR6 and 242 area.
- The water quality at all Quinsam river sites remained below guideline levels during the fall sampling events
- In the Quinsam river upstream of the mine site average sulphate concentrations were 1.30 mg/L and at Middle Quinsam Lake outlet, 36 mg/L and downstream of 7-South mine (7SQR) resulting 32 mg/L
- Dissolved aluminum was elevated in the Iron river at site IR6 and IR8

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

Noteworthy observations resulting from monitoring at LLE include:

- SO₄-D concentrations remain elevated for 2 out of 10 rolling averages at LLE.
- Dissolved iron was elevated above max – WQG of 0.35 mg/L during all monthly sampling events. A beaver dam was blocking the culvert until November 12th, 2019.

The Long Lake Seeps (LLS and LLSM) are not considered receiving environment sites but are compared to the Water Quality Guidelines for observation purposes only. There are two seeps that

from this site, the smaller seep, LLS has a constant flow of 150 ml/min and the larger seep, LLSM has significant flow. LLSM will cease to flow when the water elevation in the mine pool drops below the elevation of the fracture (s) forming the seepage. In order to accurately quantify the flow rates at LLSM an H-Flume coupled with an ultra-sonic depth sensor and flow meter is installed.

Noteworthy observations resulting from monitoring carried out at the Long Lake Seeps include:

- Both total and dissolved iron were observed to be elevated above max – WQG's during November and December sampling events at LLS resulting.
- the larger seep (LLSM) did not have any maximum WQG exceedances
- Sulphate ranged from (280 mg/L to 490 mg/L) from both seeps this quarter

A summary of receiving environment guideline observations for these stations is provided in Appendix I, Table 3.

3. GROUNDWATER

This quarter, 10 ex-situ groundwater wells, and 13 in-situ wells were monitored. Table 3 below, provides details on the well and sump designations and locations. Ex-situ groundwater wells are compared to the *Contaminated Sites Regulations for Protection of Aquatic Life (CSW-AW)*. Exceedances are displayed in Appendix I, Table 52. Arsenic, hydrogen sulphide as H₂S and chloride are those parameters that repeatedly exceed the CSW-AW. These parameters are naturally elevated within the groundwater due to the regional geology of the area. Quinsam monitors trends for arsenic, sulphate and H₂S in ex-situ wells and compares them to models used and source terms developed for certain areas. This is discussed in detail in the annual report due to the frequency of monitoring for groundwater wells and expected travel time of groundwater movement.

TABLE 3: LIST OF GROUNDWATER WELLS & UNDERGROUND SUMPS MONITORED IN QUARTER 3

Area	Ex-situ	In-situ
7- South	QU0813 (A & B) & QU0810	QU1410 & 1Mains7-South (Sump) 7SPS
5-South	QU1109 S	5SMW, QU1109 M
River Barrier Pillar	QU1109 S & QU1105 (D & S)	QU1109 M
2-North	QU0821 (GS & GD) & QU1010 (S & D)	5Mains #2, 1Mains 2-North & QU10-13 D
2-3 South		MW002, MW004 & QU1111
242-Area		242MW

4. ETRC MEETING

The annual ETRC agency meeting was held on November 7th with the stakeholder meeting held on November 22nd, 2019. The objective of the meeting was to review the Quinsam Coal Corporation's 2018/2019 Annual Water Quality Monitoring Report, provide updates on mine status and environmental matters, identify issues and agree on possible recommendations to be made to the Director of Environmental Protection, where warranted. The general consensus with respect to the Annual report content and results was found to be of good quality.

5. CONCLUSION

Quinsam Coal is dedicated to reducing the environmental impacts as a result of mining on the environment. Overall, the results of the monitoring data indicate that the water quality at the site and in the receiving environment remains in good condition. All parameters measured at the Settling Ponds remained below their respective permit limits with minimal parameters observed in the receiving environment, to be outside the British Columbia Provincial Water Quality Guidelines for Protection of Aquatic Life. This exemplifies that the environmental management practices employed by Quinsam Coal are effective in reducing environmental 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 at the undersigned if you have any questions or comments.

Best Regards,

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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
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SUMMARY OF PERMIT LIMIT EXCEEDANCES & PERMIT NON-COMPLIANCES							
EMS ID & Site Name	Permit Limit Exceedance (P) or Non-Compliance (PNC)	Parameter Exceeded / Other	Result (mg/L)	Requirement	Date	Non-Compliance Reason	Number of events or period for PNC, P or spill event.
E218582-Settling Pond #1 (SPD)	PNC	Maximum Continuous Flow	No results	Continuous	Dec. 9 through present	Flow meter failed. New flow meter was installed Dec 9th and it does not record maximum flow. QCC were not aware of this until the data from the new flow meter was downloaded Jan 30. A new flow meter is on order.	23 days
	P	Fe-D	0.517	0.5	Dec. 4, 2019	Possibly from beaver dam blocking decant since spring and most of fall. Water levels in pond increased, beaver dam was removed causing a flushing and suction around decant structure possibly releasing iron into water column.	1 occurrence
E292127 - 2 South Pit Outflow	PNC	Continuous Flow	Continuous daily spot measurement of water level was converted to a flow rate based on wier flow calculation.	Continuous	July 1st though present	Could not conect with flow meter. Display on screen provided a level from sensor. This was recorded daily. Continous software and computer issues. Flow meter software issues. Finally connected to the meter and discovered it was not recording flow rate. A new flow meter will be installed in February.	Q2 and Q3
E297231- Iron River Site 6 (IR6)	PNC	Missing all parameters for 1 sample set	No Results	5 weeks of sampling	Fall 5 in 30 sampling	The IR8 site was collected instead of the IR6 site.	1 out of 5 weekly samples

Table 3
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SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT RECEIVING MONITORING LOCATIONS						
EMS ID & Site Name	Parameter (mg/L, pH units)	Guideline Limit	Result	Date	Guideline	Sampling Events Exceeding Guideline
E206619 - Long Lake 1MB (LLMB)	SO4	128.00	138.00	Fall 5 in 30	A	Average of fall 5 in 30 result
	Mn-T	0.70	1.03		A	Average of fall 5 in 30 result
		0.80	0.993, 1.08, 1.24, and 1.07		M	4/5 results in fall
E297231 - Iron River (IR6)	Al-D	0.05	0.056		A	Average of fall 5 in 30 result
E297232 - Iron River (IR8)			0.058		A	Average of fall 5 in 30 result
		0.01	0.108		M	1/5 results in fall
E292130- Long Lake Entrance for South Mine Water (LLE)	FE-D	0.35	0.588, 0.411 and 0.513	Oct. 1, Nov.6 and Dec. 4	M	3/3 monthly samples
	SO4	128	142 and 146	Rolling average in fall	A	2/10 rolling averages
E292131- Long Lake Seep (smaller seep, (LLS))	Fe-T	1	1.31	Dec. 4	M	1/2 monthly samples
	FE-D	0.35	0.76	Dec.4	M	1/2 monthly samples
For all Middle Quinsam Lake Sub-basin and Iron River results background hardness of 30 mg/L was used to calculate those parameters that are hardness dependent. *SO4 at LLE was calculated using a rolling average.						

Table 4
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EMS ID	E207409															
Site Description	Settling Pond #4		Permitted Decant for the North Mining Operation													
Site Name	WD															
Date	1-Oct-19	7-Oct-19	15-Oct-19	21-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	18-Nov-19	25-Nov-19	4-Dec-19	9-Dec-19	16-Dec-19	23-Dec-19	31-Dec-19	Permit Limit	
Parameter	Unit															North
SO4-D	mg/L	390	330	400	280	460	360	310	180	370	510	500	420	430	440	-
TSS	mg/L	<4.0	<4.0	3.3	4.0	<4.0	<4.0	4.4	<4.0	<4.0	<4.0	<16	2.4	2.4	<1.0	25
Alk-T	mg/L	490					430				440					-
Acidity83	mg/L	<1.0					<1.0				2.8					-
Al-T	mg/L	0.0050									0.0106					-
As-T	mg/L	0.00253									0.00227					-
Ba-T	mg/L	0.0224									0.0260					-
B-T	mg/L	0.856									0.781					-
Cd-T	mg/L	<0.000010									<0.000010					-
Ca-T	mg/L	96.3									125					-
Cr-T	mg/L	<0.0010									<0.0010					-
Co-T	mg/L	<0.00020									0.00020					-
Cu-T	mg/L	<0.00050									<0.00050					-
Hard-T	mg/L	281									372					-
Fe-T	mg/L	0.398									0.357					-
Pb-T	mg/L	<0.00020									<0.00020					-
Mg-T	mg/L	9.85									14.7					-
Mn-T	mg/L	0.0389									0.0981					-
Hg-T	mg/L	<0.0000020									<0.0000020					-
Mo-T	mg/L	<0.0010									<0.0010					-
Ni-T	mg/L	<0.0010									0.0012					-
K-T	mg/L	3.37									3.73					-
S-T	mg/L	139									187					-
Se-T	mg/L	<0.00010									<0.00010					-
Si-T	mg/L	2.91									3.38					-
Ag-T	mg/L	<0.000020									<0.000020					-
Na-T	mg/L	280									288					-
Sr-T	mg/L	0.872									1.17					-
Zn-T	mg/L	<0.0050									<0.0050					-
Al-D	mg/L	<0.0030					<0.0030				<0.0030					0.5
As-D	mg/L	0.00164					0.00160				0.00149					-
Ba-D	mg/L	0.0221					0.0212				0.0227					-
B-D	mg/L	0.918					0.784				0.851					-
Be-D	mg/L	<0.00010					<0.00010				<0.00010					-
Cd-D	mg/L	<0.000010					<0.000010				<0.000010					-
Ca-D	mg/L	97.9					95.5				124					-
Cr-D	mg/L	<0.0010					<0.0010				<0.0010					-
Co-D	mg/L	<0.00020					<0.00020				0.00021					-
Cu-D	mg/L	<0.00020					<0.00020				<0.00020					0.02
Hard-D	mg/L	286					281				366					-
Fe-D	mg/L	0.0052					0.0073				0.0092					0.3
Pb-D	mg/L	<0.00020					<0.00020				<0.00020					0.05
Mg-D	mg/L	10.2					10.3				13.7					-
Mn-D	mg/L	0.0387					0.0331				0.0990					-
Hg-D	mg/L	<0.0000020					<0.0000020				<0.0000020					-
Mo-D	mg/L	<0.0010					0.0013				<0.0010					-
Ni-D	mg/L	<0.0010					<0.0010				0.0012					-
K-D	mg/L	3.59					3.28				3.58					-
S-D	mg/L	144					134				180					-
Se-D	mg/L	<0.00010					<0.00010				<0.00010					-
Si-D	mg/L	3.05					2.66				3.10					-
Na-D	mg/L	294					278				283					-
Sr-D	mg/L	0.936					0.864				1.08					-
Zn-D	mg/L	<0.0050					<0.0050				<0.0050					0.1
O&G	mg/L	<1.0									<1.0					10

Table 5
Q3 Report 2019

EMS ID		E207412		
Site Description		2-North Pit Sump (WP) CCR Water Cover		
Site Name		WP		
Date		01-Oct-19	06-Nov-19	04-Dec-19
Parameter	Unit			
SO4-D	mg/L	650	670	680
TSS	mg/L	4	4.4	<4.0
Alk-T	mg/L	290	300	330
Acidity83	mg/L	<1.0	1.7	<1.0
Al-T	mg/L	0.0113	0.013	0.023
As-T	mg/L	0.0047	0.00108	0.0007
Ba-T	mg/L	0.0204	0.017	0.0166
B-T	mg/L	0.811	0.831	0.703
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	119	135	131
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00049	0.00023	0.00042
Cu-T	mg/L	0.00058	<0.00050	0.00057
Hard-T	mg/L	370	415	410
Fe-T	mg/L	1.21	0.234	0.27
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	17.9	19.1	20.2
Mn-T	mg/L	0.151	0.0338	0.0514
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	0.001	0.0015
K-T	mg/L	3.74	3.78	3.53
S-T	mg/L	237	244	243
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	2.92	2.87	2.86
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	277	311	295
Sr-T	mg/L	1.24	1.32	1.34
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	<0.0030	0.0046	0.0106
As-D	mg/L	0.00174	0.00088	0.00051
Ba-D	mg/L	0.0194	0.0167	0.015
B-D	mg/L	0.867	0.681	0.779
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	123	119	132
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	0.00021	0.0004
Cu-D	mg/L	0.00032	0.0003	0.00048
Hard-D	mg/L	381	373	407
Fe-D	mg/L	0.1860	0.1370	0.0904
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	18.2	18.4	18.9
Mn-D	mg/L	0.0032	0.0318	0.0504
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-D	mg/L	0.0013	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	0.0011	0.0017
K-D	mg/L	3.91	3.43	3.38
S-D	mg/L	235	221	238
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	2.76	2.35	2.71
Na-D	mg/L	287	289	291
Sr-D	mg/L	1.31	1.2	1.23
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 6
Q3 Report 2019

EMS ID		E283433		
Site Description		2-North Portal Sump Effluent		
Site Name		2NPS		
Date		1-Oct-19	4-Nov-19	4-Dec-19
Parameter	Unit			
SO4-D	mg/L	850	950	950
Alk-T	mg/L	310	290	320
Acidity83	mg/L	7.3	7.5	12.1
Al-T	mg/L	0.0320	0.0276	0.0194
As-T	mg/L	0.00113	0.00120	0.00059
Ba-T	mg/L	0.0129	0.0133	0.0147
B-T	mg/L	0.812	0.89	0.808
Cd-T	mg/L	<0.000010	<0.000020	<0.000010
Ca-T	mg/L	237	256	262
Cr-T	mg/L	<0.0010	<0.0020	<0.0010
Co-T	mg/L	0.00101	0.00119	0.00174
Cu-T	mg/L	<0.00050	<0.0010	0.00051
Hard-T	mg/L	697	751	781
Fe-T	mg/L	0.369	0.347	0.264
Pb-T	mg/L	<0.00020	<0.00040	<0.00020
Mg-T	mg/L	25.4	26.9	30.8
Mn-T	mg/L	0.270	0.296	0.221
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-T	mg/L	<0.0010	<0.0020	<0.0010
Ni-T	mg/L	0.0026	0.0030	0.0030
K-T	mg/L	3.81	4.04	4.02
S-T	mg/L	317	327	341
Se-T	mg/L	<0.00010	<0.00020	<0.00010
Si-T	mg/L	3.04	3.07	3.33
Ag-T	mg/L	<0.000020	<0.000040	<0.000020
Na-T	mg/L	241	253	240
Sr-T	mg/L	1.73	1.81	2.00
Zn-T	mg/L	<0.0050	<0.010	<0.0050
Al-D	mg/L	0.0079	0.0171	<0.0060
As-D	mg/L	0.00067	0.00066	0.00046
Ba-D	mg/L	0.0129	0.0121	0.0141
B-D	mg/L	0.840	0.77	0.87
Be-D	mg/L	<0.00010	<0.00020	<0.00020
Cd-D	mg/L	<0.000010	<0.000020	<0.000020
Ca-D	mg/L	239	226	259
Cr-D	mg/L	<0.0010	<0.0020	<0.0020
Co-D	mg/L	0.00101	0.00119	0.00177
Cu-D	mg/L	0.00022	<0.00040	<0.00040
Hard-D	mg/L	704	672	770
Fe-D	mg/L	0.0165	0.016	0.218
Pb-D	mg/L	<0.00020	<0.00040	<0.00040
Mg-D	mg/L	26.1	26.0	29.9
Mn-D	mg/L	0.279	0.276	0.199
Hg-D	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-D	mg/L	<0.0010	<0.0020	<0.0020
Ni-D	mg/L	0.0027	0.0029	0.0034
K-D	mg/L	3.95	3.74	4.05
S-D	mg/L	320	291	330
Se-D	mg/L	<0.00010	<0.00020	<0.00020
Si-D	mg/L	2.83	2.66	3.15
Na-D	mg/L	255	242	241
Sr-D	mg/L	1.73	1.66	1.85
Zn-D	mg/L	<0.0050	<0.010	<0.010

Table 7
Q3 Report 2019

EMS ID		E207411				
Site Description		Culvert at Middle Quinsam Lake Road				
Site Name		WC				
Date		1-Oct-19	7-Oct-19	21-Oct-19	4-Nov-19	4-Dec-19
Parameter	Unit					
SO4-D	mg/L	300			380	500
TSS	mg/L	<4.0	<4.0	4.0	<4.0	<4.0
Al-T	mg/L	<0.0030				0.0057
As-T	mg/L	0.00069				0.00091
Ba-T	mg/L	0.0158				0.0221
B-T	mg/L	0.827				0.719
Cd-T	mg/L	<0.000010				<0.000010
Ca-T	mg/L	84.3				113
Cr-T	mg/L	<0.0010				<0.0010
Co-T	mg/L	<0.00020				<0.00020
Cu-T	mg/L	<0.00050				<0.00050
Hard-T	mg/L	253				339
Fe-T	mg/L	0.0650				0.1000
Pb-T	mg/L	<0.00020				<0.00020
Mg-T	mg/L	10.2				13.5
Mn-T	mg/L	0.008				0.0092
Hg-T	mg/L	<0.0000020				<0.0000020
Mo-T	mg/L	<0.0010				<0.0010
Ni-T	mg/L	<0.0010				<0.0010
K-T	mg/L	3.31				3.3
S-T	mg/L	142				172
Se-T	mg/L	<0.00010				<0.00010
Si-T	mg/L	3.16				3.29
Ag-T	mg/L	<0.000020				<0.000020
Na-T	mg/L	272				257
Sr-T	mg/L	0.842				1.08
Zn-T	mg/L	<0.0050				<0.0050
Al-D	mg/L	<0.0030			0.0037	0.0041
As-D	mg/L	0.0006			0.00068	0.0007
Ba-D	mg/L	0.016			0.0178	0.0202
B-D	mg/L	0.886			0.758	0.775
Be-D	mg/L	<0.00010			<0.00010	<0.00010
Cd-D	mg/L	<0.000010			<0.000010	<0.000010
Ca-D	mg/L	85.9			91.5	111
Cr-D	mg/L	<0.0010			<0.0010	<0.0010
Co-D	mg/L	<0.00020			<0.00020	<0.00020
Cu-D	mg/L	<0.00020			<0.00020	<0.00020
Hard-D	mg/L	258			273	330
Fe-D	mg/L	0.0067			0.0182	0.008
Pb-D	mg/L	<0.00020			<0.00020	<0.00020
Mg-D	mg/L	10.7			10.9	13
Mn-D	mg/L	0.0077			0.0051	0.0089
Hg-D	mg/L	<0.0000020			<0.0000020	<0.0000020
Mo-D	mg/L	<0.0010			<0.0010	<0.0010
Ni-D	mg/L	<0.0010			<0.0010	<0.0010
K-D	mg/L	3.56			3.21	3.23
S-D	mg/L	147			138	170
Se-D	mg/L	<0.00010			<0.00010	<0.00010
Si-D	mg/L	3.22			2.71	3.03
Na-D	mg/L	291			263	258
Sr-D	mg/L	0.894			0.86	1
Zn-D	mg/L	<0.0050			<0.0050	<0.0050

Table 8
Q3 Report 2019

EMS ID		E292126
Site Description		South Dyke Sump - Collects seepage from tailings dam
Site Name		SDS
Date		1-Oct-19
Parameter	Unit	
SO4-D	mg/L	810
Alk-T	mg/L	77
Acidity83	mg/L	3.7
Al-T	mg/L	0.0257
As-T	mg/L	0.00021
Ba-T	mg/L	0.0128
B-T	mg/L	0.44
Cd-T	mg/L	<0.000020
Ca-T	mg/L	247
Cr-T	mg/L	<0.0020
Co-T	mg/L	<0.00040
Cu-T	mg/L	0.0011
Hard-T	mg/L	776
Fe-T	mg/L	0.039
Pb-T	mg/L	<0.00040
Mg-T	mg/L	38.6
Mn-T	mg/L	0.0190
Hg-T	mg/L	0.0000022
Mo-T	mg/L	<0.0020
Ni-T	mg/L	<0.0020
K-T	mg/L	3.46
S-T	mg/L	296
Se-T	mg/L	<0.00020
Si-T	mg/L	0.39
Ag-T	mg/L	<0.000040
Na-T	mg/L	77.0
Sr-T	mg/L	1.50
Zn-T	mg/L	<0.010
Al-D	mg/L	0.0058
As-D	mg/L	0.00020
Ba-D	mg/L	0.0134
B-D	mg/L	0.400
Be-D	mg/L	<0.00010
Cd-D	mg/L	<0.000010
Ca-D	mg/L	242
Cr-D	mg/L	<0.0010
Co-D	mg/L	<0.00020
Cu-D	mg/L	0.00079
Hard-D	mg/L	760
Fe-D	mg/L	0.0095
Pb-D	mg/L	<0.00020
Mg-D	mg/L	37.9
Mn-D	mg/L	0.0115
Hg-D	mg/L	<0.0000020
Mo-D	mg/L	<0.0010
Ni-D	mg/L	<0.0010
K-D	mg/L	3.44
S-D	mg/L	290
Se-D	mg/L	0.00010
Si-D	mg/L	0.32
Na-D	mg/L	78.3
Sr-D	mg/L	1.52
Zn-D	mg/L	<0.0050

