

Quinsam Coal Corporations Quarterly Report (July 1 - September 30)

For Effluent Permit PE: 7008
Environmental Department

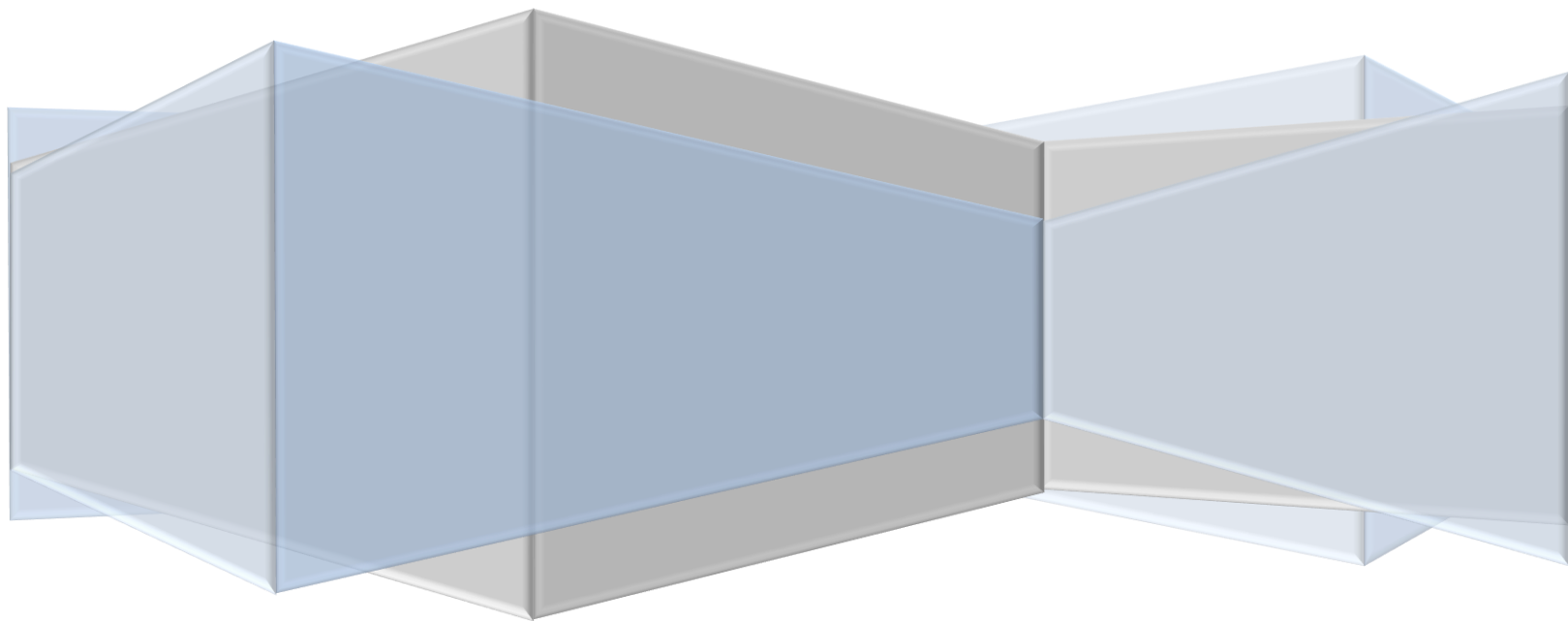


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SUMMARY OF EVENTS FOR THE SECOND QUARTER:

This quarter the mine site was operated by two different companies at different periods. These two companies include Price Waterhouse Copper (PWC) and the Bowra Group Inc. (Bowra).

PWC, the Trustee during the bankruptcy of Quinsam Coal Corporation (QCC) was managing the mine site until July 31st. On July 31st PWC abandoned the site. As a result, of these actions Ministry of Energy Mines and Petroleum Resources (MEMPR) appointed Bowra, as the Receiver of the Quinsam Coal mine site in order to maintain the health, safety and environment.

The mine site remains in a status of “*care and maintenance*” continuing to maintain the health, safety and environment during this time.

During the 2nd Quarter (Summer 2019), the receiving environment monitoring program for both lakes and river/stream stations was completed. There were a number of non-compliances related to non-payment with the analytical laboratory, consequently only 4 weeks of laboratory results have been released for the quarter. Accordingly, the average of 5 weeks of receiving environment results could not be compared to chronic British Columbia Water Quality Guidelines for Protection of Aquatic Life (WQG). Appendix I, Table 3 displays those parameters observed to be above acute WQG occurring in the receiving environment and include:

- total arsenic and
- total & dissolved iron

All permitted parameters were below permit limits at all authorized discharge points (Settling Pond #1, Settling Pond #4 and 7SSD), except one Total Suspended Solids (TSS) sample at Settling Pond #1 where beaver activity resulted in elevated TSS. This was not reported as a spill or a permit non-compliance.

Quarterly monitoring was performed for groundwater quality, effluent and in-mine releases. All other environmental sampling and obligations pertaining to permit PE-7008 was completed.

The ex-situ groundwater wells are those wells outside of the mine pool that have the potential to impact aquatic life. These wells are compared to British Columbia Contaminated Sites Regulations – Freshwater Aquatic Life Schedule 6 (CSR-AW). Those parameters that exceeded the regulations include dissolved arsenic, sulphate and sulphide as hydrogen sulphide (H₂S). Exceedances are displayed in Table 4.

In addition to the aforementioned monitoring, the Quinsam Environmental Department conducted routine inspections and completed any required maintenance of the water management structures.

A list of monitoring locations and associated EMS identities is available in Appendix I, Table 1 and Table 2 lists the permit non-compliances for Q2. Table 3 displays a summary of those parameters that exceeded the guidelines throughout the quarter. Appendix I, displays all water

quality results and Charts display the hydrographs pertaining to Quarter 2, July 1st, 2019 through September 30th, 2019. Some of data could not be downloaded this quarter due to technical issues but will be retrieved once corrected. These sites include IR8 and 2-South Outflow. The data will be included in next quarters report.

1.0 NON-COMPLIANCE EVENTS

There were no reportable spills or parameters outside of the PE 7008 permit limits in Q2, except for the one elevated TSS sample (27.6 mg/L), resultant of beaver activity at Settling Pond #1 on September 25, 2019.

Results that were not released from the laboratory include the first week of receiving environment sampling.

JobNo	Company	Sample Receive Date	Project	Reason
B962440	PwC Inc. trustee of the estate of Quinsam Coal Corp	31-07-2019	WEEKLY-SURFACE	Report not available awaiting payment confirmation.
B962453			LAKES	
B962480			LAKES	
B962481			LAKES	
B962483			LAKES	
B962530			Iron River	
B962572			Quinsam River	

SUMMARY OF PERMIT LIMIT EXCEEDANCES & PERMIT NON-COMPLIANCES Q2 2019							
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	TSS	27.6	Daily Composite	25-Sep-19	Beaver had clogged the decant riser. Water was turbid.	1
E292130- South end water entering Long Lake (LLE)	PNC	Metals (total and dissolved), Nutrients, TSS, alkalinity and acidity.	No Results	Monthly	September	Beaver Clogged Culvert	(1/3) monthly samples.
Biological Monitoring on all lakes	PNC	Zooplankton, Chlorophyll A, Phytoplankton	No Results	Once per sampling event	Summer	No payment was recieved from Trustee	
Week 1 of receiving environment sampling all sites: 1R1, IR8, IR6, 7SQ, LLO, NNO, IRQR, QRDS1, WA, WB, LLM (1, 4, 9, B), NNL (1, 4, 9, B), MQL (1,4,9, B) & LQL (1,4,9,B)	PNC	All parameters	No Results	5 weeks	July 29, July 30, 31	No payment was recieved from Trustee	1 out of 5 weekly samples
Lakes Depth Profiling		All Parameters	No Results at this time	5 weeks	July - August	Ipad requires repair before data can be retrieved	5 out of 5 weeks

2.0 Water Management Systems

2.1 NORTH WATER MANAGEMENT – SEDIMENTATION POND 4 (WD)

Measured discharge at Settling Pond # 4 occurred for 44 days during this quarter; the average flow rate was estimated above the threshold for composite TSS sampling (daily max flow above 0.054 m³/s) for 22 days this quarter from September 9th through 30th. July and August recorded the lowest average quantity discharged, mostly resulting in zero discharge.

From July through September 9th almost all water from WD was pumped to the plant and discharged back into the 2-North PAG-CCR Pond (WP). This decreased the discharge from WD and maintained a water cover over the WP during times of low precipitation.

All parameters permitted at WD remained below permit limits. Sulphate concentrations averaged 696 mg/L; TSS remained low with most samples below detection limits of 4.00 mg/L, and pH remained neutral.

2.2 SOUTH WATER MANAGEMENT - SEDIMENTATION POND 1 (SPD)

Discharge occurred from September 9th through 30th (21 days) during this quarter from SPD as a result of low water levels and beaver activity blocking the decant. The gate valve line directing water from 3South pit back to 2South pit was toggled on September 7th directing water to SPD.

All permitted parameters applied to SPD discharge were sampled from the ponded water and remained below permit limits except one TSS sample as explained earlier. Sulphate concentrations averaged 289 mg/L, TSS remained mostly below detection limits in most samples, pH remained neutral.

2.3 7-SOUTH (7SSD) WATER MANAGEMENT

Discharge did not occur during Q2 at 7SSD. During spring, fall and winter the sedimentation pond outflow is controlled by pumping water accumulated in the pre-settling pond to the 7-South Portal Sump. This procedure reduces discharge, decreasing the overall parameter loading and the potential for adverse aquatic impact in the receiving environment; as the biological availability for parameters of concern is much lower than under constant discharge conditions. Pumping to the 7-South Portal Sump did not occur during this quarter as there was limited precipitation received.

Monthly samples were obtained from the ponded water (7SSD). This quarter, the corresponding downstream receiving environmental sites 7S and Lower Wetland Outlet were dry.

3.0 RECEIVING ENVIRONMENT WATER QUALITY

Preamble – Water Hardness

For the purposes of this report, the water quality guideline(s) (WQG) for hardness dependent parameters has been derived using the most conservative approach or background values (i.e. monitoring location WA or IR1 hardness ~30mg/L). Quinsam Coal has adopted this approach to provide a conservative comparison of receiving environment water quality.

The average hardness concentration is calculated for the 5 in 30 sampling events (i.e. summer), resulting in dynamic WQG concentrations. For the summer sampling season an average hardness of 30 mg/L was used to derive the hardness dependent guidelines for simplicity purposes for both the Quinsam River and the Iron River.

The table below summarizes the parameters above Chronic Provincial water quality guidelines for all sites this quarter. This table is also available in Appendix I, Table 3.

3.1 LAKES

Lake sampling commenced July 28th following the 5 samples in 30 days approach. This program included No Name Lake (NNL), Long Lake (LLM), Middle Quinsam Lake (MQL) and Lower Quinsam Lake (LQL). Appendix 1 displays the water quality results compared to guidelines. Only 4 weeks of data was received from the analytical laboratory due to payment issues. Therefore, results were only compared to chronic guidelines.

Table 1: Summary of Water Quality Guideline Observation for Lakes

SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT RECEIVING MONITORING LOCATIONS							
EMS ID & Site Name	Site Code & Depth	Parameter (mg/L, pH units)	Guideline Limit	Result	Date	Guideline	Sampling Events Exceeding Guideline
E292118- Lower Quinsam Lake (LQL)	LQL 1MB	Fe-T	1.00	1.09	Sep. 28	M	1/5 weekly samples
	LQL 1MB	Fe-D	0.35	0.385, 0.419 & 0.397	Summer 5 in 30	M	3/5 weekly samples

Noteworthy observations resulting from the lake monitoring program include:

Sulphate concentrations

- The 4 weeks of measured sulphate results remained below the chronic water quality guideline (128 mg/L) on three lakes at all depths (NNL, MQL and LQL) and in Long Lake at 1 metre and 4 metre depths.
- Results ranged from 130 mg/L to 140 mg/L at 9 metres and 120 mg/L to 140 mg/L at 1 metre from bottom (1mb), respectively on Long Lake during summer sampling.

- There was very limited flow from LLE into Long Lake; and the Middle Seep (LLSM) flowed up until early July this year with the smaller seep (LLS) ceasing to flow in late August. The lake 1 metre and 4 metre depths displayed sulphate concentrations ranging from 79 mg/L to 85mg/L (1m) and 74 to 87 mg/L (4m).
- All time low on surface than at depth on Middle Quinsam Lake ranging from 5.8 mg/L to 9.3 mg/L on surface at 1m and 4m and 49 mg/L to 63 mg/L at 9m and 1m from bottom.
- Higher at depth than on surface on Lower Quinsam Lake ranging from 13 mg/L to 17 mg/L at 1m and 4m and 17 mg/L to 25 mg/L at 9m and 1m from bottom. Indicating stratification and limited inflow and outflow.

Hypolimnetic Dissolved Oxygen and increased Iron

- In LQL at in the hypolimnion zone dissolved oxygen was depleted below 3 mg/L as a result exceedance of both total and dissolved iron were observed at the 1 metre from bottom depth.

3.2 STREAMS AND RIVERS

The 5 samples in 30 days receiving environment program at river and stream sites commenced July 29th. Appendix I, displays water quality results from this program compared to acute water quality guidelines for the Middle Quinsam Lake Sub-basin and Iron River as a result of only 4 weeks of results available for the rivers.

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),
- Quinsam River Downstream 1 (QRDS1),
- 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 Mining Operations (IR1),
- Iron River Upstream of 242 and 7-South Area 5 development (IR6), and
- Iron River downstream of mine influence (IR8)

While monitoring location LLE is considered the initial dilution zone (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.

Table 2: Summary of Water Quality Guideline Observations at Receiving Environment Monitoring Locations, Initial Zone of Dilution Site and Long Lake Seeps

SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT RECEIVING MONITORING LOCATIONS							
EMS ID & Site Name	Site Code & Depth	Parameter (mg/L, pH units)	Guideline Limit	Result	Date	Guideline	Sampling Events Exceeding Guideline
E297232 - Iron River Upstream of 7SA5 (IR8)	IR8	As-T	0.005	0.01	Aug. 26	M	1/5 Summer 5 in 30
E292131- Long Lake Seep (LLS)	LLS	Fe-T	1.00	1.25 & 1.41	Jul and Aug	M	2/2 Monthly samples
		Fe-D	0.35	1.33 & 1.17			
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.							

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

- The water quality at most river and stream stations remained below guideline levels during the sampling events; exceedances occurred at IR8.
- Sulphate concentrations at LLE were elevated during all sampling events due to extremely low flow in summer.
- Average concentrations of total arsenic were elevated in the Iron River (IR8) above the average guideline of 0.005 mg/L during summer low flow.
- Iron was elevated at the Long Lake Seep, smaller seep (LLS). The smaller seep is difficult to sample due to the low flow and location of the monitoring site and build up of iron in the sediment. This contributes to elevated iron concentrations during sample collection.

4.0 GROUNDWATER

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

- In-situ: groundwater wells located within the mine workings (disturbance footprint) and therefore represent water accumulated within the mining void. In the absence of groundwater well samples, underground sump samples are used for comparison.

- Ex-situ: groundwater wells located outside the mine workings (disturbance footprint) which reflect water quality flowing from the mine void towards the receiving environment. This also includes baseline and background (up-gradient of workings) groundwater wells.

The groundwater wells outside the mine footprint (ex-situ) are compared to the British Columbia Contaminated Site Regulation (CSR) (BC reg.37/96. O.C. 1480/96), including the amendments (343/2008 January 1, 2009) describing water quality standards for fresh water Aquatic Life (AW). The aquatic life standard assumes that a minimum 1:10 dilution is available for groundwater discharged to a freshwater system; together, they are referred to as CSR-AW.

Table 3 below lists the groundwater wells and sumps monitored during Q2.

Table 3: List of Groundwater Wells & Underground Sumps Monitored in Quarter 2

Area	Ex-situ	In-situ
7- South	QU08-13 A	QU14-10, 1Mains 7-South (1M7S)
River Barrier Pillar	QU11-09 S	QU11-09 M
2-North	QU08-21 GS & GD MW001 D MW006 S&D	1 Mains 2-North (1M2N), 5 Mains #2 (5M#2), 3 Mains 2-North (3M2N) and QU10-13 D
2-3 South		MW00-4, QU11-11 and MW00-2
4S Area	QU10-09 S & D	
242 Area		242MW

Table 4: Summary of Ex-situ Groundwater Well Observations Compared to CSR-AW Standards in Q2

		Site Location	2N		2N		2N		4S		4S		4S		7S		5S	
			Ex-situ		Ex-situ		Ex-situ		Ex-situ		Ex-situ		Ex-situ		Ex-situ		Ex-situ	
Groundwater Q2		Groundwater Well	QU0821D		QU0821S		QU0821D		QU1009S		QU1009D		QU1009D		QU0813A		QU1109S	
Received Date From	2019/07/01	BV Labs Job #	B974776		B974776		B974776		B974802		B974802		B974802		B963465		B968040	
Received Date To	2019/09/30	Sample ID	QU0821D-3SEPT19-		QU0821S-3SEPT19-		QU0821D-3SEPT19-		QU1009S-5SEPT19-		QU1009D-5SEPT19-		QU1009D-5SEPT19-		QU0813A-31JUL19-		QU1109S-15AUG19-	
Projects	GROUNDWATER	BV Labs Sample ID	WL1627		WL1628		WL1629		WL1743		WL1744		WL1745		WF4676		WH7272	
Criteria 1	BC CSR Aquatic Life 2019 - LOW	Sampled By	BH		BH		BH		BH		BH		BH		BH		BH	
		Sampling Date	2019-09-03		2019-09-03		2019-09-03		2019-09-05		2019-09-05		2019-09-05		2019-07-31		2019-08-15	
Parameter Name	Criteria 1	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Dissolved Arsenic (As)	0.05	mg/L	0.231	0.0002	0.125	0.001	0.232	0.0002	0.0921	0.0001	0.122	0.0001	0.122	0.0001	0.371	0.0001	0.142	0.0001
Sulphide (as H2S)	0.02	mg/L	0.024	0.002	0.058	0.002	0.013	0.002	0.012	0.002	0.13	0.002	0.12	0.002	0.2	0.002	0.44	0.006
Bold & Red	Applies to Ex-situ Groundwater																	

Noteworthy observations resulting from the ex-situ groundwater monitoring program include:

- Arsenic was elevated above the CSR-AW (0.05 mg/L) in the groundwater from 7-South, 2-North, 4-South and River Barrier Pillar (RBP/ 5S). This is due to the geological features and elevated arsenic found in the host rock geology *i.e.* Dunsmuir Sandstones.
- Hydrogen sulphide was observed to be elevated above CSR-AW (0.02 mg/L) in 7-South, 2-North and 5S / RBP. Indicating the groundwater has low redox conditions.

5.0 LONG LAKE SEEP TREATMENT (LLST) SYSTEM AND 2-SOUTH PIT:

The effluent from the treatment system pond, Sulphide Polishing Cell (SPC-EFF) was directed into the 2-South PAG-CCR facility in order to maintain a 1.5 metre water cover over the PAG-CCR during times of low precipitation. The 2-South Inflow (2SI) monitoring location has been included in this quarter's data since this has occurred. Weekly and monthly sampling represents the location where (SPC-EFF) enters the pit. All monitoring results from the 2-South mine pool (INF),BCR-EFF, SPC-EFF and 2SI are displayed in Appendix I, including water quality monitored within 2-South pit and 3-South pit.

The treatment system discharge is continuous flow through 2SI to 2S to 3S and by opening agate valve water is directed back into 2-South pit from 3-South Pit or in the fall water is directed to Settling Pond #1 from 3-South pit. During spring and summer, the Treatment system discharge, 2 South and 3 South pits are on a closed loop circuit, reducing discharge at SPD.

All mine released water remains within the authorized works and continues to meet permit limits.

8.0 QUALITY ASSURANCE QUALITY CONTROL

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

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

CONCLUSION

Quinsam Coal is dedicated to reducing the environmental impacts as a result of mining on the environment. Overall, there were few provincial water quality guideline exceedances on site and in the receiving environment this quarter. 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 if you have any questions or comments.

Sincerely,

Kathleen Russell BSc.
Environmental Coordinator



Quinsam Coal

Ph: (250) 286-3224 ext. 225

E-mail: kathleenrussell@quinsam.com

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2	EMS ID #	Monitoring Sites	Abbreviation (Station Code)	*Type of Water (MW, FW or GW)
3	North Coal Mining Operation			
4	E207409	Settling Pond #4 Decant	WD	Discharge (MW)
5	E207411	Culvert, at Middle Quinsam Lake Road	WC	MW & FW
6	E283433	2-North Portal Sump (Adit Sump)	2NPS	MW
7	E207412	2-North Pit Sump CCR Cover	WP	PAG-CCR Water Cover - MW
8	E292126	South Dyke Sump	SDS	MW
9	South Coal Mine			
10	E218582	Settling Pond #1 Decant	SPD	Discharge (MW)
11	E217014	Culvert, Downstream End at Access Road	SPC	MW & FW
12	E217015	South Pit Main Sump Water	3S	PAG-CCR Water Cover (MW & FW)
13	E292127	2-South Pit In Pit Water Cover (2-South Standpipe)	2S	PAG-CCR Water Cover (MW & FW)
14	E292128	1977 Bulk Sample Pit	3S77	MW & FW
15	E292129	Culvert Downstream of 4 South Access Road	4S-Lo	MW & FW
16	7-South Mining Operation			
17	E292069	7-South Surface Decant	7SSD	Discharge (MW & FW)
18	E292110	7-South Adit Sump	7SPS	MW
19	Seep Monitoring Sites			
20	E292131	Long Lake Seeps	LLS & LLSM	MW
21		Small seep near the plant (PDS) & groundwater surface near road entering MQL (PDSR)	PDS & PDSR	GW & MW
22	Receiving Environment Monitoring Sites - Initial Zone of Dilution (IDZ)			
23	Initial Dilution Zone (IDZ) Monitoring Sites			
24	E292130	Long Lake Entrance (South end water entering Long Lake)	LLE	IDZ
25	E292109	Road Crossing Bridge on Stream 1 above the Lower Wetland (Downstream of 7SSD).The site name is Stream 1, 7S.	7S	IDZ
26	Receiving Water (Streams & Lakes Monitoring Sites) 5 in 30 Monitoring Locations			
27	North Coal Mining Operation			
28	E0126402	Quinsam River at Argonaut Road	WA	FW
29	E206618	Middle Quinsam Lake Centre	MQL (1, 4, 9 & 1m from Bottom)	FW
30	E0900504	Outflow from Middle Quinsam Lake	WB	FW
31	South Coal Mine			
32	E217018	No Name Lake	NNL (1, 4, 9 & 1m from Bottom)	FW
33	E217017	No Name Lake Outlet	NNO	FW
34	E206619	Long Lake at Centre	LLM (1, 4, 9 & 1m from Bottom)	FW
35	E219412	Long Lake Outlet	LLO	FW
36	7-South Mining Operation (Areas 1 to 4)			
37	E286930	Quinsam River Upstream of 7-South Mining Operation	QRDS1	FW
38	E292113	Quinsam River Downstream of 7-South Mining Operation	7SQR	FW
39	E292112	Lower Wetland Outlet at the confluence of the Quinsam River	LWO	FW
40	E292118	Lower Quinsam Lake Centre	LQL (1, 4, 9 & 1m from Bottom)	FW
41	7-South (Proposed) Area 5 Mining Operation			
42	E297230	Iron River upstream of mining operations	IR1	FW
43	E297231	Iron River upstream of 7SA5	IR6	FW
44	E297232	Iron River downstream of 7SA5 and 242 inputs	IR8	FW
45	E299256	Quinsam River downstream of confluence with Iron River	IRQR	FW
46	E292118	Lower Quinsam Lake Centre	LQL (1, 4, 9 & 1m from Bottom)	FW
47	Block 242 Mining Operation (Reclaimed / Not Monitored)			
48	E225798	Iron River upstream of the 242 influence	Not Monitored	FW
49	E225808	Iron River downstream of the 242 influence	Not Monitored	FW
50	N/A	Old portal sump used for collection of water from underground	Reclaimed	FW / GW
51	Long Lake Seep Passive Treatment System			
52	N/A	Groundwater well (2-South Mine Pool) influent to the treatment system	QU11-11 (INF-EFF)	MW
53	N/A	Bio Cell Reactor	BCR-EFF	MW
54	N/A	Sulphide Polishing Cell	SPC-EFF	MW
55	N/A	2-South Inflow	2SI	MW
56	Authorization to Bypass the Works			
57	* MW= Mine Water, FW= Freshwater, GW =Groundwater IDZ = Intial Dilution Zone			

Table 2

SUMMARY OF PERMIT LIMIT EXCEEDANCES & PERMIT NON-COMPLIANCES Q2 2019							
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	TSS	27.6	Daily Composite	25-Sep-19	Beaver had clogged the decant riser. Water was turbid.	1
E292130- South end water entering Long Lake (LLE)	PNC	Metals (total and dissolved), Nutrients, TSS, alkalinity and acidity.	No Results	Monthly	September	Beaver Clogged Culvert	(1/3) monthly samples.
Biological Monitoring on all lakes	PNC	Zooplankton, Chlorophyll A, Phytoplankton	No Results	Once per sampling event	Summer	No payment was recieved from Trustee	
Week 1 of receiving environment sampling all sites: 1R1, IR8, IR6, 7SQR, LLO, NNO, IRQR, QRDS1, WA, WB, LLM (1, 4, 9, B),>NNL (1, 4, 9, B), MQL (1,4,9, B) & LQL (1,4,9,B)	PNC	All parameters	No Results	5 weeks	Juy 29, July 30, 31	No payment was recieved from Trustee	1 out of 5 weekly samples
Lakes Depth Profiling		All Parameters	No Results at this time	5 weeks	July - August	Ipad requires repair before data can be retrieved	5 out of 5 weeks

Table 3

SUMMARY OF WATER QUALITY GUIDELINE OBSERVATIONS AT RECEIVING MONITORING LOCATIONS							
EMS ID & Site Name	Site Code & Depth	Parameter (mg/L, pH units)	Guideline Limit	Result	Date	Guideline	Sampling Events Exceeding Guideline
E292118- Lower Quinsam Lake (LQL)	LQL 1MB	Fe-T	1.00	1.09	Sep. 28	M	1/5 weekly samples
	LQL 1MB	Fe-D	0.35	0.385, 0.419 & 0.397	Summer 5 in 30	M	3/5 weekly samples
E297232 - Iron River Upstream of 7SA5 (IR8)	IR8	As-T	0.005	0.01	Aug. 26	M	1/5 Summer 5 in 30
E292131- Long Lake Seep (LLS)	LLS	Fe-T	1.00	1.25 & 1.41	Jul and Aug	M	2/2 Monthly samples
		Fe-D	0.35	1.33 & 1.17			
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.							

Table 4

E207409													
Site Description		Permitted Decant for the North Mining Operation											
Site Name		WD											
Date		03-Jul-19	10-Jul-19	12-Aug-19	27-Aug-19	03-Sep-19	09-Sep-19	11-Sep-19	16-Sep-19	19-Sep-19	24-Sep-19	30-Sep-19	Permit Limit
Parameter	Unit	North											
SO4-D	mg/L	830	880	940	970	1000	840	-	340	390	390	380	-
TSS	mg/L	<4.0	<4.0	5.6	-	-	-	1.7	<4.0	<4.0	7.2	<4.0	25
Alk-T	mg/L	-	240	240	-	-	270	-	-	-	-	-	-
Acidity83	mg/L	-	7.0	1.1	-	-	4.3	-	-	-	-	-	-
Al-T	mg/L	-	-	0.0052	-	-	0.0096	-	-	-	-	-	-
As-T	mg/L	-	-	0.00093	-	-	0.00099	-	-	-	-	-	-
Ba-T	mg/L	-	-	0.0175	-	-	0.0165	-	-	-	-	-	-
B-T	mg/L	-	-	0.755	-	-	0.896	-	-	-	-	-	-
Cd-T	mg/L	-	-	<0.000010	-	-	<0.000010	-	-	-	-	-	-
Ca-T	mg/L	-	-	204	-	-	213	-	-	-	-	-	-
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	-	-	610	-	-	637	-	-	-	-	-	-
Fe-T	mg/L	-	-	0.095	-	-	0.110	-	-	-	-	-	-
Pb-T	mg/L	-	-	<0.00020	-	-	<0.00020	-	-	-	-	-	-
Mg-T	mg/L	-	-	24.5	-	-	25.2	-	-	-	-	-	-
Mn-T	mg/L	-	-	0.0408	-	-	0.0101	-	-	-	-	-	-
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	-	-	3.49	-	-	3.79	-	-	-	-	-	-
S-T	mg/L	-	-	295	-	-	315	-	-	-	-	-	-
Se-T	mg/L	-	-	<0.00010	-	-	<0.00010	-	-	-	-	-	-
Si-T	mg/L	-	-	4.68	-	-	4.24	-	-	-	-	-	-
Ag-T	mg/L	-	-	<0.0000020	-	-	<0.0000020	-	-	-	-	-	-
Na-T	mg/L	-	-	223	-	-	246	-	-	-	-	-	-
Sr-T	mg/L	-	-	1.66	-	-	1.76	-	-	-	-	-	-
Zn-T	mg/L	-	-	<0.0050	-	-	<0.0050	-	-	-	-	-	-
Al-D	mg/L	-	-	<0.0030	-	-	<0.0030	-	-	<0.0030	-	-	0.5
As-D	mg/L	-	-	0.00087	-	-	0.00081	-	-	0.00148	-	-	-
Ba-D	mg/L	-	-	0.0176	-	-	0.0156	-	-	0.0214	-	-	-
B-D	mg/L	-	-	0.783	-	-	0.837	-	-	0.810	-	-	-
Be-D	mg/L	-	-	<0.00010	-	-	<0.00010	-	-	<0.00010	-	-	-
Cd-D	mg/L	-	-	<0.000010	-	-	<0.000010	-	-	<0.000010	-	-	-
Ca-D	mg/L	-	-	207	-	-	202	-	-	106	-	-	-
Cr-D	mg/L	-	-	<0.0010	-	-	<0.0010	-	-	<0.0010	-	-	-
Co-D	mg/L	-	-	<0.00020	-	-	<0.00020	-	-	<0.00020	-	-	-
Cu-D	mg/L	-	-	0.00025	-	-	0.00025	-	-	0.00021	-	-	0.02
Hard-D	mg/L	-	-	619	-	-	601	-	-	311	-	-	-
Fe-D	mg/L	-	-	0.0268	-	-	0.0170	-	-	0.0095	-	-	0.3
Pb-D	mg/L	-	-	<0.00020	-	-	<0.00020	-	-	<0.00020	-	-	0.05
Mg-D	mg/L	-	-	24.7	-	-	23.6	-	-	11.0	-	-	-
Mn-D	mg/L	-	-	0.0230	-	-	0.0078	-	-	0.0174	-	-	-
Hg-D	mg/L	-	-	<0.0000020	-	-	0.0000040	-	-	<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	-	-	3.49	-	-	3.51	-	-	3.35	-	-	-
S-D	mg/L	-	-	298	-	-	289	-	-	144	-	-	-
Se-D	mg/L	-	-	<0.00010	-	-	<0.00010	-	-	<0.00010	-	-	-
Si-D	mg/L	-	-	4.49	-	-	4.04	-	-	3.03	-	-	-
Na-D	mg/L	-	-	225	-	-	242	-	-	262	-	-	-
Sr-D	mg/L	-	-	1.65	-	-	1.69	-	-	0.961	-	-	-
Zn-D	mg/L	-	-	<0.0050	-	-	<0.0050	-	-	<0.0050	-	-	0.1
O&G	mg/L	-	-	1.5	-	-	-	-	-	-	-	-	10

Table 5

EMS ID		E207412		
Site Description		2-North Pit Sump (WP) CCR Water Cover		
Site Name		WP		
Date		15-Jul-19	12-Aug-19	09-Sep-19
Parameter	Unit			
SO4-D	mg/L	760	740	790
TSS	mg/L	4.4	7.2	<4.0
Alk-T	mg/L	200	190	200
Acidity83	mg/L	<1.0	<1.0	<1.0
Al-T	mg/L	0.0214	0.0138	0.0057
As-T	mg/L	0.00081	0.00072	0.00206
Ba-T	mg/L	0.0182	0.0163	0.0169
B-T	mg/L	0.839	0.788	0.806
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	159	135	156
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	0.00021	<0.00020
Cu-T	mg/L	0.00088	0.00071	<0.00050
Hard-T	mg/L	489	425	479
Fe-T	mg/L	0.077	0.090	0.172
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	22.4	21.5	22.1
Mn-T	mg/L	0.0125	0.0195	0.0216
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	3.80	3.62	4.00
S-T	mg/L	278	265	310
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	3.16	2.62	3.15
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	266	256	275
Sr-T	mg/L	1.57	1.43	1.41
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0040	<0.0030	<0.0030
As-D	mg/L	0.00074	0.00064	0.00192
Ba-D	mg/L	0.0168	0.0162	0.0162
B-D	mg/L	0.831	0.816	0.854
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.0000050	<0.000010	<0.000010
Ca-D	mg/L	158	132	141
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00062	0.00048	0.00091
Hard-D	mg/L	491	419	442
Fe-D	mg/L	0.0180	0.0100	0.0477
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	23.3	22.1	21.8
Mn-D	mg/L	0.0073	0.0019	0.0116
Hg-D	mg/L	<0.0000020	<0.0000020	0.0000022
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	3.95	3.63	3.56
S-D	mg/L	301	273	269
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	2.85	2.50	2.84
Na-D	mg/L	275	264	267
Sr-D	mg/L	1.42	1.38	1.49
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 6

EMS ID		E283433		
Site Description		2-North Portal Sump Effluent		
Site Name		2NPS		
Date		15-Jul-19	12-Aug-19	09-Sep-19
Parameter	Unit			
SO4-D	mg/L	880	860	800
Alk-T	mg/L	300	310	270
Acidity83	mg/L	9.2	11.1	7.7
Al-T	mg/L	0.0243	0.0092	0.0516
As-T	mg/L	0.00108	0.00098	0.00125
Ba-T	mg/L	0.0136	0.0122	0.0139
B-T	mg/L	0.802	0.799	0.90
Cd-T	mg/L	<0.000010	<0.000010	<0.000020
Ca-T	mg/L	250	250	228
Cr-T	mg/L	<0.0010	<0.0010	0.0022
Co-T	mg/L	0.00081	0.00069	0.00102
Cu-T	mg/L	<0.00050	<0.00050	<0.0010
Hard-T	mg/L	729	731	671
Fe-T	mg/L	0.274	0.235	0.264
Pb-T	mg/L	<0.00020	<0.00020	<0.00040
Mg-T	mg/L	25.6	25.9	24.6
Mn-T	mg/L	0.239	0.193	0.231
Hg-T	mg/L	<0.0000020	<0.0000020	0.0000025
Mo-T	mg/L	<0.0010	<0.0010	<0.0020
Ni-T	mg/L	0.0020	0.0019	0.0030
K-T	mg/L	3.67	3.71	3.75
S-T	mg/L	307	314	313
Se-T	mg/L	<0.00010	<0.00010	<0.00020
Si-T	mg/L	3.11	3.25	3.12
Ag-T	mg/L	<0.000020	<0.000020	<0.000040
Na-T	mg/L	233	232	248
Sr-T	mg/L	1.88	1.85	1.70
Zn-T	mg/L	<0.0050	<0.0050	<0.010
Al-D	mg/L	0.0033	0.0063	0.0079
As-D	mg/L	0.00075	0.00073	0.00078
Ba-D	mg/L	0.0125	0.0117	0.0128
B-D	mg/L	0.798	0.82	0.816
Be-D	mg/L	<0.00010	<0.00020	<0.00010
Cd-D	mg/L	0.0000070	<0.000020	<0.000010
Ca-D	mg/L	285	244	215
Cr-D	mg/L	<0.0010	<0.0020	0.0017
Co-D	mg/L	0.00089	0.00069	0.00092
Cu-D	mg/L	0.00021	<0.00040	0.00035
Hard-D	mg/L	824	717	633
Fe-D	mg/L	0.0128	0.024	0.0132
Pb-D	mg/L	<0.00020	<0.00040	<0.00020
Mg-D	mg/L	27.1	25.8	23.2
Mn-D	mg/L	0.248	0.184	0.213
Hg-D	mg/L	0.0000024	<0.0000020	0.0000024
Mo-D	mg/L	<0.0010	<0.0020	<0.0010
Ni-D	mg/L	0.0021	<0.0020	0.0025
K-D	mg/L	3.89	3.61	3.62
S-D	mg/L	338	309	292
Se-D	mg/L	<0.00010	<0.00020	<0.00010
Si-D	mg/L	3.31	2.96	2.66
Na-D	mg/L	249	229	234
Sr-D	mg/L	1.74	1.70	1.61
Zn-D	mg/L	<0.0050	<0.010	<0.0050

Table 7

EMS ID		E207411			
Site Description		Culvert at Middle Quinsam Lake Road			
Site Name		WC			
Date		10-Jul-19	12-Aug-19	09-Sep-19	16-Sep-19
Parameter	Unit				
SO4-D	mg/L	650	680	660	
TSS	mg/L	4.8	<4.0	<4.0	<1.0
Al-T	mg/L		0.0052		
As-T	mg/L		0.00075		
Ba-T	mg/L		0.0241		
B-T	mg/L		0.893		
Cd-T	mg/L		<0.000010		
Ca-T	mg/L		120		
Cr-T	mg/L		<0.0010		
Co-T	mg/L		<0.00020		
Cu-T	mg/L		<0.00050		
Hard-T	mg/L		369		
Fe-T	mg/L		0.205		
Pb-T	mg/L		<0.00020		
Mg-T	mg/L		17.0		
Mn-T	mg/L		0.0591		
Hg-T	mg/L		<0.0000020		
Mo-T	mg/L		<0.0010		
Ni-T	mg/L		<0.0010		
K-T	mg/L		3.67		
S-T	mg/L		241		
Se-T	mg/L		<0.00010		
Si-T	mg/L		6.71		
Ag-T	mg/L		<0.000020		
Na-T	mg/L		253		
Sr-T	mg/L		1.32		
Zn-T	mg/L		<0.0050		
Al-D	mg/L		0.0036		
As-D	mg/L		0.00069		
Ba-D	mg/L		0.0239		
B-D	mg/L		0.912		
Be-D	mg/L		<0.00010		
Cd-D	mg/L		<0.000010		
Ca-D	mg/L		119		
Cr-D	mg/L		<0.0010		
Co-D	mg/L		<0.00020		
Cu-D	mg/L		0.00027		
Hard-D	mg/L		369		
Fe-D	mg/L		0.0903		
Pb-D	mg/L		<0.00020		
Mg-D	mg/L		17.4		
Mn-D	mg/L		0.0585		
Hg-D	mg/L		<0.0000020		
Mo-D	mg/L		<0.0010		
Ni-D	mg/L		<0.0010		
K-D	mg/L		3.67		
S-D	mg/L		238		
Se-D	mg/L		<0.00010		
Si-D	mg/L		6.35		
Na-D	mg/L		256		
Sr-D	mg/L		1.27		
Zn-D	mg/L		<0.0050		

Table 8

EMS ID		E218582									
Site Description		Settling Pond # 1 - Permitted Decant for South Mining Operation									
Site Name		SPD (SPD was not discharging until September 17)									
Date		10-Jul-19	06-Aug-19	12-Aug-19	27-Aug-19	03-Sep-19	09-Sep-19	19-Sep-19	23-Sep-19	30-Sep-19	Permit Limit-South
Parameter	Unit										
SO4-D	mg/L	230	290	270	320	280	260	300	330	320	-
TSS	mg/L	4.0	<4.0	4.4			<4.0	<4.0		<4.0	25
Alk-T	mg/L	71		94			92				-
Acidity83	mg/L	2.3		2.2			1.3				-
Al-T	mg/L			0.187							-
As-T	mg/L			0.00384							-
Ba-T	mg/L			0.0230							-
B-T	mg/L			0.218							-
Cd-T	mg/L			0.000012							-
Ca-T	mg/L			120							-
Cr-T	mg/L			<0.0010							-
Co-T	mg/L			0.00216							-
Cu-T	mg/L			0.00150							-
Hard-T	mg/L			369							-
Fe-T	mg/L			1.35							-
Pb-T	mg/L			<0.00020							-
Mg-T	mg/L			16.7							-
Mn-T	mg/L			0.271							-
Hg-T	mg/L			<0.0000020							-
Mo-T	mg/L			<0.0010							-
Ni-T	mg/L			0.0030							-
K-T	mg/L			1.64							-
S-T	mg/L			107							-
Se-T	mg/L			<0.00010							-
Si-T	mg/L			2.33							-
Ag-T	mg/L			<0.000020							-
Na-T	mg/L			20.3							-
Sr-T	mg/L			0.759							-
Zn-T	mg/L			0.0057							-
Al-D	mg/L			0.0034				0.0057			0.5
As-D	mg/L			0.00232				0.00101			-
Ba-D	mg/L			0.0210				0.0223			-
B-D	mg/L			0.218				0.243			-
Be-D	mg/L			<0.00010				<0.00010			-
Cd-D	mg/L			<0.000010				<0.000010			-
Ca-D	mg/L			118				125			-
Cr-D	mg/L			<0.0010				<0.0010			-
Co-D	mg/L			0.00049				0.00026			-
Cu-D	mg/L			<0.00020				0.00020			0.02
Hard-D	mg/L			361				385			-
Fe-D	mg/L			0.258				0.166			0.5
Pb-D	mg/L			<0.00020				<0.00020			0.05
Mg-D	mg/L			16.4				17.9			-
Mn-D	mg/L			0.230				0.0513			-
Hg-D	mg/L			<0.0000020				0.0000028			-
Mo-D	mg/L			<0.0010				<0.0010			-
Ni-D	mg/L			0.0016				0.0011			-
K-D	mg/L			1.58				1.74			-
S-D	mg/L			104				119			-
Se-D	mg/L			<0.00010				<0.00010			-
Si-D	mg/L			1.94				2.63			-
Na-D	mg/L			20.0				28.0			-
Sr-D	mg/L			0.721				0.812			-
Zn-D	mg/L			<0.0050				<0.0050			-
O&G	mg/L			<1.0							0.2

Table 9

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								
Date		03-Jul-19	16-Jul-19	06-Aug-19	12-Aug-19	27-Aug-19	03-Sep-19	09-Sep-19	19-Sep-19	24-Sep-19
Parameter	Unit									
SO4-D	mg/L	530	590	590	640	640	580	600	610	560
TSS	mg/L		9.6		9.6			10		
Alk-T	mg/L		260		270			270		
Acidity83	mg/L		15.1		8.3			13.8		
N-NH3	mg/L				0.12					
N-NO23	mg/L				<0.020			<0.020		
Al-T	mg/L		<0.0030		<0.0030			<0.0030		
As-T	mg/L		0.00398		0.00417			0.00493		
Ba-T	mg/L		0.0234		0.0226			0.0212		
B-T	mg/L		0.741		0.765			0.731		
Cd-T	mg/L		<0.000010		<0.000010			<0.000010		
Ca-T	mg/L		232		227			214		
Cr-T	mg/L		<0.0010		<0.0010			<0.0010		
Co-T	mg/L		0.00037		0.00036			0.0003		
Cu-T	mg/L		0.00064		<0.00050			<0.00050		
Hard-T	mg/L		637		627			591		
Fe-T	mg/L		3.55		3.52			3.54		
P-T	mg/L				<0.0010			0.0089		
Pb-T	mg/L		<0.00020		<0.00020			<0.00020		
Mg-T	mg/L		14.2		14.5			13.8		
Mn-T	mg/L		0.368		0.36			0.349		
Hg-T	mg/L		<0.0000020		<0.0000020			<0.0000020		
Mo-T	mg/L		<0.0010		<0.0010			<0.0010		
Ni-T	mg/L		<0.0010		<0.0010			<0.0010		
K-T	mg/L		1.90		1.91			1.86		
S-T	mg/L		205		210			198		
Se-T	mg/L		<0.00010		<0.00010			<0.00010		
Si-T	mg/L		3.27		3.39			3.16		
Ag-T	mg/L		<0.000020		<0.000020			<0.000020		
Na-T	mg/L		117		120			118		
Sr-T	mg/L		2.18		2.07			2.13		
Zn-T	mg/L		0.0056		<0.0050			<0.0050		
Al-D	mg/L		<0.0030		<0.0030			<0.012		
As-D	mg/L		0.00377		0.00399			0.00492		
Ba-D	mg/L		0.0234		0.0227			0.0216		
B-D	mg/L		0.722		0.739			0.78		
Cd-D	mg/L		<0.0000050		<0.000010			<0.000040		
Ca-D	mg/L		241		224			216		
Cr-D	mg/L		<0.0010		<0.0010			<0.0040		
Co-D	mg/L		0.00041		0.00036			<0.00080		
Cu-D	mg/L		<0.00020		<0.00020			<0.00080		
Hard-D	mg/L		664		618			599		
Fe-D	mg/L		3.84		3.48			3.65		
P-D	mg/L				<0.030					
Pb-D	mg/L		<0.00020		<0.00020			<0.00080		
Mg-D	mg/L		15.3		14.5			14.3		
Mn-D	mg/L		0.376		0.352			0.363		
Hg-D	mg/L		<0.0000020		<0.0000020			<0.0000020		
Mo-D	mg/L		<0.0010		<0.0010			<0.0040		
Ni-D	mg/L		<0.0010		<0.0010			<0.0040		
K-D	mg/L		1.96		1.88			1.83		
S-D	mg/L		231		209			206		
Se-D	mg/L		<0.00010		<0.00010			<0.00040		
Si-D	mg/L		3.4		3.34			3.13		
Na-D	mg/L		121		119			120		
Sr-D	mg/L		2.1		2.06			2.03		
Zn-D	mg/L		0.0052		<0.0050			<0.020		

Table 10

Seep Passive Treatment System (LLSPTS) Biochemical Reactor										
Site Description										
Site Name	BCREFF	Water is pumped from the								
Date		03-Jul-19	16-Jul-19	06-Aug-19	12-Aug-19	27-Aug-19	03-Sep-19	09-Sep-19	18-Sep-19	24-Sep-19
Parameter	Unit									
SO4-D	mg/L	430	440	530	530	600	580	510	550	440
TSS	mg/L				<4.0			<4.0		
Alk-T	mg/L		360		180			190		
Acidity83	mg/L		28.3		<1.0			1.0		
N-NH3	mg/L				0.040					
N-NO23	mg/L				<0.020			<0.020		
Al-T	mg/L		0.0084		0.0088			0.0035		
As-T	mg/L		0.00044		0.00156			0.00170		
Ba-T	mg/L		0.0317		0.0231			0.0199		
B-T	mg/L		0.769		0.719			0.740		
Cd-T	mg/L		<0.000010		<0.000010			<0.000010		
Ca-T	mg/L		224		173			174		
Cr-T	mg/L		<0.0010		<0.0010			<0.0010		
Co-T	mg/L		<0.00020		<0.00020			<0.00020		
Cu-T	mg/L		<0.00050		<0.00050			<0.00050		
Hard-T	mg/L		616		488			489		
Fe-T	mg/L		<0.010		0.195			0.185		
P-T	mg/L				0.0051			0.0053		
Pb-T	mg/L		<0.00020		<0.00020			<0.00020		
Mg-T	mg/L		13.9		13.8			13.2		
Mn-T	mg/L		0.277		0.0168			0.0158		
Hg-T	mg/L		<0.000020		<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		2.08		1.93			1.78		
S-T	mg/L		164		194			193		
Se-T	mg/L		<0.00010		<0.00010			<0.00010		
Si-T	mg/L		4.34		2.99			2.79		
Ag-T	mg/L		<0.000020		<0.000020			<0.000020		
Na-T	mg/L		117		116			116		
Sr-T	mg/L		2.17		1.84			1.93		
Zn-T	mg/L		<0.0050		<0.0050			<0.0050		
Al-D	mg/L		0.0101		<0.0030			<0.0030		
As-D	mg/L		0.00035		0.00138			0.00162		
Ba-D	mg/L		0.0292		0.0232			0.0195		
B-D	mg/L		0.77		0.740			0.772		
Cd-D	mg/L		<0.000010		<0.000010			<0.000010		
Ca-D	mg/L		226		173			176		
Cr-D	mg/L		<0.0020		<0.0010			<0.0010		
Co-D	mg/L		<0.00040		<0.00020			<0.00020		
Cu-D	mg/L		<0.00040		<0.00020			<0.00020		
Hard-D	mg/L		621		488			497		
Fe-D	mg/L		0.010		0.112			0.127		
P-D	mg/L				<0.0030					
Pb-D	mg/L		<0.00040		<0.00020			<0.00020		
Mg-D	mg/L		14.0		13.9			13.7		
Mn-D	mg/L		0.265		0.0173			0.0159		
Hg-D	mg/L		<0.0000020		<0.0000020			<0.0000020		
Mo-D	mg/L		<0.0020		<0.0010			<0.0010		
Ni-D	mg/L		<0.0020		<0.0010			<0.0010		
K-D	mg/L		2.12		1.88			1.81		
S-D	mg/L		240		193			189		
Se-D	mg/L		0.0179		<0.00010			<0.00010		
Si-D	mg/L		4.32		3.07			2.78		
Na-D	mg/L		119		116			122		
Sr-D	mg/L		1.95		1.80			1.95		
Zn-D	mg/L		<0.010		<0.0050			<0.0050		

Table 11

Site Description		Long Lake Seep Passive Treatment System (LLSPTS) Sulphide Polishing Cell				Site Description	
Site Name	SPCEFF	Water is pumped from the underground 2-South Mine Pool into the Biochemical				Site Name	
Date		03-Jul-19	16-Jul-19	06-Aug-19	12-Aug-19	27-Aug-19	03-Sep-19
Parameter	Unit						
SO4-D	mg/L	290	380	410	400	440	370
TSS	mg/L				10.8		
Alk-T	mg/L		390		390		
Acidity83	mg/L		21.8		7.7		
N-NH3	mg/L				0.055		
N-NO23	mg/L				<0.020		
Al-T	mg/L		0.0067		0.0059		
As-T	mg/L		0.00731		0.00337		
Ba-T	mg/L		0.0650		0.0592		
B-T	mg/L		0.777		0.795		
Cd-T	mg/L		<0.000010		<0.000010		
Ca-T	mg/L		224		218		
Cr-T	mg/L		<0.0010		<0.0010		
Co-T	mg/L		0.00064		0.00072		
Cu-T	mg/L		0.00178		0.00139		
Hard-T	mg/L		613		602		
Fe-T	mg/L		4.47		1.87		
P-T	mg/L				0.0053		
Pb-T	mg/L		<0.00020		<0.00020		
Mg-T	mg/L		13.3		14.2		
Mn-T	mg/L		0.290		0.255		
Hg-T	mg/L		<0.0000020		<0.0000020		
Mo-T	mg/L		0.0018		0.0018		
Ni-T	mg/L		<0.0010		<0.0010		
K-T	mg/L		2.15		2.07		
S-T	mg/L		152		159		
Se-T	mg/L		<0.00010		<0.00010		
Si-T	mg/L		5.30		5.36		
Ag-T	mg/L		<0.000020		<0.000020		
Na-T	mg/L		118		120		
Sr-T	mg/L		2.15		2.06		
Zn-T	mg/L		0.0057		<0.0050		
Al-D	mg/L		0.0064		<0.0030		
As-D	mg/L		0.00506		0.00176		
Ba-D	mg/L		0.0592		0.0547		
B-D	mg/L		0.725		0.755		
Cd-D	mg/L		<0.0000050		<0.000010		
Ca-D	mg/L		219		207		
Cr-D	mg/L		<0.0010		<0.0010		
Co-D	mg/L		0.00060		0.00063		
Cu-D	mg/L		<0.00020		<0.00020		
Hard-D	mg/L		602		575		
Fe-D	mg/L		2.68 P		0.184		
P-D	mg/L				<0.0030		
Pb-D	mg/L		<0.00020		<0.00020		
Mg-D	mg/L		13.1		13.7		
Mn-D	mg/L		0.270		0.214		
Hg-D	mg/L		<0.0000020		<0.0000020		
Mo-D	mg/L		0.0018		0.0017		
Ni-D	mg/L		<0.0010		<0.0010		
K-D	mg/L		2.13		1.98		
S-D	mg/L		154		149		
Se-D	mg/L		<0.00010		<0.00010		
Si-D	mg/L		5.30		4.81		
Na-D	mg/L		114		116		
Sr-D	mg/L		2.02		1.96		
Zn-D	mg/L		<0.0050		<0.0050		

Table 12

Site Description		2-South Inflow											
Site Name		2SI Water from SPCEFF flows into 2-South Pit at the 2-South Inflow											
Date		09-Sep-19	18-Sep-19	24-Sep-19	03-Jul-19	16-Jul-19	06-Aug-19	12-Aug-19	27-Aug-19	03-Sep-19	09-Sep-19	18-Sep-19	24-Sep-19
Parameter	Unit												
SO4-D	mg/L	360	340	390	270	400	430	380	440	340	360	270	380
TSS	mg/L	<4.0				<4.0		<4.0			<4.0		
Alk-T	mg/L	380				310		350			340		
Acidity ⁸³	mg/L	5.2				<1.0		<1.0			<1.0		
N-NH3	mg/L							0.046					
N-NO23	mg/L	<0.020						0.023			<0.020		
Al-T	mg/L	<0.0030				0.0068		0.0047			0.0074		
As-T	mg/L	0.00220				0.00065		0.00040			0.00037		
Ba-T	mg/L	0.0536				0.0460		0.0418			0.0378		
B-T	mg/L	0.707				0.700		0.654			0.624		
Cd-T	mg/L	<0.000010				<0.000010		<0.000010			<0.000010		
Ca-T	mg/L	194				200		189			172		
Cr-T	mg/L	<0.0010				<0.0010		<0.0010			<0.0010		
Co-T	mg/L	0.00038				0.00046		0.00030			<0.00020		
Cu-T	mg/L	<0.00050				<0.00050		<0.00050			<0.00050		
Hard-T	mg/L	538				553		528			483		
Fe-T	mg/L	0.522				0.315		0.264			0.233		
P-T	mg/L	0.0091				<0.0030		0.0019			0.45		
Pb-T	mg/L	<0.00020				<0.00020		<0.00020			<0.00020		
Mg-T	mg/L	12.9				13.2		13.8			13.1		
Mn-T	mg/L	0.144				0.123		0.0904			0.0526		
Hg-T	mg/L	<0.0000020				<0.0000020		<0.0000020			<0.0000020		
Mo-T	mg/L	0.0012				0.0013		<0.0010			<0.0010		
Ni-T	mg/L	<0.0010				<0.0010		<0.0010			<0.0010		
K-T	mg/L	1.86				1.91		1.87			1.98		
S-T	mg/L	142				142		146			139		
Se-T	mg/L	<0.00010				<0.00010		<0.00010			<0.00010		
Si-T	mg/L	4.46				4.75		4.78			4.35		
Ag-T	mg/L	<0.0000020				<0.0000020		<0.0000020			<0.0000020		
Na-T	mg/L	115				110		109			108		
Sr-T	mg/L	1.99				1.88		1.69			1.67		
Zn-T	mg/L	<0.0050				<0.0050		<0.0050			<0.0050		
Al-D	mg/L	<0.0030				0.0041		<0.0030			0.0034		
As-D	mg/L	0.00153				0.00060		0.00035			0.00034		
Ba-D	mg/L	0.0531				0.0450		0.0416			0.0379		
B-D	mg/L	0.755				0.703		0.657			0.646		
Cd-D	mg/L	<0.000010				<0.0000050		<0.000010			<0.000010		
Ca-D	mg/L	196				213		189			178		
Cr-D	mg/L	0.0040				<0.0010		<0.0010			<0.0010		
Co-D	mg/L	0.00041				0.00037		0.00029			<0.00020		
Cu-D	mg/L	<0.00020				0.00029		0.00027			0.00032		
Hard-D	mg/L	542				588		527			500		
Fe-D	mg/L	0.0632				0.0528		0.0553			0.0604		
P-D	mg/L							<0.0030					
Pb-D	mg/L	<0.00020				<0.00020		<0.00020			<0.00020		
Mg-D	mg/L	12.9				13.6		13.7			13.3		
Mn-D	mg/L	0.153				0.117		0.0884			0.0525		
Hg-D	mg/L	<0.0000020				<0.0000020		<0.0000020			0.0000035		
Mo-D	mg/L	0.0014				0.0012		<0.0010			0.0016		
Ni-D	mg/L	0.0014				<0.0010		<0.0010			<0.0010		
K-D	mg/L	1.84				1.93		1.83			1.97		
S-D	mg/L	137				152		146			136		
Se-D	mg/L	<0.00010				<0.00010		<0.00010			<0.00010		
Si-D	mg/L	4.37				4.90		4.68			4.51		
Na-D	mg/L	117				108		110			112		
Sr-D	mg/L	1.95				1.77		1.71			1.63		
Zn-D	mg/L	<0.0050				<0.0050		<0.0050			<0.0050		