Table 9
Q3 Report 2019

Site Description		Groundwater / Surface Water from 2N Area at Road		
Site Name		PDSR		
Date		4-Oct-19	4-Nov-19	4-Dec-19
Parameter	Unit			
SO4-D	mg/L	DRY	580	670
TSS	mg/L		<4.0	<4.0
Al-T	mg/L		0.0099	0.0449
As-T	mg/L		0.00010	0.00012
Ba-T	mg/L		0.0322	0.0221
B-T	mg/L		0.197	0.202
Cd-T	mg/L		<0.000010	<0.000010
Ca-T	mg/L		174	185
Cr-T	mg/L		<0.0010	<0.0010
Co-T	mg/L		<0.00020	<0.00020
Cu-T	mg/L		<0.00050	0.00071
Hard-T	mg/L		559	597
Fe-T	mg/L		0.011	0.045
Pb-T	mg/L		<0.00020	<0.00020
Mg-T	mg/L		30.4	33.1
Mn-T	mg/L		<0.0010	0.0033
Hg-T	mg/L			<0.0000020
Mo-T	mg/L		<0.0010	<0.0010
Ni-T	mg/L		<0.0010	<0.0010
K-T	mg/L		1.58	1.48
S-T	mg/L		182	193
Se-T	mg/L		<0.00010	<0.00010
Si-T	mg/L		3.01	3.16
Ag-T	mg/L		<0.000020	<0.000020
Na-T	mg/L		58.2	55.9
Sr-T	mg/L		1.03	1.15
Zn-T	mg/L		<0.0050	<0.0050
Al-D	mg/L		0.0056	0.0052
As-D	mg/L		<0.00010	0.00011
Ba-D	mg/L		0.0297	0.0219
B-D	mg/L		0.233	0.232
Be-D	mg/L		<0.00010	<0.00010
Cd-D	mg/L		<0.000010	<0.000010
Ca-D	mg/L		215	210
Cr-D	mg/L		<0.0010	<0.0010
Co-D	mg/L		<0.00020	<0.00020
Cu-D	mg/L		0.00044	0.00030
Hard-D	mg/L		691	674
Fe-D	mg/L		<0.0050	<0.0050
Pb-D	mg/L		<0.00020	<0.00020
Mg-D	mg/L		37.5	36.5
Mn-D	mg/L		<0.0010	<0.0010
Hg-D	mg/L			<0.0000020
Mo-D	mg/L		<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010
K-D	mg/L		1.75	1.57
S-D	mg/L		216	206
Se-D	mg/L		<0.00010	<0.00010
Si-D	mg/L		2.71	2.87
Na-D	mg/L		66.0	62.0
Sr-D	mg/L		1.33	1.22
Zn-D	mg/L		<0.0050	<0.0050

Table 10
Q3 Report 2019

EMS ID	E218582															
Site Description	Settling Pond # 1 - Authorized Discharge Location for South Mining Operation															Permit
Site Name	SPD	(SPD was decant was blocked by a beaver dam until November 12, limited discharge)														Limit
Date	1-Oct-19	7-Oct-19	15-Oct-19	21-Oct-19	29-Oct-19	6-Nov-19	12-Nov-19	18-Nov-19	25-Nov-19	4-Dec-19	9-Dec-19	16-Dec-19	23-Dec-19	31-Dec-19	South	
Parameter	Unit															
SO4-D	mg/L	300	300	360	390	220	220	160	170	390	61	290	140	170	100	-
TSS	mg/L	<4.0					<4.0				4.8	<16	<1.0	2.8	<1.0	25
Alk-T	mg/L	120					76				38					-
Acidity83	mg/L	2.2					3.2				7.3					-
Al-T	mg/L	0.0053					0.0296				0.0700					-
As-T	mg/L	0.00089					0.00066				0.00093					-
Ba-T	mg/L	0.0208					0.0133				0.0111					-
B-T	mg/L	0.247					0.155				0.080					-
Cd-T	mg/L	<0.000010					<0.000010				1.8E-05					-
Ca-T	mg/L	129					87.1				45.0					-
Cr-T	mg/L	<0.0010					<0.0010				<0.0010					-
Co-T	mg/L	0.00023					0.00035				0.00089					-
Cu-T	mg/L	<0.00050					<0.00050				0.00073					-
Hard-T	mg/L	394					265				141					-
Fe-T	mg/L	0.301					0.499				0.880					-
Pb-T	mg/L	<0.00020					<0.00020				<0.00020					-
Mg-T	mg/L	17.3					11.4				6.93					-
Mn-T	mg/L	0.0423					0.155				0.230					-
Hg-T	mg/L	<0.0000020					<0.0000020				4.4E-06					-
Mo-T	mg/L	<0.0010					<0.0010				<0.0010					-
Ni-T	mg/L	0.0011					0.0011				0.0011					-
K-T	mg/L	1.71					1.29				0.805					-
S-T	mg/L	118					71.8				38.8					-
Se-T	mg/L	<0.00010					<0.00010				<0.00010					-
Si-T	mg/L	2.71					3.23				4.97					-
Ag-T	mg/L	<0.000020					<0.000020				<0.000020					-
Na-T	mg/L	27.5					18.5				10.1					-
Sr-T	mg/L	0.820					0.503				0.269					-
Zn-T	mg/L	<0.0050					<0.0050				<0.0050					-
Al-D	mg/L	<0.0030					0.0188				0.0711					0.5
As-D	mg/L	0.00083					0.00057				0.00072					-
Ba-D	mg/L	0.0206					0.0131				0.0065					-
B-D	mg/L	0.258					0.132				<0.050					-
Be-D	mg/L	<0.00010					<0.00010				<0.00010					-
Cd-D	mg/L	<0.000010					<0.000010				<0.000010					-
Ca-D	mg/L	131					80.9				27.6					-
Cr-D	mg/L	<0.0010					<0.0010				<0.0010					-
Co-D	mg/L	<0.00020					0.00034				0.00055					-
Cu-D	mg/L	0.00022					0.00033				0.00065					0.02
Hard-D	mg/L	400					248				86.4					-
Fe-D	mg/L	0.157					0.268				0.517					0.5
Pb-D	mg/L	<0.00020					<0.00020				<0.00020					0.05
Mg-D	mg/L	17.7					11.1				4.27					-
Mn-D	mg/L	0.0395					0.149				0.160					-
Hg-D	mg/L	<0.0000020					<0.0000020				<0.0000020					-
Mo-D	mg/L	<0.0010					<0.0010				0.0068					-
Ni-D	mg/L	0.0013					0.0010				<0.0010					-
K-D	mg/L	1.79					1.20				0.588					-
S-D	mg/L	120					69.4				19.0					-
Se-D	mg/L	<0.00010					<0.00010				<0.00010					-
Si-D	mg/L	2.56					2.96				4.95					-
Na-D	mg/L	29.1					17.6				6.46					-
Sr-D	mg/L	0.850					0.485				0.156					-
Zn-D	mg/L	<0.0050					<0.0050				<0.0050					-
O&G	mg/L	<1.0									<1.0					0.2

Table 11
Q3 Report 2019

Site Description		Long Lake Seep Passive Treatment System (LLSPTS) 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		1-Oct-19	6-Nov-19	4-Dec-19
Parameter	Unit			
SO4-D	mg/L	580	600	630
TSS	mg/L			10.8
Alk-T	mg/L		250	270
Acidity83	mg/L		15.1	11.1
N-NH3	mg/L		0.13	0.12
N-NO23	mg/L		<0.020	<0.020
Al-T	mg/L	<0.0030	0.0040	0.0055
As-T	mg/L	0.00498	0.00550	0.00589
Ba-T	mg/L	0.0225	0.0231	0.0267
B-T	mg/L	0.721	0.738	0.705
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	215	231	233
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00033	0.00070	0.00118
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	595	638	645
Fe-T	mg/L	3.54	4.12	4.23
P-T	mg/L		<0.0030	<0.0030
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	14.2	14.8	15.2
Mn-T	mg/L	0.363	0.397	0.459
Hg-T	mg/L	<0.0000020		0.0000030
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	0.0012	0.0019
K-T	mg/L	1.86	1.96	1.98
S-T	mg/L	206	210	227
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.12	3.25	3.52
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	121	126	117
Sr-T	mg/L	2.03	2.15	2.31
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	<0.0030	<0.0030	0.0046
As-D	mg/L	0.00491	0.00511	0.00541
Ba-D	mg/L	0.0227	0.0230	0.0257
B-D	mg/L	0.744	0.637	0.736
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	221	213	233
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00034	0.00071	0.00117
Cu-D	mg/L	<0.00020	<0.00020	<0.00020
Hard-D	mg/L	613	592	643
Fe-D	mg/L	3.63	4.02	4.42
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	15.0	14.7	14.8
Mn-D	mg/L	0.376	0.402	0.472
Hg-D	mg/L	<0.0000020		<0.0000020
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	0.0013	0.0020
K-D	mg/L	1.96	1.87	1.89
S-D	mg/L	211	196	220
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	3.07	2.87	3.38
Na-D	mg/L	128	123	118
Sr-D	mg/L	2.08	2.01	2.18
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 12
Q3 Report 2019

Site Description		Long Lake Seep Passive Treatment System (LLSPTS) Biochemical Reactor		
Site Name	BCREFF	Water is pumped from the underground 2-South Mine Pool into the Biochemical Reactor Cell (BCR)		
Date		1-Oct-19	6-Nov-19	4-Dec-19
Parameter	Unit			
SO4-D	mg/L	430	530	530
TSS	mg/L			11.6
Alk-T	mg/L		250	250
Acidity83	mg/L		8.3	7.2
N-NH3	mg/L		0.043	0.089
N-NO23	mg/L		<0.020	<0.020
Al-T	mg/L	<0.0030	0.0036	0.0067
As-T	mg/L	0.00253	0.00139	0.00384
Ba-T	mg/L	0.0233	0.0236	0.0223
B-T	mg/L	0.654	0.679	0.607
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	171	214	192
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	0.00035	0.00109
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	477	592	530
Fe-T	mg/L	0.286	0.581	2.56
P-T	mg/L		<0.0030	<0.0030
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	12.4	13.8	12.4
Mn-T	mg/L	0.0650	0.269	0.439
Hg-T	mg/L	<0.0000020		<0.0000020
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	0.0017
K-T	mg/L	1.65	1.87	1.73
S-T	mg/L	158	187	184
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.80	3.63	3.11
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	107	121	101
Sr-T	mg/L	1.70	1.98	1.89
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	<0.0030	<0.0030	<0.0030
As-D	mg/L	0.00211	0.00101	0.00215
Ba-D	mg/L	0.0239	0.0231	0.0230
B-D	mg/L	0.708	0.604	0.638
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	175	194	204
Cr-D	mg/L	<0.0010	0.0015	<0.0010
Co-D	mg/L	<0.00020	0.00035	0.00094
Cu-D	mg/L	<0.00020	<0.00020	<0.00020
Hard-D	mg/L	491	540	562
Fe-D	mg/L	0.0579	0.112	1.78
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	13.0	13.5	12.9
Mn-D	mg/L	0.0673	0.270	0.434
Hg-D	mg/L	<0.0000020		<0.0000020
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	0.0012	0.0016
K-D	mg/L	1.73	1.75	1.77
S-D	mg/L	162	178	183
Se-D	mg/L	<0.00010	<0.00010	0.00027
Si-D	mg/L	3.72	3.06	3.17
Na-D	mg/L	115	116	107
Sr-D	mg/L	1.75	1.84	1.83
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 13
Q3 Report 2019

Site Description		Long Lake Seep Passive Treatment System (LLSPTS) Sulphide Polishing Cell		
Site Name		SPCEFF		
		Water is pumped from the underground 2-South Mine Pool into the Biochemical Reactor Cell (BCR) then passively flows to SPCEFF		
Date		1-Oct-19	6-Nov-19	4-Dec-19
Parameter	Unit			
SO4-D	mg/L	420	420	400
TSS	mg/L			9.6
Alk-T	mg/L		360	280
Acidity83	mg/L		10.3	5.5
N-NH3	mg/L		0.045	0.033
N-NO23	mg/L		<0.020	<0.020
Al-T	mg/L	0.0076	0.0061	0.0050
As-T	mg/L	0.00236	0.00462	0.00301
Ba-T	mg/L	0.0509	0.0491	0.0396
B-T	mg/L	0.653	0.629	0.547
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	204	215	175
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00034	0.00081	0.00025
Cu-T	mg/L	0.00095	0.00305	<0.00050
Hard-T	mg/L	567	596	488
Fe-T	mg/L	0.761	5.33	2.26
P-T	mg/L		0.016	<0.0030
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	13.8	14.5	12.3
Mn-T	mg/L	0.0945	0.178	0.0996
Hg-T	mg/L	<0.0000020		<0.0000020
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	1.85	1.74	1.47
S-T	mg/L	157	158	146
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	4.35	4.86	3.58
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	118	121	97.1
Sr-T	mg/L	1.93	2.02	1.72
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	<0.0030	<0.0030	<0.0030
As-D	mg/L	0.00145	0.00329	0.00225
Ba-D	mg/L	0.0514	0.0467	0.0362
B-D	mg/L	0.682	0.538	0.532
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	210	195	170
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00033	0.00078	0.00023
Cu-D	mg/L	0.00025	<0.00020	<0.00020
Hard-D	mg/L	584	545	474
Fe-D	mg/L	0.0196	3.91	1.31
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	14.2	14.3	12.0
Mn-D	mg/L	0.0959	0.218	0.0958
Hg-D	mg/L	<0.0000020		<0.0000020
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	1.98	1.64	1.42
S-D	mg/L	160	146	135
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	4.25	3.85	3.28
Na-D	mg/L	124	116	94.9
Sr-D	mg/L	2.02	1.86	1.54
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 14
Q3 Report 2019

Site Description		2-South Inflow		
Site Name	2SI	Water from SPCEFF flows into 2-South Pit at the 2-South Inflow		
Date		1-Oct-19	6-Nov-19	4-Dec-19
Parameter	Unit			
SO4-D	mg/L	390	350	450
TSS	mg/L			<4.0
Alk-T	mg/L		270	260
Acidity83	mg/L		3.0	1.6
N-NH3	mg/L		0.057	0.036
N-NO23	mg/L		<0.020	0.032
Al-T	mg/L	0.0045	0.0067	0.0076
As-T	mg/L	0.00015	0.00028	0.00042
Ba-T	mg/L	0.0381	0.0328	0.0319
B-T	mg/L	0.564	0.471	0.524
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	178	171	182
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	0.00020	0.00030
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	503	484	512
Fe-T	mg/L	0.262	0.170	0.187
P-T	mg/L		<0.0030	<0.0030
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	13.9	13.6	14.2
Mn-T	mg/L	0.0536	0.0571	0.0922
Hg-T	mg/L	<0.0000020		0.0000021
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	1.65	1.37	1.46
S-T	mg/L	149	132	161
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	4.42	4.66	4.30
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	107	93.8	95.5
Sr-T	mg/L	1.58	1.43	1.66
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0034	0.0041	0.0093
As-D	mg/L	0.00019	0.00022	0.00037
Ba-D	mg/L	0.0384	0.0337	0.0309
B-D	mg/L	0.577	0.420	0.531
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	179	161	178
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	0.00029
Cu-D	mg/L	0.00035	0.00029	0.00023
Hard-D	mg/L	505	460	501
Fe-D	mg/L	0.0842	0.0851	0.0775
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	14.1	13.8	13.8
Mn-D	mg/L	0.0528	0.0587	0.0927
Hg-D	mg/L	<0.0000020		0.0000044
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	1.71	1.32	1.49
S-D	mg/L	149	129	155
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	4.31	3.96	3.96
Na-D	mg/L	112	92.0	94.8
Sr-D	mg/L	1.62	1.38	1.54
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 15
Q3 Report 2019

EMS ID		E292127		
Site Description		2 South Pit in Pit Water Cover (CCR Water Cover)		
Site Name		25		
Date		01-Oct-2019	04-Nov-2019	04-Dec-2019
Parameter	Unit			
SO4-D	mg/L	450	440	360
TSS	mg/L			
Alk-T	mg/L	120	110	140
Acidity83	mg/L	<1.0	1.8	1.1
Al-T	mg/L	0.0046	0.0130	0.0180
As-T	mg/L	0.00472	0.00301	0.00317
Ba-T	mg/L	0.0309	0.0274	0.0187
B-T	mg/L	0.403	0.363	0.288
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	158	165	123
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00020	<0.00020
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	474	495	368
Fe-T	mg/L	0.056	0.048	0.096
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	19.1	20.0	15.0
Mn-T	mg/L	0.0247	0.0243	0.0686
Hg-T	mg/L	<0.0000020	<0.0000020	0.0000022
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	2.27	2.19	1.56
S-T	mg/L	159	158	120
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	1.40	1.20	1.43
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	49.7	52.4	47.7
Sr-T	mg/L	1.11	1.09	0.840
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	<0.0030	<0.0030	<0.0030
As-D	mg/L	0.00396	0.00257	0.00279
Ba-D	mg/L	0.0315	0.0273	0.0196
B-D	mg/L	0.408	0.326	0.298
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	161	150	130
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00029	0.00026	0.00021
Hard-D	mg/L	484	452	394
Fe-D	mg/L	0.0132	0.0153	0.0215
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	19.9	18.9	16.5
Mn-D	mg/L	0.0039	0.0193	0.0695
Hg-D	mg/L	<0.0000020	<0.0000020	0.0000047
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	2.34	2.06	1.65
S-D	mg/L	162	148	121
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	1.37	1.05	1.35
Na-D	mg/L	53.3	49.2	52.7
Sr-D	mg/L	1.13	1.04	0.846
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 16
Q3 Report 2019

EMS ID		E217015		
Site Description		3 South Pit Main Water Sump (CCR Water Cover)		
Site Name		3S		
Date		01-Oct-2019	04-Nov-2019	04-Dec-2019
Parameter	Unit			
SO4-D	mg/L	540	590	560
TSS	mg/L			
Alk-T	mg/L	150	160	170
Acidity83	mg/L	2.3	3.1	4.6
Al-T	mg/L	0.0104	0.0072	
As-T	mg/L	0.00089	0.00052	
Ba-T	mg/L	0.0226	0.0187	
B-T	mg/L	0.400	0.350	
Cd-T	mg/L	<0.000010	<0.000010	
Ca-T	mg/L	202	232	
Cr-T	mg/L	<0.0010	<0.0010	
Co-T	mg/L	<0.00020	<0.00020	
Cu-T	mg/L	<0.00050	<0.00050	
Hard-T	mg/L	609	696	
Fe-T	mg/L	0.038	0.022	
Pb-T	mg/L	<0.00020	<0.00020	
Mg-T	mg/L	25.6	28.3	
Mn-T	mg/L	0.0080	0.0045	
Hg-T	mg/L	<0.0000020	<0.0000020	
Mo-T	mg/L	<0.0010	<0.0010	
Ni-T	mg/L	<0.0010	<0.0010	
K-T	mg/L	2.58	2.48	
S-T	mg/L	195	203	
Se-T	mg/L	<0.00010	0.00014	
Si-T	mg/L	1.30	1.82	
Ag-T	mg/L	<0.000020	<0.000020	
Na-T	mg/L	44.6	40.8	
Sr-T	mg/L	1.34	1.43	
Zn-T	mg/L	<0.0050	<0.0050	
Al-D	mg/L	<0.0030	<0.0030	
As-D	mg/L	0.00079	0.00048	
Ba-D	mg/L	0.0221	0.0191	
B-D	mg/L	0.399	0.310	
Cd-D	mg/L	<0.000010	<0.000010	
Ca-D	mg/L	204	217	
Cr-D	mg/L	<0.0010	<0.0010	
Co-D	mg/L	<0.00020	<0.00020	
Cu-D	mg/L	<0.00020	<0.00020	
Hard-D	mg/L	616	655	
Fe-D	mg/L	<0.0050	<0.0050	
Pb-D	mg/L	<0.00020	<0.00020	
Mg-D	mg/L	25.8	27.4	
Mn-D	mg/L	0.0014	0.0023	
Hg-D	mg/L	<0.0000020	<0.0000020	
Mo-D	mg/L	<0.0010	<0.0010	
Ni-D	mg/L	<0.0010	<0.0010	
K-D	mg/L	2.64	2.39	
S-D	mg/L	194	193	
Se-D	mg/L	<0.00010	0.00013	
Si-D	mg/L	1.23	1.62	
Na-D	mg/L	46.1	39.6	
Sr-D	mg/L	1.37	1.37	
Zn-D	mg/L	<0.0050	<0.0050	

Table 17
Q3 Report 2019

EMS ID		E292128	
Site Description		3 South 77 Adit Pit- Exploration pit from 1977	
Site Name		3S77	
Date		1-Oct-19	25-Nov-19
Parameter	Unit	No Flow	
SO4-D	mg/L	290	200
TSS	mg/L		<4.0
Alk-T	mg/L	110	71
Acidity83	mg/L	10.8	1.6
Al-T	mg/L	0.0040	0.0045
As-T	mg/L	0.00157	0.00019
Ba-T	mg/L	0.0257	0.0179
B-T	mg/L	0.227	0.140
Cd-T	mg/L	<0.000010	<0.000010
Ca-T	mg/L	113	90.7
Cr-T	mg/L	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00020
Cu-T	mg/L	0.00083	<0.00050
Hard-T	mg/L	344	276
Fe-T	mg/L	0.032	<0.010
Pb-T	mg/L	<0.00020	<0.00020
Mg-T	mg/L	15.0	12.1
Mn-T	mg/L	0.0330	<0.0010
Hg-T	mg/L	<0.0000020	<0.0000020
Mo-T	mg/L	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010
K-T	mg/L	1.36	1.00
S-T	mg/L	106	82.6
Se-T	mg/L	<0.00010	<0.00010
Si-T	mg/L	3.56	2.71
Ag-T	mg/L	<0.000020	<0.000020
Na-T	mg/L	23.1	19.2
Sr-T	mg/L	0.763	0.573
Zn-T	mg/L	<0.0050	<0.0050
Al-D	mg/L	<0.0030	0.0037
As-D	mg/L	0.00155	0.00022
Ba-D	mg/L	0.0272	0.0172
B-D	mg/L	0.253	0.163
Cd-D	mg/L	<0.000010	<0.000010
Ca-D	mg/L	123	90.7
Cr-D	mg/L	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020
Cu-D	mg/L	0.00029	0.00038
Hard-D	mg/L	371	274
Fe-D	mg/L	0.0228	<0.0050
Pb-D	mg/L	<0.00020	<0.00020
Mg-D	mg/L	15.6	11.6
Mn-D	mg/L	0.0329	<0.0010
Hg-D	mg/L	<0.0000020	<0.0000020
Mo-D	mg/L	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010
K-D	mg/L	1.38	0.951
S-D	mg/L	108	81.8
Se-D	mg/L	<0.00010	<0.00010
Si-D	mg/L	3.63	2.73
Na-D	mg/L	24.6	18.3
Sr-D	mg/L	0.801	0.582
Zn-D	mg/L	<0.0050	<0.0050