Table 13

EMS ID		E292127		
Site Description		2 South Pit in Pit Water Cover (CCR Water Cover)		
Site Name		25		
Date		16-Jul-19	12-Aug-19	9-Sep-19
Parameter	Unit			
SO4-D	mg/L	270	280	430
TSS	mg/L		<4.0	<4.0
Alk-T	mg/L	73	110	150.0
Acidity83	mg/L	1.1	<1.0	2.9
Al-T	mg/L	0.0155	0.0448	0.00360
As-T	mg/L	0.00164	0.00245	0.00651
Ba-T	mg/L	0.020	0.0281	0.0345
B-T	mg/L	0.27	0.341	0.407
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	87	113	165
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00020	0.00053
Cu-T	mg/L	0.00131	0.00109	<0.00050
Hard-T	mg/L	266	338.000	488
Fe-T	mg/L	0.019	0.081	0.132
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	11.7	13.6000	18.5
Mn-T	mg/L	0.0284	0.0279	0.252
Hg-T	mg/L	<0.0000020	<0.0000020	<0.0000020
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	1.59	1.9	2.38
S-T	mg/L	83.9	109	158
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	0.52	1.19	2.04
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	28.5	39.6	51.6
Sr-T	mg/L	0.614	0.745	1.15
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0124	0.00520	<0.0030
As-D	mg/L	0.0016	0.00233	0.00571
Ba-D	mg/L	0.019	0.0278	0.0353
B-D	mg/L	0.27	0.338	0.4350000
Cd-D	mg/L	<0.0000050	<0.000010	<0.000010
Ca-D	mg/L	87.6	112	166
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	0.00057
Cu-D	mg/L	0.00133	0.00082	<0.00020
Hard-D	mg/L	270	337	493
Fe-D	mg/L	0.0132	0.0136	0.0362
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	12.5	13.7	19
Mn-D	mg/L	0.0229	0.006	0.263
Hg-D	mg/L	<0.0000020	<0.0000020	0.000003
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	0.00
K-D	mg/L	1.68	1.88	2.38
S-D	mg/L	89.2	108	160
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	0.55	1.13	2.1
Na-D	mg/L	30.2	39.4	54.4
Sr-D	mg/L	0.583	0.751	1.13
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Table 14

EMS ID		E217015		
Site Description		3 South Pit Main Water Sump (CCR Water Cover)		
Site Name		3S		
Date		16-Jul-19	12-Aug-19	9-Sep-19
Parameter	Unit			
SO4-D	mg/L	400	410	460
TSS	mg/L		<4.0	
Alk-T	mg/L	130	130	140
Acidity83	mg/L	1.3	<1.0	5.1
Al-T	mg/L		0.0103	
As-T	mg/L		0.00078	
Ba-T	mg/L		0.0173	
B-T	mg/L		0.347	
Cd-T	mg/L		<0.000010	
Ca-T	mg/L		170	
Cr-T	mg/L		<0.0010	
Co-T	mg/L		0.00022	
Cu-T	mg/L		0.00078	
Hard-T	mg/L		520	
Fe-T	mg/L		0.046	
Pb-T	mg/L		<0.00020	
Mg-T	mg/L		23.2	
Mn-T	mg/L		0.0258	
Hg-T	mg/L		<0.0000020	
Mo-T	mg/L		<0.0010	
Ni-T	mg/L		<0.0010	
K-T	mg/L		2.35	
S-T	mg/L		155	
Se-T	mg/L		<0.00010	
Si-T	mg/L		0.83	
Ag-T	mg/L		<0.000020	
Na-T	mg/L		35.6	
Sr-T	mg/L		1.13	
Zn-T	mg/L		<0.0050	
Al-D	mg/L		0.0045	
As-D	mg/L		0.00057	
Ba-D	mg/L		0.0172	
B-D	mg/L		0.346	
Cd-D	mg/L		<0.000010	
Ca-D	mg/L		168	
Cr-D	mg/L		<0.0010	
Co-D	mg/L		<0.00020	
Cu-D	mg/L		0.00036	
Hard-D	mg/L		515	
Fe-D	mg/L		0.0213	
Pb-D	mg/L		<0.00020	
Mg-D	mg/L		23.5	
Mn-D	mg/L		0.015	
Hg-D	mg/L		<0.0000020	
Mo-D	mg/L		<0.0010	
Ni-D	mg/L		<0.0010	
K-D	mg/L		2.34	
S-D	mg/L		158	
Se-D	mg/L		<0.00010	
Si-D	mg/L		0.81	
Na-D	mg/L		35.7	
Sr-D	mg/L		1.12	
Zn-D	mg/L		<0.0050	

Table 15

EMS ID		E292128	E292129	E217014	
Site Description		3 South 77 Adit Pit- Exploration pit from 1977	4 South Lower- Culvert Dowstream of Access Road	South Pit Culvert- Culvert, downstream of Settling Pond #1 discharge	
Site Name		3577	4S-LO	SPC	SPC
Date		15-Jul-19	Jul- Aug	Jul-Aug	25-Sep-2019
Parameter	Unit				
SO4-D	mg/L	140	Dry	Dry	54
TSS	mg/L				7.2
Alk-T	mg/L	99			41
Acidity83	mg/L	2.7			2.5
Al-T	mg/L	0.0046			0.414
As-T	mg/L	0.00174			0.00169
Ba-T	mg/L	0.0212			0.0108
B-T	mg/L	0.216			0.067
Cd-T	mg/L	<0.000010			<0.000010
Ca-T	mg/L	98.8			30.4
Cr-T	mg/L	<0.0010			<0.0010
Co-T	mg/L	<0.00020			0.00050
Cu-T	mg/L	<0.00050			0.00170
Hard-T	mg/L	297			92.8
Fe-T	mg/L	0.075			1.05
Pb-T	mg/L	<0.00020			0.00022
Mg-T	mg/L	12.2			4.09
Mn-T	mg/L	0.0317			0.0653
Hg-T	mg/L	<0.0000020			0.0000050
Mo-T	mg/L	<0.0010			<0.0010
Ni-T	mg/L	<0.0010			0.0015
K-T	mg/L	1.40			0.520
S-T	mg/L	77.9			19.3
Se-T	mg/L	<0.00010			<0.00010
Si-T	mg/L	3.38			5.23
Ag-T	mg/L	<0.000020			<0.000020
Na-T	mg/L	18.1			6.15
Sr-T	mg/L	0.639			0.186
Zn-T	mg/L	<0.0050			<0.0050
Al-D	mg/L	0.0034			0.122
As-D	mg/L	0.00166			0.00091
Ba-D	mg/L	0.0193			0.0082
B-D	mg/L	0.203			0.069
Cd-D	mg/L	0.0000060			<0.000010
Ca-D	mg/L	106			30.2
Cr-D	mg/L	<0.0010			<0.0010
Co-D	mg/L	<0.00020			<0.00020
Cu-D	mg/L	0.00021			0.00110
Hard-D	mg/L	314			91.8
Fe-D	mg/L	0.0424			0.314
Pb-D	mg/L	<0.00020			<0.00020
Mg-D	mg/L	11.9			4.01
Mn-D	mg/L	0.0317			0.0010
Hg-D	mg/L	<0.0000020			0.0000043
Mo-D	mg/L	<0.0010			<0.0010
Ni-D	mg/L	<0.0010			0.0010
K-D	mg/L	1.41			0.489
S-D	mg/L	82.4			16.9
Se-D	mg/L	<0.00010			<0.00010
Si-D	mg/L	3.56			5.55
Na-D	mg/L	17.6			6.02
Sr-D	mg/L	0.591			0.175
Zn-D	mg/L	<0.0050			<0.0050

Table 15

EMS ID	E292130											WQG-Max
Site Description	Long Lake Entrance- Last wetland prior to entering Long Lake near the outlet - IDZ											
Site Name	LLE No flow to extremely low flow. Culvert blocked by beaver dam.											
Date	02-Jul-19	09-Jul-19	15-Jul-19	31-Jul-19	06-Aug-19	12-Aug-19	03-Sep-19	09-Sep-19	16-Sep-19	24-Sep-19		
Parameter	Unit											
SO4-D	mg/L	Dry	Dry	440	430	540	380	620	600	330	150	
TSS	mg/L			5.2			4.0	Beaver blocking deacant too much mud to collect a metals sample				25
Alk-T	mg/L			130			140					
Acidity83	mg/L			4.0			3.6					
N-NH3	mg/L			<0.015			0.016					12.9
N-NO23	mg/L			<0.020			<0.020					
Al-T	mg/L			0.0103			0.0038					
As-T	mg/L			0.00081			0.00074					0.005
Ba-T	mg/L			0.0364			0.0342					5
B-T	mg/L			0.354			0.295					
Cd-T	mg/L			<0.000010			<0.000010					
Ca-T	mg/L			175			150					
Cr-T	mg/L			<0.0010			<0.0010					
Co-T	mg/L			<0.00020			<0.00020					0.11
Cu-T	mg/L			<0.00050			<0.00050					0.00482
Hard-T	mg/L			547			477					
Fe-T	mg/L			0.788			0.568					1
P-T	mg/L			0.0048			0.0027					
Pb-T	mg/L			<0.00020			<0.00020					0.01763
Mg-T	mg/L			27.0			24.7					
Mn-T	mg/L			0.120			0.0918					0.8706
Hg-T	mg/L			<0.0000020			<0.0000020					0.00001
Mo-T	mg/L			<0.0010			<0.0010					2
Ni-T	mg/L			<0.0010			<0.0010					0.025
K-T	mg/L			1.50			1.48					
S-T	mg/L			177			151					
Se-T	mg/L			<0.00010			<0.00010					
Si-T	mg/L			2.14			1.83					
Ag-T	mg/L			<0.000020			<0.000020					0.0001
Na-T	mg/L			49.3			46.0					
Sr-T	mg/L			1.08			0.946					
Zn-T	mg/L			<0.0050			<0.0050					0.033
Al-D	mg/L			<0.0030			<0.0030					0.1
As-D	mg/L			0.00067			0.00069					
Ba-D	mg/L			0.0335			0.0332					
B-D	mg/L			0.316			0.304					
Cd-D	mg/L			<0.0000050			<0.000010					0.0001702
Ca-D	mg/L			187			149					
Cr-D	mg/L			<0.0010			<0.0010					
Co-D	mg/L			<0.00020			<0.00020					
Cu-D	mg/L			0.00022			<0.00020					
Hard-D	mg/L			572			473					
Fe-D	mg/L			0.133			0.0764					0.35
Pb-D	mg/L			<0.00020			<0.00020					
Mg-D	mg/L			25.9			24.7					
Mn-D	mg/L			0.117			0.0906					
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			1.42			1.48					
S-D	mg/L			179			151					
Se-D	mg/L			<0.00010			<0.00010					
Si-D	mg/L			2.12			1.73					
Na-D	mg/L			47.7			46.2					
Sr-D	mg/L			1.06			0.911					
Zn-D	mg/L			<0.0050			<0.0050					

Table 1

EMS ID.	E292131					
Site Description	Seeps into Long Lake					
Site Name	LLS				LLSM	WQO-Max
Date	16-Jul-19	12-Aug-19	Sep	July - Sept		
Parameter	Unit					
SO4-D	mg/L	440	440	No Flow	No Flow	-
TSS	mg/L	4	7.2			25
Alk-T	mg/L	240	260			-
Acidity 8.3	mg/L	10.9	9.2			-
Al-T	mg/L	<0.0030	0.0033			-
As-T	mg/L	0.0026	0.00278			0.005
Ba-T	mg/L	0.0194	0.0202			-
B-T	mg/L	0.581	0.576			-
Cd-T	mg/L	<0.000010	<0.000010			-
Ca-T	mg/L	202	196			-
Cr-T	mg/L	<0.0010	<0.0010			-
Co-T	mg/L	0.00117	0.0012			0.11
Cu-T	mg/L	<0.00050	<0.00050			0.0051
Hard-T	mg/L	570	557			-
Fe-T	mg/L	1.25	1.41			1
Pb-T	mg/L	<0.00020	<0.00020			0.005
Mg-T	mg/L	16.1	16.3			-
Mn-T	mg/L	0.342	0.33			0.8
Hg-T	mg/L	<0.0000020	<0.0000020			0.0001
Mo-T	mg/L	<0.0010	<0.0010			-
Ni-T	mg/L	0.002	0.002			0.025
K-T	mg/L	2.35	2.37			-
S-T	mg/L	170	173			-
Se-T	mg/L	<0.00010	<0.00010			-
Si-T	mg/L	2.93	3.09			-
Ag-T	mg/L	<0.000020	<0.000020			0.0001
Na-T	mg/L	92.4	94.1			-
Sr-T	mg/L	1.87	1.82			-
Zn-T	mg/L	<0.0050	<0.0050			0.03
Al-D	mg/L	<0.0030	<0.0030			0.1
As-D	mg/L	0.0023	0.00215			-
Ba-D	mg/L	0.019	0.0191			-
B-D	mg/L	0.575	0.582			-
Cd-D	mg/L	<0.0000050	<0.000010			0.000017
Ca-D	mg/L	218	192			-
Cr-D	mg/L	<0.0010	<0.0010			-
Co-D	mg/L	0.00123	0.00119			-
Cu-D	mg/L	<0.00020	<0.00020			-
Hard-D	mg/L	613	546			-
Fe-D	mg/L	1.33	1.17			0.35
Pb-D	mg/L	<0.00020	<0.00020			-
Mg-D	mg/L	16.6	16.1			-
Mn-D	mg/L	0.341	0.315			-
Hg-D	mg/L	<0.0000020	<0.0000020			-
Mo-D	mg/L	<0.0010	<0.0010			-
Ni-D	mg/L	0.002	0.002			-
K-D	mg/L	2.39	2.34			-
S-D	mg/L	185	168			-
Se-D	mg/L	<0.00010	<0.00010			-
Si-D	mg/L	3.28	2.89			-
Na-D	mg/L	95.7	92.2			-
Sr-D	mg/L	1.73	1.73			-
Zn-D	mg/L	<0.0050	<0.0050			-
WQO are displayed for comparison purposes only.						

Table 18

EMS ID		E292069			
Site Description		Settling Pond at 7S - Permitted discharge location for the 7-South Mining Operation			
Site Name		7SSD	No discharge occurred from this pond		Permit Limits
Date		15-Jul-19	12-Aug-19	09-Sep-19	7SSD
Parameter	Unit				
SO4-D	mg/L	21	22	23	500
TSS	mg/L	5.2	6.4	14.4	25
Alk-T	mg/L	98	97	88	-
Acidity 8.3	mg/L	<1.0	<1.0	<1.0	-
Al-T	mg/L	0.0365	0.0199	0.016	-
As-T	mg/L	0.00934	0.00966	0.0068	-
Ba-T	mg/L	0.0033	0.0033	0.0026	-
B-T	mg/L	<0.050	<0.050	<0.050	-
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	-
Ca-T	mg/L	22.7	20.6	15.3	-
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	-
Co-T	mg/L	<0.00020	<0.00020	<0.00020	-
Cu-T	mg/L	0.00113	0.00101	0.00104	-
Hard-T	mg/L	102	101	87.6	-
Fe-T	mg/L	0.067	0.035	0.03	-
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	-
Mg-T	mg/L	11.1	12.1	12	-
Mn-T	mg/L	0.0901	0.0472	0.0346	-
Hg-T	mg/L	<0.0000020	<0.0000020	0.0000031	-
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	-
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	-
K-T	mg/L	0.936	1.01	0.947	-
S-T	mg/L	6.8	7.2	7.4	-
Se-T	mg/L	<0.00010	<0.00010	<0.00010	-
Si-T	mg/L	5.36	6.88	3.82	-
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	-
Na-T	mg/L	7.12	7.49	7.70	-
Sr-T	mg/L	0.13	0.132	0.118	-
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	-
Al-D	mg/L	0.0075	0.0049	0.0048	0.1
As-D	mg/L	0.00912	0.00923	0.00652	-
Ba-D	mg/L	0.0028	0.003	0.0022	-
B-D	mg/L	<0.050	<0.050	<0.050	-
Cd-D	mg/L	<0.0000050	<0.000010	<0.000010	0.000045
Ca-D	mg/L	22.3	20.1	15.8	-
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	-
Co-D	mg/L	<0.00020	<0.00020	<0.00020	-
Cu-D	mg/L	0.00099	0.00086	0.00088	0.014
DOC	mg/L	4.3	4.4	4.3	-
Hard-D	mg/L	101	98.5	89.9	-
Fe-D	mg/L	0.0307	0.0142	0.0073	0.35
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	-
Mg-D	mg/L	10.9	11.7	12.3	-
Mn-D	mg/L	0.0526	0.0067	0.0031	-
Hg-D	mg/L	<0.0000020	<0.0000020	0.0000051	-
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	-
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	-
K-D	mg/L	0.972	0.972	0.927	-
S-D	mg/L	7.4	6.7	6.9	-
Se-D	mg/L	<0.00010	<0.00010	<0.00010	0.016
Si-D	mg/L	5.34	6.47	3.96	-
Na-D	mg/L	7.12	7.26	8.03	-
Sr-D	mg/L	0.123	0.127	0.118	-
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	-

Table 19

Daily Total Suspended Solid Results**EMS ID E207409****Site Description Settling Pond #4 (WD)****TSS Permit Limit: 25.0 mg/L**

Date	April	May	June	July	August	September
1	<4.0	Samples submitted no results				
2	<4.0	<4.0				
3	4.0	5.2		<4.0		
4	6.4	4.4				
5	4.8	<4.0	<4.0			
6	4.8	2.3	4.4			
7	12.8	1.1	<4.0			
8	<4.0	<4.3	<4.0			
9	<4.0	3.3	<4.0			
10	6.4	1.6	<4.0	<4.0		
11	<4.0	1.3	4.8			1.70
12	<4.0	2.1	8.8	5.6	5.60	1.50
13	<4.0	3.5	<4.0			1.20
14	<4.0	<4.0	<4.0			1.40
15	5.1	<4.0	<4.0	<4.0	<4.0	1.10
16	5.7	<4.0	<4.0	6.8	6.80	<4.0
17	5.9	<4.0	<4.0	<4.0	<4.0	<4.0
18	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
19	<4.0	<4.0	<4.0			<4.0
20	6	<4.0	4.4			4.40
21	5.6	1.9	<4.0			4.00
22	5.2	1.7	<4.0			4.80
23	7.2	<1.0	<4.0			5.20
24	<4.0	1.4	<4.0			7.20
25	<4.0	2.7				4.00
26	<4.0	<1.0	<4.0			<4.0
27	4.4	<1.0				<4.0
28	<4.0	<1.0				<4.0
29	Samples submitted but no results were received.	1.5				<4.0
30						<4.0
31						

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 dash (-) indicates that a sample was not required

Table 20

Total Suspended Solid Results					
EMS ID		E218582			
Site Description		Settling Pond #1 (SPD)			
TSS Permit Limit: 25.0 mg/L					
Date	TSS mg/L	Date	TSS mg/L	Date	TSS mg/L
1-Apr-19	<4.0	1-May-19	Samples submitted, no results.	10-Jul-19	4.0
2-Apr-19	<4.0	2-May-19	4.4	6-Aug-19	<4.0
3-Apr-19	<4.0	3-May-19	<4.0	12-Aug-19	4.4
4-Apr-19	<4.0	4-May-19	<4.0	19-Aug-19	<4.0
5-Apr-19	<4.0	5-May-19	<4.0	9-Sep-19	<4.0
6-Apr-19	<4.0	6-May-19	2	13-Sep-19	1.9
7-Apr-19	<4.0	7-May-19	<1.0	14-Sep-19	2.8
8-Apr-19	<4.0	8-May-19	<6.0	15-Sep-19	1.1
9-Apr-19	<4.0	9-May-19	<1.0	16-Sep-19	<4.0
10-Apr-19	<4.0	10-May-19	<1.0	17-Sep-19	1.8
11-Apr-19	<4.0	11-May-19	1.9	18-Sep-19	<4.0
12-Apr-19	<4.0	12-May-19	1.5	19-Sep-19	<4.0
13-Apr-19	<4.0	13-May-19	2.3	20-Sep-19	<4.0
14-Apr-19	<4.0	14-May-19	<4.0	21-Sep-19	4.4
15-Apr-19	3.8	15-May-19	<4.0	22-Sep-19	5.2
16-Apr-19	2.2	16-May-19	<4.0	23-Sep-19	<4.0
17-Apr-19	1.6	17-May-19	<4.0	24-Sep-19	6.4
18-Apr-19	<4.0	18-May-19	<4.0	25-Sep-19	27.6
19-Apr-19	<4.0	19-May-19	<4.0	27-Sep-19	<4.0
20-Apr-19	<4.0	20-May-19	<4.0	28-Sep-19	<4.0
21-Apr-19	<4.0	21-May-19	1.90	29-Sep-19	<4.0
22-Apr-19	<4.0	22-May-19	1.60	30-Sep-19	<4.0
23-Apr-19	<4.0	23-May-19	1.20		
24-Apr-19	<4.0	24-May-19	<1.0	Sept 25- beaver activity at the decant riser caused elevated TSS. This was not reported as a spill or permit limit exceedance.	
25-Apr-19	<4.0	25-May-19	<1.0		
26-Apr-19	<4.0	26-May-19	1.30		
27-Apr-19	<4.0	11-Jun-19	<4.0		
28-Apr-19	<4.0				
29-Apr-19	Samples submitted but no results were received.				
30-Apr-19					
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.					

Table 21

EMS ID		E207409				
DISCHARGE FROM SETTLING POND # 4 (WD)						
Date	July Max. (m3/s)	July Daily (m3/s)	August Max. (m3/s)	August Daily (m3/s)	September Max. (m3/s)	September Daily (m3/s)
1	0.0200	0.0118	0.0000	0.0000	0.0180	0.0050
2	0.0210	0.0057	0.0000	0.0000	0.0000	0.0000
3	0.0210	0.0060	0.0000	0.0000	0.0000	0.0000
4	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0050	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0160	0.0030	0.0150	0.0050	0.0000	0.0000
8	0.0200	0.0140	0.0220	0.0130	0.0000	0.0000
9	0.0190	0.0040	0.0210	0.0160	0.0600	0.0170
10	0.0000	0.0000	0.0210	0.0050	0.0660	0.0590
11	0.0000	0.0000	0.0110	0.0020	0.0760	0.0660
12	0.0000	0.0000	0.0100	0.0010	0.0910	0.0820
13	0.0000	0.0000	0.0000	0.0000	0.1300	0.1070
14	0.0180	0.0050	0.0100	0.0030	0.1430	0.1350
15	0.0220	0.0140	0.0170	0.0030	0.1320	0.1250
16	0.0190	0.0030	0.0000	0.0000	0.1450	0.1330
17	0.0000	0.0000	0.0100	0.0010	0.1500	0.1390
18	0.0000	0.0000	0.0000	0.0000	0.1570	0.1400
19	0.0000	0.0000	0.0000	0.0000	0.1700	0.1590
20	0.0000	0.0000	0.0000	0.0000	0.1920	0.1820
21	0.0000	0.0000	0.0000	0.0000	0.1940	0.1890
22	0.0000	0.0000	0.0000	0.0000	0.1940	0.1920
23	0.0000	0.0000	0.0000	0.0000	0.1950	0.1920
24	0.0000	0.0000	0.0030	0.0000	0.1860	0.1720
25	0.0000	0.0000	0.0180	0.0110	0.1600	0.1490
26	0.0000	0.0000	0.0190	0.0040	0.1640	0.1560
27	0.0000	0.0000	0.0090	0.0010	0.1740	0.1640
28	0.0000	0.0000	0.0000	0.0000	0.1670	0.1530
29	0.0000	0.0000	0.0000	0.0000	0.1460	0.1340
30	0.0000	0.0000	0.0000	0.0000	0.1480	0.1380
31	0.0000	0.0000	0.0110	0.0020		
Monthly Max	0.0220		0.0220		0.1086	
Monthly Avg		0.0021		0.0022		0.0996

P = Permit Limit Exceedance

Highlighted Red Requires Daily TSS composite sample (Max daily flow > 0.054m³/s)

For Decant Flow > 0.054 m³/s

TSS composite sample is required monthly - no decant flow, weekly when max daily flow < 0.054m³/s & daily when max daily flow > 0.054m³/s

Table 22

EMS ID		E218582				
DISCHARGE FROM SETTLING POND # 1 (SPD)						
Date	July Max. (m3/s)	July Daily (m3/s)	August Max. (m3/s)	August Daily (m3/s)	September Max. (m3/s)	September Daily (m3/s)
1	NF	NF	NF	NF	NF	NF
2	NF	NF	NF	NF	NF	NF
3	NF	NF	NF	NF	NF	NF
4	NF	NF	NF	NF	NF	NF
5	NF	NF	NF	NF	NF	NF
6	NF	NF	NF	NF	NF	NF
7	NF	NF	NF	NF	NF	NF
8	NF	NF	NF	NF	NF	NF
9	NF	NF	NF	NF	NF	NF
10	NF	NF	NF	NF	NF	NF
11	NF	NF	NF	NF	NF	NF
12	NF	NF	NF	NF	NF	NF
13	NF	NF	NF	NF	NF	NF
14	NF	NF	NF	NF	NF	NF
15	NF	NF	NF	NF	NF	NF
16	NF	NF	NF	NF	NF	NF
17	NF	NF	NF	NF	0.0420	0.0360
18	NF	NF	NF	NF	0.3460	0.0840
19	NF	NF	NF	NF	0.0290	0.0240
20	NF	NF	NF	NF	0.0290	0.0210
21	NF	NF	NF	NF	0.0260	0.0240
22	NF	NF	NF	NF	0.0310	0.0260
23	NF	NF	NF	NF	0.0340	0.0280
24	NF	NF	NF	NF	0.0240	0.0170
25	NF	NF	NF	NF	0.0620	0.0360
26	NF	NF	NF	NF	0.0650	0.0510
27	NF	NF	NF	NF	0.0640	0.0550
28	NF	NF	NF	NF	0.0610	0.0450
29	NF	NF	NF	NF	0.0560	0.0420
30	NF	NF	NF	NF	0.0530	0.0390
31	NF	NF	NF	NF		
Monthly Max	0.0000		0.0000		0.3460	
Monthly Avg		0.0000		0.00000		0.03771
PNC = Permit Non-compliance						
Highlighted Red = Daily Composite TSS sample required						
TSS composite sample is required monthly - no decant flow, weekly when max daily flow < 0.046m ³ /s & daily when max daily flow > 0.046m ³ /s						
NF= No Flow						

Table 23

Field Conductivity (uS/cm) & pH (North Mine Area & 7-South)																					
EMS ID	E283433		E207409		E207412		E207411				E292069		E292109		GW and SW from 2N		E292126				
Site Name	2-N-Portal Sump		Settling Pond #4		2 North Pit Sump		North Pit Culvert		7 South Portal Sump		7-South Area 5		Settling Pond at 7S		Stream 1 -7S		Area at Road		South Dyke Sump		
Site Code	2NPS		WD		WP		WC		7SPS		7SA5		7SSD		7S		PDSR		SDS		
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	
April 2019	1478.00	7.49	1616.00	7.55	1308.00	8.03	1581.00	8.15	717.00	6.29	330	7.80	335.00	7.68	30.80	7.14	1078.00	7.57	472.00	7.26	
	1373.00	7.51	1567.00	7.57			1316.00	8.12	332.00	6.75	325	7.67	239.00	8.05	49.00	6.72			489.00	7.30	
	1525.00	7.39	1334.00	7.58	1329.00	8.02	1272.00	7.99	447.00	6.76	382	7.81	201.00	8.30	50.79	6.76			685.00	7.57	
	1524.00	7.33	1127.00	7.50	1296.00	8.01	1182.00	8.15	436.00	6.71	341	7.62	266.00	7.90	77.20	6.80			284.00	7.62	
	1548.00	7.57	1273.00	7.82	1295.00	8.13	1336.00	8.24	505.00	7.05	330	7.60	242.00	8.26	109.80	7.39			1420.00	7.77	
May 2019	2.23	7.27	1756.00	7.69	1832.00	7.84	1684.00	8.06	771.00	7.08	312	7.75	dry	dry	118.30	7.42	1103.00	7.66	2.21	7.42	
	1548.00	7.57	1771.00	7.64	1789.00	7.88	1638.00	7.94	815.00	7.26	319	7.60	dry	dry	dry	dry	dry	dry	dry	dry	
	2.23	7.27	1273.00	7.82	1819.00	7.60	1684.00	8.06	771.00	7.08	387	7.64	dry	dry	dry	dry	dry	dry	dry	dry	
	1557.00	7.58	1756.00	7.69	1832.00	7.84	1638.00	7.94	815.00	7.26	390	7.58	dry	dry	dry	dry	dry	dry	dry	dry	
June 2019													dry	dry	dry	dry	dry	dry	dry	dry	
	2.01	8.01	1771.00	7.64	1789.00	7.88	1175.00	8.25	557.00	7.51	364	7.52	dry	dry	dry	dry	dry	dry	dry	dry	
	2.04	7.70	1309.00	7.97	1238.00	8.16	1198.00	8.05	1082.00	8.03	338	7.99	dry	dry	dry	dry	dry	dry	dry	dry	
	2.1	7.93	2.21	7.85	1994.00	8.22	1957.00	8.34	830.00	6.91			dry	dry	dry	dry	dry	dry	dry	dry	
July 2019	2.16	7.59	2.21	7.85	1912	8.37	1970	8.08	1838	6.8			257	8.0	dry	dry	dry	dry	dry	dry	
	2.01	8.01	2.33	7.93	1914	8.22	1198	8.05	1082	7.03	325	7.82			dry	dry	dry	dry	dry	dry	
	2.04	7.7	2.32	7.89	1944	8.37	1957	8.34	830	6.91					dry	dry	dry	dry	dry	dry	
	2.1	7.93	2.22	7.96	1796	8.18	1860	8.35	1086	6.52					dry	dry	dry	dry	dry	dry	
August 2019	2.14	7.83	2.13	8.05	1892	8.56	1834	8.03	1057	6.02	341	7.59	286	8.16	dry	dry	dry	dry	dry	dry	
	2.13	7.80	2.16	7.59	1909	8.29	1805	8.04	1062	6.45					dry	dry	dry	dry	dry	dry	
	2.31	7.43	2.01	7.38	1923	8.02	1837	8.01	1050	6.48					dry	dry	dry	dry	dry	dry	
	2.26	7.56	2.04	8.33	1962	8.04	1805	7.96	1009	6.58	342	7.85			dry	dry	dry	dry	dry	dry	
September 2019	2.27	7.32	2.16	7.72	2.05	8.11	1862	8.11	1075	7.18			310	8.68	dry	dry	dry	dry	dry	dry	
	1962	7.74	1986	7.70	1816	7.83	1972	7.84	986	6.99					dry	dry	dry	dry	dry	dry	
	1990	7.6	1538	7.23	1463	7.18	1840	7.38	1076	7.34	358	7.49			dry	dry	dry	dry	dry	dry	
	1986	7.45	1781	7.34	1530	7.98	1860	8.25	930	6.29					dry	dry	dry	dry	dry	dry	
October 2019	1932	7.51	1530.00	7.76	1402.00	7.9	1716.00	8.17	1253	5.25			299	7.98	dry	dry	dry	dry	dry	dry	

Table 24

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 (ZSS)		3S		SPEFF		SPD		3S77		4SLO		SPC		LLE		LLS		LLSM	
	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH	Cond	pH
April 2019	430.00	8.10	885.00	8.03	1243.30	7.31	598.00	7.69	357.00	7.23	273.00	7.30	170.10	7.42	253.00	7.06	1073.00	7.12	961.00	7.26
	321.00	7.76	833.00	7.96			207.00	7.33	354.00	7.56	262.00	7.62	205.00	7.90	221.00	7.72	1094.00	7.26	866.00	7.38
	320.00	7.59	812.00	7.82			345.00	7.52	389.00	7.69	260.00	7.36	172.10	7.48	157.70	7.36	1042.00	7.26	794.00	7.28
	269.00	7.40	766.00	7.80			381.00	7.51	333.00	7.19	272.00	7.25	170.10	7.45	184.10	7.47	1497.00	6.93	1216.00	7.16
	2.74	7.51	850.00	8.06			545.00	7.92	398.00	7.31	293.00	7.52	262.00	7.71	244.00	7.26	1236.00	7.14	980.00	7.20
May 2019	408.00	8.21	1222.00	7.75	1267.00	7.40	742.00	7.51	580.00	7.11	425.00	7.18	267.00	7.29	426.00	7.27	1042.00	7.26	794.00	7.28
	525.00	8.19	1231.00	7.85			733.00	7.55	570.00	7.17	421.00	7.28	213.00	7.59	455.00	7.35	1497.00	6.93	1216.00	7.16
	690.00	8.06	867.00	8.09			630.00	7.49	480.00	7.28	380.00	7.30	178.00	7.46	560.00	7.40	1380.00	7.20	1108.00	7.23
	740.00	7.91	875.00	7.90			580.00	7.50	445.00	7.30	326.00	7.35	165.00	7.48	598.00	7.38	1320.00	7.13	1180.00	7.42
June 2019																				
	751.00	7.95	986.00	7.94	1258.00	7.48	530.00	7.90	448.00	7.39	305.00	7.52	126.40	7.52	1153.00	7.16	1436.00	7.17	1336.00	7.16
	851.00	8.07	1306.00	7.96	1080.00	7.49	873.00	7.67	756.00	7.73	dry	dry	dry	dry	835.00	6.92	1646.00	7.18	1510.00	7.33
	750.00	7.90	1287.00	8.09	1498.00	7.41	841.00	7.62	630.00	7.68	dry	dry	dry	dry	dry	dry				
July 2019	1036	8.20	1365.00	7.98	1397.00	7.49	801.00	7.71			dry	dry	dry	dry	1309.00	7.39				
	1724	8.04	1494.00	7.86	1354.00	7.44	858.00	7.70	571.00	7.58	dry	dry	dry	dry	1071.00	7.41				
	599	8.13	1058.00	7.59	1480.00	7.84	724.00	7.60	582.00	7.50	dry	dry	dry	dry	1322.00	7.56	1267.00	7.63	1151.0	7.20
	746	8.03	1149.00	7.63	1581.00	7.60	770.00	7.98	661.00	7.93	dry	dry	dry	dry	1692.00	7.31				
August 2019	767	8.08	1232.00	7.60	1497.00	7.81	739.00	7.60	709.00	7.61	dry	dry	dry	dry	1220.00	7.84				
	654	8.18	1458.00	7.49	1676.00	7.76	730.00	7.58	721.00	7.59	dry	dry	dry	dry	1319.00	7.82			dry	dry
	712	8.25	1477.00	7.62	1594.00	7.51	752.00	7.61	723.00	7.72	dry	dry	dry	dry	1379.00	7.24			dry	dry
	1416	7.56	1102.00	7.58	1520.00	7.48	803.00	7.53	680.00	7.98	dry	dry	dry	dry	1379.00	7.10	dry	dry	dry	dry
September 2019	1416	7.80	1197.00	8.02	1493.00	7.57	779.00	7.74	756.00	7.73	dry	dry	dry	dry	1505.00	7.17	dry	dry	dry	dry
	1182	7.24	1164.00	7.40	1517.00	7.75	760.00	7.57	480.00	7.27	dry	dry	dry	dry	1321.00	7.10	dry	dry	dry	dry
	1059	7.40	1040.00	7.52	1462.00	7.59	827.00	7.34	560.00	7.30	dry	dry	dry	dry	1298.00	7.25	dry	dry	dry	dry
	1109	8.15	1098.00	8.13	1434.00	7.55	801.00	7.53	415.00	7.85	dry	dry	283.10	7.32	485.20	7.34	dry	dry	dry	dry
October 2017	1031.00	7.97	1127.00	7.95	1344.00	7.43	811.00	7.42	680.00	6.91	dry	dry	210.70	7.23	427.30	6.84	dry	dry	dry	dry

Table 25

[illegible]

Table 26

Daily Precipitation (mm)			
DATE	JULY	AUG	SEPT
1	0.0	0.2	0.3
2	0.0	16.4	3.6
3	0.0	5.7	0.0
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	1.0	0.0	0.0
7	1.7	0.0	0.0
8	0.2	0.0	0.0
9	0.0	0.0	10.1
10	6.2	0.6	8.1
11	7.3	0.0	2.0
12	2.4	0.2	4.4
13	0.0	18.6	12.0
14	7.6	0.0	1.6
15	6.0	0.0	4.9
16	1.7	0.0	5.9
17	0.3	0.0	0.6
18	2.5	0.0	8.4
19	14.5	0.0	2.8
20	0.0	0.0	0.6
21	0.0	0.0	0.0
22	0.0	0.6	0.5
23	0.0	0.0	7.3
24	14.7	4.0	8.6
25	0.0	0.6	0.1
26	0.6	0.0	4.3
27	4.1	0.0	1.4
28	0.1	0.0	0.1
29	0.0	0.0	0.0
30	0.0	0.0	0.0
31	4.4	0.0	
Monthly Total (mm)	75.30	46.90	87.60
2019 Q2 Total (mm)		209.80	

TABLE 27

Rivers Q2			Iron River Upstream of Mining Operations													
Site Location																
Week																
Station Code																
Sample ID																
EMS ID																
Sampling Date																
			Week 2		Week 3		Week 4		Week 5		Week 5		Monthly			
			IR1		IR1		IR1		IR1		IR1		IR1		IR1	
			IR1-6AUG19-M		IR1-6AUG19-R		IR1-12AUG19-M		IR1-19AUG19-M		IR1-26AUG19-M		IR1-18SEPT19-M			
			E297230		E297230		E297230		E297230		E297230		E297230		E297230	
			2019-08-06		2019-08-06		2019-08-12		2019-08-19		2019-08-26		2019-09-18			
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Acidity (pH 8.3)		mg/L	<1.0	1	<1.0	1	1.5	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Alkalinity (Total as CaCO3)		mg/L	47	1	22	1	42	1	52	1	60	1	36	1	36	1
Bicarbonate (HCO3)		mg/L	57	1	27	1	51	1	63	1	73	1	44	1	44	1
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Dissolved Sulphate (SO4)		mg/L	3.1	1	1.2	1	4.3	1	5.5	1	8.6	1	2.3	1	2.3	1
Total Suspended Solids	5	mg/L	<4.0	4	<4.0	4							<4.0	4		
Total Hardness (CaCO3)		mg/L	43.9	0.5	20.1	0.5	40.8	0.5	55.8	0.5	63.2	0.5	41.9	0.5		
Total Aluminum (Al)		mg/L	0.0309	0.003	0.0208	0.003	0.0312	0.003	0.021	0.003	0.0179	0.003	0.0432	0.003		
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005		
Total Arsenic (As)	0.005	mg/L	0.00059	0.0001	0.00012	0.0001	0.00054	0.0001	0.00062	0.0001	0.00061	0.0001	0.00056	0.0001		
Total Barium (Ba)		mg/L	0.0031	0.001	<0.0010	0.001	0.0027	0.001	0.0036	0.001	0.0042	0.001	0.0027	0.001		
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05		
Total Cadmium (Cd)		mg/L	0.000021	0.00001	<0.000010	0.00001	0.000017	0.00001	0.000017	0.00001	0.000017	0.00001	0.000024	0.00001		
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Total Copper (Cu)	0.007	mg/L	0.00065	0.0005	0.00058	0.0005	0.00057	0.0005	<0.00050	0.0005	<0.00050	0.0005	0.00077	0.0005		
Total Iron (Fe)	1	mg/L	<0.010	0.01	0.026	0.01	0.016	0.01	<0.010	0.01	<0.010	0.01	0.026	0.01		
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002		
Total Manganese (Mn)	0.8	mg/L	<0.0010	0.001	0.0018	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	0.001	0.001		
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Selenium (Se)		mg/L	0.00027	0.0001	<0.00010	0.0001	0.00032	0.0001	0.00037	0.0001	0.00045	0.0001	0.00026	0.0001		
Total Silicon (Si)		mg/L	2.89	0.1	2.03	0.1	3.1	0.1	3.31	0.1	3.26	0.1	2.98	0.1		
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002		
Total Strontium (Sr)		mg/L	0.0556	0.001	0.0117	0.001	0.0459	0.001	0.0615	0.001	0.0759	0.001	0.0473	0.001		
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001		
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Calcium (Ca)		mg/L	16.2	0.05	6.85	0.05	15	0.05	20.6	0.05	23.4	0.05	15.5	0.05		
Total Magnesium (Mg)		mg/L	0.825	0.05	0.72	0.05	0.789	0.05	1.05	0.05	1.13	0.05	0.781	0.05		
Total Potassium (K)		mg/L	0.177	0.05	0.06	0.05	0.139	0.05	0.168	0.05	0.182	0.05	0.16	0.05		
Total Sodium (Na)		mg/L	1.01	0.05	0.639	0.05	0.966	0.05	1.24	0.05	1.28	0.05	0.928	0.05		
Total Sulphur (S)		mg/L	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3		
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A		
Dissolved Hardness (CaCO3)		mg/L	44.2	0.5	20.3	0.5	42.2	0.5	56.3	0.5	63.1	0.5	37.7	0.5		
Dissolved Aluminum (Al)	0.1	mg/L	0.0297	0.003	0.0166	0.003	0.0271	0.003	0.0198	0.003	0.0191	0.003	0.0353	0.003		
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005		
Dissolved Arsenic (As)		mg/L	0.00059	0.0001	0.00012	0.0001	0.00053	0.0001	0.00062	0.0001	0.00067	0.0001	0.00052	0.0001		
Dissolved Barium (Ba)		mg/L	0.0031	0.001	<0.0010	0.001	0.0027	0.001	0.0036	0.001	0.0042	0.001	0.0027	0.001		
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05		
Dissolved Cadmium (Cd)	0.0017	mg/L	0.00002	0.00001	<0.000010	0.00001	0.000017	0.00001	0.000016	0.00001	0.000017	0.00001	0.000022	0.00001		
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Copper (Cu)		mg/L	0.00062	0.0002	0.00051	0.0002	0.00057	0.0002	0.00044	0.0002	0.00045	0.0002	0.00074	0.0002		
Dissolved Iron (Fe)	0.35	mg/L	0.006	0.005	0.0142	0.005	0.0102	0.005	<0.0050	0.005	<0.0050	0.005	0.0178	0.005		
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002		
Dissolved Manganese (Mn)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001								

TABLE 28

Rivers Q2		Site Location		Iron River Upstream of 7SA5											
		Week		Week 2		Week 3		Week 4		Week 5		Week 5		Monthly	
		Station Code		IR6		IR6		IR6		IR6		IR6		IR6	
		Sample ID		IR6-6AUG19-M		IR6-12AUG19-M		IR6-19AUG19-M		IR6-26AUG19-M		IR6-18SEPT19-M		IR6-18SEPT19-R	
		EMS ID		E297231		E297231		E297231		E297231		E297231		E297231	
		Sampling Date		2019-08-06		2019-08-12		2019-08-19		2019-08-26		2019-09-18		2019-09-18	
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	<1.0	1	1.4	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (Total as CaCO3)		mg/L	42	1	43	1	48	1	56	1	36	1	35	1	
Bicarbonate (HCO3)		mg/L	51	1	52	1	58	1	68	1	44	1	43	1	
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Sulphate (SO4)		mg/L	3.4	1	4.5	1	5.6	1	8.2	1	3.7	1	3.4	1	
Total Suspended Solids	5	mg/L	<4.0	4							<4.0	4	<4.0	4	
Total Hardness (CaCO3)		mg/L	40.2	0.5	41.1	0.5	52.7	0.5	58.5	0.5	39.2	0.5	40.9	0.5	
Total Aluminum (Al)		mg/L	0.0308	0.003	0.027	0.003	0.0196	0.003	0.0163	0.003	0.0382	0.003	0.0403	0.003	
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Total Arsenic (As)	0.005	mg/L	0.00132	0.0001	0.00114	0.0001	0.00218	0.0001	0.00279	0.0001	0.00081	0.0001	0.00089	0.0001	
Total Barium (Ba)		mg/L	0.006	0.001	0.0051	0.001	0.007	0.001	0.0086	0.001	0.0048	0.001	0.0049	0.001	
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Total Cadmium (Cd)		mg/L	0.000014	0.00001	0.000011	0.00001	0.000011	0.00001	<0.000010	0.00001	0.000014	0.00001	0.000015	0.00001	
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Copper (Cu)	0.007	mg/L	0.00074	0.0005	0.0006	0.0005	0.00053	0.0005	<0.00050	0.0005	0.00071	0.0005	0.00076	0.0005	
Total Iron (Fe)	1	mg/L	0.015	0.01	0.015	0.01	<0.010	0.01	<0.010	0.01	0.028	0.01	0.028	0.01	
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Total Manganese (Mn)	0.8	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	0.001	0.001	
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Selenium (Se)		mg/L	0.00021	0.0001	0.00029	0.0001	0.0003	0.0001	0.00034	0.0001	0.00021	0.0001	0.00024	0.0001	
Total Silicon (Si)		mg/L	3.12	0.1	2.95	0.1	3.34	0.1	3.17	0.1	2.83	0.1	3	0.1	
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Total Strontium (Sr)		mg/L	0.0518	0.001	0.0484	0.001	0.0585	0.001	0.0719	0.001	0.0483	0.001	0.0475	0.001	
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Calcium (Ca)		mg/L	14.5	0.05	15	0.05	19	0.05	21.1	0.05	14.3	0.05	14.9	0.05	
Total Magnesium (Mg)		mg/L	0.947	0.05	0.903	0.05	1.25	0.05	1.4	0.05	0.877	0.05	0.905	0.05	
Total Potassium (K)		mg/L	0.256	0.05	0.189	0.05	0.218	0.05	0.244	0.05	0.199	0.05	0.197	0.05	
Total Sodium (Na)		mg/L	1.31	0.05	1.16	0.05	1.64	0.05	1.81	0.05	1.17	0.05	1.24	0.05	
Total Sulphur (S)		mg/L	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	
Dissolved Hardness (CaCO3)		mg/L	39.6	0.5	43.3	0.5	51.1	0.5	58.2	0.5	37.3	0.5	37.5	0.5	
Dissolved Aluminum (Al)	0.1	mg/L	0.0282	0.003	0.0241	0.003	0.0176	0.003	0.015	0.003	0.032	0.003	0.0316	0.003	
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Dissolved Arsenic (As)		mg/L	0.00131	0.0001	0.00115	0.0001	0.00205	0.0001	0.00281	0.0001	0.00083	0.0001	0.00082	0.0001	
Dissolved Barium (Ba)		mg/L	0.0058	0.001	0.0051	0.001	0.007	0.001	0.0085	0.001	0.0045	0.001	0.0045	0.001	
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Dissolved Cadmium (Cd)	0.0017	mg/L	0.000011	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	0.000015	0.00001	0.000012	0.00001	
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Copper (Cu)		mg/L	0.00069	0.0002	0.00063	0.0002	0.00049	0.0002	0.00048	0.0002	0.00074	0.0002	0.0008	0.0002	
Dissolved Iron (Fe)	0.35	mg/L	0.0085	0.005	0.0099	0.005	<0.0050	0.005	<0.0050	0.005	0.0176	0.005	0.0172	0.005	
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Dissolved Manganese (Mn)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Selenium (Se)		mg/L	0.00022	0.0001	0.00034	0.0001	0.00029	0.0001	0.00033	0.0001	0.00021	0.0001	0.00024	0.0001	
Dissolved Silicon (Si)		mg/L	2.98	0.1	2.88	0.1	3.18	0.1	3.12	0.1	2.67	0.1	2.61	0.1	
Dissolved Silver (Ag)		mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Dissolved Strontium (Sr)		mg/L	0.0491	0.001	0.0486	0.001	0.0603	0.001	0.0708	0.001	0.0444	0.001	0.0442	0.001	
Dissolved Thallium (Tl)		mg/L	<0.000010	0.00001											

TABLE 29

Rivers Q2			Site Location		Iron River Downstream of 7SAs and 242 inputs									
			Week		Week 2		Week 3		Week 4		Week 5		Monthly	
			Station Code		IR8		IR8		IR8		IR8		IR8	
			Sample ID		IR8-6AUG19-M		IR8-12AUG19-M		IR8-19AUG19-M		IR8-26AUG19-M		IR8-18SEPT19-M	
			EMS ID		E297232		Water		Water		Water		Water	
			Sampling Date		2019-08-06		2019-08-12		2019-08-19		2019-08-26		2019-09-18	
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Acidity (pH 8.3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Alkalinity (Total as CaCO3)		mg/L	43	1	46	1	49	1	56	1	36	1		
Bicarbonate (HCO3)		mg/L	52	1	56	1	59	1	69	1	44	1		
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Dissolved Sulphate (SO4)		mg/L	3.1	1	4.6	1	5.7	1	8.7	1	4.2	1		
Total Suspended Solids	5	mg/L	<4.0	4							<4.0	4		
Total Hardness (CaCO3)		mg/L	40.2	0.5	43.8	0.5	52.8	0.5	58.2	0.5	40.7	0.5		
Total Aluminum (Al)		mg/L	0.0272	0.003	0.0265	0.003	0.0172	0.003	0.0153	0.003	0.0354	0.003		
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005		
Total Arsenic (As)	0.005	mg/L	0.00265	0.0001	0.00222	0.0001	0.0048	0.0001	0.00613	0.0001	0.00143	0.0001		
Total Barium (Ba)		mg/L	0.0065	0.001	0.0062	0.001	0.0081	0.001	0.0096	0.001	0.0051	0.001		
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05		
Total Cadmium (Cd)		mg/L	0.000012	0.00001	0.00001	0.00001	<0.000010	0.00001	<0.000010	0.00001	0.000013	0.00001		
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Total Copper (Cu)	0.007	mg/L	0.00075	0.0005	0.00072	0.0005	0.00057	0.0005	0.00056	0.0005	0.00076	0.0005		
Total Iron (Fe)	1	mg/L	0.014	0.01	0.016	0.01	<0.010	0.01	<0.010	0.01	0.028	0.01		
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002		
Total Manganese (Mn)	0.8	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Selenium (Se)		mg/L	0.00021	0.0001	0.00029	0.0001	0.00029	0.0001	0.0003	0.0001	0.00024	0.0001		
Total Silicon (Si)		mg/L	3.02	0.1	2.95	0.1	3.31	0.1	3.2	0.1	2.94	0.1		
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002		
Total Strontium (Sr)		mg/L	0.0508	0.001	0.0501	0.001	0.0597	0.001	0.0728	0.001	0.0465	0.001		
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001		
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Calcium (Ca)		mg/L	14.5	0.05	15.8	0.05	18.9	0.05	20.9	0.05	14.9	0.05		
Total Magnesium (Mg)		mg/L	0.987	0.05	1.03	0.05	1.35	0.05	1.48	0.05	0.884	0.05		
Total Potassium (K)		mg/L	0.212	0.05	0.2	0.05	0.228	0.05	0.25	0.05	0.196	0.05		
Total Sodium (Na)		mg/L	1.46	0.05	1.34	0.05	1.98	0.05	2.27	0.05	1.23	0.05		
Total Sulphur (S)		mg/L	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3		
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A		
Dissolved Hardness (CaCO3)		mg/L	40.2	0.5	45.6	0.5	51.2	0.5	57.6	0.5	37.8	0.5		
Dissolved Aluminum (Al)	0.1	mg/L	0.0269	0.003	0.0225	0.003	0.0164	0.003	0.0147	0.003	0.03	0.003		
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005		
Dissolved Arsenic (As)		mg/L	0.00257	0.0001	0.00225	0.0001	0.00451	0.0001	0.00606	0.0001	0.00137	0.0001		
Dissolved Barium (Ba)		mg/L	0.0064	0.001	0.0063	0.001	0.0079	0.001	0.0095	0.001	0.005	0.001		
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05		
Dissolved Cadmium (Cd)	0.0017	mg/L	<0.000010	0.00001	0.00001	0.00001	<0.000010	0.00001	<0.000010	0.00001	0.000011	0.00001		
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Copper (Cu)		mg/L	0.00088	0.0002	0.0007	0.0002	0.00054	0.0002	0.00065	0.0002	0.00079	0.0002		
Dissolved Iron (Fe)	0.35	mg/L	0.0113	0.005	0.011	0.005	0.0053	0.005	0.0057	0.005	0.0171	0.005		
Dissolved Lead (Pb)		mg/L	0.00049	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002		
Dissolved Manganese (Mn)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	0.0012	0.001	<0.0010	0.001		
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Selenium (Se)		mg/L	0.00021	0.0001	0.00031	0.0001	0.00028	0.0001	0.00029	0.0001	0.00023	0.0001		
Dissolved Silicon (Si)		mg/L	2.97	0.1	2.93	0.1	3.19	0.1	3.12	0.1	2.71	0.1		
Dissolved Silver (Ag)		mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002		
Dissolved Strontium (Sr)		mg/L	0.0493	0.001	0.0517	0.001	0.0622	0.001	0.0719	0.001	0.0451	0.001		
Dissolved Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001		
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Dissolved Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Dissolved Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Dissolved Zinc (Zn)		mg/L	<0.0050	0.005	<0.0050	0.005	0.061	0.005	<0.0050	0.005	<0.0050	0.005		
Dissolved Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Dissolved Calcium (Ca)		mg/L	14.4	0.05	16.5	0.05	18.3							

TABLE 30

Rivers Q2		Site Location		No Name Lake Outlet							
		Week		Week 2		Week 3		Week 4		Week 5	
		Station Code		NNO		NNO		NNO		NNO	
		Sample ID		NNO-6AUG19-M		NNO-12AUG19-M		NNO-19AUG19-M		NNO-26AUG19-M	
		EMS ID		Water		Water		Water		Water	
		Sampling Date		2019-08-06		2019-08-12		2019-08-19		2019-08-26	
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (Total as CaCO3)		mg/L	15	1	15	1	14	1	14	1	
Bicarbonate (HCO3)		mg/L	18	1	18	1	17	1	18	1	
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Sulphate (SO4)		mg/L	1.7	1	1.4	1	1.6	1	4	1	
Total Suspended Solids	5	mg/L	<4.0	4							
Total Hardness (CaCO3)		mg/L	15.1	0.5	15	0.5	15.2	0.5	16	0.5	
Total Aluminum (Al)		mg/L	0.0194	0.003	0.0151	0.003	0.0167	0.003	0.0165	0.003	
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Total Arsenic (As)	0.005	mg/L	0.00038	0.0001	0.00035	0.0001	0.00038	0.0001	0.00045	0.0001	
Total Barium (Ba)		mg/L	0.003	0.001	<0.0010	0.001	0.001	0.001	0.0012	0.001	
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Total Cadmium (Cd)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Copper (Cu)	0.007	mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Total Iron (Fe)	1	mg/L	0.069	0.01	0.076	0.01	0.089	0.01	0.092	0.01	
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Total Manganese (Mn)	0.8	mg/L	0.0042	0.001	0.0066	0.001	0.0067	0.001	0.0079	0.001	
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Silicon (Si)		mg/L	2.72	0.1	2.72	0.1	2.75	0.1	2.98	0.1	
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Total Strontium (Sr)		mg/L	0.0144	0.001	0.0137	0.001	0.0142	0.001	0.0154	0.001	
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Calcium (Ca)		mg/L	4.45	0.05	4.4	0.05	4.49	0.05	4.7	0.05	
Total Magnesium (Mg)		mg/L	0.965	0.05	0.975	0.05	0.976	0.05	1.03	0.05	
Total Potassium (K)		mg/L	0.084	0.05	0.06	0.05	0.064	0.05	0.071	0.05	
Total Sodium (Na)		mg/L	1.28	0.05	1.19	0.05	1.23	0.05	1.25	0.05	
Total Sulphur (S)		mg/L	<3.0	3	<3.0	3	<3.0	3	<3.0	3	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	
Dissolved Hardness (CaCO3)		mg/L	15	0.5	15.4	0.5	16	0.5	15.8	0.5	
Dissolved Aluminum (Al)	0.1	mg/L	0.0128	0.003	0.0114	0.003	0.0116	0.003	0.0122	0.003	
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Dissolved Arsenic (As)		mg/L	0.00038	0.0001	0.00037	0.0001	0.00038	0.0001	0.00043	0.0001	
Dissolved Barium (Ba)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	0.0011	0.001	
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Dissolved Cadmium (Cd)	0.0017	mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Copper (Cu)		mg/L	0.00034	0.0002	0.00035	0.0002	0.00033	0.0002	0.00033	0.0002	
Dissolved Iron (Fe)	0.35	mg/L	0.0486	0.005	0.0552	0.005	0.0639	0.005	0.0704	0.005	
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Dissolved Manganese (Mn)		mg/L	0.0027	0.001	0.0051	0.001	0.0048	0.001	0.0054	0.001	
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	0.0011	0.001	
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Silicon (Si)		mg/L	2.71	0.1	2.69	0.1	2.91	0.1	2.83	0.1	
Dissolved Silver (Ag)		mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Dissolved Strontium (Sr)		mg/L	0.0145	0.001	0.0139	0.001	0.0146	0.001	0.0149	0.001	
Dissolved Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zinc (Zn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Calcium (Ca)		mg/L	4.42	0.05	4.53	0.05	4.68	0.05	4.65	0.05	
Dissolved Magnesium (Mg)		mg/L	0.967	0.05	0.993	0.05	1.05	0.05	1.01	0.05	
Dissolved Potassium (K)		mg/L	0.06	0.05	0.058	0.05	0.061	0.05	0.065	0.05	
Dissolved Sodium (Na)		mg/L	1.24	0.05	1.25	0.05	1.28	0.05	1.25	0.05	
Dissolved Sulphur (S)		mg/L	<3.0	3	<3.0	3	<3.0	3	<3.0	3	
Total Mercury (Hg)	0.0001	mg/L	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	
Dissolved Mercury (Hg)		mg/L	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	
pH	6.5-9	pH			6.88	N/A					
Total Suspended Solids	5	mg/L			<1.0	1	<1.0	1	<1.0	1	
Nitrate plus Nitrite (N)		mg/L									
Total Ammonia (N)		mg/L									
Total Phosphorus (P)		mg/L									