Table 18
Q3 Report 2019

EMS ID	E292129		
Site Description	4 South Lower- Culvert Downstream of Access Road		
Site Name			
Date	No Flow		25-Nov-19
Parameter	Unit		
SO4-D	mg/L		170
TSS	mg/L		<4.0
Alk-T	mg/L		49
Acidity83	mg/L		2.2
Al-T	mg/L		0.0315
As-T	mg/L		0.00017
Ba-T	mg/L		0.0101
B-T	mg/L		0.099
Cd-T	mg/L		<0.000010
Ca-T	mg/L		56.2
Cr-T	mg/L		<0.0010
Co-T	mg/L		0.00034
Cu-T	mg/L		<0.00050
Hard-T	mg/L		171
Fe-T	mg/L		0.041
Pb-T	mg/L		<0.00020
Mg-T	mg/L		7.37
Mn-T	mg/L		0.0495
Hg-T	mg/L		<0.0000020
Mo-T	mg/L		<0.0010
Ni-T	mg/L		<0.0010
K-T	mg/L		0.466
S-T	mg/L		50.0
Se-T	mg/L		<0.00010
Si-T	mg/L		2.87
Ag-T	mg/L		<0.000020
Na-T	mg/L		13.2
Sr-T	mg/L		0.299
Zn-T	mg/L		<0.0050
Al-D	mg/L		0.0233
As-D	mg/L		0.00017
Ba-D	mg/L		0.0099
B-D	mg/L		0.113
Cd-D	mg/L		<0.000010
Ca-D	mg/L		56.5
Cr-D	mg/L		<0.0010
Co-D	mg/L		0.00031
Cu-D	mg/L		0.00030
Hard-D	mg/L		170
Fe-D	mg/L		0.0263
Pb-D	mg/L		<0.00020
Mg-D	mg/L		7.10
Mn-D	mg/L		0.0437
Hg-D	mg/L		<0.0000020
Mo-D	mg/L		<0.0010
Ni-D	mg/L		<0.0010
K-D	mg/L		0.452
S-D	mg/L		49.6
Se-D	mg/L		<0.00010
Si-D	mg/L		2.94
Na-D	mg/L		12.5
Sr-D	mg/L		0.303
Zn-D	mg/L		<0.0050

Table 19
Q3 Report 2019

EMS ID		E217014				
Site Description		South Pit Culvert- Culvert, Downstream of Settling Pond #1 Discharge				
Site Name						
Date		1-Oct-19	7-Oct-19	21-Oct-19	4-Nov-19	4-Dec-19
Parameter	Unit					
SO4-D	mg/L	69			170	100
TSS	mg/L	<4.0	6.8	<4.0	<4.0	4.0
Alk-T	mg/L	41			53	39
Acidity83	mg/L	1.8			1.6	<1.0
Al-T	mg/L	0.128				0.0672
As-T	mg/L	0.00070				0.00029
Ba-T	mg/L	0.0090				0.0079
B-T	mg/L	0.062				0.065
Cd-T	mg/L	<0.000010				<0.000010
Ca-T	mg/L	31.6				39.0
Cr-T	mg/L	<0.0010				<0.0010
Co-T	mg/L	<0.00020				<0.00020
Cu-T	mg/L	0.00102				<0.00050
Hard-T	mg/L	97.0				120
Fe-T	mg/L	0.314				0.123
Pb-T	mg/L	<0.00020				<0.00020
Mg-T	mg/L	4.38				5.56
Mn-T	mg/L	0.0048				0.0039
Hg-T	mg/L	0.0000059				0.0000025
Mo-T	mg/L	<0.0010				<0.0010
Ni-T	mg/L	<0.0010				<0.0010
K-T	mg/L	0.459				0.509
S-T	mg/L	21.6				34.5
Se-T	mg/L	<0.00010				<0.00010
Si-T	mg/L	4.44				3.67
Ag-T	mg/L	<0.000020				<0.000020
Na-T	mg/L	6.29				8.78
Sr-T	mg/L	0.189				0.242
Zn-T	mg/L	<0.0050				<0.0050
Al-D	mg/L	0.106			0.0381	0.0556
As-D	mg/L	0.00068			0.00028	0.00027
Ba-D	mg/L	0.0091			0.0139	0.0073
B-D	mg/L	0.068			0.099	0.064
Cd-D	mg/L	<0.000010			<0.000010	<0.000010
Ca-D	mg/L	32.7			58.2	38.9
Cr-D	mg/L	<0.0010			<0.0010	<0.0010
Co-D	mg/L	<0.00020			<0.00020	<0.00020
Cu-D	mg/L	0.00098			0.00039	0.00038
Hard-D	mg/L	101			180	120
Fe-D	mg/L	0.248			0.0550	0.107
Pb-D	mg/L	<0.00020			<0.00020	<0.00020
Mg-D	mg/L	4.56			8.44	5.49
Mn-D	mg/L	<0.0010			0.0011	0.0031
Hg-D	mg/L	0.0000057			<0.0000020	0.0000043
Mo-D	mg/L	<0.0010			<0.0010	<0.0010
Ni-D	mg/L	0.0010			<0.0010	<0.0010
K-D	mg/L	0.484			0.662	0.498
S-D	mg/L	22.1			52.1	33.4
Se-D	mg/L	<0.00010			<0.00010	<0.00010
Si-D	mg/L	4.41			3.11	3.50
Na-D	mg/L	6.61			13.7	8.87
Sr-D	mg/L	0.195			0.350	0.232
Zn-D	mg/L	<0.0050			<0.0050	<0.0050

Table 20
Q3 Report 2019

EMS ID	E292130																WQG-Max
Site Description	Long Lake Entrance - Last wetland prior to entering Long Lake near the outlet - IDZ																
Site Name	LLE Beaver dam was blocking culvert until November 12																
Date	1-Oct-19	7-Oct-19	15-Oct-19	21-Oct-19	29-Oct-19	6-Nov-19	12-Nov-19	18-Nov-19	25-Nov-19	4-Dec-19	9-Dec-19	17-Dec-19	23-Dec-19	31-Dec-19			
Parameter	Unit																
SO4-D	mg/L	140	86	110	110	120	140	130	57	130	110	180	140	150	150		
TSS	mg/L	<4.0					<4.0				4.4					25	
Alk-T	mg/L	80					50				41						
Acidity83	mg/L	1.6					2.0				1.1						
N-NH3	mg/L	0.052					0.048				0.042					12.9	
N-NO23	mg/L	0.141					0.025				0.066						
Al-T	mg/L	0.0299					0.0705				0.0924						
As-T	mg/L	0.00054					0.00110				0.00121					0.005	
Ba-T	mg/L	0.0203					0.0169				0.0129					5	
B-T	mg/L	0.112					0.091				0.071						
Cd-T	mg/L	<0.000010					<0.000010				<0.000010						
Ca-T	mg/L	57.3					52.6				41.8						
Cr-T	mg/L	<0.0010					<0.0010				<0.0010						
Co-T	mg/L	<0.00020					<0.00020				<0.00020					0.11	
Cu-T	mg/L	0.00081					0.00054				<0.00050					0.00482	
Hard-T	mg/L	177					162				129						
Fe-T	mg/L	0.784					0.506				0.591					1	
P-T	mg/L	<0.0030					0.0041				<0.0030						
Pb-T	mg/L	<0.00020					<0.00020				<0.00020					0.01763	
Mg-T	mg/L	8.35					7.34				5.94						
Mn-T	mg/L	0.151					0.0585				0.0624					0.8706	
Hg-T	mg/L	<0.0000020					<0.0000020				0.0000045					0.00001	
Mo-T	mg/L	<0.0010					<0.0010				<0.0010					2	
Ni-T	mg/L	<0.0010					<0.0010				<0.0010					0.025	
K-T	mg/L	0.756					0.649				0.548						
S-T	mg/L	43.8					43.9				38.1						
Se-T	mg/L	<0.00010					<0.00010				<0.00010						
Si-T	mg/L	3.96					3.63				3.77						
Ag-T	mg/L	<0.000020					<0.000020				<0.000020					0.0001	
Na-T	mg/L	13.3					12.2				9.71						
Sr-T	mg/L	0.342					0.297				0.263						
Zn-T	mg/L	0.0102					<0.0050				<0.0050					0.033	
Al-D	mg/L	0.0194					0.0276				0.0406					0.1	
As-D	mg/L	0.00052					0.00093				0.00085						
Ba-D	mg/L	0.0200					0.0179				0.0124						
B-D	mg/L	0.116					0.083				0.070						
Cd-D	mg/L	<0.000010					<0.000010				<0.000010					0.00017	
Ca-D	mg/L	56.0					50.4				41.1						
Cr-D	mg/L	<0.0010					<0.0010				<0.0010						
Co-D	mg/L	<0.00020					<0.00020				<0.00020						
Cu-D	mg/L	0.00072					0.00050				0.00045						
Hard-D	mg/L	174					157				128						
Fe-D	mg/L	0.588					0.411				0.513					0.35	
Pb-D	mg/L	<0.00020					<0.00020				<0.00020						
Mg-D	mg/L	8.30					7.44				6.01						
Mn-D	mg/L	0.152					0.0638				0.0617						
Hg-D	mg/L	<0.0000020					0.0000028				0.0000064						
Mo-D	mg/L	<0.0010					<0.0010				<0.0010						
Ni-D	mg/L	<0.0010					<0.0010				<0.0010						
K-D	mg/L	0.770					0.687				0.544						
S-D	mg/L	43.3					44.7				34.8						
Se-D	mg/L	<0.00010					<0.00010				<0.00010						
Si-D	mg/L	3.70					3.63				3.47						
Na-D	mg/L	13.7					12.1				10.2						
Sr-D	mg/L	0.346					0.331				0.232						
Zn-D	mg/L	<0.0050					<0.0050				0.0071						

Table 21
Q3 Report 2019

EMS ID.	E292131		Both seeps started flowing in November			
Site Description		Seeps into Long Lake				
Site Name		LLS		LLSM		WQO-Max
Date		06-Nov-19	04-Dec-19	25-Nov-19	04-Dec-19	
Parameter	Unit					
SO4-D	mg/L	360	490	280	350	-
TSS	mg/L	7.2	7.2	<4.0	<4.0	25
Alk-T	mg/L	390	220	140	160	-
Acidity83	mg/L	<1.0	5.4	7.2	4.2	-
Al-T	mg/L	0.0279	0.0232	0.127	0.0217	-
As-T	mg/L	0.00052	0.00271	0.00065	0.00043	0.005
Ba-T	mg/L	0.0186	0.0185	0.0164	0.0169	5
B-T	mg/L	0.376	0.501	0.293	0.340	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	
Ca-T	mg/L	165	182	138	140	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	
Co-T	mg/L	0.00103	0.00137	0.00141	0.00070	0.11
Cu-T	mg/L	0.00105	0.00065	0.00198	0.00086	0.00482
Hard-T	mg/L	473	521	399	406	
Fe-T	mg/L	0.225	1.31	0.429	0.251	1
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.01763
Mg-T	mg/L	15.2	16.0	13.2	13.6	
Mn-T	mg/L	0.0835	0.290	0.0958	0.101	0.8706
Hg-T	mg/L	<0.0000020	0.0000022	<0.0000020	<0.0000020	0.00001
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	2
Ni-T	mg/L	0.0050	0.0030	0.0051	0.0025	0.025
K-T	mg/L	2.14	2.31	1.94	1.98	
S-T	mg/L	148	169	122	127	
Se-T	mg/L	0.00021	<0.00010	0.00017	0.00015	
Si-T	mg/L	2.41	2.71	2.50	2.51	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	0.0001
Na-T	mg/L	59.6	78.8	49.6	50.4	
Sr-T	mg/L	1.50	1.74	1.17	1.25	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	0.033
Al-D	mg/L	0.0060	0.0030	0.0159	0.0079	0.1
As-D	mg/L	0.00028	0.00187	0.00050	0.00040	
Ba-D	mg/L	0.0187	0.0179	0.0162	0.0154	
B-D	mg/L	0.340	0.518	0.328	0.344	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.0001702
Ca-D	mg/L	154	184	137	140	
Cr-D	mg/L	<0.0010	<0.0010	0.0010	<0.0010	
Co-D	mg/L	0.00104	0.00133	0.00133	0.00070	
Cu-D	mg/L	0.00060	<0.00020	0.00127	0.00067	
Hard-D	mg/L	449	525	395	407	
Fe-D	mg/L	0.0612	0.762	0.248	0.211	0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	
Mg-D	mg/L	15.3	16.0	12.9	13.9	
Mn-D	mg/L	0.0826	0.290	0.0933	0.101	
Hg-D	mg/L	<0.0000020	0.0000025	<0.0000020	0.0000053	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	
Ni-D	mg/L	0.0049	0.0049	0.0044	0.0025	
K-D	mg/L	2.01	2.28	1.92	1.89	
S-D	mg/L	140	163	122	123	
Se-D	mg/L	0.00018	<0.00010	0.00017	0.00014	
Si-D	mg/L	2.19	2.64	2.50	2.44	
Na-D	mg/L	58.0	80.2	47.3	53.2	
Sr-D	mg/L	1.39	1.61	1.23	1.23	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	
WQO are displayed for comparison purposes only.						

Table 22
Q3 Report 2019

EMS ID		E292069	
Site Description		Settling Pond at 75 - Permitted discharge location for the 7-South Mining Operation	
Site Name		7SSD	No discharge occurred from this pond
Date		1-Oct-19	Permit Limits
Parameter		Unit	7SSD
SO4-D	mg/L	29	500
TSS	mg/L	4.8	25
Alk-T	mg/L	190	-
Acidity 8.3	mg/L	<1.0	-
Al-T	mg/L	0.0097	-
As-T	mg/L	0.00260	-
Ba-T	mg/L	0.0086	-
B-T	mg/L	<0.050	-
Cd-T	mg/L	<0.000010	-
Ca-T	mg/L	55.0	-
Cr-T	mg/L	<0.0010	-
Co-T	mg/L	<0.00020	-
Cu-T	mg/L	0.00061	-
Hard-T	mg/L	212	-
Fe-T	mg/L	0.040	-
Pb-T	mg/L	<0.00020	-
Mg-T	mg/L	18.1	-
Mn-T	mg/L	0.0247	-
Hg-T	mg/L	0.0000027	-
Mo-T	mg/L	<0.0010	-
Ni-T	mg/L	<0.0010	-
K-T	mg/L	0.787	-
S-T	mg/L	11.1	-
Se-T	mg/L	<0.00010	-
Si-T	mg/L	3.25	-
Ag-T	mg/L	<0.000020	-
Na-T	mg/L	8.54	-
Sr-T	mg/L	0.253	-
Zn-T	mg/L	<0.0050	-
Al-D	mg/L	<0.0030	0.1
As-D	mg/L	0.00238	-
Ba-D	mg/L	0.0094	-
B-D	mg/L	<0.050	-
Cd-D	mg/L	<0.000010	0.000045
Ca-D	mg/L	51.9	-
Cr-D	mg/L	<0.0010	-
Co-D	mg/L	<0.00020	-
Cu-D	mg/L	0.00057	0.014
DOC	mg/L	3.3	-
Hard-D	mg/L	204	-
Fe-D	mg/L	0.0116	0.35
Pb-D	mg/L	<0.00020	-
Mg-D	mg/L	18.1	-
Mn-D	mg/L	0.0177	-
Hg-D	mg/L	<0.0000020	-
Mo-D	mg/L	<0.0010	-
Ni-D	mg/L	<0.0010	-
K-D	mg/L	0.780	-
S-D	mg/L	11.2	-
Se-D	mg/L	<0.00010	0.016
Si-D	mg/L	3.38	-
Na-D	mg/L	8.56	-
Sr-D	mg/L	0.256	-
Zn-D	mg/L	<0.0050	-

Table 23
Q3 Report 2019

EMS ID		E292109			
Site Description		Stream 1 - Downstream of the 7SSD discharge, prior to entering the Lower Wetland Outlet			
Site Name		75			
Date		Oct-19	6-Nov-19	4-Dec-19	WQG-Max
Parameter	Unit				
SO4-D	mg/L	Dry	4.7	4.1	-
TSS	mg/L		<4.0	<4.0	25
Alk-T	mg/L		22	14	-
Acidity83	mg/L		1.3	<1.0	-
Al-T	mg/L		0.0182	0.0250	-
As-T	mg/L		<0.00010	<0.00010	0.005
Ba-T	mg/L		0.0019	0.0014	-
B-T	mg/L		<0.050	<0.050	-
Cd-T	mg/L		<0.000010	<0.000010	-
Ca-T	mg/L		6.51	4.86	-
Cr-T	mg/L		0.0020	<0.0010	-
Co-T	mg/L		<0.00020	<0.00020	0.11
Cu-T	mg/L		<0.00050	<0.00050	0.0051
Hard-T	mg/L		22.5	16.8	-
Fe-T	mg/L		0.012	0.014	1
Pb-T	mg/L		<0.00020	<0.00020	0.005
Mg-T	mg/L		1.51	1.13	-
Mn-T	mg/L		<0.0010	<0.0010	0.8
Hg-T	mg/L		<0.0000020	<0.0000020	0.0001
Mo-T	mg/L		<0.0010	<0.0010	-
Ni-T	mg/L		<0.0010	<0.0010	0.025
K-T	mg/L		0.093	0.086	-
S-T	mg/L		<3.0	<3.0	-
Se-T	mg/L		<0.00010	<0.00010	-
Si-T	mg/L		4.77	4.22	-
Ag-T	mg/L		<0.000020	<0.000020	0.0001
Na-T	mg/L		2.03	1.65	-
Sr-T	mg/L		0.0261	0.0196	-
Zn-T	mg/L		<0.0050	<0.0050	0.03
Al-D	mg/L		0.0162	0.0209	0.1
As-D	mg/L		<0.00010	<0.00010	-
Ba-D	mg/L		0.0018	0.0013	-
B-D	mg/L		<0.050	<0.050	-
Cd-D	mg/L		<0.000010	<0.000010	0.000017
Ca-D	mg/L		6.13	4.77	-
Cr-D	mg/L		<0.0010	<0.0010	-
Co-D	mg/L		<0.00020	<0.00020	-
Cu-D	mg/L		0.00024	0.00030	-
DOC	mg/L		1.7	1.7	-
Hard-D	mg/L		21.6	16.8	-
Fe-D	mg/L		<0.0050	<0.0050	0.35
Pb-D	mg/L		<0.00020	<0.00020	-
Mg-D	mg/L		1.51	1.18	-
Mn-D	mg/L		<0.0010	<0.0010	-
Hg-D	mg/L		<0.0000020	<0.0000020	-
Mo-D	mg/L		<0.0010	<0.0010	-
Ni-D	mg/L		<0.0010	<0.0010	-
K-D	mg/L		0.070	0.084	-
S-D	mg/L		<3.0	<3.0	-
Se-D	mg/L		<0.00010	<0.00010	-
Si-D	mg/L		4.16	4.06	-
Na-D	mg/L		2.00	1.69	-
Sr-D	mg/L		0.0244	0.0179	-
Zn-D	mg/L		<0.0050	<0.0050	-

Table 24
Q3 Report 2019

Daily Total Suspended Solid Results

EMS ID

E207409

Site Description

Settling Pond #4 (WD)

TSS Permit Limit: 25.0 mg/L

Date	TSS mg/L	Date	TSS mg/L
1-Oct-19	<4.0	4-Nov-19	<4.0
2-Oct-19	<4.0	12-Nov-19	4.4
3-Oct-19	<4.0	18-Nov-19	<4.0
4-Oct-19	<4.0	25-Nov-19	<4.0
5-Oct-19	<4.0	4-Dec-19	<4.0
6-Oct-19	<4.0	9-Dec-19	<16
7-Oct-19	<4.0	16-Dec-19	2.4
8-Oct-19	<4.0	23-Dec-19	2.4
9-Oct-19	<4.0	31-Dec-19	<1.0
10-Oct-19	<4.0		
11-Oct-19	<4.0		
12-Oct-19	<4.0		
13-Oct-19	<4.0		
14-Oct-19	4.4		
15-Oct-19	3.3		
16-Oct-19	2.2		
17-Oct-19	<4.0		
18-Oct-19	<4.0		
19-Oct-19	<4.0		
20-Oct-19	<4.0		
21-Oct-19	4.0		
22-Oct-19	<4.0		
23-Oct-19	<4.0		
24-Oct-19	<4.0		
25-Oct-19	<4.0		
26-Oct-19	<4.0		
27-Oct-19	5.2		
28-Oct-19	<4.0		
29-Oct-19	<4.0		
30-Oct-19	4.0		
31-Oct-19	1.1		

Notes: From October 1-31st a TSS composite sample was required: monthly - no decant flow, weekly when max daily flow < 0.054m³/s & daily when max daily flow > 0.054m³/s

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

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

A permit amendment occurred on November 1st, 2019 reducing daily composite TSS to weekly samples based on flows > 0.054m³/s

Table 25
Q3 Report 2019

Site Description		Settling Pond #1 (SPD)	
TSS Permit Limit: 25.0 mg/L			
Date	TSS mg/L	Date	TSS mg/L
1-Oct-19	<4.0	6-Nov-19	<4.0
2-Oct-19	<4.0	12-Nov-19	<4.0
4-Oct-19	<4.0	18-Nov-19	<4.0
5-Oct-19	<4.0	25-Nov-19	<4.0
6-Oct-19	<4.0	4-Dec-19	4.80
7-Oct-19	<4.0	9-Dec-19	<16
8-Oct-19	<4.0	16-Dec-19	<1.0
9-Oct-19	<4.0	23-Dec-19	2.80
10-Oct-19	<4.0	31-Dec-19	<1.0
11-Oct-19	<4.0		
12-Oct-19	<4.0		
13-Oct-19	4.4		
14-Oct-19	<4.0		
15-Oct-19	<4.0		
16-Oct-19	3.6		
17-Oct-19	3.7		
18-Oct-19	4.0		
19-Oct-19	<4.0		
20-Oct-19	<4.0		
21-Oct-19	<4.0		
22-Oct-19	<4.0		
23-Oct-19	<4.0		
24-Oct-19	<4.0		
25-Oct-19	<4.0		
26-Oct-19	<4.0		
27-Oct-19	<4.0		
28-Oct-19	<4.0		
29-Oct-19	<4.0		
30-Oct-19	<4.0		
31-Oct-19	<4.0		

Notes: TSS composite sample is required: monthly - no decant flow, weekly when max daily flow < 0.046m³/s & daily when max daily flow > 0.046m³/s

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

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

A permit amendment occurred on November 1st, 2019 reducing daily composite TSS to weekly samples based on flows > 0.046m³/s

Table 26
Q3 Report 2019

Total Suspended Solid Results	
EMS ID	E292069
Site Description	7 South Surface Decant (7SSD)
TSS Permit Limit: 25.0 mg/L	
Date	TSS mg/L
01-Apr-2019	<16
06-May-2019	<4.0
01-Jun-2019	DRY
15-Jul-2019	5.2
12-Aug-2019	6.4
09-Sep-2019	14.4
01-Oct-2019	4.8
Values highlighted in bold red indicate a permit limit exceedance PNC (Permit Non-Compliance) indicates a required TSS sample was not collected.	