TABLE 31

Rivers Q2		Site Location		Long Lake Outlet							
		Week		Week 2		Week 3		Week 4		Week 5	
		Station Code		LLO		LLO		LLO		LLO	
		Sample ID		LLO-6AUG19-M		LLO-12AUG19-M		LLO-19AUG19-M		LLO-26AUG19-M	
		EMS ID		Water		Water		Water		Water	
Sampling Date		2019-08-06		2019-08-12		2019-08-19		2019-08-26			
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	
Acidity (pH 4.5)		mg/L	<1.0	1	<2.0	2	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	<1.0	1	<2.0	2	1.2	1	1.8	1	
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (Total as CaCO3)		mg/L	39	1	39	1	36	1	39	1	
Bicarbonate (HCO3)		mg/L	48	1	48	1	43	1	47	1	
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Sulphate (SO4)		mg/L	79	1	86	1	78	1	88	1	
Total Suspended Solids	5	mg/L	<4.0	4					<4.0	4	
Total Hardness (CaCO3)		mg/L	95.4	0.5	89.9	0.5	94.4	0.5	99.3	0.5	
Total Aluminum (Al)		mg/L	0.0151	0.003	0.0098	0.003	0.0088	0.003	0.0113	0.003	
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Total Arsenic (As)	0.005	mg/L	0.00054	0.0001	0.00046	0.0001	0.00045	0.0001	0.00047	0.0001	
Total Barium (Ba)		mg/L	0.0077	0.001	0.006	0.001	0.0066	0.001	0.0069	0.001	
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Boron (B)		mg/L	0.071	0.05	0.068	0.05	0.073	0.05	0.075	0.05	
Total Cadmium (Cd)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Copper (Cu)	0.007	mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Total Iron (Fe)	1	mg/L	0.031	0.01	0.021	0.01	0.021	0.01	0.018	0.01	
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Total Manganese (Mn)	0.8	mg/L	0.0085	0.001	0.0058	0.001	0.0052	0.001	0.0041	0.001	
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Silicon (Si)		mg/L	2.97	0.1	2.84	0.1	2.95	0.1	2.98	0.1	
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Total Strontium (Sr)		mg/L	0.214	0.001	0.203	0.001	0.22	0.001	0.228	0.001	
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Calcium (Ca)		mg/L	32	0.05	30.1	0.05	31.4	0.05	33.4	0.05	
Total Magnesium (Mg)		mg/L	3.74	0.05	3.58	0.05	3.88	0.05	3.89	0.05	
Total Potassium (K)		mg/L	0.365	0.05	0.327	0.05	0.339	0.05	0.357	0.05	
Total Sodium (Na)		mg/L	10.5	0.05	9.94	0.05	10.3	0.05	10.4	0.05	
Total Sulphur (S)		mg/L	29.7	3	25.8	3	27.6	3	28.2	3	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	
Dissolved Hardness (CaCO3)		mg/L	95	0.5	95.5	0.5	97.5	0.5	97.1	0.5	
Dissolved Aluminum (Al)	0.1	mg/L	0.0066	0.003	0.0065	0.003	0.0054	0.003	0.0045	0.003	
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Dissolved Arsenic (As)		mg/L	0.00047	0.0001	0.00047	0.0001	0.00047	0.0001	0.00045	0.0001	
Dissolved Barium (Ba)		mg/L	0.0064	0.001	0.0062	0.001	0.0064	0.001	0.0067	0.001	
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Boron (B)		mg/L	0.075	0.05	0.072	0.05	0.075	0.05	0.073	0.05	
Dissolved Cadmium (Cd)	0.0017	mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Copper (Cu)		mg/L	0.00025	0.0002	0.00027	0.0002	0.00026	0.0002	0.00025	0.0002	
Dissolved Iron (Fe)	0.35	mg/L	0.012	0.005	0.011	0.005	0.0104	0.005	0.0093	0.005	
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Dissolved Manganese (Mn)		mg/L	0.0016	0.001	0.0016	0.001	0.0014	0.001	0.0013	0.001	
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Silicon (Si)		mg/L	2.91	0.1	2.91	0.1	3.01	0.1	2.85	0.1	
Dissolved Silver (Ag)		mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Dissolved Strontium (Sr)		mg/L	0.23	0.001	0.213	0.001	0.228	0.001	0.226	0.001	
Dissolved Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zinc (Zn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Calcium (Ca)		mg/L	31.7	0.05	32	0.05	32.5	0.05	32.4	0.05	
Dissolved Magnesium (Mg)		mg/L	3.86	0.05	3.78	0.05	3.96	0.05	3.96	0.05	
Dissolved Potassium (K)		mg/L	0.349	0.05	0.34	0.05	0.342	0.05	0.351	0.05	
Dissolved Sodium (Na)		mg/L	10.5	0.05	10.3	0.05	10.5	0.05	10.2	0.05	
Dissolved Sulphur (S)		mg/L	26.9	3	28	3	27.7	3	28.3	3	
Total Mercury (Hg)	0.0001	mg/L	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	
Dissolved Mercury (Hg)		mg/L	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	
pH	6.5-9	pH			7.34	N/A					
Total Suspended Solids	5	mg/L			<1.0	1	<1.0	1			
Nitrate plus Nitrite (N)		mg/L									
Total Ammonia (N)		mg/L									
Total Phosphorus (P)		mg/L									

TABLE 32

Rivers Q2		Site Location		Quinsam River							
		Week		Week 2		Week 3		Week 4		Week 5	
		Station Code		WA		WA		WA		WA	
		Sample ID		WA-6AUG19-M		WA-12AUG19-M		WA-19AUG19-M		WA-26AUG19-M	
		EMS ID		Water		Water		Water		Water	
		Sampling Date		2019-08-06		2019-08-12		2019-08-19		2019-08-26	
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (Total as CaCO3)		mg/L	21	1	22	1	20	1	20	1	
Bicarbonate (HCO3)		mg/L	26	1	27	1	24	1	24	1	
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Sulphate (SO4)		mg/L	1.2	1	1.3	1	1.7	1	2.5	1	
Total Suspended Solids	5	mg/L	<4.0	4							
Total Hardness (CaCO3)		mg/L	20.6	0.5	19.3	0.5	20.6	0.5	20.6	0.5	
Total Aluminum (Al)		mg/L	0.0203	0.003	0.0204	0.003	0.0214	0.003	0.0164	0.003	
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Total Arsenic (As)	0.005	mg/L	0.00012	0.0001	0.00011	0.0001	0.00012	0.0001	0.00014	0.0001	
Total Barium (Ba)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Total Cadmium (Cd)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Copper (Cu)	0.007	mg/L	0.00056	0.0005	0.00055	0.0005	0.00056	0.0005	0.00052	0.0005	
Total Iron (Fe)	1	mg/L	0.023	0.01	0.016	0.01	0.021	0.01	0.011	0.01	
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Total Manganese (Mn)	0.8	mg/L	0.0017	0.001	0.0013	0.001	0.0017	0.001	<0.0010	0.001	
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Silicon (Si)		mg/L	2.12	0.1	1.97	0.1	2.03	0.1	1.98	0.1	
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Total Strontium (Sr)		mg/L	0.0118	0.001	0.0105	0.001	0.0111	0.001	0.0116	0.001	
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Calcium (Ca)		mg/L	7.05	0.05	6.53	0.05	6.99	0.05	7	0.05	
Total Magnesium (Mg)		mg/L	0.733	0.05	0.731	0.05	0.768	0.05	0.761	0.05	
Total Potassium (K)		mg/L	0.061	0.05	0.056	0.05	0.056	0.05	0.059	0.05	
Total Sodium (Na)		mg/L	0.626	0.05	0.614	0.05	0.634	0.05	0.621	0.05	
Total Sulphur (S)		mg/L	<3.0	3	<3.0	3	<3.0	3	<3.0	3	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	
Dissolved Hardness (CaCO3)		mg/L	20.3	0.5	20.4	0.5	20.6	0.5	20.2	0.5	
Dissolved Aluminum (Al)	0.1	mg/L	0.017	0.003	0.0163	0.003	0.0164	0.003	0.0196	0.003	
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Dissolved Arsenic (As)		mg/L	0.00012	0.0001	0.0001	0.0001	0.00014	0.0001	0.00018	0.0001	
Dissolved Barium (Ba)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Dissolved Cadmium (Cd)	0.0017	mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Copper (Cu)		mg/L	0.00052	0.0002	0.00056	0.0002	0.00052	0.0002	0.00055	0.0002	
Dissolved Iron (Fe)	0.35	mg/L	0.0129	0.005	0.0096	0.005	0.0132	0.005	0.0163	0.005	
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Dissolved Manganese (Mn)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	0.0016	0.001	
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Silicon (Si)		mg/L	2.01	0.1	1.95	0.1	1.92	0.1	1.96	0.1	
Dissolved Silver (Ag)		mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Dissolved Strontium (Sr)		mg/L	0.0117	0.001	0.0108	0.001	0.0111	0.001	0.0115	0.001	
Dissolved Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zinc (Zn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Calcium (Ca)		mg/L	6.86	0.05	6.92	0.05	7.01	0.05	6.85	0.05	
Dissolved Magnesium (Mg)		mg/L	0.76	0.05	0.753	0.05	0.753	0.05	0.752	0.05	
Dissolved Potassium (K)		mg/L	0.058	0.05	0.057	0.05	0.053	0.05	0.057	0.05	
Dissolved Sodium (Na)		mg/L	0.666	0.05	0.647	0.05	0.62	0.05	0.613	0.05	
Dissolved Sulphur (S)		mg/L	<3.0	3	<3.0	3	<3.0	3	<3.0	3	
Total Mercury (Hg)	0.0001	mg/L	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	3.7E-06	0.000002	
Dissolved Mercury (Hg)		mg/L	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	<0.000002	0.000002	
pH	6.5-9	pH			6.97	N/A					
Total Suspended Solids	5	mg/L			<1.0	1	1.2	1	<1.0	1	
Nitrate plus Nitrite (N)		mg/L									
Total Ammonia (N)		mg/L									
Total Phosphorus (P)		mg/L									

TABLE 33

Rivers Q2	Site Location		Quinsam River									
	Week Station Code Sample ID EMS ID Sampling Date	Week 2		Week 3		Week 3		Week 4		Week 5		
		WB	WB	WB	WB	WB	WB					
		WB-6AUG19-M	WB-12AUG19-M	WB-12AUG19-R	WB-19AUG19-M	WB-26AUG19-M						
		Water	Water	Water	Water	Water						
		2019-08-06	2019-08-12	2019-08-12	2019-08-19	2019-08-26						
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Acidity (pH 8.3)		mg/L	<1.0	1	<1.0	1	1.3	1	1.6	1	<1.0	1
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Alkalinity (Total as CaCO3)		mg/L	27	1	28	1	28	1	24	1	25	1
Bicarbonate (HCO3)		mg/L	33	1	34	1	34	1	30	1	30	1
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Dissolved Sulphate (SO4)		mg/L	9	1	9.1	1	8.6	1	9.2	1	9.4	1
Total Suspended Solids	5	mg/L	<4.0	4								
Total Hardness (CaCO3)		mg/L	25.7	0.5	24.5	0.5	25.6	0.5	27.6	0.5	25.7	0.5
Total Aluminum (Al)		mg/L	0.0146	0.003	0.0145	0.003	0.0143	0.003	0.0146	0.003	0.0135	0.003
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005
Total Arsenic (As)	0.005	mg/L	0.00019	0.0001	0.00017	0.0001	0.00016	0.0001	0.00018	0.0001	0.00019	0.0001
Total Barium (Ba)		mg/L	0.0011	0.001	0.0011	0.001	0.0011	0.001	0.0013	0.001	0.0011	0.001
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001
Total Bismuth (Bi)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05
Total Cadmium (Cd)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002
Total Copper (Cu)	0.007	mg/L	0.00053	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005
Total Iron (Fe)	1	mg/L	0.042	0.01	0.038	0.01	0.038	0.01	0.047	0.01	0.041	0.01
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002
Total Manganese (Mn)	0.8	mg/L	0.0067	0.001	0.0078	0.001	0.0077	0.001	0.0083	0.001	0.0063	0.001
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001
Total Selenium (Se)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001
Total Silicon (Si)		mg/L	1.93	0.1	1.85	0.1	1.91	0.1	1.98	0.1	1.91	0.1
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002
Total Strontium (Sr)		mg/L	0.0321	0.001	0.0283	0.001	0.0287	0.001	0.0309	0.001	0.0288	0.001
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Total Uranium (U)		mg/L	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001
Total Vanadium (V)		mg/L	<0.0050	0.0005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Total Zirconium (Zr)		mg/L	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001
Total Calcium (Ca)		mg/L	8.68	0.05	8.2	0.05	8.57	0.05	9.18	0.05	8.69	0.05
Total Magnesium (Mg)		mg/L	0.981	0.05	0.972	0.05	1.02	0.05	1.14	0.05	0.977	0.05
Total Potassium (K)		mg/L	0.106	0.05	0.106	0.05	0.104	0.05	0.104	0.05	0.104	0.05
Total Sodium (Na)		mg/L	4.24	0.05	3.72	0.05	3.86	0.05	3.72	0.05	3.63	0.05
Total Sulphur (S)		mg/L	3.7	3	<3.0	3	3	3	3.1	3	<3.0	3
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A
Dissolved Hardness (CaCO3)		mg/L	26.9	0.5	26.8	0.5	26.7	0.5	27.6	0.5	25.5	0.5
Dissolved Aluminum (Al)	0.1	mg/L	0.0146	0.003	0.013	0.003	0.0142	0.003	0.0117	0.003	0.0115	0.003
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005
Dissolved Arsenic (As)		mg/L	0.00017	0.0001	0.00017	0.0001	0.00016	0.0001	0.00018	0.0001	0.00021	0.0001
Dissolved Barium (Ba)		mg/L	0.0011	0.001	0.0011	0.001	0.0011	0.001	0.0012	0.001	0.0011	0.001
Dissolved Beryllium (Be)		mg/L	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001
Dissolved Bismuth (Bi)		mg/L	<0.00010	0.001	<0.00010	0.001	<0.00010	0.001	<0.00010	0.001	<0.00010	0.001
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05
Dissolved Cadmium (Cd)	0.0017	mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002
Dissolved Copper (Cu)		mg/L	0.00048	0.0002	0.00047	0.0002	0.00055	0.0002	0.00044	0.0002	0.00046	0.0002
Dissolved Iron (Fe)	0.35	mg/L	0.0288	0.005	0.0283	0.005	0.0297	0.005	0.0297	0.005	0.0275	0.005
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002
Dissolved Manganese (Mn)		mg/L	0.0023	0.001	0.0028	0.001	0.0029	0.001	0.0022	0.001	0.0025	0.001
Dissolved Molybdenum (Mo)		mg/L	0.0013	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001
Dissolved Selenium (Se)		mg/L	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001
Dissolved Silicon (Si)		mg/L	1.95	0.1	1.9	0.1	1.92	0.1	1.94	0.1	1.84	0.1
Dissolved Silver (Ag)		mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002
Dissolved Strontium (Sr)		mg/L	0.0325	0.001	0.0298	0.001	0.0296	0.001	0.0316	0.001	0.0281	0.001
Dissolved Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Dissolved Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Dissolved Uranium (U)		mg/L	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Dissolved Zinc (Zn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005
Dissolved Zirconium (Zr)		mg/L	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001	<0.000010	0.0001
Dissolved Calcium (Ca)		mg/L	9.04	0.05	9	0.05	8.96	0.05	9.22	0.05	8.57	0.05
Dissolved Magnesium (Mg)		mg/L	1.04	0.05	1.05	0.05	1.06	0.05	1.1	0.05	0.994	0.05
Dissolved Potassium (K)		mg/L	0.11	0.05	0.104	0.05	0.106	0.05	0.104	0.05	0.102	0.05
Dissolved Sodium (Na)		mg/L	4.41	0.05	4.06	0.05	4.1	0.05	3.67	0.05	3.67	0.05
Dissolved Sulphur (S)		mg/L	3.8	3	3.3	3	3.3	3	3.4	3	<3.0	3
Total Mercury (Hg)	0.0001	mg/L	<0.000002	0.00000002	<0.00000020	0.00000002	<0.00000020	0.00000002	<0.00000020	0.00000002	3.1E-06	0.00000002
Dissolved Mercury (Hg)		mg/L	<0.0000002	0.00000002	<0.00000020	0.00000002	<0.00000020	0.00000002	<0.00000020	0.00000002	<0.00000020	0.00000002
pH	6.5-9	pH			7.12	N/A	7.34	N/A				
Total Suspended Solids	5	mg/L			<1.0	1	<1.0	1	<1.0	1	<1.0	1
Nitrate plus Nitrite (N)		mg/L										
Total Ammonia (N)		mg/L										
Total Phosphorus (P)		mg/L										

TABLE 34

Rivers Q2		Site Location		Quinsam River							
				Week 2		Week 3		Week 4		Week 5	
		Week		QRDS1		QRDS1		QRDS1		QRDS1	
		Station Code		QRDS1-6AUG19-M		QRDS1-12AUG19-M		QRDS1-26AUG19-M		QRDS-19AUG19-M	
		Sample ID		Water		Water		Water		Water	
		EMS ID		2019-08-06		2019-08-12		2019-08-26		2019-08-19	
Sampling Date											

TABLE 35

Rivers Q2			Site Location		7 South Quinsam River (Downstream of 7S Mining Operation)													
			Week		Week 2		Week 3		Week 4		Week 5		Week 5		Monthly			
			Station Code		7SQR		7SQR		7SQR		7SQR		7SQR		7SQR			
			Sample ID		7SQR-6AUG19-M		7SQR-12AUG19-M		7SQR-19AUG19-M		7SQR-26AUG19-M		7SQR-26AUG19-R		7SQR-18SEPT19-M			
			EMS ID		E292113		E292113		E292113		E292113		E292113		E292113			
			Sampling Date		2019-08-06		2019-08-12		2019-08-19		2019-08-26		2019-08-26		2019-09-18			
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL		
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Acidity (pH 8.3)		mg/L	<1.0	1	1.3	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Alkalinity (Total as CaCO3)		mg/L	29	1	29	1	26	1	26	1	26	1	26	1	28	1		
Bicarbonate (HCO3)		mg/L	35	1	35	1	31	1	32	1	32	1	34	1	34	1		
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Dissolved Sulphate (SO4)		mg/L	9.6	1	7.9	1	8.3	1	9.6	1	9.6	1	16	1	16	1		
Total Suspended Solids	5	mg/L	<4.0	4									<4.0	4				
Total Hardness (CaCO3)		mg/L	26.9	0.5	25.3	0.5	26.8	0.5	26.4	0.5	26.9	0.5	33.5	0.5				
Total Aluminum (Al)		mg/L	0.0157	0.003	0.0169	0.003	0.0145	0.003	0.0146	0.003	0.0123	0.003	0.0179	0.003				
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005		
Total Arsenic (As)	0.005	mg/L	0.00043	0.0001	0.00039	0.0001	0.00043	0.0001	0.00043	0.0001	0.00042	0.0001	0.0004	0.0001	0.0004	0.0001		
Total Barium (Ba)		mg/L	0.0018	0.001	0.0015	0.001	0.0015	0.001	0.0016	0.001	0.0016	0.001	0.0023	0.001				
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05		
Total Cadmium (Cd)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001		
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Total Copper (Cu)	0.007	mg/L	<0.00050	0.0005	<0.00050	0.0005	0.00052	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005		
Total Iron (Fe)	1	mg/L	0.097	0.01	0.085	0.01	0.083	0.01	0.083	0.01	0.081	0.01	0.138	0.01				
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002		
Total Manganese (Mn)	0.8	mg/L	0.0061	0.001	0.0054	0.001	0.0052	0.001	0.0048	0.001	0.0046	0.001	0.007	0.001				
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Total Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Silicon (Si)		mg/L	2.08	0.1	1.93	0.1	2.04	0.1	1.99	0.1	2.02	0.1	2.24	0.1				
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002		
Total Strontium (Sr)		mg/L	0.0395	0.001	0.0314	0.001	0.0322	0.001	0.0328	0.001	0.0329	0.001	0.0508	0.001				
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001		
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005		
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Total Calcium (Ca)		mg/L	9.05	0.05	8.45	0.05	8.88	0.05	8.87	0.05	9.03	0.05	11.2	0.05				
Total Magnesium (Mg)		mg/L	1.04	0.05	1.02	0.05	1.11	0.05	1.04	0.05	1.07	0.05	1.37	0.05				
Total Potassium (K)		mg/L	0.132	0.05	0.122	0.05	0.117	0.05	0.122	0.05	0.124	0.05	0.206	0.05				
Total Sodium (Na)		mg/L	4.99	0.05	4.23	0.05	4.12	0.05	4.11	0.05	4.19	0.05	6.64	0.05				
Total Sulphur (S)		mg/L	4	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	5.3	3				
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A		
Dissolved Hardness (CaCO3)		mg/L	27.5	0.5	26.9	0.5	27.8	0.5	26.5	0.5	26.6	0.5	32.5	0.5				
Dissolved Aluminum (Al)	0.1	mg/L	0.0092	0.003	0.0084	0.003	0.0085	0.003	0.0076	0.003	0.0077	0.003	0.0095	0.003				
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005		
Dissolved Arsenic (As)		mg/L	0.00039	0.0001	0.00038	0.0001	0.00041	0.0001	0.00042	0.0001	0.00042	0.0001	0.00037	0.0001				
Dissolved Barium (Ba)		mg/L	0.0018	0.001	0.0015	0.001	0.0015	0.001	0.0015	0.001	0.0015	0.001	0.0021	0.001				
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05		
Dissolved Cadmium (Cd)	0.0017	mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001		
Dissolved Chromium (Cr)		mg/L	0.0018	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Copper (Cu)		mg/L	0.00045	0.0002	0.0005	0.0002	0.00044	0.0002	0.00045	0.0002	0.00042	0.0002	0.00045	0.0002				
Dissolved Iron (Fe)	0.35	mg/L	0.0607	0.005	0.0581	0.005	0.0563	0.005	0.051	0.005	0.0515	0.005	0.0814	0.005				
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002		
Dissolved Manganese (Mn)		mg/L	0.0052	0.001	0.0047	0.001	0.0044	0.001	0.004	0.001	0.004	0.001	0.0058	0.001				
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001		
Dissolved Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001		
Dissolved Silicon (Si)		mg/L	2.04	0.1	2.03	0.1	2.04	0.1	1.97	0.1	1.97	0.1	2.07	0.1				

TABLE 36

Rivers Q2		Site Location		Quinsam River Downstream of the Confluence with the Iron River											
		Week		Week 2		Week 3		Week 4		Week 5		Week 5		Monthly	
Station Code		IRQR		IRQR		IRQR		IRQR		IRQR		IRQR		IRQR	
Sample ID		IRQR-6AUG19-M		IRQR-12AUG19-M		IRQR-19AUG19-M		IRQR-19AUG19-R		IRQR-26AUG19-M		IRQR-18SEPT19-M			
EMS ID		E299256		E299256		E299256		E299256		E299256		E299256		E299256	
Sampling Date		2019-08-06		2019-08-12		2019-08-19		2019-08-19		2019-08-26		2019-09-18			
Parameter Name	WQG-Max	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	2.7	1	1.5	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (Total as CaCO3)		mg/L	33	1	35	1	28	1	28	1	28	1	32	1	
Bicarbonate (HCO3)		mg/L	41	1	43	1	35	1	34	1	34	1	39	1	
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Sulphate (SO4)		mg/L	7.9	1	7	1	7.9	1	7.7	1	9.2	1	10	1	
Total Suspended Solids	5	mg/L	<4.0	4									<4.0	4	
Total Hardness (CaCO3)		mg/L	31.7	0.5	31.1	0.5	30.5	0.5	29.6	0.5	29.7	0.5	36.1	0.5	
Total Aluminum (Al)		mg/L	0.0177	0.003	0.0177	0.003	0.0238	0.003	0.0151	0.003	0.0133	0.003	0.0225	0.003	
Total Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Total Arsenic (As)	0.005	mg/L	0.00071	0.0001	0.00067	0.0001	0.00053	0.0001	0.00051	0.0001	0.00046	0.0001	0.00079	0.0001	
Total Barium (Ba)		mg/L	0.0031	0.001	0.0033	0.001	0.0024	0.001	0.0024	0.001	0.0024	0.001	0.0037	0.001	
Total Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Total Cadmium (Cd)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Cobalt (Co)	0.05	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Copper (Cu)	0.007	mg/L	0.00074	0.0005	0.00053	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	0.0006	0.0005	
Total Iron (Fe)	1	mg/L	0.075	0.01	0.073	0.01	0.08	0.01	0.08	0.01	0.078	0.01	0.096	0.01	
Total Lead (Pb)	0.005	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Total Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Total Manganese (Mn)	0.8	mg/L	0.0051	0.001	0.0045	0.001	0.0049	0.001	0.005	0.001	0.0048	0.001	0.0051	0.001	
Total Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Nickel (Ni)	0.025	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Total Selenium (Se)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	0.0001	0.0001	
Total Silicon (Si)		mg/L	2.44	0.1	2.26	0.1	2.38	0.1	2.19	0.1	2.23	0.1	2.4	0.1	
Total Silver (Ag)	0.0001	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Total Strontium (Sr)		mg/L	0.042	0.001	0.0382	0.001	0.0369	0.001	0.0358	0.001	0.0365	0.001	0.0468	0.001	
Total Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Total Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zinc (Zn)	0.03	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Total Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Total Calcium (Ca)		mg/L	10.9	0.05	10.7	0.05	10.3	0.05	9.99	0.05	9.98	0.05	12.4	0.05	
Total Magnesium (Mg)		mg/L	1.07	0.05	1.09	0.05	1.19	0.05	1.12	0.05	1.16	0.05	1.24	0.05	
Total Potassium (K)		mg/L	0.166	0.05	0.155	0.05	0.141	0.05	0.136	0.05	0.143	0.05	0.215	0.05	
Total Sodium (Na)		mg/L	4.16	0.05	3.43	0.05	4.03	0.05	3.83	0.05	3.97	0.05	4.44	0.05	
Total Sulphur (S)		mg/L	3.4	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	4.2	3	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	
Dissolved Hardness (CaCO3)		mg/L	31.3	0.5	34	0.5	30.1	0.5	30.8	0.5	28.9	0.5	35.2	0.5	
Dissolved Aluminum (Al)	0.1	mg/L	0.0112	0.003	0.0098	0.003	0.0083	0.003	0.0086	0.003	0.0076	0.003	0.0149	0.003	
Dissolved Antimony (Sb)		mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Dissolved Arsenic (As)		mg/L	0.00066	0.0001	0.0007	0.0001	0.00049	0.0001	0.00051	0.0001	0.00048	0.0001	0.00072	0.0001	
Dissolved Barium (Ba)		mg/L	0.0031	0.001	0.0034	0.001	0.0024	0.001	0.0024	0.001	0.0023	0.001	0.0037	0.001	
Dissolved Beryllium (Be)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Boron (B)		mg/L	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	<0.050	0.05	
Dissolved Cadmium (Cd)	0.0017	mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Cobalt (Co)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Copper (Cu)		mg/L	0.00051	0.0002	0.00051	0.0002	0.00041	0.0002	0.00044	0.0002	0.00042	0.0002	0.00061	0.0002	
Dissolved Iron (Fe)	0.35	mg/L	0.0498	0.005	0.0463	0.005	0.053	0.005	0.0535	0.005	0.0484	0.005	0.0597	0.005	
Dissolved Lead (Pb)		mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	
Dissolved Manganese (Mn)		mg/L	0.0044	0.001	0.0039	0.001	0.0043	0.001	0.0044	0.001	0.004	0.001	0.0039	0.001	
Dissolved Molybdenum (Mo)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Nickel (Ni)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Selenium (Se)		mg/L	<0.00010	0.0001	0.0001	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	0.00012	0.0001	
Dissolved Silicon (Si)		mg/L	2.35	0.1	2.35	0.1	2.23	0.1	2.27	0.1	2.14	0.1	2.32	0.1	
Dissolved Silver (Ag)		mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Dissolved Strontium (Sr)		mg/L	0.0407	0.001	0.0397	0.001	0.0359	0.001	0.0368	0.001	0.0354	0.001	0.0459	0.001	
Dissolved Thallium (Tl)		mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Titanium (Ti)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Uranium (U)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	&				