Table 27
Q3 Report 2019

EMS ID		E207409				
DISCHARGE FROM SETTLING POND # 4 (WD)						
Date	October Max. (m3/s)	October Daily (m3/s)	November Max. (m3/s)	November Daily (m3/s)	December Max. (m3/s)	December Daily (m3/s)
1	0.1460	0.131	0.1220	0.095	0.1290	0.117
2	0.1510	0.139	0.1100	0.092	0.1360	0.130
3	0.1580	0.154	0.0990	0.089	0.1510	0.141
4	0.1580	0.149	0.1180	0.095	0.1510	0.145
5	0.1490	0.14	0.1220	0.082	0.1350	0.124
6	0.1440	0.137	0.1080	0.091	0.1330	0.121
7	0.1500	0.144	0.1000	0.089	0.1410	0.128
8	0.1700	0.162	0.1120	0.091	0.1330	0.127
9	0.1680	0.127	0.1460	0.133	0.1300	0.109
10	0.1310	0.104	0.1380	0.114	0.1320	0.117
11	0.1330	0.112	0.1160	0.100	0.1400	0.132
12	0.1460	0.116	0.1350	0.123	0.1490	0.140
13	0.1540	0.148	0.1250	0.098	0.1340	0.127
14	0.1540	0.141	0.1070	0.094	0.1320	0.124
15	0.1400	0.126	0.1350	0.128	0.1300	0.113
16	0.1340	0.122	0.1320	0.109	0.1310	0.103
17	0.1120	0.105	0.1700	0.159	0.1360	0.132
18	0.1320	0.128	0.1600	0.153	0.1410	0.132
19	0.1390	0.135	0.1490	0.112	0.1320	0.121
20	0.1380	0.124	0.1210	0.099	0.1360	0.120
21	0.1390	0.120	0.1290	0.101	0.1330	0.122
22	0.1230	0.085	0.1150	0.098	0.1320	0.113
23	0.0770	0.064	0.1480	0.136	0.0970	0.087
24	0.0860	0.079	0.1450	0.139	0.1060	0.091
25	0.0940	0.080	0.1300	0.120	0.1300	0.106
26	0.0710	0.052	0.1320	0.117	0.0930	0.081
27	0.0630	0.053	0.1390	0.107	0.1070	0.087
28	0.0620	0.054	0.1470	0.129	0.1110	0.100
29	0.0620	0.026	0.1260	0.112	0.1020	0.092
30	0.0480	0.023	0.1200	0.108	0.1240	0.103
31	0.0910	0.057			0.1530	0.134
Monthly Max	0.1700		0.1700		0.1530	
Monthly Avg		0.1077		0.1104		0.1167
P = Permit Limit Exceedance						
BOLD = Flow requires TSS composite sample (Max daily flow > 0.054m³/s)						
For Decant Flow > 0.054 m³/s						

Table 28
Q3 Report 2019

EMS ID		E218582				
DISCHARGE FROM SETTLING POND # 1 (SPD)						
Date	October	October	November	November	December	December
	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)	Max. (m3/s)	Daily (m3/s)
1	Currently verifying results from flow meter					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Monthly Ma	0.000		0.000		0.000	
Monthly Avg		0.000		#DIV/0!		#DIV/0!
PNC = Permit Non-compliance						

Table 29
Q3 Report 2019

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

Table 30
Q3 Report 2019

[illegible]

Table 31
Q3 Report 2019

Field Conductivity (uS/cm) & pH (South Mine Area)																			
EMS ID	E292127		E217015		E218582		E292128		E292129		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		3S77		4 South Lower		South Pit Culvert		Long Lake Entry		Seep into Long Lake		Long Lake Middle Seep
Site Code	2S (2SS)		3S		SPEFF		SPD		3S77		4SLO		SPC		LLE		LLS		LLSM
October 2019	1031.00	7.97	1127.00	7.95	1344.00	7.43	811.00	7.42	680.00	6.91	dry	dry	210.70	7.23	427.30	6.84	dry	dry	dry
	1031.00	7.97	1127.00	7.95	1344.00	7.43	811.00	7.42	680.00	6.91	460.20	7.28	86.70	7.61	279.00	7.08	dry	dry	dry
	962.00	8.04	1397.00	7.86	1394.00	7.96	741.00	7.44	630.00	7.02	573.00	7.24	444.00	7.67	593.00	7.44	dry	dry	dry
	1006.00	8.12	1144.00	7.71	1357.00	7.67	875.00	7.50	617.00	7.12	455.00	7.29	284.00	7.65	308.00	7.43	dry	dry	dry
	900.00	8.08	647.00	7.84	1513.00	7.47	850.00	7.54	728.00	7.32	657.00	7.34	513.00	7.82	390.00	7.28	dry	dry	dry
November 2019	1173.00	8.22	998.00	8.05	1491.00	7.51	727.00	7.28	670.00	7.56	586.00	7.48	448.00	7.79	400.00	7.10	1115.00	7.26	dry
	1158.00	7.94			1491.00	7.51	625.00	7.18							396.00	7.18			dry
					1513.00	7.47	767.00	7.55							412.00	7.10			dry
					1394.00	7.96	1391.00	7.67							428.00	7.57			dry
December 2019	930.00	8.00	889.00	7.69	1284.00	7.34	1524.00	7.13					309.00	7.60	557.00	7.24	1298.00	7.46	1003.00
					1237.00	7.33	1570.00	7.26							414.00	7.12			
					1592.00	7.12	1596.00	6.94							432.00	7.14			
					1590.00	7.42	1671.00	7.14							482.00	7.34			
January 2020					1696.00	7.30	1729.00	7.51							518.00	7.43			

Table 32
Q3 Report 2019

[illegible]

Table 33
Q3 Report 2019

Daily Precipitation (mm)									
DATE	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	0.0	0.0	0.0	0.0	0.2	0.3	0.00	0.00	0.00
2	0.0	0.3	0.2	0.0	16.4	3.6	4.30	0.00	1.30
3	0.0	0.0	0.0	0.0	5.7	0.0	12.10	0.00	2.00
4	0.8	0.0	1.1	0.0	0.0	0.0	0.00	0.10	1.90
5	0.4	0.0	2.3	0.0	0.0	0.0	0.00	0.00	0.80
6	1.7	0.0	7.4	1.0	0.0	0.0	4.50	0.10	2.90
7	0.5	0.0	0.0	1.7	0.0	0.0	6.00	0.00	0.20
8	0.0	0.0	0.3	0.2	0.0	0.0	0.80	1.20	0.10
9	1.2	0.0	6.8	0.0	0.0	10.1	0.00	8.10	0.00
10	0.0	0.0	1.3	6.2	0.6	8.1	0.00	0.10	0.20
11	0.0	0.0	0.0	7.3	0.0	2.0	0.00	10.00	5.20
12	0.0	0.0	0.0	2.4	0.2	4.4	3.60	5.90	5.60
13	0.0	0.2	0.0	0.0	18.6	12.0	0.00	0.00	0.10
14	0.0	3.4	0.0	7.6	0.0	1.6	0.40	5.80	0.00
15	0.0	0.1	0.0	6.0	0.0	4.9	9.30	7.50	0.10
16	3.6	3.8	0.0	1.7	0.0	5.9	7.30	28.40	1.90
17	0.0	0.0	0.0	0.3	0.0	0.6	11.10	14.20	4.50
18	0.0	0.1	0.0	2.5	0.0	8.4	6.90	5.80	10.40
19	0.0	0.0	0.0	14.5	0.0	2.8	3.50	0.20	3.20
20	0.3	10.2	0.0	0.0	0.0	0.6	2.60	0.10	3.90
21	0.0	0.0	0.0	0.0	0.0	0.0	13.90	0.10	0.50
22	0.0	0.0	0.0	0.0	0.6	0.5	0.20	1.10	0.40
23	0.0	0.0	1.2	0.0	0.0	7.3	0.00	11.10	0.10
24	0.0	0.0	0.1	14.7	4.0	8.6	2.40	0.90	0.70
25	0.8	0.0	0.0	0.0	0.6	0.1	9.00	0.10	0.10
26	0.0	0.0	1.4	0.6	0.0	4.3	0.00	0.00	0.60
27	0.5	0.0	8.9	4.1	0.0	1.4	0.00	0.00	0.10
28	0.0	0.0	11.3	0.1	0.0	0.1	0.00	0.00	0.00
29	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.30
30	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	1.30
31		0.0		4.4	0.0		0.00		19.00
Monthly Total (mm)	9.80	18.10	42.30	75.30	46.90	87.60	97.90	100.80	67.40
2019 Q2 Total (mm)	209.80								

Table 34
Q3 Report 2019

		DEPTH PROFILING - LAKES																													
EMS ID: E206619																															
STATION NAME: LONG LAKE (LLM)		LONG LAKE DEPTH PROFILING																													
Sample Date	Parameter	24-Oct						30-Oct						06-Nov						14-Nov						18-Nov					
Sample Depth (m)	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	
1	7.69	131.90	91.90	10.48	7.50	152.60	7.20	62.50	91.70	11.07	7.00	211.70	7.64	159.90	90.00	10.75	7.56	178.60	7.47	151.50	90.20	10.82	7.52	112.50	7.20	62.50	91.70	11.07	7.00	211.70	
2	9.50	131.50	914.00	10.43	7.39	160.30	7.17	63.70	91.30	11.02	6.97	211.30	7.53	163.10	89.20	10.68	7.44	181.90	7.42	154.60	89.60	10.76	7.31	117.80	7.17	63.70	91.30	11.02	6.97	211.30	
3	9.51	131.80	91.30	10.43	7.36	165.10	7.26	90.50	91.00	10.98	6.91	213.00	7.51	164.30	88.80	10.64	7.38	181.90	7.39	159.20	89.00	10.69	7.27	120.30	7.26	90.50	91.00	10.98	6.91	213.00	
4	9.68	152.80	90.80	10.29	7.35	169.70	7.44	141.20	90.40	10.83	6.87	217.40	7.50	164.50	88.60	10.62	7.34	181.70	7.37	166.30	88.30	10.61	7.24	121.90	7.44	141.20	90.40	10.83	6.87	217.40	
5	9.79	180.00	89.90	10.19	7.37	173.90	7.55	194.30	89.60	10.72	6.92	218.40	7.49	166.40	88.40	10.59	7.31	181.70	7.41	122.60	87.00	10.44	7.19	1249.00	7.55	194.30	89.60	10.72	6.92	218.40	
6	9.73	193.70	89.40	10.15	7.36	177.20	7.50	210.50	86.30	10.31	6.92	218.20	7.51	177.00	87.60	10.50	7.27	182.30	7.43	199.70	86.00	10.32	7.17	126.70	7.50	210.50	86.30	10.31	6.92	218.20	
7	9.53	208.90	87.40	9.90	7.29	181.40	7.50	225.60	84.40	10.06	6.90	219.00	7.57	202.00	86.40	10.33	7.23	183.50	7.48	218.30	84.90	10.17	7.13	128.60	7.50	225.60	84.40	10.06	6.90	219.00	
8	9.37	289.50	72.40	8.26	7.04	188.80	7.53	249.00	81.90	9.78	6.87	219.30	7.64	244.50	82.40	9.81	7.15	185.60	7.51	259.10	80.80	9.63	7.06	131.20	7.53	249.00	81.90	9.78	6.87	219.30	
9	8.20	358.80	55.30	6.35	6.92	191.40	7.59	328.50	64.00	7.56	6.75	221.60	7.96	406.00	60.20	6.80	6.93	192.40	7.74	426.40	57.80	6.77	6.88	137.90	7.59	328.50	64.00	7.56	6.75	221.60	
10	6.79	359.10	46.00	5.66	6.88	192.70	7.27	434.00	48.10	5.75	6.66	224.20	6.76	437.70	44.40	5.38	6.89	192.40	7.14	454.80	44.10	5.30	6.81	137.50	7.27	434.00	48.10	5.75	6.66	224.20	
11	6.41	358.80	42.20	5.19	6.86	192.90	6.73	434.80	41.30	5.01	6.63	224.30	6.48	438.30	41.10	5.04	6.87	192.30	6.83	455.00	42.10	5.13	6.80	140.00	6.73	434.80	41.30	5.01	6.63	224.30	
12	6.22	359.30	41.30	5.10	6.86	193.70	6.32	435.90	37.10	4.58	6.61	223.90	6.07	438.20	37.90	4.68	6.85	192.20	6.28	455.20	39.10	4.81	6.78	140.50	6.32	435.90	37.10	4.58	6.61	223.90	
13	6.00	359.50	38.70	4.77	6.85	194.40	6.02	435.70	35.10	4.33	6.61	223.90	5.84	438.90	34.80	4.33	6.84	192.10	5.84	455.60	35.10	4.28	6.76	140.50	6.02	435.70	35.10	4.33	6.61	223.90	
14	5.68	359.60	31.90	3.99	6.83	194.30	5.72	435.90	31.10	3.86	6.59	224.00	5.57	438.30	29.50	3.71	6.83	192.00	5.62	455.50	31.20	3.90	6.74	140.50	5.72	435.90	31.10	3.86	6.59	224.00	
15	5.46	359.90	27.30	3.41	6.82	194.30	5.45	436.10	24.60	3.07	6.58	224.20	5.41	438.80	24.30	3.06	6.81	192.00	5.47	455.40	26.30	3.30	6.72	141.00	5.45	436.10	24.60	3.07	6.58	224.20	
16	5.30	359.60	24.10	3.01	6.81	193.90	5.26	436.70	14.60	1.82	6.55	225.60	5.26	439.10	18.30	2.29	6.79	192.60	5.30	456.10	20.60	2.56	6.70	141.70	5.26	436.70	14.60	1.82	6.55	225.60	
17	5.23	360.00	17.10	2.16	6.80	191.20	5.21	439.20	9.50	1.21	6.56	226.70	5.20	440.80	11.80	1.49	6.79	193.30	5.23	457.20	16.50	2.07	6.69	143.50	5.21	439.20	9.50	1.21	6.56	226.70	
18	6.80	362.80	9.20	1.14	6.79	175.00	5.21	440.00	8.10	1.03	6.58	226.20	5.19	441.10	10.40	1.32	6.79	192.90	5.20	458.60	11.70	1.47	6.69	144.10	5.21	440.00	8.10	1.03	6.58	226.20	
1m from Bottom (BS)							5.20	441.10	7.20	0.91	6.58	226.10	5.19	441.60	9.30	1.18	6.80	192.00							5.20	441.10	7.20	0.91	6.58	226.10	
		BS= 18.5						BS=19						BS=19						BS=18.5						BS=19					
EMS ID E206618																															
STATION NAME: MIDDLE QUINSAM LAKE (MQL)		MIDDLE QUINSAM LAKE DEPTH PROFILING																													
Sample Date	Parameter	24-Oct						30-Oct						06-Nov						14-Nov						18-Nov					
Sample Depth (m)	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	TEMP. °C	C µS/cm	% Sat.	D.O. mg/L	pH	ORP mV	
1	10.28	160.90	91.60	10.27	7.70	155.20	9.06	192.70	89.90	10.37	7.48	214.00	8.85	186.30	93.60	10.85	7.98	130.20	8.46	185.40	89.80	10.51	7.77	108.40	8.41	177.40	90.60	10.63	8.00	155.30	
2	10.28	160.80	91.50	10.26	7.70	160.50	8.99	192.90	89.40	10.32	7.50	211.60	8.79	185.20	92.00	10.68	7.72	143.70	8.45	185.70	90.30	10.56	7.65	119.50	8.32	176.20	90.80	10.67	7.64	162.70	
3	10.27	160.90	91.40	10.24	7.69	166.80	8.97	192.70	89.20	10.31	7.50	210.60	8.76	184.00	91.50	10.63	7.68	146.70	8.45	185.60	89.60	10.49	7.60	122.60	8.30	176.40	90.50	10.64	7.47	174.70	
4	10.27	160.70	91.20	10.23	7.68	180.10	8.96	192.70	89.00	10.31	7.50	210.40	8.70	181.30	91.10	10.61	7.66	148.30	8.45	185.70	89.30	10.45	7.56	125.50	8.29	176.50	90.30	10.61	7.39	179.70	
5	10.27	160.80	91.30	10.23	7.68	182.00	8.95	192.80	89.00	10.30	7.48	210.90	8.67	180.30	90.70	10.57	7.61	151.40	8.45	185.70	89.20	10.44	7.54	127.80	8.29	176.10	90.10	10.59	7.34	183.90	
6	10.27	160.80	91.20	10.22	7.68	184.30	8.95	192.90	89.00	10.29	7.48	211.00	8.71	187.30	90.20	10.49	7.60	153.70	8.45	186.00	88.90	10.41	7.52	129.60	8.29	176.40	90.10	10.59	7.31	186.20	
7	10.27	160.80	91.20	10.22	7.64	187.80	8.94	192.80	88.90	10.29	7.47	210.80	8.69	188.30	89.90	10.46	7.59	155.40	8.45	186.00	88.80	10.39	7.51	130.90	8.29	176.50	90.00	10.58	7.29	188.40	
8	10.26	160.80	91.10	10.22	7.64	186.60	8.92	193.10	88.80	10.28	7.46	211.00	8.65	186.60	89.50	10.43	7.58	157.10	8.45	185.90	88.60	10.38	7.49	132.40	8.29	176.50	89.90	10.57	7.27	189.80	
9	10.26	160.90	90.80	10.18	7.63	186.30	8.88	194.20	88.70	10.28	7.46	210.70	8.65	187.50	89.20	10.38	7.58	156.50	8.45	186.10	88.40	10.35	7.47	133.90	8.28	176.80	90.00	10.58	7.26	191.50	
10	10.21	161.20	89.90	10.09	7.60	185.30	8.78	193.30	88.70	10.30	7.46	207.30	8.64	187.90	88.90	10.36	7.58	156.30	8.45	186.30	88.30	10.34	7.46	134.80	8.27	176.90	89.90	10.57	7.23	192.40	
11	10.21	160.80	89.90	10.09	7.58	184.50	8.78	193.70	88.80	10.32	7.45	207.60	8.64	188.90	89.00	10.37	7.58	157.40	8.45	186.20	88.20	10.33	7.44	135.10	8.26	178.30	89.70	10.55	7.21	193.10	
12	10.21	161.60	89.90	10.09	7.58	184.80	8.68	192.10	88.10	10.26	7.43	207.30	8.63	189.40	89.00	10.38	7.58	158.40	8.45	186.30	88.10	10.32	7.43	135.30	8.33	190.90	88.10	10.33	7.17	195.30	
13	10.19	161.50	89.60	10.07	7.58	185.30	8.68	195.20	88.20	10.27	7.42	206.80	8.62	189.70	88.10	10.27	7.50	159.80	8.44	186.40	88.00	10.31	7.42	134.80	8.33	213.30	85.20	10.00	7.11	197.80	
1m from Bottom (BS)	10.12	166.70	81.80	9.24	7.49	177.10	8.56	196.60	88.10	10.29	7.43	206.20	8.62	189.90	87.20	10.15	7.53	162.00	8.50	186.40	88.00	10.31	7.42	133.20	8.43	210.20	72.20	8.44	6.91	205.60	
		BS= 13.50						BS= 13.50						BS= 13.50						BS= 13.50						BS= 13.50					