TABLE 37

Dissolved Metals- Lakes				No Name Lake 1 M				
Parameter	Criteria ¹	Units	RDL	NNL1-7AUG19-M B966030 / WG8110 2019-08-07	NNL1-7AUG19-R B966030 / WG8111 2019-08-07	NNL1-14AUG19-M B968030 / WH7236 2019-08-14	NNL1-21AUG19-M B970198 / WI7903 2019-08-21	NNL1-28AUG19-M B972248 / WJ8207 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	15.3	15.2	16.1	15.9	16.6
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0126	0.0127	0.0146	0.0116	0.0122
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00039	0.00037	0.00037	0.00037	0.00041
Dissolved Barium (Ba)		mg/L	0.001	<0.0010	<0.0010	0.0011	0.0011	0.0011
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	4.52	4.46	4.7	4.67	4.88
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00039	0.00037	0.00086	0.00033	0.00035
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.046	0.0463	0.0758	0.0644	0.0655
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	0.978	0.98	1.06	1.03	1.07
Dissolved Manganese (Mn)		mg/L	0.001	0.0024	0.0023	0.0045	0.0026	0.002
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000031
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.061	0.06	0.062	0.063	0.062
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	2.66	2.66	2.88	2.88	2.97
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	1.27	1.28	1.37	1.23	1.32
Dissolved Strontium (Sr)		mg/L	0.001	0.0143	0.0145	0.0144	0.0146	0.0151
Dissolved Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 38

Dissolved Metals- Lakes				No Name Lake 4 M				
Parameter	Criteria ¹	Units	RDL		NNL4-14AUG19-M B968030 / WH7237 2019-08-14	NNL4-14AUG19-R B968030 / WH7240 2019-08-14	NNL4-21AUG19-M B970198 / WI7904 2019-08-21	NNL4-28AUG19-M B972248 / WJ8208 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	16.1	16.8	16.6	16.1	16.2
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0159	0.0196	0.0195	0.015	0.0111
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00043	0.00041	0.00041	0.00035	0.00037
Dissolved Barium (Ba)		mg/L	0.001	0.0012	0.0013	0.0013	0.0012	0.0011
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	4.74	4.91	4.87	4.76	4.78
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00037	0.0004	0.0004	0.00046	0.00035
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0924	0.119	0.119	0.0765	0.0702
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	1.04	1.1	1.09	1.03	1.03
Dissolved Manganese (Mn)		mg/L	0.001	0.0036	0.0065	0.0065	0.0038	0.002
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.0025
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.065	0.074	0.069	0.065	0.063
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	2.84	3.06	3.05	2.91	2.9
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	1.26	1.29	1.28	1.21	1.27
Dissolved Strontium (Sr)		mg/L	0.001	0.0152	0.0149	0.0149	0.0148	0.0153
Dissolved Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 39

Dissolved Metals- Lakes				No Name Lake 9 M			
Parameter	Criteria ¹	Units	RDL	NNL9-7AUG19-M B966030 / WG8113 2019-08-07	NNL9-14AUG19-M B968030 / WH7238 2019-08-14	NNL9-21AUG19-M B970198 / WI7905 2019-08-21	NNL9-28AUG19-M B972248 / WJ8209 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	14.6	15	14.3	15
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0309	0.0308	0.0263	0.0292
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00013	0.00015	0.00017	0.00012
Dissolved Barium (Ba)		mg/L	0.001	0.0013	0.0014	0.0013	0.0014
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	4.41	4.44	4.32	4.57
Dissolved Chromium (Cr)		mg/L	0.001	0.0011	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00035	0.00034	0.00033	0.00033
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0493	0.0449	0.0409	0.0489
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	0.87	0.939	0.863	0.865
Dissolved Manganese (Mn)		mg/L	0.001	0.0083	0.0072	0.006	0.0087
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	0.0016	0.0085	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.075	0.078	0.077	0.073
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	3.22	3.33	3.05	3.38
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	1.06	1.14	1.05	1.08
Dissolved Strontium (Sr)		mg/L	0.001	0.0161	0.0154	0.015	0.0159
Dissolved Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 40

Dissolved Metals- Lakes				No Name Lake 1 Meter from Bottom			
Parameter	Criteria ¹	Units	RDL	NNLB-7AUG19-M B966030 / WG8114 2019-08-07	NNLB-14AUG19-M B968030 / WH7239 2019-08-14	NNLB-21AUG19-M B970198 / WI7906 2019-08-21	NNLB-28AUG19-M B972248 / WJ8210 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	14.9	15.5	14.6	14.8
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0185	0.0374	0.0304	0.0294
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.0003	0.00026	0.00014	0.00013
Dissolved Barium (Ba)		mg/L	0.001	0.0011	0.0016	0.0014	0.0015
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	4.43	4.68	4.42	4.49
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00046	0.00039	0.00032	0.00035
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0473	0.19	0.0665	0.0607
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	0.932	0.927	0.867	0.878
Dissolved Manganese (Mn)		mg/L	0.001	0.004	0.0159	0.0114	0.0111
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.065	0.081	0.079	0.079
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	2.81	3.76	3.46	3.5
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	1.21	1.14	1.04	1.09
Dissolved Strontium (Sr)		mg/L	0.001	0.0152	0.0167	0.0159	0.0162
Dissolved Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 41

Dissolved Metals- Lakes				Long Lake 1 M				
Parameter	Criteria ¹	Units	RDL	LLM1-7AUG19-M B966026 / WG8087 2019-08-07	LLM1-14AUG19-M B968025 / WH7196 2019-08-14	LLM1-21AUG19-M B970208 / WI7929 2019-08-21	LLM1-28AUG19-M B972245 / WJ8197 2019-08-28	LLM1-28AUG19-M Lab-Dup B972245 / WJ8197 2019-08-28
Dissolved Hardness (CaCO ₃)		mg/L	0.5	97.8	93.2	96.1	103	-
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0078	0.0123	0.0072	0.0067	0.0064
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00053	0.00051	0.00053	0.00051	0.00054
Dissolved Barium (Ba)		mg/L	0.001	0.0062	0.0064	0.0063	0.0065	0.0064
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	0.076	0.074	0.07	0.086	0.083
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	32.7	31.1	32.1	34.5	-
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00027	0.00035	0.00026	0.00031	0.00029
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0138	0.0266	0.0137	0.014	0.0139
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	3.93	3.78	3.85	4.16	-
Dissolved Manganese (Mn)		mg/L	0.001	<0.0010	0.0047	0.0011	0.0017	0.0017
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	-
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.351	0.348	0.347	0.362	-
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	3.03	3	3	3.08	3.08
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	10.6	10.2	10	11.2	-
Dissolved Strontium (Sr)		mg/L	0.001	0.232	0.216	0.219	0.24	0.24
Dissolved Sulphur (S)		mg/L	3	27.8	27.1	27.7	29.6	-
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 42

Dissolved Metals- Lakes				Long Lake 4 M				
Parameter	Criteria ¹	Units	RDL	LLM4-7AUG19-M B966026 / WG8088 2019-08-07	LLM4-14AUG19-M B968025 / WH7197 2019-08-14	LLM4-21AUG19-M B970208 / WI7930 2019-08-21	LLM4-21AUG19-R B970208 / WI7933 2019-08-21	LLM4-28AUG19-M B972245 / WI8198 2019-08-28
Dissolved Hardness (CaCO ₃)		mg/L	0.5	95.3	92.9	96	96.5	103
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0074	0.0074	0.0076	0.0075	0.0066
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00051	0.00054	0.00052	0.00051	0.00053
Dissolved Barium (Ba)		mg/L	0.001	0.0059	0.0064	0.0063	0.0064	0.0064
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	0.075	0.073	0.071	0.071	0.082
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	31.8	30.9	32.2	32.3	34.4
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00027	0.00028	0.00027	0.00028	0.00028
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0163	0.0125	0.0141	0.0206	0.0136
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	3.84	3.8	3.79	3.85	4.08
Dissolved Manganese (Mn)		mg/L	0.001	<0.0010	<0.0010	<0.0010	0.005	<0.0010
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.338	0.342	0.35	0.347	0.358
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	3	2.99	2.99	2.92	3.01
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	10.2	10.1	10.1	9.99	10.9
Dissolved Strontium (Sr)		mg/L	0.001	0.224	0.219	0.223	0.22	0.24
Dissolved Sulphur (S)		mg/L	3	27	27.2	27.7	27.4	28.9
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 43

Dissolved Metals- Lakes				Long Lake 9 M			
Parameter	Criteria ¹	Units	RDL	LLM9-7AUG19-M B966026 / WG8089 2019-08-07	LLM9-14AUG19-M B968025 / WH7198 2019-08-14	LLM9-21AUG19-M B970208 / WI7931 2019-08-21	LLM9-28AUG19-M B972245 / WJ8199 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	141	145	143	151
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0086	0.0092	0.0072	0.0073
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00025	0.00023	0.00022	0.0002
Dissolved Barium (Ba)		mg/L	0.001	0.0071	0.0075	0.0075	0.0075
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	0.115	0.119	0.114	0.124
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	47.9	48.8	48.8	51.5
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00027	0.0003	0.00024	0.00028
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0102	0.0123	0.0087	0.0089
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	0.0031	0.0031	0.0031	0.0029
Dissolved Magnesium (Mg)		mg/L	0.05	5.18	5.18	5.21	5.48
Dissolved Manganese (Mn)		mg/L	0.001	0.0048	0.0077	0.0128	0.0132
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.545	0.571	0.577	0.595
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	3.23	3.46	3.39	3.49
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	18.2	18.7	18.5	19.8
Dissolved Strontium (Sr)		mg/L	0.001	0.378	0.381	0.376	0.398
Dissolved Sulphur (S)		mg/L	3	42.4	45.2	45.4	45.6
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 44

Dissolved Metals- Lakes				Long Lake 1 Meter from Bottom				
Parameter	Criteria ¹	Units	RDL	LLMB-7AUG19-M B966026 / WG8090 2019-08-07	LLMB-14AUG19-M B968025 / WH7199 2019-08-14	LLMB-21AUG19-M B970208 / WI7932 2019-08-21	LLMB-21AUG19-M Lab-Dup B970208 / WI7932 2019-08-21	LLMB-28AUG19-M B972245 / WI8200 2019-08-28
Dissolved Hardness (CaCO ₃)		mg/L	0.5	151	126	145	-	151
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0071	0.0087	0.0067	-	0.0063
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	-	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.0002	0.00034	0.0002	-	0.00016
Dissolved Barium (Ba)		mg/L	0.001	0.0109	0.0087	0.0095	-	0.0101
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	-	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	-	<0.0010
Dissolved Boron (B)		mg/L	0.05	0.122	0.104	0.117	-	0.124
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	-	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	51.3	42.8	49.6	-	51.5
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	-	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	-	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00026	0.00031	0.00028	-	0.0003
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0093	0.0125	0.0074	-	0.0073
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	-	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	0.0033	0.0025	0.0031	-	0.0029
Dissolved Magnesium (Mg)		mg/L	0.05	5.46	4.73	5.26	-	5.44
Dissolved Manganese (Mn)		mg/L	0.001	0.234	0.12	0.0925	-	0.0323
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	0.0017	<0.0010	-	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	-	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.593	0.504	0.589	-	0.592
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	-	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	3.97	3.54	3.89	-	4.05
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	-	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	19.4	15.9	18.8	-	19.9
Dissolved Strontium (Sr)		mg/L	0.001	0.408	0.333	0.381	-	0.41
Dissolved Sulphur (S)		mg/L	3	46.9	39.2	45.6	-	47
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	-	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	-	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	-	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 45

Dissolved Metals- Lakes				Middle Quinsam Lake 1 M						
Parameter	Criteria ¹	Units	RDL		MQL1-7AUG19-M B966040 / WG8159 2019-08-07	MQL1-14AUG19-M B968035 / WH7250 2019-08-14	MQL1-21AUG19-M B970216 / WI7969 2019-08-21	MQL1-21AUG19-M Lab-Dup B970216 / WI7969 2019-08-21	MQL1-28AUG19-M B972241 / WJ8180 2019-08-28	MQL1-28AUG19-M Lab-Dup B972241 / WJ8180 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	24.6	24.7	24.7	-	24	-	
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0137	0.0125	0.0124	0.0122	0.0117	0.0115	
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Dissolved Arsenic (As)		mg/L	0.0001	0.00015	0.00013	0.00016	0.00015	0.00014	0.00014	
Dissolved Barium (Ba)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Dissolved Calcium (Ca)		mg/L	0.05	8.31	8.29	8.29	-	8.13	-	
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Dissolved Copper (Cu)		mg/L	0.0002	0.00046	0.00049	0.00038	0.00038	0.00044	0.00044	
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0232	0.0259	0.0272	0.0276	0.0261	0.0263	
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Dissolved Magnesium (Mg)		mg/L	0.05	0.939	0.97	0.974	-	0.91	-	
Dissolved Manganese (Mn)		mg/L	0.001	0.0011	<0.0010	<0.0010	<0.0010	0.0012	0.0012	
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	-	<0.0000020	-	
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Potassium (K)		mg/L	0.05	0.098	0.098	0.092	-	0.094	-	
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Dissolved Silicon (Si)		mg/L	0.1	1.81	1.92	1.94	1.91	1.85	1.83	
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	
Dissolved Sodium (Na)		mg/L	0.05	4.07	3.64	3.47	-	3.25	-	
Dissolved Strontium (Sr)		mg/L	0.001	0.0268	0.0247	0.0238	0.0237	0.023	0.0232	
Dissolved Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	-	<3.0	-	
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Legend										
Exceeds one Criteria	Result									
Criteria 1	Quinsam WQG & WQO - Lakes - MAX									

TABLE 46

Dissolved Metals- Lakes				Middle Quinsam Lake 4 M				
Parameter	Criteria ¹	Units	RDL	MQL4-14AUG19-M B968035 / WH7251 2019-08-14	MQL4-21AUG19-M B970216 / WI7970 2019-08-21	MQL4-28AUG19-M B972241 / WJ8181 2019-08-28	MQL4-28AUG19-R B972241 / WJ8182 2019-08-28	MQL4-7AUG19-M B966040 / WG8160 2019-08-07
Dissolved Hardness (CaCO3)		mg/L	0.5	24.8	24.6	24	23.6	25.3
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0128	0.0121	0.0112	0.0114	0.0136
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00014	0.00016	0.00015	0.00015	0.00016
Dissolved Barium (Ba)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	8.32	8.26	8.12	7.95	8.54
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00047	0.00038	0.00044	0.00042	0.00049
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0277	0.0276	0.0273	0.0269	0.0211
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	0.977	0.972	0.904	0.908	0.977
Dissolved Manganese (Mn)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.095	0.094	0.09	0.089	0.104
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	1.92	1.93	1.83	1.8	1.81
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	3.51	3.43	3.1	3.06	4.44
Dissolved Strontium (Sr)		mg/L	0.001	0.0244	0.0243	0.0227	0.0225	0.0291
Dissolved Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 47

Dissolved Metals- Lakes				Middle Quinsam Lake 9 M				
Parameter	Criteria ¹	Units	RDL		MLQ9-7AUG19-M B966040 / WG8161 2019-08-07	MLQ9-14AUG19-M B968035 / WH7252 2019-08-14	MLQ9-21AUG19-M B970216 / WI7971 2019-08-21	MLQ9-28AUG19-M B972241 / WJ8183 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	50.6	49.1	46.9	45.9	
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0101	0.0107	0.0089	0.0075	
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	
Dissolved Arsenic (As)		mg/L	0.0001	0.00012	<0.00010	0.00015	0.00015	
Dissolved Barium (Ba)		mg/L	0.001	0.0022	0.0024	0.0021	0.0022	
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Boron (B)		mg/L	0.05	0.083	0.079	0.07	0.073	
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	
Dissolved Calcium (Ca)		mg/L	0.05	16.9	16.3	15.7	15.4	
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	
Dissolved Copper (Cu)		mg/L	0.0002	0.00048	0.00056	0.00041	0.00046	
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0076	0.0195	0.0104	0.008	
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	
Dissolved Magnesium (Mg)		mg/L	0.05	2.04	2.02	1.88	1.81	
Dissolved Manganese (Mn)		mg/L	0.001	<0.0010	0.0071	<0.0010	<0.0010	
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	
Dissolved Potassium (K)		mg/L	0.05	0.351	0.36	0.324	0.318	
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	
Dissolved Silicon (Si)		mg/L	0.1	1.28	1.27	1.29	1.2	
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	
Dissolved Sodium (Na)		mg/L	0.05	27.9	28	24.5	23.9	
Dissolved Strontium (Sr)		mg/L	0.001	0.109	0.111	0.0957	0.0989	
Dissolved Sulphur (S)		mg/L	3	20.8	21	17.9	17.6	
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 48

Dissolved Metals- Lakes				Middle Quinsam Lake 1 Meter from Bottom				
Parameter	Criteria ¹	Units	RDL	MLB-7AUG19-M B966040 / WG8162 2019-08-07	MLB-14AUG19-M B968035 / WH7253 2019-08-14	MLB-14AUG19-M Lab-Dup B968035 / WH7253 2019-08-14	MLB-21AUG19-M B970216 / W17972 2019-08-21	MLB-28AUG19-M B972241 / W18184 2019-08-28
Dissolved Hardness (CaCO ₃)		mg/L	0.5	51.7	51.8	-	52.6	51.7
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0054	0.0056	0.0059	0.0046	0.0042
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00011	<0.00010	<0.00010	0.00011	0.00011
Dissolved Barium (Ba)		mg/L	0.001	0.003	0.0032	0.0032	0.0029	0.0033
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	0.085	0.079	0.079	0.08	0.081
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	17.1	17.1	-	17.6	17.3
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00045	0.00048	0.00049	0.00041	0.00043
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0188	0.0178	0.0179	0.0157	0.0156
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	2.2	2.19	-	2.1	2.09
Dissolved Manganese (Mn)		mg/L	0.001	0.0097	0.0094	0.0095	0.006	0.0102
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	-	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	0.0014	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.355	0.366	-	0.368	0.362
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	1.46	1.5	1.51	1.32	1.55
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	28.1	28.6	-	28	27.3
Dissolved Strontium (Sr)		mg/L	0.001	0.106	0.107	0.108	0.107	0.105
Dissolved Sulphur (S)		mg/L	3	20.7	21.2	-	20.7	19.8
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 49

Dissolved Metals- Lakes				Lower Quinsam Lake 1 M			
Parameter	Criteria ¹	Units	RDL	LQL1-7AUG19-M B966038 / WG8154 2019-08-07	LQL1-14AUG19-M B968032 / WH7242 2019-08-14	LQL1-21AUG19-M B970219 / WI7976 2019-08-21	LQL1-28AUG19-M B972242 / WJ8185 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	33.5	33.8	33.5	32.4
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0092	0.0095	0.0077	0.007
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00063	0.00068	0.00062	0.00059
Dissolved Barium (Ba)		mg/L	0.001	0.0029	0.0031	0.003	0.0029
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	11.3	11.3	11.3	10.9
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00049	0.00051	0.00037	0.00041
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0327	0.0588	0.0368	0.0285
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	1.29	1.32	1.29	1.24
Dissolved Manganese (Mn)		mg/L	0.001	0.0025	0.0059	0.0013	<0.0010
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	0.0016	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.199	0.2	0.187	0.185
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	2.06	2.2	2.23	2.1
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	9.54	8.65	8.02	7.74
Dissolved Strontium (Sr)		mg/L	0.001	0.0537	0.0506	0.0477	0.0484
Dissolved Sulphur (S)		mg/L	3	6	5.5	5.6	5
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 50

Dissolved Metals- Lakes				Lower Quinsam Lake 4 M			
Parameter	Criteria ¹	Units	RDL	LQL4-7AUG19-M B966038 / WG8155 2019-08-07	LQL4-14AUG19-M B968032 / WH7243 2019-08-14	LQL4-21AUG19-M B970219 / WI7977 2019-08-21	LQL4-28AUG19-M B972242 / WJ8186 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	33.1	33.5	33.5	32.3
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0096	0.0094	0.0078	0.0068
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00059	0.00067	0.00064	0.00057
Dissolved Barium (Ba)		mg/L	0.001	0.003	0.0031	0.0029	0.0029
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	11.2	11.3	11.2	10.8
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00051	0.00051	0.0004	0.00043
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0388	0.0568	0.0368	0.0297
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	1.26	1.3	1.33	1.27
Dissolved Manganese (Mn)		mg/L	0.001	0.0024	0.0068	0.0013	<0.0010
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.192	0.2	0.187	0.186
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	2.12	2.23	2.26	2.07
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	8.2	8.19	8.25	7.69
Dissolved Strontium (Sr)		mg/L	0.001	0.0506	0.0492	0.0489	0.0473
Dissolved Sulphur (S)		mg/L	3	5.3	5.2	5.6	4.9
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 51

Dissolved Metals- Lakes				Lower Quinsam Lake 9 M				
Parameter	Criteria ¹	Units	RDL	LQL9-7AUG19-M B966038 / WG8156 2019-08-07	LQL9-14AUG19-M B968032 / WH7244 2019-08-14	LQL9-21AUG19-M B970219 / WI7978 2019-08-21	LQL9-21AUG19-M Lab-Dup B970219 / WI7978 2019-08-21	LQL9-28AUG19-M B972242 / WJ8187 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	33.6	34.3	34.3	-	33.9
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0133	0.0134	0.0094	-	0.0113
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	-	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.0005	0.00051	0.00063	-	0.00048
Dissolved Barium (Ba)		mg/L	0.001	0.0032	0.0034	0.0032	-	0.0033
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	-	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	-	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	-	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	<0.000010	<0.000010	<0.000010	-	0.000012
Dissolved Calcium (Ca)		mg/L	0.05	11.3	11.5	11.5	-	11.5
Dissolved Chromium (Cr)		mg/L	0.001	0.0011	<0.0010	<0.0010	-	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	-	<0.00020
Dissolved Copper (Cu)		mg/L	0.0002	0.00052	0.00055	0.0004	-	0.00047
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.0473	0.0556	0.0433	-	0.0507
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	-	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	-	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	1.29	1.36	1.34	-	1.29
Dissolved Manganese (Mn)		mg/L	0.001	0.0036	0.0043	0.0029	-	0.0057
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	-	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	-	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.233	0.247	0.208	-	0.235
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	0.0001	<0.00010	-	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	2.16	2.24	2.25	-	2.11
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	-	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	11.4	11.6	8.98	-	10.8
Dissolved Strontium (Sr)		mg/L	0.001	0.0591	0.0582	0.0512	-	0.0576
Dissolved Sulphur (S)		mg/L	3	8	8.4	6	-	7.9
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	-	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	-	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	-	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	-	<0.00010
Legend								
Exceeds one Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 52

Dissolved Metals- Lakes				Lower Quinsam Lake 1 Meter from Bottom			
Parameter	Criteria ¹	Units	RDL	LQLB-7AUG19-M B966038 / WG8157 2019-08-07	LQLB-14AUG19-M B968032 / WH7245 2019-08-14	LQLB-21AUG19-M B970219 / WI7979 2019-08-21	LQLB-28AUG19-M B972242 / WJ8188 2019-08-28
Dissolved Hardness (CaCO3)		mg/L	0.5	35.4	36.9	35.9	35.7
Dissolved Aluminum (Al)	0.1	mg/L	0.003	0.0143	0.0213	0.0155	0.0126
Dissolved Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Arsenic (As)		mg/L	0.0001	0.00076	0.00091	0.0009	0.00078
Dissolved Barium (Ba)		mg/L	0.001	0.006	0.0072	0.0074	0.008
Dissolved Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	0.00017	mg/L	0.00001	0.00001	0.00001	<0.000010	<0.000010
Dissolved Calcium (Ca)		mg/L	0.05	12	12.4	12.1	12.1
Dissolved Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)		mg/L	0.0002	0.00025	0.00031	0.00038	0.00039
Dissolved Copper (Cu)		mg/L	0.0002	0.00057	0.00068	0.00049	0.00051
Dissolved Iron (Fe)	0.35	mg/L	0.005	0.312	0.385	0.419	0.397
Dissolved Lead (Pb)		mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Dissolved Magnesium (Mg)		mg/L	0.05	1.32	1.43	1.37	1.33
Dissolved Manganese (Mn)		mg/L	0.001	0.354	0.431	0.437	0.461
Dissolved Mercury (Hg)		mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Dissolved Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Nickel (Ni)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Potassium (K)		mg/L	0.05	0.254	0.276	0.265	0.261
Dissolved Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Silicon (Si)		mg/L	0.1	2.67	2.91	2.87	2.82
Dissolved Silver (Ag)		mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Sodium (Na)		mg/L	0.05	11.1	11.4	11.3	10.6
Dissolved Strontium (Sr)		mg/L	0.001	0.0626	0.0623	0.0612	0.0612
Dissolved Sulphur (S)		mg/L	3	7.8	7.9	8.2	7.3
Dissolved Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zinc (Zn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 53

Total Metals- Lakes				No Name Lake 1 M				
Parameter	Criteria ¹	Units	RDL	NNL1-7AUG19-M B966030 / WG8110 2019-08-07	NNL1-7AUG19-R B966030 / WG8111 2019-08-07	NNL1-14AUG19-M B968030 / WH7236 2019-08-14	NNL1-21AUG19-M B970198 / WI7903 2019-08-21	NNL1-28AUG19-M B972248 / WJ8207 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	15.5	15.5	16.1	15.5	16.5
Total Aluminum (Al)		mg/L	0.003	0.0145	0.0147	0.012	0.0133	0.0134
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00036	0.00038	0.00041	0.00039	0.0004
Total Barium (Ba)		mg/L	0.001	<0.0010	<0.0010	0.0011	0.0011	0.0011
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	4.52	4.53	4.7	4.56	4.89
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.066	0.066	0.06	0.087	0.086
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	1.03	1.02	1.05	0.995	1.05
Total Manganese (Mn)	0.8	mg/L	0.001	0.0039	0.004	0.0028	0.0047	0.0041
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.062	0.062	0.063	0.061	0.064
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	2.65	2.68	2.72	2.74	3.03
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	1.23	1.27	1.3	1.23	1.31
Total Strontium (Sr)		mg/L	0.001	0.0141	0.0142	0.0142	0.0138	0.015
Total Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 54

Total Metals- Lakes				No Name Lake 4 M				
Parameter	Criteria ¹	Units	RDL	NNL4-7AUG19-M B966030 / WG8112 2019-08-07	NNL4-14AUG19-M B968030 / WH7237 2019-08-14	NNL4-14AUG19-R B968030 / WH7240 2019-08-14	NNL4-21AUG19-M B970198 / WI7904 2019-08-21	NNL4-28AUG19-M B972248 / WJ8208 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	16.1	16.8	16.3	16.3	16.6
Total Aluminum (Al)		mg/L	0.003	0.0189	0.0156	0.0149	0.0153	0.0131
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00043	0.00042	0.00037	0.00039	0.0004
Total Barium (Ba)		mg/L	0.001	0.0013	0.0012	0.0012	0.0012	0.0011
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	4.7	4.89	4.79	4.81	4.88
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.124	0.091	0.087	0.102	0.09
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	1.06	1.1	1.06	1.05	1.06
Total Manganese (Mn)	0.8	mg/L	0.001	0.0065	0.0044	0.0042	0.0054	0.0043
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.066	0.069	0.068	0.064	0.059
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	2.8	2.93	2.82	2.88	2.92
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	1.24	1.29	1.23	1.25	1.29
Total Strontium (Sr)		mg/L	0.001	0.0147	0.015	0.0147	0.0144	0.0151
Total Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 55

Total Metals- Lakes				No Name Lake 9 M			
Parameter	Criteria ²	Units	RDL	NNL9-7AUG19-M B966030 / WG8113 2019-08-07	NNL9-14AUG19-M B968030 / WH7238 2019-08-14	NNL9-21AUG19-M B970198 / WI7905 2019-08-21	NNL9-28AUG19-M B972248 / WJ8209 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	14.6	14.8	14	15.1
Total Aluminum (Al)		mg/L	0.003	0.0334	0.0357	0.0304	0.0348
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00019	0.00018	0.00017	0.00015
Total Barium (Ba)		mg/L	0.001	0.0014	0.0014	0.0014	0.0014
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	4.4	4.44	4.2	4.57
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.104	0.098	0.083	0.102
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	0.883	0.909	0.854	0.89
Total Manganese (Mn)	0.8	mg/L	0.001	0.0111	0.0111	0.01	0.0125
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.072	0.077	0.072	0.076
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	3.26	3.15	2.96	3.41
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	1.06	1.16	1.04	1.08
Total Strontium (Sr)		mg/L	0.001	0.0156	0.0154	0.0142	0.0162
Total Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 56

Total Metals- Lakes				No Name Lake 1 Meter from Bottom				
Parameter	Criteria ¹	Units	RDL	NNLB-7AUG19-M B966030 / WG8114 2019-08-07	NNLB-14AUG19-M B968030 / WH7239 2019-08-14	NNLB-21AUG19-M B970198 / WI7906 2019-08-21	NNLB-28AUG19-M B972248 / WJ8210 2019-08-28	NNLB-28AUG19-M Lab-Dup B972248 / WJ8210 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	15.1	15.4	14.3	15.2	-
Total Aluminum (Al)		mg/L	0.003	0.0239	0.0323	0.0356	0.0349	0.0351
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.0003	0.00021	0.00018	0.00018	0.00016
Total Barium (Ba)		mg/L	0.001	0.0012	0.0016	0.0015	0.0016	0.0015
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	4.41	4.59	4.34	4.59	-
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.088	0.128	0.134	0.135	0.133
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	0.99	0.946	0.847	0.905	-
Total Manganese (Mn)	0.8	mg/L	0.001	0.0073	0.0136	0.0147	0.0152	0.015
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	-
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.067	0.082	0.076	0.081	-
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	2.86	3.49	3.35	3.61	3.52
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	1.19	1.11	1.04	1.12	-
Total Strontium (Sr)		mg/L	0.001	0.0146	0.0165	0.0149	0.0163	0.0163
Total Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	-
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 57

Total Metals- Lakes				Long Lake 1 M			
Parameter	Criteria ¹	Units	RDL	LLM1-7AUG19-M B966026 / WG8087 2019-08-07	LLM1-14AUG19-M B968025 / WH7196 2019-08-14	LLM1-21AUG19-M B970208 / WI7929 2019-08-21	LLM1-28AUG19-M B972245 / WJ8197 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	97.6	95.8	93.6	103
Total Aluminum (Al)		mg/L	0.003	0.008	0.008	0.0082	0.0084
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00052	0.00054	0.00052	0.00053
Total Barium (Ba)		mg/L	0.001	0.0063	0.0064	0.0062	0.0064
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	0.073	0.072	0.07	0.079
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	32.8	31.9	31.3	34.3
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	0.00071	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.022	0.014	0.022	0.02
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	3.78	3.94	3.76	4.19
Total Manganese (Mn)	0.8	mg/L	0.001	0.0039	<0.0010	0.005	0.005
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.342	0.347	0.336	0.355
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	3.05	2.89	2.86	3.11
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	9.97	10.6	10	11.3
Total Strontium (Sr)		mg/L	0.001	0.217	0.22	0.209	0.24
Total Sulphur (S)		mg/L	3	29.1	27.7	26.7	29
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 58

Total Metals- Lakes				Long Lake 4 M			
Parameter	Criteria ¹	Units	RDL	LLM4-7AUG19-M B966026 / WG8088 2019-08-07	LLM4-14AUG19-M B968025 / WH7197 2019-08-14	LLM4-21AUG19-M B970208 / WI7930 2019-08-21	LLM4-21AUG19-R B970208 / WI7933 2019-08-21
Total Hardness (CaCO3)		mg/L	0.5	96.4	96.6	94.7	95
Total Aluminum (Al)		mg/L	0.003	0.0087	0.0085	0.007	0.0077
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00053	0.00056	0.00054	0.00052
Total Barium (Ba)		mg/L	0.001	0.0062	0.0064	0.0062	0.0063
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	0.076	0.073	0.072	0.071
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	32.3	32.2	31.6	31.7
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.028	0.023	0.015	0.021
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	3.86	3.94	3.82	3.83
Total Manganese (Mn)	0.8	mg/L	0.001	0.0044	0.0046	0.0011	0.0051
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.356	0.345	0.343	0.347
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	3.06	2.88	2.9	2.86
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	10.1	10.5	10.3	10.3
Total Strontium (Sr)		mg/L	0.001	0.221	0.216	0.206	0.213
Total Sulphur (S)		mg/L	3	28	27.7	27.5	27.4
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 59

Total Metals- Lakes				Long Lake 9 M				
Parameter	Criteria ¹	Units	RDL	LLM4-28AUG19-M B972245 / WJ8198 2019-08-28	LLM9-7AUG19-M B966026 / WG8089 2019-08-07	LLM9-14AUG19-M B968025 / WH7198 2019-08-14	LLM9-21AUG19-M B970208 / WI7931 2019-08-21	LLM9-28AUG19-M B972245 / WJ8199 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	102	141	146	140	151
Total Aluminum (Al)		mg/L	0.003	0.0087	0.0088	0.0077	0.0082	0.0086
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00054	0.00023	0.00022	0.00023	0.00019
Total Barium (Ba)		mg/L	0.001	0.0066	0.0072	0.0074	0.0073	0.0076
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	0.08	0.112	0.116	0.114	0.124
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	33.8	48.1	49.7	47.8	51.3
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.023	0.017	<0.010	0.014	0.015
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	0.003	0.003	0.003	0.003
Total Magnesium (Mg)		mg/L	0.05	4.13	5.1	5.36	5.12	5.51
Total Manganese (Mn)	0.8	mg/L	0.001	0.0059	0.009	0.0041	0.0159	0.0163
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.359	0.549	0.578	0.56	0.585
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	3	3.31	3.29	3.28	3.49
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	11.3	17.9	19.6	18.5	19.8
Total Strontium (Sr)		mg/L	0.001	0.243	0.368	0.383	0.363	0.402
Total Sulphur (S)		mg/L	3	29.9	46.3	46.2	43.9	46.3
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 60

Total Metals- Lakes				Long Lake 1 Meter from Bottom			
Parameter	Criteria ¹	Units	RDL	LLMB-7AUG19-M B966026 / WG8090 2019-08-07	LLMB-14AUG19-M B968025 / WH7199 2019-08-14	LLMB-21AUG19-M B970208 / WI7932 2019-08-21	LLMB-28AUG19-M B972245 / WJ8200 2019-08-28
Total Hardness (CaCO ₃)		mg/L	0.5	146	127	145	152
Total Aluminum (Al)		mg/L	0.003	0.0095	0.01	0.0131	0.0088
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00025	0.00034	0.00026	0.00024
Total Barium (Ba)		mg/L	0.001	0.0111	0.0088	0.01	0.0113
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	0.112	0.103	0.116	0.121
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	49.8	42.9	49.5	51.7
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.05	0.037	0.037	0.041
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	0.003	0.0024	0.003	0.0029
Total Magnesium (Mg)		mg/L	0.05	5.28	4.89	5.21	5.48
Total Manganese (Mn)	0.8	mg/L	0.001	0.306	0.176	0.214	0.247
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.605	0.496	0.583	0.591
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	3.92	3.34	3.69	4.09
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	18.6	16.3	18.9	19.8
Total Strontium (Sr)		mg/L	0.001	0.384	0.323	0.374	0.411
Total Sulphur (S)		mg/L	3	47.3	39.3	45	46.8
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 61

Total Metals- Lakes				Middle Quinsam Lake 1 M				
Parameter	Criteria ¹	Units	RDL	MQL1-7AUG19-M B966040 / WG8159 2019-08-07	MQL1-14AUG19-M B968035 / WH7250 2019-08-14	MQL1-21AUG19-M B970216 / WI7969 2019-08-21	MQL1-28AUG19-M B972241 / WJ8180 2019-08-28	MQL1-28AUG19-M Lab-Dup B972241 / WJ8180 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	24.3	23.8	23.5	24.1	-
Total Aluminum (Al)		mg/L	0.003	0.0147	0.0141	0.0133	0.0136	0.0131
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00016	0.00017	0.00014	0.00018	0.00017
Total Barium (Ba)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	8.14	7.99	7.91	8.07	-
Total Chromium (Cr)		mg/L	0.001	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	0.00051	0.0005	<0.00050	0.00057	0.00058
Total Iron (Fe)	1	mg/L	0.01	0.034	0.038	0.037	0.041	0.042
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	0.961	0.923	0.914	0.968	-
Total Manganese (Mn)	0.8	mg/L	0.001	0.0048	0.0054	0.0045	0.0044	0.0044
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	-
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.101	0.096	0.093	0.095	-
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	1.83	1.84	1.78	1.96	1.99
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	3.98	3.44	3.27	3.41	-
Total Strontium (Sr)		mg/L	0.001	0.026	0.025	0.0232	0.0244	0.0243
Total Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	-
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 62

Total Metals- Lakes				Middle Quinsam Lake 4 M				
Parameter	Criteria ¹	Units	RDL	MLQ4-7AUG19-M B966040 / WG8160 2019-08-07	MLQ4-14AUG19-M B968035 / WH7251 2019-08-14	MLQ4-21AUG19-M B970216 / WI7970 2019-08-21	MLQ4-28AUG19-M B972241 / WJ8181 2019-08-28	MLQ4-28AUG19-R B972241 / WJ8182 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	25.6	24.2	24.1	24.9	25.2
Total Aluminum (Al)		mg/L	0.003	0.0147	0.0145	0.0131	0.0141	0.0143
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00017	0.00017	0.00017	0.00017	0.00018
Total Barium (Ba)		mg/L	0.001	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	8.57	8.14	8.11	8.37	8.45
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	0.00053	0.00051	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.035	0.042	0.04	0.046	0.048
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	1.02	0.939	0.925	0.983	0.988
Total Manganese (Mn)	0.8	mg/L	0.001	0.0052	0.0057	0.0046	0.0046	0.0047
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.101	0.095	0.093	0.093	0.097
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	1.86	1.81	1.83	1.99	2.03
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	4.43	3.48	3.31	3.3	3.38
Total Strontium (Sr)		mg/L	0.001	0.0275	0.0239	0.0232	0.0241	0.0248
Total Sulphur (S)		mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 63

Total Metals- Lakes				Middle Quinsam Lake 9 M				
Parameter	Criteria ¹	Units	RDL	MLQ9-7AUG19-M B966040 / WG8161 2019-08-07	MLQ9-14AUG19-M B968035 / WH7252 2019-08-14	MLQ9-21AUG19-M B970216 / WI7971 2019-08-21	MLQ9-28AUG19-M B972241 / WJ8183 2019-08-28	MLQB-7AUG19-M B966040 / WG8162 2019-08-07
Total Hardness (CaCO3)		mg/L	0.5	49.6	49.6	44	47.9	52
Total Aluminum (Al)		mg/L	0.003	0.0106	0.0091	0.011	0.0101	0.0073
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00013	0.00015	0.00016	0.00015	0.00012
Total Barium (Ba)		mg/L	0.001	0.0024	0.0023	0.002	0.0023	0.0031
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	0.083	0.077	0.068	0.078	0.082
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	16.5	16.6	14.8	15.9	17.2
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	0.00059	0.00055	0.00058	0.00056	0.00052
Total Iron (Fe)	1	mg/L	0.01	0.028	<0.010	0.019	0.019	0.046
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	2.01	2.01	1.74	2	2.2
Total Manganese (Mn)	0.8	mg/L	0.001	0.0088	<0.0010	0.0047	0.0045	0.0157
Total Mercury (Hg)	0.0001	mg/L	0.000002	0.0000039	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	0.0011	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.342	0.356	0.309	0.352	0.359
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	1.27	1.22	1.25	1.28	1.53
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	27.3	27.6	23	26.3	28.5
Total Strontium (Sr)		mg/L	0.001	0.107	0.108	0.0898	0.107	0.105
Total Sulphur (S)		mg/L	3	20	20.3	16.5	20.2	20.2
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 64

Total Metals- Lakes				Middle Quinsam Lake 1 Meter from Bottom			
Parameter	Criteria ¹	Units	RDL	MLQB-7AUG19-M Lab-Dup B966040 / WG8162 2019-08-07	MLQB-14AUG19-M B968035 / WH7253 2019-08-14	MLQB-21AUG19-M B970216 / WI7972 2019-08-21	MLQB-28AUG19-M B972241 / WJ8184 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	-	51.7	50.9	52.6
Total Aluminum (Al)		mg/L	0.003	0.0076	0.0111	0.0094	0.0064
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00012	0.00012	0.00013	0.00012
Total Barium (Ba)		mg/L	0.001	0.0032	0.0031	0.003	0.0033
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	0.084	0.082	0.078	0.083
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	-	17.2	17	17.4
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	0.00051	0.00055	0.00053	<0.00050
Total Iron (Fe)	1	mg/L	0.01	0.047	0.043	0.035	0.033
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	-	2.11	2.03	2.18
Total Manganese (Mn)	0.8	mg/L	0.001	0.0159	0.0151	0.012	0.015
Total Mercury (Hg)	0.0001	mg/L	0.000002	-	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	-	0.362	0.363	0.361
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	1.54	1.46	1.3	1.66
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	-	27.4	27.5	27.4
Total Strontium (Sr)		mg/L	0.001	0.109	0.112	0.103	0.112
Total Sulphur (S)		mg/L	3	-	19.8	19.9	21.2
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 65

Total Metals- Lakes				Lower Quinsam Lake 1 M			
Parameter	Criteria ¹	Units	RDL	LQL1-7AUG19-M B966038 / WG8154 2019-08-07	LQL1-14AUG19-M B968032 / WH7242 2019-08-14	LQL1-21AUG19-M B970219 / WI7976 2019-08-21	LQL1-28AUG19-M B972242 / WJ8185 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	33.5	33.3	33.6	33
Total Aluminum (Al)		mg/L	0.003	0.0102	0.012	0.0096	0.009
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00066	0.00069	0.00072	0.00064
Total Barium (Ba)		mg/L	0.001	0.0031	0.003	0.0031	0.003
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	11.2	11.2	11.3	11.1
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	0.00051	0.0005	<0.00050	0.00053
Total Iron (Fe)	1	mg/L	0.01	0.05	0.041	0.056	0.044
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	1.35	1.3	1.3	1.28
Total Manganese (Mn)	0.8	mg/L	0.001	0.0055	0.0027	0.0062	0.0056
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	0.0000056
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	0.0061	0.0012	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.202	0.203	0.192	0.195
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	2.09	2.21	2.22	2.14
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	9.51	8.62	8.28	8.2
Total Strontium (Sr)		mg/L	0.001	0.0513	0.0515	0.0499	0.0491
Total Sulphur (S)		mg/L	3	6.2	5.1	5.1	5.2
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 66

Total Metals- Lakes				Lower Quinsam Lake 4 M			
Parameter	Criteria ¹	Units	RDL	LQL4-7AUG19-M B966038 / WG8155 2019-08-07	LQL4-14AUG19-M B968032 / WH7243 2019-08-14	LQL4-21AUG19-M B970219 / WI7977 2019-08-21	LQL4-28AUG19-M B972242 / WJ8186 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	33	33.2	34.3	33.4
Total Aluminum (Al)		mg/L	0.003	0.0106	0.0085	0.0143	0.0092
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00065	0.00068	0.00071	0.00066
Total Barium (Ba)		mg/L	0.001	0.003	0.003	0.0031	0.003
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	11.1	11.2	11.5	11.2
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	0.00053	0.00051	0.00057	0.00053
Total Iron (Fe)	1	mg/L	0.01	0.063	0.038	0.058	0.049
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	1.28	1.29	1.33	1.29
Total Manganese (Mn)	0.8	mg/L	0.001	0.0061	0.0023	0.0064	0.0061
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	0.003	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.191	0.2	0.197	0.194
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	2.2	2.17	2.24	2.17
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	8.3	8.02	8.32	8.2
Total Strontium (Sr)		mg/L	0.001	0.0483	0.0503	0.05	0.0485
Total Sulphur (S)		mg/L	3	5.1	5	5.5	5.3
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 67

Total Metals- Lakes				Lower Quinsam Lake 9 M			
Parameter	Criteria ²	Units	RDL	LQL9-7AUG19-M B966038 / WG8156 2019-08-07	LQL9-14AUG19-M B968032 / WH7244 2019-08-14	LQL9-21AUG19-M B970219 / WI7978 2019-08-21	LQL9-28AUG19-M B972242 / WJ8187 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	33.6	34.5	34.1	35.1
Total Aluminum (Al)		mg/L	0.003	0.0175	0.0215	0.0109	0.014
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00058	0.00053	0.00069	0.00052
Total Barium (Ba)		mg/L	0.001	0.0034	0.0033	0.0032	0.0034
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)		mg/L	0.05	11.2	11.7	11.5	11.8
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Copper (Cu)	0.007	mg/L	0.0005	0.00057	0.00059	0.00052	0.00067
Total Iron (Fe)	1	mg/L	0.01	0.07	0.075	0.067	0.075
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	1.33	1.3	1.3	1.36
Total Manganese (Mn)	0.8	mg/L	0.001	0.0096	0.0094	0.0079	0.0115
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.237	0.241	0.205	0.252
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	2.13	2.23	2.24	2.2
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	11.1	11.3	9.18	11.8
Total Strontium (Sr)		mg/L	0.001	0.056	0.0603	0.0517	0.0586
Total Sulphur (S)		mg/L	3	7.8	7.7	5.9	8.6
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 68

Total Metals- Lakes				Lower Quinsam Lake 1 Meter from Bottom			
Parameter	Criteria ¹	Units	RDL	LQLB-7AUG19-M B966038 / WG8157 2019-08-07	LQLB-14AUG19-M B968032 / WH7245 2019-08-14	LQLB-21AUG19-M B970219 / WI7979 2019-08-21	LQLB-28AUG19-M B972242 / WJ8188 2019-08-28
Total Hardness (CaCO3)		mg/L	0.5	35.1	35.8	37.2	37.3
Total Aluminum (Al)		mg/L	0.003	0.0251	0.0266	0.0273	0.0218
Total Antimony (Sb)		mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050
Total Arsenic (As)	0.005	mg/L	0.0001	0.00149	0.00165	0.00171	0.00162
Total Barium (Ba)		mg/L	0.001	0.0064	0.0069	0.0076	0.0083
Total Beryllium (Be)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Boron (B)		mg/L	0.05	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)		mg/L	0.00001	0.000011	0.000015	0.000011	0.000011
Total Calcium (Ca)		mg/L	0.05	11.8	12.1	12.5	12.6
Total Chromium (Cr)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	0.05	mg/L	0.0002	0.00031	0.00041	0.00046	0.0005
Total Copper (Cu)	0.007	mg/L	0.0005	0.0007	0.00068	0.00065	0.00064
Total Iron (Fe)	1	mg/L	0.01	0.746	0.861	0.991	1.09
Total Lead (Pb)	0.005	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020
Total Lithium (Li)		mg/L	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Total Magnesium (Mg)		mg/L	0.05	1.39	1.36	1.44	1.4
Total Manganese (Mn)	0.8	mg/L	0.001	0.346	0.437	0.465	0.532
Total Mercury (Hg)	0.0001	mg/L	0.000002	<0.0000020	<0.0000020	<0.0000020	0.0000033
Total Molybdenum (Mo)		mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Nickel (Ni)	0.025	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Total Potassium (K)		mg/L	0.05	0.256	0.262	0.273	0.269
Total Selenium (Se)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Silicon (Si)		mg/L	0.1	2.72	2.82	2.93	3.07
Total Silver (Ag)	0.0001	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020
Total Sodium (Na)		mg/L	0.05	11.2	11	11.6	11.5
Total Strontium (Sr)		mg/L	0.001	0.0599	0.0621	0.0635	0.0642
Total Sulphur (S)		mg/L	3	8	7.3	8.6	7.8
Total Thallium (Tl)		mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010
Total Tin (Sn)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Titanium (Ti)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Uranium (U)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)		mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zinc (Zn)	0.03	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050
Total Zirconium (Zr)		mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 69

				No Name Lake 1 M				
Parameter	Criteria ¹	Units	RDL	NNL1-7AUG19-M	NNL1-7AUG19-R	NNL1-14AUG19-M	NNL1-21AUG19-M	NNL1-28AUG19-M
				B966030 / WG8110	B966030 / WG8111	B968030 / WH7236	B970198 / WI7903	B972248 / WJ8207
				2019-08-07	2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others								
Dissolved Sulphate (SO4)		mg/L	1	2.4	1.4	2.1	1.5	1.9
Turbidity		NTU	0.1	0.27	0.3	0.26	0.31	0.28
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	<10	-
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 70

				No Name Lake 4 M				
Parameter	Criteria ¹	Units	RDL	NNL4-7AUG19-M	NNL4-14AUG19-M	NNL4-14AUG19-R	NNL4-21AUG19-M	NNL4-28AUG19-M
				B966030 / WG8112	B968030 / WH7237	B968030 / WH7240	B970198 / WI7904	B972248 / WJ8208
				2019-08-07	2019-08-14	2019-08-14	2019-08-21	2019-08-28
Others								
Dissolved Sulphate (SO4)		mg/L	1	2.4	<1.0	2.5	1.6	1.8
Turbidity		NTU	0.1	0.49	0.37	0.24	0.31	0.27
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	<10	-
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 71

				No Name Lake 9 M				
Parameter	Criteria ¹	Units	RDL	NNL9-7AUG19-M	NNL9-7AUG19-M Lab-Dup	NNL9-14AUG19-M	NNL9-21AUG19-M	NNL9-28AUG19-M
				B966030 / WG8113	B966030 / WG8113	B968030 / WH7238	B970198 / WI7905	B972248 / WJ8209
				2019-08-07	2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others								
Dissolved Sulphate (SO4)		mg/L	1	2.4	2.3	3.9	4.2	4.2
Turbidity		NTU	0.1	0.73	-	0.36	0.44	0.47
Dissolved Phosphorus (P)		ug/L	10	<10	-	<10	<10	-
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 72

				No Name Lake 1 Meter from Bottom				
Parameter	Criteria ¹	Units	RDL	NNLB-7AUG19-M	NNLB-14AUG19-M	NNLB-14AUG19-M Lab-Dup	NNLB-21AUG19-M	NNLB-28AUG19-M
				B966030 / WG8114	B968030 / WH7239	B968030 / WH7239	B970198 / WI7906	B972248 / WJ8210
				2019-08-07	2019-08-14	2019-08-14	2019-08-21	2019-08-28
Others								
Dissolved Sulphate (SO4)		mg/L	1	2.5	4.8	-	4.7	4.7
Turbidity		NTU	0.1	0.52	0.51	0.55	0.53	0.38
Dissolved Phosphorus (P)		ug/L	10	<10	<10	-	<10	-
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 73

				Long Lake 1 M			
Parameter	Criteria ¹	Units	RDL	LLM1-7AUG19-M	LLM1-14AUG19-M	LLM1-21AUG19-M	LLM1-28AUG19-M
				B966026 / WG8087	B968025 / WH7196	B970208 / WI7929	B972245 / WJ8197
				2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others							
Dissolved Sulphate (SO4)		mg/L	1	79	84	85	83
Turbidity		NTU	0.1	0.26	0.19	0.55	0.28
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 74

Long Lake 4 M									
Parameter	Criteria ¹	Units	RDL	LLM4-7AUG19-M	LLM4-14AUG19-M	LLM4-21AUG19-M	LLM4-21AUG19-R	LLM4-21AUG19-R Lab-Dup	LLM4-28AUG19-M
				B966026 / WG8088	B968025 / WH7197	B970208 / WI7930	B970208 / WI7933	B970208 / WI7933	B972245 / WJ8198
				2019-08-07	2019-08-14	2019-08-21	2019-08-21	2019-08-21	2019-08-28
Others									
Dissolved Sulphate (SO4)		mg/L	1	74	81	87	85	84	82
Turbidity		NTU	0.1	0.22	0.22	0.17	0.19	-	0.2
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	<10	-	-
Legend									
Exceeds one Criteria	Result								
DL > Criteria	Result								
Criteria 1	Quinsam WQG & WQO - Lakes - MAX								

TABLE 75

				Long Lake 9 M			
Parameter	Criteria ¹	Units	RDL	LLM9-7AUG19-M	LLM9-14AUG19-M	LLM9-21AUG19-M	LLM9-28AUG19-M
				B966026 / WG8089	B968025 / WH7198	B970208 / WI7931	B972245 / WJ8199
				2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others							
Dissolved Sulphate (SO4)		mg/L	1	130	130	140	130
Turbidity		NTU	0.1	0.23	0.16	0.18	0.22
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 76

				Long Lake 1 Meter from Bottom			
Parameter	Criteria ¹	Units	RDL	LLMB-7AUG19-M	LLMB-14AUG19-M	LLMB-21AUG19-M	LLMB-28AUG19-M
				B966026 / WG8090	B968025 / WH7199	B970208 / WI7932	B972245 / WJ8200
				2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others							
Dissolved Sulphate (SO4)		mg/L	1	130	120	140	130
Turbidity		NTU	0.1	1	0.77	1	2.2
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 77

Middle Quinsam Lake 1 M									
Parameter	Criteria ¹	Units	RDL	MQL1-7AUG19-M	MQL1-14AUG19-M	MQL1-21AUG19-M	MQL1-21AUG19-M Lab-Dup	MQL1-28AUG19-M	MQL1-28AUG19-M Lab-Dup
				B966040 / WG8159	B968035 / WH7250	B970216 / WI7969	B970216 / WI7969	B972241 / WJ8180	B972241 / WJ8180
				2019-08-07	2019-08-14	2019-08-21	2019-08-21	2019-08-28	2019-08-28
Others									
Dissolved Sulphate (SO4)		mg/L	1	7.6	7.6	5.8	-	7.9	7.5
Turbidity		NTU	0.1	0.26	0.37	0.19	-	0.21	-
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	<10	<10	<10
Legend									
Exceeds one Criteria	Result								
DL > Criteria	Result								
Criteria 1	Quinsam WQG & WQO - Lakes - MAX								

TABLE 78

				Middle Quinsam Lake 4 M				
Parameter	Criteria ¹	Units	RDL	MQL4-7AUG19-M	MQL4-14AUG19-M	MQL4-21AUG19-M	MQL4-28AUG19-M	MQL4-28AUG19-R
				B966040 / WG8160	B968035 / WH7251	B970216 / WI7970	B972241 / WJ8181	B972241 / WJ8182
				2019-08-07	2019-08-14	2019-08-21	2019-08-28	2019-08-28
Others								
Dissolved Sulphate (SO4)		mg/L	1	9.3	7.3	5.3	6.8	6.6
Turbidity		NTU	0.1	1.3	0.29	0.22	0.23	0.22
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	<10	<10
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 79

				Middle Quinsam Lake 9 M				
Parameter	Criteria ¹	Units	RDL	MQL9-7AUG19-M	MQL9-14AUG19-M	MQL9-21AUG19-M	MQL9-21AUG19-M Lab-Dup	MQL9-28AUG19-M
				B966040 / WG8161	B968035 / WH7252	B970216 / WI7971	B970216 / WI7971	B972241 / WJ8183
				2019-08-07	2019-08-14	2019-08-21	2019-08-21	2019-08-28
Others								
Dissolved Sulphate (SO4)		mg/L	1	58	60	49	-	51
Turbidity		NTU	0.1	0.36	0.31	0.29	0.29	0.27
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-	<10
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 80

				Middle Quinsam Lake 1 Meter from Bottom				
Parameter	Criteria ¹	Units	RDL	MQLB-7AUG19-M	MQLB-14AUG19-M	MQLB-14AUG19-M Lab-Dup	MQLB-21AUG19-M	MQLB-28AUG19-M
				B966040 / WG8162	B968035 / WH7253	B968035 / WH7253	B970216 / WI7972	B972241 / WJ8184
				2019-08-07	2019-08-14	2019-08-14	2019-08-21	2019-08-28
Others								
Dissolved Sulphate (SO4)		mg/L	1	58	60	-	61	63
Turbidity		NTU	0.1	0.3	0.27	-	0.32	0.54
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	<10	<10
Legend								
Exceeds one Criteria	Result							
DL > Criteria	Result							
Criteria 1	Quinsam WQG & WQO - Lakes - MAX							