Table 35
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E206619							Water Quality Guidelines			
StnName	Long Lake Middle 1 M									
StnCode	LLM1	LLM1	LLM1	LLM1	LLM1					
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	41	47	37	35	10	34.0	47	128	
Chlr-a	ug/L	1.37								
Turb	NTU	0.35	0.61	0.40	0.34	0.73	0.49	0.73	1	5
Alk-T	mg/L	23	23	24	24	14	21.6	24		
P-T	mg/L	0.0015					0.00150	0.0015		
Al-T	mg/L	0.0201	0.0262	0.0240	0.0236	0.0578	0.0303	0.0578		
As-T	mg/L	0.00044	0.00051	0.00046	0.00044	0.00041	0.00045	0.00051		0.005
Ba-T	mg/L	0.0041	0.0050	0.0041	0.0041	0.0025	0.0040	0.0050		
B-T	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	17.5	21.4	17.6	16.2	7.29	16.00	21.4		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00025	0.00025	0.00025	0.00053	0.000306	0.00053	0.002	0.007
Hard-T	mg/L	53.6	65.0	54.2	50.0	23.4	49.2	65.0		
Fe-T	mg/L	0.081	0.109	0.099	0.092	0.133	0.103	0.133		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	2.37	2.78	2.50	2.31	1.27	2.25	2.78		
Mn-T	mg/L	0.0060	0.0084	0.0075	0.0069	0.0062	0.0070	0.0084	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.234	0.282	0.256	0.230	0.200	0.240	0.282		
S-T	mg/L	13.0	16.5	13.2	11.5	3.6	11.6	16.5		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	5.45	6.37	5.55	4.93	2.16	4.89	6.37		
Sr-T	mg/L	0.109	0.138	0.106	0.0952	0.0321	0.0961	0.138		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0145	0.0160	0.0197	0.0184	0.0450	0.0227	0.0450	0.05	0.1
As-D	mg/L	0.00044	0.00042	0.00043	0.00041	0.00037	0.00041	0.00044		
Ba-D	mg/L	0.0040	0.0048	0.0043	0.0040	0.0024	0.0039	0.0048		
B-D	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	17.9	20.8	18.0	16.4	7.00	16.02	20.8		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00034	0.00041	0.00034	0.00038	0.00051	0.00040	0.00051		
Hard-D	mg/L	54.6	63.6	55.2	50.3	22.5	49.2	63.6		
Fe-D	mg/L	0.0527	0.0614	0.0582	0.0637	0.0825	0.0637	0.0825		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	2.43	2.84	2.48	2.29	1.21	2.25	2.84		
Mn-D	mg/L	0.0022	0.0049	0.0050	0.0047	0.0039	0.0041	0.0050		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000047	0.00000174	0.0000047		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.227	0.268	0.249	0.233	0.191	0.234	0.268		
P-D	mg/L	0.005	0.005	0.005	0.005	0.005	0.0050	0.005		
S-D	mg/L	14.0	14.9	12.9	10.8	3.1	11.1	14.9		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	5.53	6.54	5.52	4.89	2.09	4.91	6.54		
Sr-D	mg/L	0.114	0.118	0.110	0.0960	0.0318	0.0940	0.118		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 36
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E206619							Water Quality Guidelines			
StnName	Long Lake Middle 4 M									
StnCode		LLM4	LLM4	LLM4	LLM4	LLM4				
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	42	46	25	36	22	34.2	46	128	
Chlr-a	ug/L									
Turb	NTU	0.39	0.59	0.42	0.36	0.63	0.48	0.63	1	5
Alk-T	mg/L	25	25	25	25	18	23.6	25		
P-T	mg/L	0.0030					0.0030	0.0030		
Al-T	mg/L	0.0204	0.0267	0.0245	0.0240	0.0376	0.0266	0.0376		
As-T	mg/L	0.00042	0.00048	0.00047	0.00044	0.00041	0.00044	0.00048		0.005
Ba-T	mg/L	0.0039	0.0051	0.0042	0.0043	0.0033	0.0042	0.0051		
B-T	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	17.5	21.3	17.8	17.5	11.8	17.2	21.3		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.000250	0.00025	0.002	0.007
Hard-T	mg/L	53.6	64.7	55.2	54.0	36.8	52.9	64.7		
Fe-T	mg/L	0.080	0.132	0.099	0.099	0.105	0.103	0.132		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	2.37	2.81	2.57	2.47	1.80	2.40	2.81		
Mn-T	mg/L	0.0058	0.0088	0.0075	0.0072	0.0063	0.0071	0.0088	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.229	0.280	0.260	0.245	0.206	0.244	0.280		
S-T	mg/L	12.6	16.5	13.4	12.9	8.0	12.7	16.5		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	5.38	6.46	5.58	5.31	3.60	5.27	6.46		
Sr-T	mg/L	0.111	0.138	0.110	0.104	0.0636	0.1053	0.138		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0150	0.0152	0.0184	0.0174	0.0286	0.0189	0.0286	0.05	0.1
As-D	mg/L	0.00040	0.00043	0.00042	0.00042	0.00039	0.00041	0.00043		
Ba-D	mg/L	0.0042	0.0045	0.0044	0.0042	0.0032	0.0041	0.0045		
B-D	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	18.5	20.2	18.3	17.3	12.0	17.3	20.2		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00031	0.00039	0.00033	0.00036	0.00044	0.00037	0.00044		
Hard-D	mg/L	56.3	62.2	56.1	52.9	37.4	53.0	62.2		
Fe-D	mg/L	0.0530	0.0612	0.0575	0.0613	0.0726	0.0611	0.0726		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	2.46	2.84	2.53	2.39	1.82	2.41	2.84		
Mn-D	mg/L	0.0021	0.0049	0.0047	0.0043	0.0041	0.0040	0.0049		
Hg-D	mg/L	0.0000010	0.0000022	0.0000010	0.0000010	0.0000010	0.00000124	0.0000022		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.231	0.263	0.252	0.243	0.211	0.240	0.263		
P-D	mg/L	0.005	0.005	0.005	0.005	0.005	0.0050	0.005		
S-D	mg/L	13.3	14.5	14.1	12.3	7.5	12.3	14.5		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	5.66	6.55	5.64	5.34	3.60	5.36	6.55		
Sr-D	mg/L	0.118	0.120	0.112	0.107	0.0629	0.1040	0.120		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 37
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EMS ID	E206619						Water Quality Guidelines			
StnName	Long Lake Middle 9 M									
StnCode		LLM9	LLM9	LLM9	LLM9	LLM9				
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	120	120	110	120	77	109.4	120	128	
Chlr-a	ug/L									
Turb	NTU	0.35	0.56	0.38	0.28	0.66	0.45	0.66	1	5
Alk-T	mg/L	47	47	43	49	35	44.2	49		
P-T	mg/L	0.0015					0.00150	0.0015		
Al-T	mg/L	0.0141	0.0158	0.0164	0.0118	0.0295	0.0175	0.0295		
As-T	mg/L	0.00028	0.00034	0.00034	0.00028	0.00044	0.00034	0.00044		0.005
Ba-T	mg/L	0.0073	0.0082	0.0071	0.0076	0.0068	0.0074	0.0082		
B-T	mg/L	0.110	0.112	0.096	0.106	0.072	0.099	0.112		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	44.2	46.2	39.8	44.5	32.1	41.4	46.2		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.000250	0.00025	0.002	0.007
Hard-T	mg/L	130	136	119	132	96.5	122.7	136		
Fe-T	mg/L	0.061	0.073	0.076	0.055	0.162	0.085	0.162		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	4.72	5.04	4.63	5.11	3.99	4.70	5.11		
Mn-T	mg/L	0.0175	0.0150	0.0221	0.0244	0.0229	0.0204	0.0244	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.495	0.550	0.497	0.512	0.410	0.493	0.550		
S-T	mg/L	38.0	42.0	36.9	40.4	27.7	37.0	42.0		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	15.9	16.5	14.8	16.5	10.1	14.8	16.5		
Sr-T	mg/L	0.322	0.347	0.315	0.348	0.207	0.308	0.348		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0091	0.0080	0.0107	0.0080	0.0176	0.0107	0.0176	0.05	0.1
As-D	mg/L	0.00030	0.00026	0.00030	0.00024	0.00041	0.00030	0.00041		
Ba-D	mg/L	0.0075	0.0074	0.0072	0.0076	0.0068	0.0073	0.0076		
B-D	mg/L	0.103	0.101	0.095	0.106	0.071	0.095	0.106		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	43.5	44.8	41.4	47.2	31.1	41.6	47.2		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00028	0.00033	0.00028	0.00029	0.00038	0.00031	0.00038		
Hard-D	mg/L	128	133	122	139	94.5	123.3	139		
Fe-D	mg/L	0.0295	0.0286	0.0395	0.0231	0.0968	0.0435	0.0968		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	4.77	5.19	4.58	5.11	4.12	4.75	5.19		
Mn-D	mg/L	0.0093	0.0105	0.0176	0.0201	0.0196	0.0154	0.0201		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.478	0.494	0.473	0.563	0.414	0.484	0.563		
P-D	mg/L	0.005	0.005	0.005	0.005	0.005	0.0050	0.005		
S-D	mg/L	37.4	38.0	36.2	40.7	27.1	35.9	40.7		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	15.6	17.3	14.5	17.0	10.1	14.9	17.3		
Sr-D	mg/L	0.322	0.328	0.288	0.347	0.208	0.299	0.347		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 38
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EMS ID		E206619					Water Quality Guidelines			
StnName		Long Lake Middle 1 M from Bottom								
StnCode		LLMB	LLMB	LLMB	LLMB	LLMB				
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	130	140	150	130	140	138.0	150	128	
Chlr-a	ug/L									
Turb	NTU	1.5	2.5	1.2	1.1	0.86	1.43	2.5	1	5
Alk-T	mg/L	55	53	56	57	54	55.0	57		
P-T	mg/L	0.0015					0.00150	0.0015		
Al-T	mg/L	0.0071	0.0077	0.0059	0.0054	0.0066	0.0065	0.0077		
As-T	mg/L	0.00021	0.00023	0.00022	0.00024	0.00023	0.00023	0.00024		0.005
Ba-T	mg/L	0.0118	0.0129	0.0122	0.0116	0.0107	0.0118	0.0129		
B-T	mg/L	0.123	0.127	0.123	0.120	0.128	0.124	0.128		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	49.7	52.6	49.3	48.7	52.8	50.6	52.8		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.000250	0.00025	0.002	0.007
Hard-T	mg/L	146	154	146	144	155	149.0	155		
Fe-T	mg/L	0.048	0.054	0.055	0.039	0.034	0.046	0.055		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	5.30	5.47	5.46	5.42	5.61	5.45	5.61		
Mn-T	mg/L	0.993	1.08	1.24	1.07	0.769	1.030	1.24	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.562	0.629	0.604	0.582	0.599	0.595	0.629		
S-T	mg/L	43.6	48.1	46.0	45.2	46.5	45.9	48.1		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	18.9	19.7	19.8	19.4	20.0	19.6	20.0		
Sr-T	mg/L	0.377	0.411	0.415	0.400	0.401	0.401	0.415		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0080	0.0034	0.0015	0.0036	0.0041	0.00412	0.0080	0.05	0.1
As-D	mg/L	0.00018	0.00016	0.00016	0.00016	0.00019	0.00017	0.00019		
Ba-D	mg/L	0.0112	0.0103	0.0115	0.0111	0.0101	0.0108	0.0115		
B-D	mg/L	0.125	0.112	0.124	0.119	0.120	0.120	0.125		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	51.1	49.1	51.6	51.7	49.2	50.5	51.7		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00025	0.00029	0.00024	0.00030	0.00032	0.00028	0.00032		
Hard-D	mg/L	149	146	151	151	146	148.6	151		
Fe-D	mg/L	0.0066	0.0068	0.0057	0.0058	0.0054	0.0061	0.0068		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	5.26	5.66	5.33	5.45	5.63	5.47	5.66		
Mn-D	mg/L	0.845	0.905	1.08	0.977	0.701	0.902	1.08		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.555	0.557	0.580	0.621	0.602	0.583	0.621		
P-D	mg/L	0.005	0.005	0.005	0.005	0.005	0.0050	0.005		
S-D	mg/L	45.3	43.2	45.6	44.3	47.0	45.1	47.0		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	19.0	20.3	19.3	19.7	19.8	19.6	20.3		
Sr-D	mg/L	0.393	0.385	0.387	0.392	0.393	0.390	0.393		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 39
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EMS ID		E206618					Water Quality Guidelines			
StnName	Middle Quinsam Lake 1 M									
StnCode		ML1	ML1	ML1	ML1	ML1				
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	38	35	29	33	30	33.0	38	128	
Chlr-a	ug/L	1.26								
Turb	NTU	0.22	0.27	0.35	0.27	0.33	0.29	0.35	1	5
Alk-T	mg/L	45	45	41	41	41	42.6	45		
P-T	mg/L	0.0015								
Al-T	mg/L	0.0122	0.0125	0.0120	0.0126	0.0170	0.0133	0.0170		
As-T	mg/L	0.00014	0.00018	0.00016	0.00018	0.00015	0.00016	0.00018		0.005
Ba-T	mg/L	0.0023	0.0024	0.0023	0.0023	0.0024	0.0023	0.0024		
B-T	mg/L	0.073	0.058	0.066	0.063	0.073	0.067	0.073		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	12.7	12.9	12.4	12.1	12.1	12.4	12.9		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00053	0.00025	0.00025	0.00053	0.000362	0.00053	0.002	0.007
Hard-T	mg/L	38.1	39.0	37.6	36.4	36.6	37.5	39.0		
Fe-T	mg/L	0.048	0.052	0.048	0.046	0.047	0.048	0.052		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	1.56	1.63	1.62	1.51	1.58	1.58	1.63		
Mn-T	mg/L	0.0078	0.0082	0.0066	0.0063	0.0061	0.0070	0.0082	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000025	0.0000010	0.0000010	0.0000010	0.00000130	0.0000025	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.300	0.320	0.312	0.283	0.289	0.301	0.320		
S-T	mg/L	11.2	11.4	11.0	10.2	10.9	10.9	11.4		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	20.3	19.9	19.5	18.1	18.3	19.2	20.3		
Sr-T	mg/L	0.0709	0.0689	0.0713	0.0673	0.0675	0.0692	0.0713		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0081	0.0108	0.0100	0.0111	0.0140	0.0108	0.0140	0.05	0.1
As-D	mg/L	0.00016	0.00015	0.00014	0.00016	0.00014	0.00015	0.00016		
Ba-D	mg/L	0.0024	0.0023	0.0024	0.0041	0.0024	0.0027	0.0041		
B-D	mg/L	0.068	0.067	0.068	0.061	0.067	0.066	0.068		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	13.0	12.6	12.5	12.3	12.4	12.6	13.0		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00048	0.00046	0.00040	0.00055	0.00048	0.00047	0.00055		
Hard-D	mg/L	39.3	38.0	37.8	37.1	37.8	38.0	39.3		
Fe-D	mg/L	0.0280	0.0302	0.0267	0.0304	0.0298	0.0290	0.0304		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.64	1.55	1.57	1.57	1.64	1.59	1.64		
Mn-D	mg/L	0.0005	0.0014	0.0011	0.0005	0.0005	0.00080	0.0014		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000033	0.00000146	0.0000033		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.331	0.296	0.305	0.291	0.302	0.305	0.331		
P-D	mg/L	0.005	0.005	0.005	0.005	0.005	0.0050	0.005		
S-D	mg/L	12.1	11.1	10.8	10.4	11.0	11.1	12.1		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	20.8	21.3	19.5	18.5	18.9	19.8	21.3		
Sr-D	mg/L	0.0763	0.0679	0.0677	0.0691	0.0669	0.0696	0.0763		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 40
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EMS ID	E206618						Water Quality Guidelines			
StnName	Middle Quinsam Lake 4 M									
StnCode	MQL4									
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	37	36	30	30	30	32.6	37	128	
Chlr-a	ug/L									
Turb	NTU	0.28	0.28	0.25	0.27	0.33	0.28	0.33	1	5
Alk-T	mg/L	45	45	43	43	43	43.8	45		
P-T	mg/L	0.0015								
Al-T	mg/L	0.0135	0.0124	0.0168	0.0115	0.0160	0.0140	0.0168		
As-T	mg/L	0.00019	0.00017	0.00017	0.00017	0.00015	0.00017	0.00019		0.005
Ba-T	mg/L	0.0024	0.0025	0.0024	0.0023	0.0024	0.0024	0.0025		
B-T	mg/L	0.073	0.059	0.068	0.063	0.069	0.066	0.073		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	13.1	12.9	12.3	13.4	12.2	12.8	13.4		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00056	0.00135	0.00025	0.00025	0.000532	0.00135	0.002	0.007
Hard-T	mg/L	39.7	38.4	37.5	39.6	36.9	38.4	39.7		
Fe-T	mg/L	0.045	0.056	0.054	0.050	0.046	0.050	0.056		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	1.69	1.53	1.63	1.52	1.57	1.59	1.69		
Mn-T	mg/L	0.0077	0.0078	0.0072	0.0061	0.0058	0.0069	0.0078	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.337	0.302	0.310	0.285	0.292	0.305	0.337		
S-T	mg/L	12.2	10.9	10.9	10.4	11.0	11.1	12.2		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	21.3	18.6	19.4	18.2	18.4	19.2	21.3		
Sr-T	mg/L	0.0776	0.0685	0.0695	0.0671	0.0697	0.0705	0.0776		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0083	0.0083	0.0095	0.0083	0.0121	0.0093	0.0121	0.05	0.1
As-D	mg/L	0.00017	0.00017	0.00015	0.00015	0.00014	0.00016	0.00017		
Ba-D	mg/L	0.0023	0.0022	0.0023	0.0024	0.0023	0.0023	0.0024		
B-D	mg/L	0.069	0.067	0.068	0.063	0.065	0.066	0.069		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	13.1	12.4	12.3	12.3	12.3	12.5	13.1		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00043	0.00045	0.00040	0.00044	0.00047	0.00044	0.00047		
Hard-D	mg/L	39.4	37.2	37.0	37.2	37.4	37.6	39.4		
Fe-D	mg/L	0.0280	0.0292	0.0277	0.0259	0.0288	0.0279	0.0292		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.63	1.50	1.55	1.59	1.63	1.58	1.63		
Mn-D	mg/L	0.0005	0.0013	0.0005	0.0005	0.0005	0.00066	0.0013		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000028	0.00000136	0.0000028		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.329	0.291	0.296	0.292	0.298	0.301	0.329		
P-D	mg/L	0.005	0.005	0.005	0.005	0.005	0.0050	0.005		
S-D	mg/L	12.0	10.8	11.0	10.4	10.9	11.0	12.0		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	21.0	21.0	19.3	18.4	18.6	19.7	21.0		
Sr-D	mg/L	0.0768	0.0668	0.0670	0.0686	0.0667	0.0692	0.0768		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 41
Q3 Report 2019

E206618							Water Quality Guidelines			
StnName	Middle Quinsam Lake 9 M									
StnCode		MLQ9	MLQ9	MLQ9	MLQ9	MLQ9				
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	36	33	25	21	30	29.0	36	128	
Chlr-a	ug/L									
Turb	NTU	0.25	0.49	0.27	0.25	0.26	0.30	0.49	1	5
Alk-T	mg/L	46	45	44	43	43	44.2	46		
P-T	mg/L	0.0015								
Al-T	mg/L	0.0123	0.0118	0.0123	0.0115	0.0149	0.0126	0.0149		
As-T	mg/L	0.00017	0.00017	0.00016	0.00017	0.00014	0.00016	0.00017		0.005
Ba-T	mg/L	0.0025	0.0024	0.0023	0.0023	0.0024	0.0024	0.0025		
B-T	mg/L	0.074	0.060	0.068	0.064	0.067	0.067	0.074		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	13.2	12.5	12.2	12.2	12.2	12.5	13.2		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00050	0.00025	0.00025	0.00025	0.000300	0.00050	0.002	0.007
Hard-T	mg/L	39.9	37.8	37.4	36.8	37.0	37.8	39.9		
Fe-T	mg/L	0.057	0.050	0.049	0.050	0.046	0.050	0.057		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	1.66	1.57	1.65	1.51	1.57	1.59	1.66		
Mn-T	mg/L	0.0082	0.0080	0.0072	0.0062	0.0058	0.0071	0.0082	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000023	0.0000010	0.0000010	0.0000010	0.00000126	0.0000023	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.337	0.304	0.315	0.286	0.291	0.307	0.337		
S-T	mg/L	12.1	11.0	11.1	10.5	10.6	11.1	12.1		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	21.3	19.1	20.0	18.1	18.3	19.4	21.3		
Sr-T	mg/L	0.0788	0.0685	0.0717	0.0669	0.0691	0.0710	0.0788		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0093	0.0084	0.0099	0.0094	0.0111	0.0096	0.0111	0.05	0.1
As-D	mg/L	0.00018	0.00015	0.00015	0.00015	0.00014	0.00015	0.00018		
Ba-D	mg/L	0.0023	0.0022	0.0024	0.0024	0.0023	0.0023	0.0024		
B-D	mg/L	0.071	0.067	0.069	0.062	0.066	0.067	0.071		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	13.0	12.5	12.6	12.4	12.2	12.5	13.0		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00046	0.00046	0.00038	0.00089	0.00045	0.00053	0.00089		
Hard-D	mg/L	39.3	37.5	38.1	37.4	37.3	37.9	39.3		
Fe-D	mg/L	0.0309	0.0290	0.0267	0.0279	0.0289	0.0287	0.0309		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.66	1.52	1.60	1.56	1.65	1.60	1.66		
Mn-D	mg/L	0.0012	0.0012	0.0005	0.0005	0.0005	0.00078	0.0012		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000036	0.00000152	0.0000036		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.334	0.288	0.305	0.285	0.296	0.302	0.334		
P-D	mg/L	0.005	0.005	0.005	0.005	0.005	0.0050	0.005		
S-D	mg/L	11.9	11.0	11.8	10.1	10.9	11.1	11.9		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	21.1	21.1	19.7	18.4	18.8	19.8	21.1		
Sr-D	mg/L	0.0760	0.0667	0.0684	0.0694	0.0660	0.0693	0.0760		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 42
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EMS ID		E206618					Water Quality Guidelines			
StnName		Middle Quinsam Lake 1 M from Bottom								
StnCode		MLQB	MLQB	MLQB	MLQB	MLQB				
Date	Unit	24-Oct-19	30-Oct-19	6-Nov-19	13-Nov-19	20-Nov-19	5 in 30 Ave	Maximum	Average	Max
SO4-D	mg/L	36	34	35	39	38	36.4	39	128	
Chlr-a	ug/L									
Turb	NTU	0.25	0.34	0.31	0.22	0.29	0.28	0.34	1	5
Alk-T	mg/L	47	44	44	44	44	44.6	47		
P-T	mg/L	0.0015								
Al-T	mg/L	0.0129	0.0124	0.0125	0.0116	0.0139	0.0127	0.0139		
As-T	mg/L	0.00018	0.00017	0.00015	0.00017	0.00017	0.00017	0.00018		0.005
Ba-T	mg/L	0.0025	0.0025	0.0023	0.0023	0.0028	0.0025	0.0028		
B-T	mg/L	0.072	0.059	0.072	0.064	0.068	0.067	0.072		
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	12.9	12.9	12.3	11.9	14.2	12.8	14.2		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		0.05
Cu-T	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.000250	0.00025	0.002	0.007
Hard-T	mg/L	39.2	38.7	37.6	36.0	43.1	38.9	43.1		
Fe-T	mg/L	0.053	0.055	0.050	0.044	0.050	0.050	0.055		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.003	0.005
Mg-T	mg/L	1.71	1.56	1.64	1.51	1.84	1.65	1.84		
Mn-T	mg/L	0.0089	0.0080	0.0070	0.0061	0.0074	0.0075	0.0089	0.7	0.8
Hg-T	mg/L	0.0000010	0.0000010	0.0000030	0.0000038	0.0000010	0.00000196	0.0000038	0.00002	0.0001
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		0.025
K-T	mg/L	0.340	0.309	0.315	0.280	0.298	0.308	0.340		
S-T	mg/L	12.3	11.4	11.1	10.4	13.1	11.7	13.1		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010		0.0001
Na-T	mg/L	21.5	19.6	19.9	17.9	19.5	19.7	21.5		
Sr-T	mg/L	0.0783	0.0696	0.0719	0.0659	0.0764	0.0724	0.0783		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		0.03
Al-D	mg/L	0.0087	0.0087	0.0094	0.0086	0.0099	0.0091	0.0099	0.05	0.1
As-D	mg/L	0.00016	0.00014	0.00015	0.00015	0.00015	0.00015	0.00016		
Ba-D	mg/L	0.0024	0.0023	0.0024	0.0023	0.0026	0.0024	0.0026		
B-D	mg/L	0.070	0.068	0.070	0.061	0.070	0.068	0.070		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.000017
Ca-D	mg/L	13.1	12.7	12.7	12.3	13.9	12.9	13.9		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00045	0.00044	0.00040	0.00044	0.00047	0.00044	0.00047		
Hard-D	mg/L	39.6	38.1	38.2	37.2	42.5	39.1	42.5		
Fe-D	mg/L	0.0312	0.0297	0.0275	0.0272	0.0295	0.0290	0.0312		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.68	1.55	1.59	1.55	1.93	1.66	1.93		
Mn-D	mg/L	0.0013	0.0016	0.0005	0.0005	0.0005	0.00088	0.0016		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.342	0.293	0.305	0.287	0.309	0.307	0.342		
P-D	mg/L	0.005	0.005	0.005	0.005	0.011	0.0062	0.011		
S-D	mg/L	12.3	10.8	11.0	10.3	12.9	11.5	12.9		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	21.4	21.1	19.6	18.4	20.1	20.1	21.4		
Sr-D	mg/L	0.0769	0.0666	0.0686	0.0702	0.0729	0.0710	0.0769		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 43
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EMS ID E219412		Long Lake Outlet					Water Quality Guidelines			
StnName										
StnCode		LLO	LLO	LLO	LLO	LLO				
Date		15-Oct-19	22-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	5 in 30 Ave	Maximum	Average	Max
Parameter	Unit									
SO4-D	mg/L	76	62	45	39	34	51.2	76	128	
Alk-T	mg/L	36	30	26	25	26	28.6	36		
Acidity83	mg/L	1.8	0.5	0.5	0.5	1.5	0.96	1.8		
TSS	mg/L	2.0	4.0	2.0	2.0	2.0	2.40	4.0	5	25
Al-T	mg/L	0.0866	0.0154	0.0235	0.0244	0.0234	0.0347	0.0866		
As-T	mg/L	0.00049	0.00047	0.00048	0.00044	0.00046	0.00047	0.00049		0.005
Ba-T	mg/L	0.0065	0.0053	0.0047	0.0043	0.0041	0.0050	0.0065	1	
B-T	mg/L	0.067	0.025	0.025	0.025	0.025	0.0334	0.067	1.2	
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	33.6	24.1	20.0	17.8	17.2	22.5	33.6		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.001	
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.004	0.11
Cu-T	mg/L	0.00064	0.00025	0.00025	0.00025	0.00025	0.000328	0.00064	0.002	0.00482
Hard-T	mg/L	99.9	72.8	61.2	54.2	52.8	68.2	99.9		
Fe-T	mg/L	0.214	0.072	0.099	0.084	0.093	0.112	0.214		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.0039978	0.01763
Mg-T	mg/L	3.87	3.09	2.71	2.40	2.39	2.89	3.87		
Mn-T	mg/L	0.0227	0.0074	0.0064	0.0059	0.0077	0.0100	0.0227	0.737	0.8706
Hg-T	mg/L	0.0000010	0.0000010	0.0000026	0.0000010	0.0000025	0.00000162	0.0000026	0.00002	
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	1	2
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.025	
K-T	mg/L	0.362	0.301	0.268	0.251	0.238	0.284	0.362		
S-T	mg/L	24.9	19.6	15.4	13.0	12.1	17.0	24.9		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005	0.002	
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010	0.00005	0.0001
Na-T	mg/L	9.97	7.75	6.25	5.36	5.11	6.89	9.97		
Sr-T	mg/L	0.189	0.166	0.131	0.112	0.101	0.140	0.189		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025	0.0075	0.033
Al-D	mg/L	0.0261	0.0095	0.0154	0.0171	0.0179	0.0172	0.0261	0.05	0.1
As-D	mg/L	0.00043	0.00040	0.00044	0.00041	0.00043	0.00042	0.00044		
Ba-D	mg/L	0.0062	0.0053	0.0044	0.0042	0.0041	0.0048	0.0062		
B-D	mg/L	0.073	0.056	0.025	0.025	0.025	0.0408	0.073		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.0001702
Ca-D	mg/L	31.1	24.8	20.2	17.6	17.7	22.3	31.1		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00062	0.00029	0.00037	0.00034	0.00039	0.00040	0.00062		
Hard-D	mg/L	93.1	75.0	62.0	54.3	54.8	67.8	93.1		
Fe-D	mg/L	0.0404	0.0363	0.0562	0.0555	0.0583	0.0493	0.0583		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	3.74	3.21	2.81	2.50	2.60	2.97	3.74		
Mn-D	mg/L	0.0024	0.0016	0.0035	0.0038	0.0039	0.0030	0.0039		
Hg-D	mg/L	0.0000010	0.0000027	0.0000010	0.0000010	0.0000010	0.00000134	0.0000027		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.341	0.307	0.265	0.248	0.251	0.282	0.341		
S-D	mg/L	25.4	20.5	15.6	13.2	12.8	17.5	25.4		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	9.97	8.03	6.16	5.51	5.59	7.05	9.97		
Sr-D	mg/L	0.204	0.168	0.130	0.110	0.107	0.144	0.204		
Zn-D	mg/L	0.0070	0.0025	0.0025	0.0025	0.0025	0.00340	0.0070		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 44
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EMS ID E217017		No Name Lake Outlet					Water Quality Guidelines			
StnName										
StnCode		NNO	NNO	NNO	NNO	NNO				
Date		15-Oct-19	22-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	5 in 30 Ave	Maximum	Average	Max
Parameter	Unit									
SO4-D	mg/L	1.8	1.1	2.2	4.9	0.5	2.10	4.9	128	
Alk-T	mg/L	15	13	13	13	14	13.6	15		
Acidity83	mg/L	0.5	0.5	0.5	0.5	0.5	0.50	0.5		
TSS	mg/L	2.0	2.0	2.0	2.0	2.0	2.00	2.0	5	25
Al-T	mg/L	0.0255	0.0283	0.0428	0.0380	0.0311	0.0331	0.0428		
As-T	mg/L	0.00035	0.00035	0.00036	0.00032	0.00033	0.00034	0.00036		0.005
Ba-T	mg/L	0.0015	0.0014	0.0015	0.0014	0.0015	0.0015	0.0015	1	
B-T	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025	1.2	
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	4.78	4.63	4.78	4.64	4.66	4.70	4.78		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.001	
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.004	0.11
Cu-T	mg/L	0.00053	0.00025	0.00025	0.00025	0.00025	0.000306	0.00053	0.002	0.00482
Hard-T	mg/L	16.5	15.7	16.2	15.9	15.7	16.0	16.5		
Fe-T	mg/L	0.169	0.126	0.136	0.123	0.113	0.133	0.169		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.0039978	0.01763
Mg-T	mg/L	1.12	0.996	1.03	1.05	0.996	1.038	1.12		
Mn-T	mg/L	0.0055	0.0056	0.0064	0.0071	0.0069	0.0063	0.0071	0.737	0.8706
Hg-T	mg/L	0.0000010	0.0000023	0.0000010	0.0000010	0.0000010	0.00000126	0.0000023	0.00002	
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	1	2
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.025	
K-T	mg/L	0.099	0.108	0.119	0.125	0.118	0.114	0.125		
S-T	mg/L	1.5	1.5	1.5	1.5	1.5	1.50	1.5		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005	0.002	
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010	0.00005	0.0001
Na-T	mg/L	1.35	1.20	1.26	1.30	1.26	1.27	1.35		
Sr-T	mg/L	0.0164	0.0150	0.0155	0.0145	0.0151	0.0153	0.0164		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025	0.0075	0.033
Al-D	mg/L	0.0172	0.0222	0.0277	0.0261	0.0270	0.0240	0.0277	0.05	0.1
As-D	mg/L	0.00037	0.00034	0.00035	0.00030	0.00030	0.00033	0.00037		
Ba-D	mg/L	0.0014	0.0014	0.0013	0.0013	0.0014	0.0014	0.0014		
B-D	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.0001702
Ca-D	mg/L	5.05	4.75	4.66	4.64	4.71	4.76	5.05		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00038	0.00037	0.00043	0.00040	0.00041	0.00040	0.00043		
Hard-D	mg/L	17.2	16.1	15.7	15.7	16.2	16.2	17.2		
Fe-D	mg/L	0.0914	0.0920	0.0905	0.0775	0.0797	0.0862	0.0920		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.11	1.03	0.998	1.00	1.07	1.042	1.11		
Mn-D	mg/L	0.0025	0.0028	0.0046	0.0054	0.0051	0.0041	0.0054		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.083	0.115	0.121	0.113	0.117	0.110	0.121		
S-D	mg/L	1.5	1.5	1.5	1.5	1.5	1.50	1.5		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	1.27	1.26	1.33	1.24	1.30	1.28	1.33		
Sr-D	mg/L	0.0157	0.0157	0.0146	0.0145	0.0143	0.0150	0.0157		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 45
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EMS ID E0126402		Middle Quinsam Lake Inlet					Water Quality Guidelines			
StnName										
StnCode		WA	WA	WA	WA	WA				
Date		17-Oct-19	22-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	5 in 30 Ave	Maximum	Average	Max
Parameter	Unit									
SO4-D	mg/L	0.5	0.5	2.1	1.7	1.7	1.30	2.1	128	
Alk-T	mg/L	17	15	17	17	20	17.2	20		
Acidity83	mg/L	0.5	0.5	0.5	0.5	0.5	0.50	0.5		
TSS	mg/L	2.0	2.0	2.0	2.0	2.0	2.00	2.0	5	25
Al-T	mg/L	0.106	0.0488	0.0164	0.0161	0.0189	0.0412	0.106		
As-T	mg/L	0.00021	0.00021	0.00012	0.00005	0.00013	0.000144	0.00021		0.005
Ba-T	mg/L	0.0015	0.0020	0.0010	0.0005	0.0005	0.00110	0.0020	1	
B-T	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025	1.2	
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	6.98	5.47	6.37	6.86	6.50	6.44	6.98		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.001	
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.004	0.11
Cu-T	mg/L	0.00094	0.00069	0.00055	0.00055	0.00058	0.00066	0.00094	0.002	0.00482
Hard-T	mg/L	20.9	16.5	19.0	20.2	19.3	19.2	20.9		
Fe-T	mg/L	0.123	0.035	0.005	0.027	0.016	0.0412	0.123		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.0039978	0.01763
Mg-T	mg/L	0.834	0.685	0.747	0.742	0.746	0.751	0.834		
Mn-T	mg/L	0.0052	0.0019	0.0005	0.0012	0.0013	0.00202	0.0052	0.737	0.8706
Hg-T	mg/L	0.0000010	0.0000010	0.0000031	0.0000010	0.0000010	0.00000142	0.0000031	0.00002	
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	1	2
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.025	
K-T	mg/L	0.097	0.106	0.065	0.061	0.068	0.079	0.106		
S-T	mg/L	1.5	1.5	1.5	1.5	1.5	1.50	1.5		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005	0.002	
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010	0.00005	0.0001
Na-T	mg/L	0.866	0.842	0.712	0.703	0.706	0.766	0.866		
Sr-T	mg/L	0.0117	0.0117	0.0107	0.0113	0.0114	0.0114	0.0117		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025	0.0075	0.033
Al-D	mg/L	0.0223	0.0380	0.0184	0.0142	0.0164	0.0219	0.0380	0.05	0.1
As-D	mg/L	0.00014	0.00018	0.00011	0.00005	0.00012	0.000120	0.00018		
Ba-D	mg/L	0.0012	0.0019	0.0011	0.0005	0.0005	0.00104	0.0019		
B-D	mg/L	0.025	0.025	0.025	0.025	0.025	0.0250	0.025		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.0001702
Ca-D	mg/L	6.57	5.55	6.40	6.86	6.89	6.45	6.89		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00059	0.00058	0.00055	0.00050	0.00055	0.00055	0.00059		
Hard-D	mg/L	19.6	16.8	19.0	20.2	20.6	19.2	20.6		
Fe-D	mg/L	0.0172	0.0202	0.0147	0.0077	0.0098	0.0139	0.0202		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	0.777	0.711	0.738	0.748	0.826	0.760	0.826		
Mn-D	mg/L	0.0011	0.0005	0.0014	0.0005	0.0005	0.00080	0.0014		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.086	0.109	0.065	0.060	0.069	0.078	0.109		
S-D	mg/L	1.5	1.5	1.5	1.5	1.5	1.50	1.5		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	0.805	0.866	0.710	0.698	0.772	0.770	0.866		
Sr-D	mg/L	0.0116	0.0116	0.0110	0.0115	0.0113	0.0114	0.0116		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 46
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EMS ID E0900504		Middle Quinsam Lake Outlet					Water Quality Guidelines			
StnName										
StnCode		WB	WB	WB	WB	WB				
Date		17-Oct-19	22-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	5 in 30 Ave	Maximum	Average	Max
Parameter	Unit									
SO4-D	mg/L	38	43	38	32	31	36.4	43	128	
Alk-T	mg/L	46	43	39	42	40	42.0	46		
Acidity83	mg/L	0.5	0.5	0.5	0.5	1.5	0.70	1.5		
TSS	mg/L	2.0	2.0	2.0	2.0	2.0	2.00	2.0	5	25
Al-T	mg/L	0.0103	0.0117	0.0162	0.0137	0.0138	0.0131	0.0162		
As-T	mg/L	0.00015	0.00023	0.00028	0.00017	0.00024	0.00021	0.00028		0.005
Ba-T	mg/L	0.0028	0.0029	0.0033	0.0028	0.0028	0.0029	0.0033	1	
B-T	mg/L	0.064	0.057	0.067	0.065	0.056	0.062	0.067	1.2	
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	13.6	15.0	15.6	13.7	13.1	14.2	15.6		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.001	
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.004	0.11
Cu-T	mg/L	0.00051	0.00053	0.00025	0.00025	0.00025	0.000358	0.00053	0.002	0.00482
Hard-T	mg/L	41.4	45.0	47.2	41.6	39.8	43.0	47.2		
Fe-T	mg/L	0.045	0.050	0.061	0.049	0.055	0.052	0.061		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.0039978	0.01763
Mg-T	mg/L	1.83	1.84	2.00	1.80	1.71	1.84	2.00		
Mn-T	mg/L	0.0134	0.0084	0.0075	0.0072	0.0081	0.0089	0.0134	0.737	0.8706
Hg-T	mg/L	0.0000010	0.0000022	0.0000010	0.0000010	0.0000010	0.00000124	0.0000022	0.00002	
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	1	2
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.025	
K-T	mg/L	0.317	0.304	0.299	0.307	0.271	0.300	0.317		
S-T	mg/L	15.1	12.9	13.4	12.4	10.8	12.9	15.1		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005	0.002	
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.00001	0.000010	0.00005	0.0001
Na-T	mg/L	20.2	17.3	16.4	18.2	14.3	17.3	20.2		
Sr-T	mg/L	0.0813	0.0887	0.0964	0.0761	0.0750	0.0835	0.0964		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025	0.0075	0.033
Al-D	mg/L	0.0078	0.0076	0.0103	0.0097	0.0102	0.0091	0.0103	0.05	0.1
As-D	mg/L	0.00017	0.00018	0.00024	0.00017	0.00022	0.00020	0.00024		
Ba-D	mg/L	0.0026	0.0027	0.0030	0.0027	0.0029	0.0028	0.0030		
B-D	mg/L	0.072	0.067	0.063	0.066	0.059	0.065	0.072		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.0001702
Ca-D	mg/L	14.4	14.4	15.2	13.5	14.0	14.3	15.2		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00044	0.00038	0.00042	0.00040	0.00062	0.00045	0.00062		
Hard-D	mg/L	43.5	43.6	46.2	40.8	42.5	43.3	46.2		
Fe-D	mg/L	0.0285	0.0277	0.0364	0.0295	0.0378	0.0320	0.0378		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.79	1.84	2.02	1.74	1.84	1.85	2.02		
Mn-D	mg/L	0.0064	0.0025	0.0030	0.0024	0.0037	0.0036	0.0064		
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00000100	0.0000010		
Mo-D	mg/L	0.0005	0.0011	0.0005	0.0005	0.0005	0.00062	0.0011		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.300	0.312	0.299	0.299	0.294	0.301	0.312		
S-D	mg/L	12.7	13.2	13.4	12.4	11.0	12.5	13.4		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	19.9	18.7	16.2	17.9	15.7	17.7	19.9		
Sr-D	mg/L	0.0845	0.0855	0.0882	0.0746	0.0783	0.0822	0.0882		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 47
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EMS ID E292113		7-South Quinsam River					Water Quality Guidelines			
StnName		7SQR	7SQR	7SQR	7SQR	7SQR	5 in 30 Ave	Maximum	Average	Max
StnCode		17-Oct-19	22-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19				
Date										
Parameter	Unit									
SO4-D	mg/L	34	36	33	31	27	32.2	36	128	
Alk-T	mg/L	42	34	40	41	37	38.8	42		
Acidity83	mg/L	0.5	0.5	0.5	0.5	0.5	0.50	0.5		
TSS	mg/L	2.0	2.0	2.0	2.0	2.0	2.00	2.0	5	25
Al-T	mg/L	0.0240	0.0689	0.0199	0.0160	0.0328	0.0323	0.0689		
As-T	mg/L	0.00041	0.00047	0.00036	0.00034	0.00042	0.00040	0.00047		0.005
Ba-T	mg/L	0.0032	0.0037	0.0032	0.0031	0.0031	0.0033	0.0037	1	
B-T	mg/L	0.066	0.025	0.064	0.066	0.055	0.0552	0.066	1.2	
Cd-T	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005		
Ca-T	mg/L	14.0	13.2	13.4	13.3	12.0	13.2	14.0		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.001	
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.004	0.11
Cu-T	mg/L	0.00062	0.00078	0.00063	0.00107	0.00058	0.00074	0.00107	0.002	0.00482
Hard-T	mg/L	42.6	40.4	41.0	40.7	36.9	40.3	42.6		
Fe-T	mg/L	0.130	0.187	0.103	0.110	0.144	0.135	0.187		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.0001	0.00010	0.0039978	0.01763
Mg-T	mg/L	1.85	1.82	1.83	1.80	1.69	1.80	1.85		
Mn-T	mg/L	0.0071	0.0096	0.0066	0.0069	0.0072	0.0075	0.0096	0.737	0.8706
Hg-T	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.00002	
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	1	2
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.025	
K-T	mg/L	0.359	0.341	0.284	0.295	0.283	0.312	0.359		
S-T	mg/L	12.7	10.5	11.9	10.9	9.1	11.0	12.7		
Se-T	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005	0.002	
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010	0.00005	0.0001
Na-T	mg/L	17.8	12.3	15.7	17.3	13.8	15.4	17.8		
Sr-T	mg/L	0.0786	0.0763	0.0836	0.0727	0.0654	0.0753	0.0836		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025	0.0075	0.033
Al-D	mg/L	0.0108	0.0343	0.0160	0.0108	0.0232	0.019	0.0343	0.05	0.1
As-D	mg/L	0.00034	0.00036	0.00037	0.00031	0.00038	0.00035	0.00038		
Ba-D	mg/L	0.0029	0.0035	0.0030	0.0030	0.0030	0.0031	0.0035		
B-D	mg/L	0.059	0.052	0.063	0.066	0.056	0.059	0.066		
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.0000050	0.000005	0.0000872	0.0001702
Ca-D	mg/L	16.3	13.5	13.6	13.0	12.1	13.7	16.3		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00010	0.00063	0.00048	0.00040	0.00052	0.000426	0.00063		
Hard-D	mg/L	48.0	41.6	42.0	39.7	37.5	41.8	48.0		
Fe-D	mg/L	0.0707	0.101	0.0828	0.0706	0.106	0.0862	0.106		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.78	1.94	1.95	1.74	1.77	1.84	1.95		
Mn-D	mg/L	0.0012	0.0057	0.0061	0.0061	0.0064	0.0051	0.0064		
Hg-D	mg/L	0.0000010	0.0000010	0.0000022	0.0000010	0.0000010	0.00000124	0.0000022		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.331	0.349	0.301	0.289	0.286	0.311	0.349		
S-D	mg/L	10.0	11.0	11.6	10.5	9.2	10.5	11.6		
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.000050	0.00005		
Na-D	mg/L	17.0	13.1	16.2	17.5	14.4	15.6	17.5		
Sr-D	mg/L	0.0763	0.0798	0.0749	0.0712	0.0675	0.0739	0.0798		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 48
Q3 Report 2019

EMS ID E297231							Water Quality Guidelines			
StnName	Iron River Site 6									
StnCode	IR6	IR6	IR6	IR6	IR6					
Date	17-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	18-Nov-19		4 in 30 Ave	Maximum	Average	Max
Parameter	Unit									
SO4-D	mg/L	PNC	3.8	4.2	1.9	2.5	3.1	4.2	128	
Alk-T	mg/L		31	38	25	23	29.25	38		
Acidity83	mg/L		0.5	0.5	0.5	0.5	0.5	0.5		
TSS	mg/L		2.0	2.0	4.4	2.0	2.6	4.4	5	25
Al-T	mg/L		0.0490	0.0357	0.0760	0.0947	0.06385	0.0947		
As-T	mg/L		0.00085	0.00110	0.00089	0.00064	0.00087	0.0011		0.005
Ba-T	mg/L		0.0046	0.0051	0.0052	0.0047	0.0049	0.0052	1	
B-T	mg/L		0.025	0.025	0.025	0.025	0.025	0.025	1.2	
Cd-T	mg/L		0.000012	0.000005	0.000012	0.000017	0.0000115	0.000017		
Ca-T	mg/L		12.7	14.2	9.27	9.56	11.4325	14.2		
Cr-T	mg/L		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	
Co-T	mg/L		0.00010	0.00010	0.00010	0.00010	0.0001	0.0001	0.004	0.11
Cu-T	mg/L		0.00062	0.00055	0.00078	0.00072	0.0006675	0.00078	0.002	0.00482
Hard-T	mg/L		35.5	39.6	26.7	27.4	32.3	39.6		
Fe-T	mg/L		0.029	0.019	0.059	0.058	0.04125	0.059		1
Pb-T	mg/L		0.00010	0.00010	0.00010	0.00010	0.0001	0.0001	0.0039978	0.01763
Mg-T	mg/L		0.955	1.00	0.865	0.844	0.916	1		
Mn-T	mg/L		0.0005	0.0005	0.0011	0.0017	0.00095	0.0017	0.737	0.8706
Hg-T	mg/L		0.0000010	0.0000023	0.0000026	0.0000010	0.000001725	0.0000026	0.00002	
Mo-T	mg/L		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	1	2
Ni-T	mg/L		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.025	
K-T	mg/L		0.171	0.179	0.191	0.194	0.18375	0.194		
S-T	mg/L		1.5	1.5	1.5	1.5	1.5	1.5		
Se-T	mg/L		0.00028	0.00028	0.00018	0.00019	0.0002325	0.00028	0.002	
Ag-T	mg/L		0.000010	0.000010	0.000010	0.000010	0.00001	0.00001	0.00005	0.0001
Na-T	mg/L		1.22	1.33	1.29	1.15	1.2475	1.33		
Sr-T	mg/L		0.0426	0.0470	0.0327	0.0324	0.038675	0.047		
Zn-T	mg/L		0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0075	0.033
Al-D	mg/L		0.0431	0.0346	0.0676	0.0778	0.055775	0.0778	0.05	0.1
As-D	mg/L		0.00082	0.00105	0.00084	0.00060	0.0008275	0.00105		
Ba-D	mg/L		0.0043	0.0051	0.0052	0.0041	0.004675	0.0052		
B-D	mg/L		0.025	0.025	0.025	0.025	0.025	0.025		
Cd-D	mg/L		0.000011	0.000005	0.000005	0.000013	0.0000085	0.000013	0.0000872	0.0001702
Ca-D	mg/L		12.8	14.1	9.62	9.28	11.45	14.1		
Cr-D	mg/L		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Co-D	mg/L		0.00010	0.00010	0.00010	0.00010	0.0001	0.0001		
Cu-D	mg/L		0.00058	0.00051	0.00072	0.00068	0.0006225	0.00072		
Hard-D	mg/L		35.6	39.4	28.0	26.7	32.425	39.4		
Fe-D	mg/L		0.0210	0.0151	0.0469	0.0390	0.0305	0.0469		0.35
Pb-D	mg/L		0.00010	0.00010	0.00010	0.00010	0.0001	0.0001		
Mg-D	mg/L		0.889	1.01	0.953	0.846	0.9245	1.01		
Mn-D	mg/L		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Hg-D	mg/L		0.0000010	0.0000026	0.0000010	0.0000024	0.00000175	0.0000026		
Mo-D	mg/L		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Ni-D	mg/L		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
K-D	mg/L		0.169	0.183	0.195	0.185	0.183	0.195		
S-D	mg/L		1.5	1.5	1.5	1.5	1.5	1.5		
Se-D	mg/L		0.00028	0.00030	0.00018	0.00020	0.00024	0.0003		
Na-D	mg/L		1.23	1.36	1.32	1.10	1.2525	1.36		
Sr-D	mg/L		0.0418	0.0452	0.0328	0.0313	0.037775	0.0452		
Zn-D	mg/L		0.0025	0.0025	0.0025	0.0025	0.0025	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 49
Q3 Report 2019

EMS ID E297232		Iron River Site 8					Water Quality Guidelines			
StnName										
StnCode		IR8	IR8	IR8	IR8	IR8				
Date		17-Oct-19	22-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	5 in 30 Ave	Maximum	Average	Max
Parameter	Unit									
SO4-D	mg/L	2.1	1.1	5.2	4.5	4.2	3.42	5.2	128	
Alk-T	mg/L	25	22	31	38	28	28.8	38		
Acidity83	mg/L	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
TSS	mg/L	11.6	2.0	2.0	2.0	2.0	3.92	11.6	5	25
Al-T	mg/L	0.267	0.0884	0.0445	0.0356	0.0637	0.09984	0.267		
As-T	mg/L	0.00136	0.00055	0.00136	0.00199	0.00116	0.001284	0.00199		0.005
Ba-T	mg/L	0.0062	0.0041	0.0047	0.0056	0.0051	0.00514	0.0062	1	
B-T	mg/L	0.025	0.025	0.025	0.025	0.025	0.025	0.025	1.2	
Cd-T	mg/L	0.000033	0.000005	0.000011	0.000005	0.000005	0.0000118	0.000033		
Ca-T	mg/L	11.6	10.1	12.2	13.9	10.3	11.62	13.9		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	
Co-T	mg/L	0.00022	0.00010	0.00010	0.00010	0.00010	0.000124	0.00022	0.004	0.11
Cu-T	mg/L	0.00188	0.00093	0.00059	0.00059	0.00092	0.000982	0.00188	0.002	0.00482
Hard-T	mg/L	33.1	30.1	34.4	39.1	29.8	33.3	39.1		
Fe-T	mg/L	0.430	0.136	0.024	0.022	0.071	0.1366	0.43		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.0001	0.0001	0.0039978	0.01763
Mg-T	mg/L	1.01	1.21	0.982	1.07	0.990	1.0524	1.21		
Mn-T	mg/L	0.0157	0.0056	0.0005	0.0005	0.0017	0.0048	0.0157	0.737	0.8706
Hg-T	mg/L	0.0000010	0.0000028	0.0000010	0.0000010	0.0000027	0.0000017	0.0000028	0.00002	
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	1	2
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.025	
K-T	mg/L	0.266	0.252	0.160	0.182	0.189	0.2098	0.266		
S-T	mg/L	1.5	4.7	1.5	1.5	1.5	2.14	4.7		
Se-T	mg/L	0.00025	0.00011	0.00027	0.00029	0.00019	0.000222	0.00029	0.002	
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.00001	0.00001	0.00005	0.0001
Na-T	mg/L	1.14	5.77	1.28	1.45	1.47	2.222	5.77		
Sr-T	mg/L	0.0382	0.0479	0.0412	0.0461	0.0348	0.04164	0.0479		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0075	0.033
Al-D	mg/L	0.062	0.108	0.0408	0.0315	0.0488	0.05822	0.108	0.05	0.1
As-D	mg/L	0.00078	0.00065	0.00133	0.00198	0.00114	0.001176	0.00198		
Ba-D	mg/L	0.0050	0.0047	0.0045	0.0057	0.0052	0.00502	0.0057		
B-D	mg/L	0.025	0.025	0.025	0.025	0.025	0.025	0.025		
Cd-D	mg/L	0.000016	0.000011	0.000011	0.000010	0.000005	0.0000106	0.000016	0.0000872	0.0001702
Ca-D	mg/L	10.9	8.25	12.2	13.8	10.4	11.11	13.8		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.0001	0.0001		
Cu-D	mg/L	0.00112	0.00096	0.00058	0.00051	0.00079	0.000792	0.00112		
Hard-D	mg/L	31.2	24.1	34.2	38.7	30.4	31.72	38.7		
Fe-D	mg/L	0.0508	0.0869	0.0197	0.0140	0.0474	0.04376	0.0869		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.0001	0.0001		
Mg-D	mg/L	0.975	0.844	0.943	1.03	1.07	0.9724	1.07		
Mn-D	mg/L	0.0027	0.0024	0.0005	0.0005	0.0012	0.00146	0.0027		
Hg-D	mg/L	0.0000031	0.0000010	0.0000010	0.0000010	0.0000010	0.00000142	0.0000031		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
K-D	mg/L	0.253	0.207	0.167	0.176	0.185	0.1976	0.253		
S-D	mg/L	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
Se-D	mg/L	0.00022	0.00014	0.00025	0.00028	0.00017	0.000212	0.00028		
Na-D	mg/L	1.25	1.13	1.37	1.43	1.47	1.33	1.47		
Sr-D	mg/L	0.0356	0.0287	0.0403	0.0451	0.0337	0.03668	0.0451		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 50
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EMS ID E299256		Confluence of Iron River & Quinsam River					Water Quality Guidelines			
StnName										
StnCode		IRQR	IRQR	IRQR	IRQR	IRQR				
Date		17-Oct-19	22-Oct-19	29-Oct-19	4-Nov-19	12-Nov-19	5 in 30 Ave	Maximum	Average	Max
Parameter	Unit									
SO4-D	mg/L	13	16	21	25	14	17.8	25	128	
Alk-T	mg/L	32	27	35	40	33	33.4	40		
Acidity83	mg/L	0.5	0.5	0.5	0.5	1.2	0.64	1.2		
TSS	mg/L	8	2.0	2.0	2.0	2.0	3.20	8.0	5	25
Al-T	mg/L	0.197	0.0599	0.0310	0.0187	0.0444	0.0702	0.197		
As-T	mg/L	0.00111	0.00052	0.00060	0.00058	0.00079	0.00072	0.00111		0.005
Ba-T	mg/L	0.0053	0.0040	0.0039	0.0038	0.0041	0.0042	0.0053	1	
B-T	mg/L	0.025	0.025	0.025	0.052	0.025	0.0304	0.052	1.2	
Cd-T	mg/L	0.000027	0.000005	0.000005	0.000005	0.000005	0.0000094	0.000027		
Ca-T	mg/L	11.9	10.3	12.9	13.2	11.4	11.9	13.2		
Cr-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.001	
Co-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.004	0.11
Cu-T	mg/L	0.00149	0.00088	0.00059	0.00050	0.00070	0.00083	0.00149	0.002	0.00482
Hard-T	mg/L	35.0	30.7	38.5	39.5	34.2	35.6	39.5		
Fe-T	mg/L	0.344	0.076	0.080	0.109	0.110	0.144	0.344		1
Pb-T	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010	0.0039978	0.01763
Mg-T	mg/L	1.29	1.23	1.52	1.60	1.41	1.41	1.60		
Mn-T	mg/L	0.0142	0.0032	0.0045	0.0054	0.0048	0.0064	0.0142	0.737	0.8706
Hg-T	mg/L	0.0000041	0.0000010	0.0000010	0.0000022	0.0000010	0.00000186	0.0000041	0.00002	
Mo-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	1	2
Ni-T	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005	0.025	
K-T	mg/L	0.296	0.254	0.247	0.265	0.246	0.262	0.296		
S-T	mg/L	4.6	4.7	7.8	8.2	5.6	6.2	8.2		
Se-T	mg/L	0.00025	0.00010	0.00012	0.00016	0.00005	0.000136	0.00025	0.002	
Ag-T	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.0000100	0.000010	0.00005	0.0001
Na-T	mg/L	5.97	5.80	10.4	13.3	8.52	8.80	13.3		
Sr-T	mg/L	0.0502	0.0478	0.0661	0.0647	0.0531	0.0564	0.0661		
Zn-T	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025	0.0075	0.033
Al-D	mg/L	0.0487	0.0334	0.0259	0.0129	0.0355	0.0313	0.0487	0.05	0.1
As-D	mg/L	0.00065	0.00039	0.00062	0.00059	0.00070	0.00059	0.00070		
Ba-D	mg/L	0.0046	0.0035	0.0037	0.0037	0.0040	0.0039	0.0046		
B-D	mg/L	0.025	0.052	0.025	0.054	0.025	0.0362	0.054		
Cd-D	mg/L	0.000012	0.000005	0.000005	0.000005	0.000005	0.0000064	0.000012	0.0000872	0.0001702
Ca-D	mg/L	11.7	13.3	13.0	13.1	11.6	12.5	13.3		
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Co-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Cu-D	mg/L	0.00097	0.00057	0.00056	0.00049	0.00073	0.00066	0.00097		
Hard-D	mg/L	34.1	41.3	39.0	39.3	34.9	37.7	41.3		
Fe-D	mg/L	0.0594	0.0964	0.0587	0.0551	0.0849	0.0709	0.0964		0.35
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.000100	0.00010		
Mg-D	mg/L	1.20	1.93	1.61	1.57	1.46	1.55	1.93		
Mn-D	mg/L	0.0035	0.0056	0.0041	0.0046	0.0041	0.0044	0.0056		
Hg-D	mg/L	0.0000029	0.0000010	0.0000010	0.0000010	0.0000010	0.00000138	0.0000029		
Mo-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
Ni-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00050	0.0005		
K-D	mg/L	0.270	0.348	0.253	0.263	0.249	0.277	0.348		
S-D	mg/L	4.2	10.7	7.7	8.1	5.6	7.3	10.7		
Se-D	mg/L	0.00018	0.00005	0.00011	0.00005	0.00010	0.000098	0.00018		
Na-D	mg/L	5.79	12.8	11.0	13.1	8.85	10.31	13.1		
Sr-D	mg/L	0.0468	0.0790	0.0619	0.0640	0.0507	0.0605	0.0790		
Zn-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.00250	0.0025		
Notes:										
Factor applied to less-than results when calculating statistics: 0.5										
Less-than/greater-than values are shown with the factor applied.										

Table 51
Q3 Report 2019

Taxa and Abundance of Zooplankton Samples					
level of id. : lowest/lowest					
Site Name		LQL	NNL	LLM	MQL
Sampling Date(s)	Samples were submitted but results have not been received.				
units = total organisms/sample					
	stage				
Sub-class : Copepoda					
Order : Cyclopoida					
<u>Cryptocyclops bicolor</u>	adult				
<u>Diacyclops thomasi</u>	adult				
<u>Ectocyclops phaleratus</u>	adult				
<u>Microcyclops varicans rubellus</u>	adult				
UID	copepodid				
Order : Calanoida					
Family : Diaptomidae					
<u>Hesperodiaptomus kenai</u>	adult				
<u>Hesperodiaptomus novemdecimus</u>	adult				
<u>Skistodiaptomus oregonensis</u>	adult				
UID	copepodid				
UID Calanoida / Cyclopoida	nauplii				
Order : Cladocera					
<u>Bosmina longirostris</u>	adult				
<u>Ceriodaphnia dubia</u>	adult				
<u>Daphnia longiremis</u>	adult				
<u>Daphnia rosea</u>	adult				
<u>Daphnia sp.</u>	juvenile				
<u>Diaphanosoma brachyurum</u>	adult				
<u>Holopedium gibberum</u>	adult				
<u>Polyphemus pediculus</u>	adult				
Phylum : Rotifera					
<u>Asplanchna sp.</u>					
<u>Kellicottia longispina</u>					
<u>Keratella cochlearis</u>					
<u>Keratella quadrata</u>					
<u>Polyarthra sp.</u>					
UID					
Benthic					
Group : Hydracarina	larvae				
TOTAL					
UID = unidentified due to lack of size and/or missing morphological characters.					

Table 52
Q3 Report 2019

Ex-situ Groundwater												
Area			2- 3 North				RBP			7-South		
Date	Well No.		QU0821GS	QU0821GD	QU1010S	QU1010D	QU1105S	QU1105D	QU1109S	QU0810	QU0813A	QU0813B
Parameter	Units	Freshwater Aquatic Life (C)	27-Nov-19	27-Nov-19	11-Dec-19	11-Dec-19	16-Dec-19	16-Dec-19	18-Dec-19	10-Dec-19	26-Nov-19	26-Nov-19
SO4-D	mg/L	1280	0.5	2.1	5.8	0.5	150	130	200	11	28	37
S2-T	mg/L		0.048	0.052	0.16	0.0032	0.081	15	0.18	0.083	0.079	0.39
Cond-F	uS/cm											
pH-F	pH Units											
Turb	NTU		1.2	9.5	15	130	6.2	45	0.75	190	1.3	400
Alk-T	mg/L		190	200	150	88	200	390	400	150	190	110
Acidity83	mg/L		0.5	2.6	0.5	18.7	0.5	0.5	0.5	0.5	0.5	0.5
N-D	mg/L		0.325	0.514	0.312	0.818	0.196	0.592	0.410	0.337	0.160	0.323
DOC	mg/L		0.87	1.25	1.1	5	1.4	11	1.3	1.5	0.25	1.2
Hydrox	mg/L		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Bicarb	mg/L		220	250	180	110	240	470	470	190	230	140
Carb	mg/L		3.5	0.5	0.5	0.5	0.5	0.5	11	0.5	2.4	0.5
Cl-D	mg/L	1500	90	1100	4.0	3700	2.0	1300	28	0.5	9.3	0.5
F-D	mg/L	*	1.8	0.87	0.60	0.025	0.14	0.070	0.53	0.66	0.73	0.37
Br-D	mg/L		0.11	1.6	0.005	4.7	0.012	2.2	0.067	0.005	0.005	0.005
P-D	mg/L		0.18	0.10	0.028	0.0015	0.0079	0.75		0.013	0.055	0.067
Al-D	mg/L		0.0030	0.0075	0.0037	0.0075	0.0030	0.016	0.0015	0.0071	0.0015	0.0015
Ag-D	mg/L	*	0.000020	0.00005	0.000010	0.00005	0.000010	0.00005	0.000010	0.000010	0.000010	0.000010
As-D	mg/L	0.05	0.182	0.140	0.0978	0.0149	0.0522	0.0111	0.150	0.00057	0.380	0.462
Ba-D	mg/L	10	0.317	2.12	0.349	1.29	0.176	0.300	0.0511	0.112	0.262	0.0446
B-D	mg/L	50	1.78	2.86	0.557	0.32	0.618	0.49	1.63	0.191	0.717	0.276
Be-D	mg/L	0.053	0.00010	0.00025	0.00005	0.00025	0.00005	0.00025	0.00005	0.00005	0.00005	0.00005
Bi-D	mg/L		0.0010	0.0025	0.0005	0.0025	0.0005	0.0025	0.0005	0.0005	0.0005	0.0005
Cd-D	mg/L	*	0.000010	0.000025	0.000005	0.000025	0.000005	0.000025	0.000005	0.000005	0.000005	0.000005
Ca-D	mg/L		16.2	107	23.9	632	52.7	151	27.5	46.4	35.1	31.7
Cr-D	mg/L	0.01	0.0010	0.0025	0.0005	0.0025	0.0005	0.0025	0.0005	0.0005	0.0005	0.0005
Co-D	mg/L	0.04	0.00020	0.0005	0.00010	0.0005	0.00010	0.0005	0.00010	0.00010	0.00010	0.00010
Cu-D	mg/L	*	0.00020	0.0005	0.00010	0.0005	0.00010	0.0005	0.00010	0.00130	0.00010	0.00010
Fe-D	mg/L		0.585	1.53	0.213	11.0	1.30	0.0125	0.116	0.0111	0.182	0.0594
Hard-D	mg/L		56.9	321	82.4	1630	171	398	102	154	122	101
Pb-D	mg/L	*	0.00020	0.0005	0.00010	0.0005	0.00010	0.0005	0.00010	0.00010	0.00010	0.00010
Mg-D	mg/L		4.01	13.0	5.50	11.5	9.59	5.22	8.14	9.28	8.43	5.28
Mn-D	mg/L		0.136	0.238	0.0448	0.427	0.213	0.295	0.0230	0.0058	0.0349	0.0841
Hg-D	mg/L	0.001	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010
Na-D	mg/L		112	583	33.8	1320	89.9	924	235	3.25	48.0	23.3
Mo-D	mg/L	10	0.0010	0.0025	0.0005	0.0025	0.0005	0.0025	0.0005	0.0005	0.0005	0.0025
Ni-D	mg/L	*	0.0010	0.0025	0.0005	0.0025	0.0005	0.0025	0.0005	0.0005	0.0005	0.0005
K-D	mg/L		4.40	9.41	3.42	8.40	2.76	5.23	3.27	2.39	2.23	1.45
S-D	mg/L		3.0	8	1.5	8	51.2	68	68.1	3.4	13.6	11.9
Sb-D	mg/L	0.2	0.0005	0.00125	0.00025	0.00125	0.00025	0.00125	0.00025	0.00025	0.00025	0.00025
Se-D	mg/L	0.01	0.00010	0.00025	0.00081	0.00025	0.00005	0.00025	0.00005	0.00005	0.00046	0.00005
Si-D	mg/L		3.01	4.07	4.55	3.73	3.27	5.57	6.13	3.71	3.60	4.08
Sr-D	mg/L		0.461	2.18	0.430	6.53	0.501	1.49	0.409	0.395	0.484	0.257
Tl-D	mg/L	0.003	0.000010	0.000025	0.000005	0.000098	0.000005	0.000025	0.000005	0.000020	0.000005	0.000005
Ti-D	mg/L	1	0.005	0.0125	0.0025	0.0125	0.0025	0.0125	0.0025	0.0025	0.0025	0.0025
U-D	mg/L	3	0.00010	0.00025	0.00005	0.00025	0.00005	0.00025	0.00005	0.00033	0.00005	0.00012
V-D	mg/L		0.005	0.0125	0.0025	0.0125	0.0025	0.0125	0.0025	0.0025	0.0025	0.0025
Zn-D	mg/L	*	0.005	0.0125	0.0025	0.0125	0.0025	0.0125	0.0025	0.0025	0.0025	0.0025
H2SEquiv	mg/L	0.02	0.0510	0.0553	0.170	0.00340	0.0861	15.9	0.191	0.0882	0.0840	0.415

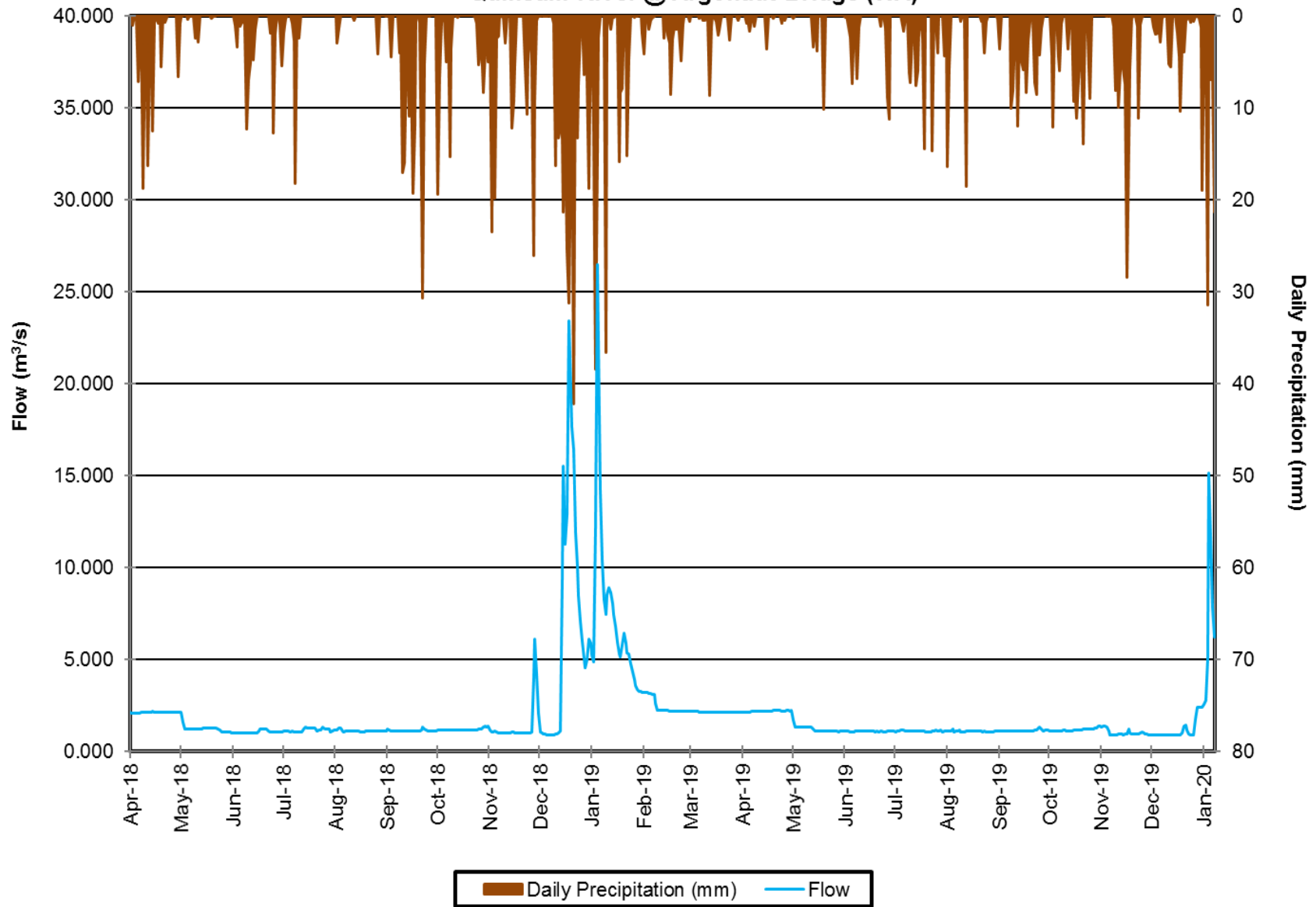
Table 53
Q3 Report 2019

In-situ																				
Date Parameter	Area Well No. Units	2-North Mine Pool					7-South Mine Pool					5-South Mine Pool	2-South Mine Pool				3-South Pit	River Barrier Pillar		
		1M2N 18-Nov-19	1M2N 4-Dec-19	5M#2 18-Nov-19	5M#2 4-Dec-19	QU1013D 31-Dec-19	1M7S 4-Dec-19	7SPS 1-Oct-19	7SPS 6-Nov-19	7SPS 4-Dec-19	QU1410 20-Nov-19	55MW 10-Dec-19	QU11-11 1-Oct-19	QU11-11 6-Nov-19	QU11-11 4-Dec-19	MW004 5-Dec-19	MW002 5-Dec-19	QU1101D 23-Dec-19	QU1109M 18-Dec-19	242MW 10-Dec-19
SO4-D	mg/L	290	490	160	170	330	350	810	300	280	1800	220	580	600	630	210	1200	1400	650	40
S2-T	mg/L					0.0009					0.0009	0.027					0.0009	0.009	0.048	0.0027
Cond-F	uS/cm																			
pH-F	pH Units																			
Turb	NTU	11	30	2.8	2.5		200				19	11					39	500	85	110
Alk-T	mg/L	420	420	500	480	510	50	0.5	63	80	290	400		250	270			100	460	90
Acidity83	mg/L	10.9	4.7	9.1	2.0	0.5	9.8	161	17.4	4.3	19.1	13.9		15.1	11.1		12.7	196	4.3	12.8
N-D	mg/L					0.274					0.487	0.458					0.224	0.525	0.353	0.190
DOC	mg/L										1.9	2.5					0.91		1.2	0.94
Hydrox	mg/L	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5			0.5	0.5	0.5
Bicarb	mg/L	520	510	610	560	610	62	0.5	77	97	360	490		310	330			130	560	110
Carb	mg/L	0.5	0.5	0.5	12	7.2	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5			0.5	0.5	0.5
Cl-D	mg/L		21		12	68	1.2				5.8	14				0.5	2.2	2.2	49	1.6
F-D	mg/L		0.14		0.064	0.16	0.025				0.17	0.20				0.075	0.130	0.390	0.12	0.096
Br-D	mg/L		0.098		0.023	0.15	0.099				0.25	0.043				0.040	0.18	0.25	0.18	0.005
P-D	mg/L										0.0031	0.0015						0.0015		0.010
TSS	mg/L							14.0	30.4	30.0					10.8					
Al-D	mg/L	0.0015	0.0015	0.0015	0.0015	0.0015	0.0048	1.13	0.0033	0.0077	0.0075	0.0056	0.0015	0.0015	0.0046	0.0033	0.0075	0.0075	0.0015	0.0064
Ag-D	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.00005	0.000010	0.000010	0.000010	0.000010	0.000010	0.00005	0.00005	0.000010	0.000010
As-D	mg/L	0.0233	0.0108	0.00465	0.00525	0.00070	0.00054	0.00077	0.00078	0.00059	0.0905	0.00537	0.00491	0.00511	0.00541	0.00020	0.00186	0.101	0.00250	0.0670
Ba-D	mg/L	0.0524	0.0321	0.0339	0.0345	0.0247	0.0154	0.0326	0.0220	0.0164	0.0157	0.0433	0.0227	0.0230	0.0257	0.0255	0.0146	0.0125	0.0133	0.0669
B-D	mg/L	1.03	0.964	0.808	0.800	1.20	0.062	0.179	0.061	0.057	1.20	0.992	0.744	0.637	0.736	0.207	0.77	1.12	0.849	0.077
Be-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00036	0.00005	0.00005	0.00025	0.00005	0.00005	0.00005	0.00005	0.00005	0.00025	0.00025	0.00005	0.00005
Bi-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0025	0.0005	0.0005	0.0005	0.0005	0.0005	0.0025	0.0025	0.0005	0.0005
Cd-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.000063	0.000295	0.000057	0.000039	0.000025	0.000005	0.000005	0.000005	0.000005	0.000005	0.000025	0.000025	0.000005	0.000005
Ca-D	mg/L	85.1	97.8	60.2	64.6	49.8	104	179	119	91.4	511	55.2	221	213	233	119	468	372	78.0	42.6
Cr-D	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0017	0.0005	0.0005	0.0025	0.0005	0.0005	0.0005	0.0005	0.0005	0.0025	0.0025	0.0005	0.0005
Co-D	mg/L	0.00010	0.00010	0.00010	0.00023	0.00010	0.0117	0.0525	0.0148	0.00702	0.0005	0.00053	0.00034	0.00071	0.00117	0.00010	0.0036	0.0005	0.00010	0.00223
Cu-D	mg/L	0.00010	0.00010	0.00022	0.00010	0.00069	0.00132	0.0668	0.00010	0.00042	0.0005	0.00031	0.00010	0.00010	0.00010	0.00174	0.0005	0.0005	0.00010	0.00010
Fe-D	mg/L	2.07	2.60	0.460	0.448	0.0025	16.2	71.9	17.0	10.9	1.66	3.37	3.63	4.02	4.42	0.0025	3.84	190	5.58	12.2
Hard-D	mg/L	249	282	170	183	142	374	654	430	330	2040	170	613	592	643	351	1380	1160	227	121
Pb-D	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.0005	0.00010	0.00010	0.00010	0.00010	0.00010	0.0005	0.0005	0.00010	0.00010
Mg-D	mg/L	8.86	9.26	4.87	5.36	4.21	27.8	50.2	32.4	24.8	187	7.89	15.0	14.7	14.8	13.2	51.3	56.9	7.88	3.48
Mn-D	mg/L	0.243	0.280	0.105	0.114	0.0005	0.573	1.35	0.708	0.521	1.53	0.141	0.376	0.402	0.472	0.0021	1.54	3.00	0.158	0.788
Hg-D	mg/L	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000043	0.0000010	0.0000010	0.0000010		0.0000010		0.0000010	0.0000010	0.0000010	0.0000010
Na-D	mg/L	302	305	249	243	379	8.79	12.3	10.6	9.53	55.4	244	128	123	118	30.2	76.0	128	420	3.29
Mo-D	mg/L	0.0020	0.0005	0.0039	0.0005	0.0023	0.0018	0.0005	0.0005	0.0015	0.0025	0.0422	0.0005	0.0005	0.0005	0.0005	0.0025	0.0025	0.0041	0.0005
Ni-D	mg/L	0.0029	0.0005	0.0005	0.0005	0.0005	0.0198	0.0882	0.0249	0.0126	0.0025	0.0011	0.0005	0.0013	0.0020	0.0013	0.0025	0.0025	0.0005	0.0018
K-D	mg/L	4.37	4.44	2.58	2.70	3.59	0.985	2.33	1.15	1.01	7.77	5.07	1.96	1.87	1.89	1.52	5.05	6.73	4.55	0.521
S-D	mg/L	150	159	53.5	58.0	104	113	263	130	89.1	645	88.3	211	196	220	105	434	511	224	12.1
Sb-D	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00125	0.00025	0.00025	0.00025	0.00025	0.00025	0.00125	0.00125	0.00025	0.00025
Se-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00017	0.00005	0.00005	0.00025	0.00005	0.00005	0.00005	0.00005	0.00005	0.00025	0.00025	0.00005	0.00005
Si-D	mg/L	3.77	3.66	3.50	3.42	3.21	6.48	7.51	6.39	5.49	3.35	3.19	3.07	2.87	3.38	3.02	3.69	5.76	2.97	3.58
Sr-D	mg/L	0.919	1.10	0.618	0.722	0.571	0.415	0.720	0.481	0.336	4.48	0.811	2.08	2.01	2.18	0.939	3.98	2.12	0.994	0.0861
Tl-D	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000027	0.000005	0.000005	0.000025	0.000005	0.000005	0.000005	0.000005	0.000005	0.000025	0.000025	0.000005	0.000039
Ti-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0125	0.0025	0.0025	0.0025	0.0025	0.0025	0.0125	0.0125	0.0025	0.0025
U-D	mg/L	0.00005	0.00005	0.00005	0.00005	0.00018	0.00019	0.00111	0.00018	0.00024	0.00095	0.00005	0.00005	0.00005	0.00005	0.00005	0.00025	0.00025	0.00005	0.00005
V-D	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0125	0.0025	0.0025	0.0025	0.0025	0.0025	0.0125	0.0125	0.0025	0.0025
Zn-D	mg/L	0.0067	0.0025	0.0025	0.0025	0.0025	0.0378	0.174	0.0374	0.0227	0.0125	0.0025	0.0025	0.0025	0.0025	0.0176	0.0125	0.0125	0.0025	0.0025
H2SEquiv	mg/L					0.000957					0.000957	0.0287					0.000957	0.00957	0.0510	0.00287

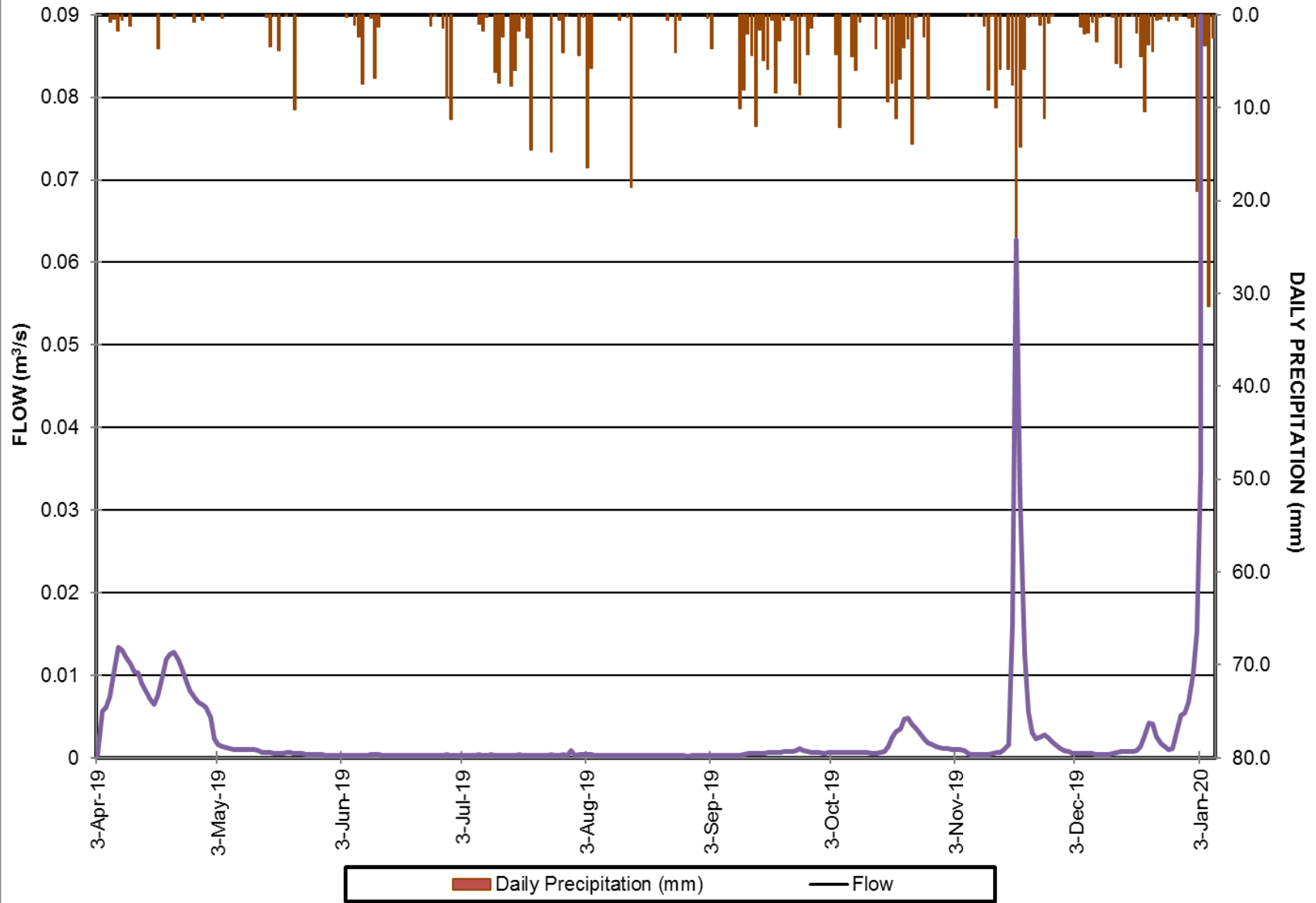
Table 54
Q3 Report 2019

Date	2S Inflow Flow Rate (L/s)			2S Outflow Culvert into 3S Pit Flow Rate (L/s)		
	Oct.	Nov.	Dec.	Oct.	Nov.	Dec.
1	0.638	0.242	1.044	9.807	13.176	13.176
2	0.562	0.187	1.961	9.501	11.759	12.813
3	0.526	0.180	3.922	9.807	11.252	13.545
4	2.366	1.667	6.880	9.962	11.588	19.347
5	1.194	4.008	6.780	10.118	11.252	20.041
6	0.932	2.429	8.486	9.807	11.588	51.972
7	1.894	2.606	9.050	10.435	11.931	26.669
8	1.267	2.693	8.767	9.962	9.962	26.394
9	0.194	3.680	7.193	10.595	16.089	25.308
10	0.096	3.321	3.382	9.962	18.221	23.472
11	0.086	3.470	1.965	9.653	16.089	17.782
12	0.192	5.280	3.943	9.350	20.989	19.347
13	0.169	3.673	3.821	9.807	19.808	18.892
14	0.101	3.624	3.625	10.435	17.782	20.275
15	0.398	6.129	3.590	10.276	22.962	17.782
16	2.428	7.853	3.680	9.350	25.040	19.118
17	3.653	19.670	6.758	11.759	59.670	20.275
18	3.656	6.641	10.368	11.588	49.545	52.383
19	2.971	4.971	8.115	12.813	35.411	52.383
20	2.021	8.180	7.196	13.359	31.009	29.227
21	3.242	12.938	6.661	15.279	36.069	29.227
22	2.037	11.838	6.322	21.716	36.733	26.394
23	1.355	11.466	6.108	17.350	34.439	24.511
24	4.846	10.693	5.932	15.279	38.083	25.577
25	5.031	5.805	5.987	30.408	33.799	24.249
26	3.105	1.543	4.605	22.210	40.871	23.472
27	2.193	1.279	3.988	17.350	41.228	30.110
28	2.198	1.050	4.580	16.712	15.279	30.707
29	1.995	1.049	4.972	15.479	14.687	31.312
30	1.309	1.005	4.700	10.595	13.919	28.359
31	0.369		7.406	13.545		25.308

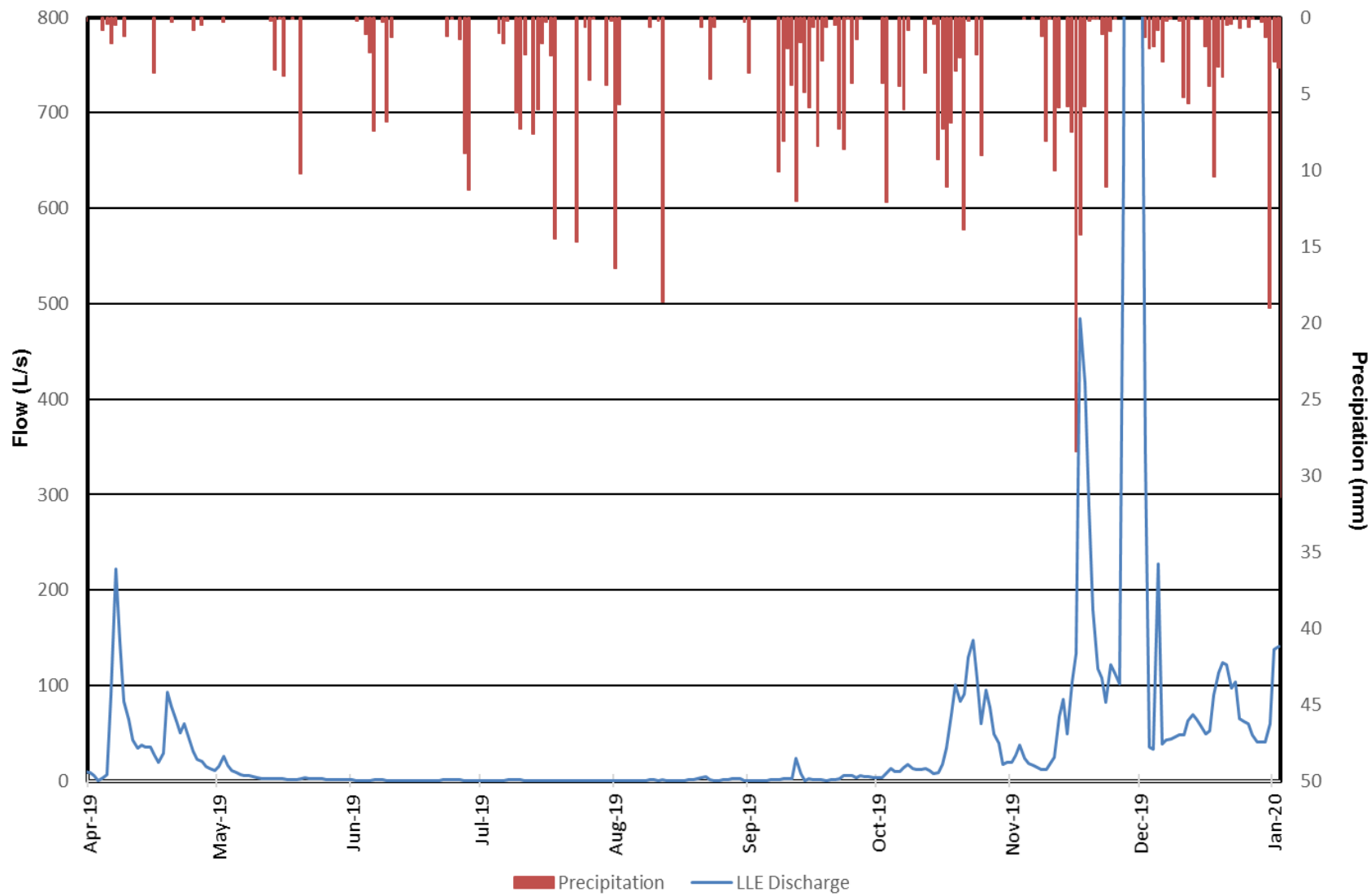
GRAPH 1
FLOW & PRECIPITATION
Quinsam River @ Argonaut Bridge (WA)



GRAPH 2
FLOW VS PRECIPITATION
WB



GRAPH 3
DISCHARGE vs PRECIPITATION
Long Lake Entry - LLE



GRAPH 4
DISCHARGE vs PRECIPITATION
Long Lake Seep Middle - LLSM