TABLE 81

				<i>Lower Quinsam Lake 1 M</i>			
<i>Parameter</i>	<i>Criteria</i> ¹	<i>Units</i>	<i>RDL</i>	LQL1-7AUG19-M	LQL1-14AUG19-M	LQL1-21AUG19-M	LQL1-28AUG19-M
				B966038 / WG8154	B968032 / WH7242	B970219 / WI7976	B972242 / WJ8185
				2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others							
Dissolved Sulphate (SO4)		mg/L	1	17	16	13	16
Turbidity		NTU	0.1	0.24	0.33	0.26	0.35
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 82

				<i>Lower Quinsam Lake 4 M</i>			
<i>Parameter</i>	<i>Criteria</i> ¹	<i>Units</i>	<i>RDL</i>	LQL4-7AUG19-M	LQL4-14AUG19-M	LQL4-21AUG19-M	LQL4-28AUG19-M
				B966038 / WG8155	B968032 / WH7243	B970219 / WI7977	B972242 / WJ8186
				2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others							
Dissolved Sulphate (SO4)		mg/L	1	15	15	14	15
Turbidity		NTU	0.1	0.3	0.32	0.25	0.23
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 83

				<i>Lower Quinsam Lake 9 M</i>			
<i>Parameter</i>	<i>Criteria</i> ¹	<i>Units</i>	<i>RDL</i>	LQL9-7AUG19-M	LQL9-14AUG19-M	LQL9-21AUG19-M	LQL9-28AUG19-M
				B966038 / WG8156	B968032 / WH7244	B970219 / WI7978	B972242 / WJ8187
				2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others							
Dissolved Sulphate (SO4)		mg/L	1	23	25	17	24
Turbidity		NTU	0.1	0.29	0.39	0.3	0.3
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 84

				Lower Quinsam Lake 1 Meter from Bottom			
Parameter	Criteria ¹	Units	RDL	LQLB-7AUG19-M	LQLB-14AUG19-M	LQLB-21AUG19-M	LQLB-28AUG19-M
				B966038 / WG8157	B968032 / WH7245	B970219 / WI7979	B972242 / WJ8188
				2019-08-07	2019-08-14	2019-08-21	2019-08-28
Others							
Dissolved Sulphate (SO4)		mg/L	1	23	23	21	22
Turbidity		NTU	0.1	3.5	4.2	5.1	5.5
Dissolved Phosphorus (P)		ug/L	10	<10	<10	<10	-
Legend							
Exceeds one Criteria	Result						
DL > Criteria	Result						
Criteria 1	Quinsam WQG & WQO - Lakes - MAX						

TABLE 85

Maximum Values Summary Table

Sample ID	Project	BV Labs Sample ID	BV Labs Job ID	Parameter	Matrix	Criteria ¹	Criteria ²	Result	Units
LLM9-28AUG19-M	LONG LAKE WEEK 5	WJ8199	8972245	Dissolved Hardness (CaCO3)	Water			151	mg/L
NNLB-14AUG19-M	NNL WEEK 3	WH7239	8968030	Dissolved Aluminum (Al)	Water	0.1		0.0374	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Antimony (Sb)	Water			<0.00050	mg/L
LQLB-14AUG19-M	LQL WEEK 3	WH7245	8968032	Dissolved Arsenic (As)	Water			0.00091	mg/L
LLMB-7AUG19-M	LONG LAKE WEEK 2	WG8090	8966026	Dissolved Barium (Ba)	Water			0.0109	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Beryllium (Be)	Water			<0.00010	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Bismuth (Bi)	Water			<0.0010	mg/L
LLM9-28AUG19-M	LONG LAKE WEEK 5	WJ8199	8972245	Dissolved Boron (B)	Water			0.124	mg/L
LQL9-28AUG19-M	LQL WEEK 5	WJ8187	8972242	Dissolved Cadmium (Cd)	Water	0.00017		0.000012	mg/L
LLM9-28AUG19-M	LONG LAKE WEEK 5	WJ8199	8972245	Dissolved Calcium (Ca)	Water			51.5	mg/L
LQL9-7AUG19-M	LQL WEEK 2	WG8156	8966038	Dissolved Chromium (Cr)	Water			0.0011	mg/L
LQLB-28AUG19-M	LQL WEEK 5	WJ8188	8972242	Dissolved Cobalt (Co)	Water			0.00039	mg/L
NNL1-14AUG19-M	NNL WEEK 3	WH7236	8968030	Dissolved Copper (Cu)	Water			0.00086	mg/L
LQLB-21AUG19-M	LQL WEEK 4	WJ7979	8970219	Dissolved Iron (Fe)	Water	0.35		0.419	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Lead (Pb)	Water			<0.00020	mg/L
LLMB-7AUG19-M	LONG LAKE WEEK 2	WG8090	8966026	Dissolved Lithium (Li)	Water			0.0033	mg/L
LLM9-28AUG19-M	LONG LAKE WEEK 5	WJ8199	8972245	Dissolved Magnesium (Mg)	Water			5.48	mg/L
LQLB-28AUG19-M	LQL WEEK 5	WJ8188	8972242	Dissolved Manganese (Mn)	Water			0.461	mg/L
NNL1-28AUG19-M	NNL WEEK 5	WJ8207	8972248	Dissolved Mercury (Hg)	Water			0.0000031	mg/L
NNL9-21AUG19-M	NNL WEEK 4	WJ7905	8970198	Dissolved Molybdenum (Mo)	Water			0.0085	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Nickel (Ni)	Water			<0.0010	mg/L
LLM9-28AUG19-M	LONG LAKE WEEK 5	WJ8199	8972245	Dissolved Potassium (K)	Water			0.595	mg/L
LQL9-14AUG19-M	LQL WEEK 3	WH7244	8968032	Dissolved Selenium (Se)	Water			0.0001	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Dissolved Silicon (Si)	Water			4.05	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Silver (Ag)	Water			<0.000020	mg/L
MQLB-14AUG19-M	MQL WEEK 3	WH7253	8968035	Dissolved Sodium (Na)	Water			28.6	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Dissolved Strontium (Sr)	Water			0.41	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Dissolved Sulphur (S)	Water			47	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Thallium (Tl)	Water			<0.000010	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Tin (Sn)	Water			<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Titanium (Ti)	Water			<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Uranium (U)	Water			<0.00010	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Vanadium (V)	Water			<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Zinc (Zn)	Water			<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Zirconium (Zr)	Water			<0.00010	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Total Hardness (CaCO3)	Water			152	mg/L
NNL9-14AUG19-M	NNL WEEK 3	WH7238	8968030	Total Aluminum (Al)	Water			0.0357	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Antimony (Sb)	Water			<0.00050	mg/L
LQLB-21AUG19-M	LQL WEEK 4	WJ7979	8970219	Total Arsenic (As)	Water	0.005		0.00171	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Total Barium (Ba)	Water			0.113	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Beryllium (Be)	Water			<0.00010	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Bismuth (Bi)	Water			<0.0010	mg/L
LLM9-28AUG19-M	LONG LAKE WEEK 5	WJ8199	8972245	Total Boron (B)	Water			0.124	mg/L
LQLB-14AUG19-M	LQL WEEK 3	WH7245	8968032	Total Cadmium (Cd)	Water			0.000015	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Total Calcium (Ca)	Water			51.7	mg/L
MQL1-7AUG19-M	MQL WEEK 2	WG8159	8966040	Total Chromium (Cr)	Water			0.001	mg/L
LQLB-28AUG19-M	LQL WEEK 5	WJ8188	8972242	Total Cobalt (Co)	Water	0.05		0.0005	mg/L
LLM1-14AUG19-M	LONG LAKE WEEK 3	WH7196	8968025	Total Copper (Cu)	Water	0.007		0.00071	mg/L
LQLB-28AUG19-M	LQL WEEK 5	WJ8188	8972242	Total Iron (Fe)	Water			1.09	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Lead (Pb)	Water	0.005		<0.00020	mg/L
LLM9-14AUG19-M	LONG LAKE WEEK 3	WH7198	8968025	Total Lithium (Li)	Water			0.003	mg/L
LLM9-28AUG19-M	LONG LAKE WEEK 5	WJ8199	8972245	Total Magnesium (Mg)	Water			5.51	mg/L
LQLB-28AUG19-M	LQL WEEK 5	WJ8188	8972242	Total Manganese (Mn)	Water			0.532	mg/L
LQL1-28AUG19-M	LQL WEEK 5	WJ8185	8972242	Total Mercury (Hg)	Water	0.0001		0.0000056	mg/L
LQL1-14AUG19-M	LQL WEEK 3	WH7242	8968032	Total Molybdenum (Mo)	Water			0.0061	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Nickel (Ni)	Water			<0.0010	mg/L
LLMB-7AUG19-M	LONG LAKE WEEK 2	WG8090	8966026	Total Potassium (K)	Water	0.025		0.605	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Selenium (Se)	Water			<0.00010	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Total Silicon (Si)	Water			4.09	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Silver (Ag)	Water	0.0001		<0.000020	mg/L
MQLB-7AUG19-M	MQL WEEK 2	WG8162	8966040	Total Sodium (Na)	Water			28.5	mg/L
LLMB-28AUG19-M	LONG LAKE WEEK 5	WJ8200	8972245	Total Strontium (Sr)	Water			0.411	mg/L
LLMB-7AUG19-M	LONG LAKE WEEK 2	WG8090	8966026	Total Sulphur (S)	Water			47.3	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Thallium (Tl)	Water			<0.000010	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Tin (Sn)	Water			<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Titanium (Ti)	Water			<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Uranium (U)	Water			<0.00010	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Vanadium (V)	Water			<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Zinc (Zn)	Water	0.03		<0.0050	mg/L
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Total Zirconium (Zr)	Water			<0.00010	mg/L
LLM9-21AUG19-M	LONG LAKE WEEK 4	WJ7931	8970208	Dissolved Sulphate (SO4)	Water			140	mg/L
LQLB-28AUG19-M	LQL WEEK 5	WJ8188	8972242	Turbidity	Water			5.5	NTU
NNLB-7AUG19-M	NNL WEEK 2	WG8114	8966030	Dissolved Phosphorus (P)	Water			<10	ug/L

Legend	
Exceeds one Criteria	Result
Exceeds two Criteria	Result
DL > Criteria	Result
Criteria 1	Quintam WQ & WQD Lake MAX

TABLE 86

Groundwater Q2		Site Location	2N Mine Water		2N Mine water		2N Mine Water		75 Mine Water		2N Mine Water		2N Mine Water		25		25		
			In-situ		In-situ		In-situ		In-situ		In-situ		In-situ		In-situ		In-situ		
Received Date From		Groundwater Well BV Labs Job # Sample ID BV Labs Sample ID Sampled By Sampling Date	1M2N		3M2N		5M2R		1M7S		QU10130		QU10130		25		25		
Received Date To			8977214		8974824		8977214		8977214		B981435		B981435		B971660		B971660		
Projects			1M2N-10SEPT19-M		3M2N-4SEPT19-M		5M2R-10SEPT19-M		1M7S-10SEPT19-M		QU10130-24SEPT19-M		QU10130-24SEPT19-M		25		25		
Criteria 1			WV2950		WL1832		WM2951		WM2949		WOS274		WOS275		WJ5684		WJ5685		
Criteria 1			BR		BH		BR		BR		BH		BH		BH		BH		
Criteria 1			2019-09-10		2019-09-04		2019-09-10		2019-09-10		2019-09-24		2019-09-24		2019-08-27		2019-08-27		
Parameter Name	Criteria 1	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	
Fluoride (F)	2	mg/L	0.21	0.02			0.073	0.02	0.095	0.02	0.17	0.02	0.19	0.02	0.084	0.02	0.084	0.02	
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	<1.0	1	14.9	1	<1.0	1	1.2	1	8.6	1	7.5	1	4.6	1	4.4	1	
Alkalinity (PP as CaCO3)		mg/L	64	1	<1.0	1	11	1	<1.0	1	3.9	1	6.5	1	<1.0	1	<1.0	1	
Alkalinity (Total as CaCO3)		mg/L	460	1	410	1	550	1	58	1	560	1	560	1	170	1	170	1	
Bicarbonate (HCO3)		mg/L	540	1	500	1	640	1	71	1	680	1	670	1	200	1	200	1	
Carbonate (CO3)		mg/L	7.7	1	<1.0	1	13	1	<1.0	1	4.7	1	7.7	1	<1.0	1	<1.0	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Chloride (Cl)	1500	mg/L	41	1	9.8	1	14	1	7.2	1	67	1	69	1	<1.0	1	<1.0	1	
Dissolved Sulphate (SO4)	1280	mg/L	340	10	770	10	160	1	380	5	270	2	270	2	420	10	430	10	
Dissolved Bromide (Br)		mg/L	0.13	0.01	0.15	0.01	0.04	0.01	0.15	0.01	<0.20	0.2	0.26	0.2	0.07	0.01	0.073	0.01	
Turbidity		NTU			5	0.1					4.2	0.1	3.7	0.1	0.39	0.1	0.95	0.1	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	
Dissolved Hardness (CaCO3)		mg/L	215	0.5	431	0.5	152	0.5	440	0.5	142	0.5	142	0.5	483	0.5	489	0.5	
Dissolved Aluminum (Al)		mg/L	<0.0030	0.003	0.0267	0.006	<0.0030	0.003	0.0052	0.003	<0.0030	0.003	<0.0030	0.003	0.0058	0.003	0.0053	0.003	
Dissolved Antimony (Sb)	0.09	mg/L	<0.00050	0.0005	<0.0010	0.001	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Dissolved Arsenic (As)	0.05	mg/L	0.00908	0.0001	0.0007	0.0002	0.00846	0.0001	0.0008	0.0001	0.00398	0.0001	0.00403	0.0001	0.00047	0.0001	0.00042	0.0001	
Dissolved Barium (Ba)	10	mg/L	0.0284	0.001	0.0158	0.002	0.03	0.001	0.0934	0.001	0.0239	0.001	0.0242	0.001	0.0362	0.001	0.036	0.001	
Dissolved Beryllium (Be)	0.0015	mg/L	<0.00010	0.0001	<0.00020	0.0002	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0020	0.002	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Boron (B)	12	mg/L	1.07	0.05	0.84	0.1	0.892	0.05	0.165	0.05	1.35	0.05	1.41	0.05	0.286	0.05	0.287	0.05	
Dissolved Cadmium (Cd)	0.0005	mg/L	<0.00010	0.0001	<0.00020	0.0002	<0.00010	0.0001	0.00002	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0020	0.002	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Cobalt (Co)	0.04	mg/L	<0.00020	0.0002	0.0038	0.0004	<0.00020	0.0002	0.00501	0.0002	0.00028	0.0002	0.00026	0.0002	0.00034	0.0002	0.00033	0.0002	
Dissolved Copper (Cu)	0.02	mg/L	<0.00020	0.0002	0.00215	0.0004	<0.00020	0.0002	0.00041	0.0002	0.00031	0.0002	<0.00020	0.0002	0.00032	0.0002	0.00033	0.0002	
Dissolved Iron (Fe)		mg/L	1.66	0.05	0.791	0.01	0.524	0.05	0.563	0.05	0.549	0.05	0.551	0.05	0.0181	0.05	0.0173	0.05	
Dissolved Lead (Pb)	0.04	mg/L	<0.00020	0.0002	<0.00040	0.0004	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Lithium (Li)		mg/L	0.013	0.002	0.019	0.004	0.0074	0.002	0.0059	0.002	0.0024	0.002	0.0024	0.002	0.0105	0.002	0.0103	0.002	
Dissolved Manganese (Mn)		mg/L	0.211	0.001	0.445	0.002	0.0996	0.001	0.358	0.001	0.272	0.001	0.272	0.001	0.0685	0.001	0.0688	0.001	
Dissolved Molybdenum (Mo)	10	mg/L	<0.0010	0.001	<0.0020	0.002	<0.0010	0.001	<0.0010	0.001	0.0022	0.001	0.0022	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Nickel (Ni)	0.25	mg/L	<0.0010	0.001	0.005	0.002	<0.0010	0.001	0.0111	0.001	<0.0010	0.001	<0.0010	0.001	0.0011	0.001	0.0011	0.001	
Dissolved Selenium (Se)	0.02	mg/L	<0.00010	0.0001	<0.00020	0.0002	<0.00010	0.0001	0.00025	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Silicon (Si)		mg/L	3.46	0.1	3.22	0.2	3.21	0.1	3.56	0.1	3.66	0.1	3.7	0.1	2.65	0.1	2.6	0.1	
Dissolved Silver (Ag)	0.0005	mg/L	<0.00020	0.0002	<0.00040	0.0004	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Strontium (Sr)		mg/L	0.776	0.001	1.43	0.002	0.563	0.001	0.558	0.001	0.54	0.001	0.54	0.001	1.35	0.001	1.33	0.001	
Dissolved Thallium (Tl)	0.003	mg/L	<0.00010	0.0001	<0.00020	0.0002	<0.00010	0.0001	0.000011	0.00001	<0.00010	0.00001	<0.00010	0.00001	<0.00010	0.00001	<0.00010	0.00001	
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.010	0.01	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Titanium (Ti)	1	mg/L	<0.0050	0.005	<0.010	0.01	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Uranium (U)	0.085	mg/L	<0.00010	0.0001	<0.00020	0.0002	<0.00010	0.0001	0.00011	0.0001	0.00021	0.0001	0.0002	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.010	0.01	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zinc (Zn)	0.075	mg/L	<0.0050	0.005	<0.010	0.01	0.006	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00020	0.0002	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Calcium (Ca)		mg/L	73.9	0.05	141	0.1	53.4	0.05	132	0.05	51	0.05	51.1	0.05	164	0.05	166	0.05	
Dissolved Magnesium (Mg)		mg/L	7.32	0.05	19.2	0.1	4.46	0.05	27	0.05	3.58	0.05	3.6	0.05	18	0.05	17.9	0.05	
Dissolved Potassium (K)		mg/L	4.22	0.05	3.74	0.1	2.57	0.05	2.52	0.05	3.4	0.05	3.43	0.05	1.86	0.05	1.87	0.05	
Dissolved Sodium (Na)		mg/L	295	0.05	339	0.1	254	0.05	17.3	0.05	363	0.05	371	0.05	46.8	0.05	46.8	0.05	
Dissolved Sulphur (S)		mg/L	134	3	262	6	59.3	3	137	3	101	3	102	3	144	3	145	3	
Dissolved Mercury (Hg)	0.00025	mg/L	0.0000022	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	
Dissolved Organic Carbon (C)		mg/L									1.3	0.5	1.1	0.5	1.8	0.5	2.6	0.5	
Dissolved Phosphorus (P)		mg/L									<0.0030	0.003	<0.0030	0.003	<0.0030	0.003	<0.0030	0.003	
Dissolved Nitrogen (N)		mg/L									0.292	0.02	0.294	0.02	0.12	0.02	0.256	0.02	
Sulphide (as H2S)	0.02	mg/L	0.025	0.002			0.003	0.002	0.003	0.002					0.012	0.002	0.014	0.002	
Total Sulphide	0.0188	mg/L	0.024	0.0018			0.0028	0.0018	0.0028	0.0018					0.011	0.0018	0.013	0.0018	
pH		pH									8.35	N/A	8.39	N/A					
Dissolved Fluoride (F)	2	mg/L			0.14	0.05													
Nitrite (N)	0.2	mg/L			<0.0050	0.005													
Nitrate (N)	400	mg/L			<0.020	0.02													
Nitrate plus Nitrite (N)	400	mg/L			<0.020	0.02													
Total Suspended Solids		mg/L			3.2	1.3													
Total Hardness (CaCO3)		mg/L	226	0.5	474	0.5	161	0.5	448	0.5									
Total Aluminum (Al)		mg/L	0.0048	0.003	0.0098	0.003	0.0094	0.003	0.565	0.003									
Total Antimony (Sb)	0.09	mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.00											

TABLE 87

Groundwater Q2 Received Date From Received Date To Projects Criteria 1		Site Location		35		242 Mine Water		75 PAG-CCR Water Cover		75 PAG-CCR Water Cover		River Barrier Pillar				
		Groundwater Well/ BV Lab Job #	Sample ID	In-situ	In-situ	In-situ	In-situ	In-situ	In-situ	In-situ	In-situ					
												MW002 B971660	242MP B968040	QU1410 B977217	QU1410-11SEP19-M WM2963	QU1109M B988000
		BV Labs Sample ID	MW002-27AUG19-M WJ5686	242MP-15AUG19-M WH7274	QU1410-11SEP19-R WM2964	QU1410-11SEP19-M WM2963	QU1109M-15AUG19-M WH7273									
		Sampled By	BH	BH	BH	BH	BH	BH	BH	BH	BH	BH	BH			
		Sampling Date	2019-08-27	2019-08-15	2019-09-11	2019-09-11	2019-08-15									
Parameter Name	Criteria 1	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL		
Fluoride (F)	2	mg/L	0.12	0.02	0.1	0.02					0.11	0.02				
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Acidity (pH 8.3)		mg/L	13.6	1	1.6	1	14.5	1	12	1	<1.0	1	<1.0	1		
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Alkalinity (Total as CaCO3)		mg/L	270	1	100	1	300	1	210	1	480	1	480	1		
Bicarbonate (HCO3)		mg/L	330	1	120	1	370	1	380	1	570	1	570	1		
Carbonate (CO3)		me/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	9.6	1	9.6	1		
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1		
Dissolved Chloride (Cl)	1500	mg/L	1.7	1	<1.0	1	5.1	1	5.4	1	50	1	50	1		
Dissolved Sulphate (SO4)	1280	mg/L	1400	10	34	1	1700	10	1700	10	680	10	680	10		
Dissolved Bromide (Br)		mg/L	0.19	0.05	<0.010	0.01	0.35	0.05	0.34	0.05	0.19	0.01	0.19	0.01		
Turbidity		NTU	51	0.1	120	0.1	20	0.1	16	0.1	68	0.1	68	0.1		
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A		
Dissolved Hardness (CaCO3)		mg/L	1320	0.5	113	0.5	2000	0.5	2010	0.5	249	0.5	249	0.5		
Dissolved Aluminum (Al)		mg/L	<0.0060	0.006	<0.0030	0.003	<0.0015	0.0015	<0.0015	0.0015	0.0061	0.006	0.0061	0.006		
Dissolved Antimony (Sb)	0.09	mg/L	<0.0010	0.001	<0.00050	0.0005	<0.0025	0.0025	<0.0025	0.0025	<0.0010	0.001	<0.0010	0.001		
Dissolved Arsenic (As)	0.05	mg/L	0.00232	0.0002	0.0637	0.0001	0.0922	0.0005	0.0921	0.0005	0.00288	0.0002	0.00288	0.0002		
Dissolved Barium (Ba)	10	mg/L	0.0141	0.002	0.0718	0.001	0.0154	0.005	0.0155	0.005	0.0132	0.002	0.0132	0.002		
Dissolved Beryllium (Be)	0.0015	mg/L	<0.00020	0.0002	<0.00010	0.0001	<0.00050	0.0005	<0.00050	0.0005	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Bismuth (Bi)		mg/L	<0.0020	0.002	<0.0010	0.001	<0.0050	0.005	<0.0050	0.005	<0.0020	0.002	<0.0020	0.002		
Dissolved Boron (B)		mg/L	6.67	0.1	0.082	0.05	1.12	0.25	1.1	0.25	0.97	0.1	0.97	0.1		
Dissolved Cadmium (Cd)	0.0005	mg/L	<0.000020	0.00002	<0.000010	0.00001	<0.000050	0.00005	<0.000050	0.00005	<0.000020	0.00002	<0.000020	0.00002		
Dissolved Chromium (Cr)		mg/L	<0.0020	0.002	<0.0010	0.001	<0.0050	0.005	<0.0050	0.005	<0.0020	0.002	<0.0020	0.002		
Dissolved Cobalt (Co)		mg/L	0.00379	0.0004	0.00252	0.0002	<0.0010	0.001	<0.0010	0.001	<0.00040	0.0004	<0.00040	0.0004		
Dissolved Copper (Cu)	0.02	mg/L	<0.00040	0.0004	<0.00020	0.0002	<0.0010	0.001	<0.0010	0.001	<0.00040	0.0004	<0.00040	0.0004		
Dissolved Iron (Fe)		mg/L	4.4	0.01	9.13	0.005	1.71	0.025	1.7	0.025	7.25	0.01	7.25	0.01		
Dissolved Lead (Pb)	0.04	mg/L	<0.00040	0.0004	<0.00020	0.0002	<0.0010	0.001	<0.0010	0.001	<0.00040	0.0004	<0.00040	0.0004		
Dissolved Lithium (Li)		mg/L	0.01937	0.004	0.0074	0.002	0.139	0.01	0.137	0.01	0.0117	0.004	0.0117	0.004		
Dissolved Manganese (Mn)		mg/L	1.27	0.002	0.734	0.001	1.44	0.005	1.42	0.005	0.173	0.002	0.173	0.002		
Dissolved Molybdenum (Mo)	10	mg/L	<0.0020	0.002	<0.0010	0.001	<0.0050	0.005	<0.0050	0.005	0.0043	0.002	0.0043	0.002		
Dissolved Nickel (Ni)	0.25	mg/L	0.0027	0.002	0.002	0.001	<0.0050	0.005	<0.0050	0.005	<0.0020	0.002	<0.0020	0.002		
Dissolved Selenium (Se)	0.02	mg/L	<0.00020	0.0002	<0.00010	0.0001	<0.00050	0.0005	<0.00050	0.0005	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Silicon (Si)		mg/L	3.34	0.2	3.56	0.1	3	0.5	3	0.5	2.98	0.2	2.98	0.2		
Dissolved Silver (Ag)	0.0005	mg/L	<0.000040	0.00004	<0.000020	0.00002	<0.00010	0.0001	<0.00010	0.0001	<0.000040	0.00004	<0.000040	0.00004		
Dissolved Strontium (Sr)		mg/L	3.96	0.002	0.089	0.001	4.29	0.005	4.28	0.005	1	0.002	1	0.002		
Dissolved Thallium (Tl)	0.003	mg/L	<0.000020	0.00002	0.000015	0.00001	<0.000050	0.00005	<0.000050	0.00005	<0.000020	0.00002	<0.000020	0.00002		
Dissolved Tin (Sn)		mg/L	<0.010	0.01	<0.0050	0.005	<0.025	0.025	<0.025	0.025	<0.010	0.01	<0.010	0.01		
Dissolved Titanium (Ti)	1	mg/L	<0.010	0.01	<0.0050	0.005	<0.025	0.025	<0.025	0.025	<0.010	0.01	<0.010	0.01		
Dissolved Uranium (U)	0.085	mg/L	0.00038	0.0002	<0.00010	0.0001	0.001	0.0005	0.00101	0.0005	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Vanadium (V)		mg/L	<0.010	0.01	<0.0050	0.005	<0.025	0.025	<0.025	0.025	<0.010	0.01	<0.010	0.01		
Dissolved Zinc (Zn)	0.075	mg/L	<0.010	0.01	<0.0050	0.005	<0.025	0.025	<0.025	0.025	<0.010	0.01	<0.010	0.01		
Dissolved Zirconium (Zr)		mg/L	<0.00020	0.0002	<0.00010	0.0001	<0.00050	0.0005	<0.00050	0.0005	<0.00020	0.0002	<0.00020	0.0002		
Dissolved Calcium (Ca)		mg/L	452	0.1	39.5	0.05	500	0.25	507	0.25	86.1	0.1	86.1	0.1		
Dissolved Magnesium (Mg)		mg/L	47	0.1	3.58	0.05	181	0.25	180	0.25	8.31	0.1	8.31	0.1		
Dissolved Potassium (K)		mg/L	472	0.1	0.531	0.05	7.42	0.25	7.41	0.25	4.68	0.1	4.68	0.1		
Dissolved Sodium (Na)		mg/L	73.2	0.1	3.88	0.05	54.4	0.25	52.7	0.25	433	0.1	433	0.1		
Dissolved Sulphur (S)		mg/L	412	6	11	3	613	15	613	15	235	6	235	6		
Dissolved Mercury (Hg)	0.00025	mg/L	2.2E-06	0.000002	<0.00000020	0.0000002	<0.00000020	0.0000002	<0.00000020	0.0000002	<0.00000020	0.0000002	<0.00000020	0.0000002		
Dissolved Organic Carbon (C)		mg/L	0.96	0.5	1.2	0.5	2.5	0.5	1.2	0.5	0.79	0.5	0.79	0.5		
Dissolved Phosphorus (P)		mg/L	<0.0030	0.003	<0.0030	0.003	<0.0030	0.003	<0.0030	0.003	<0.0030	0.003	<0.0030	0.003		
Dissolved Nitrogen (N)		mg/L	0.232	0.02	0.205	0.02	0.533	0.02	0.311	0.02	0.264	0.02	0.264	0.02		
Nitride (as H2S)	0.02	mg/L	<0.0020	0.002	0.006	0.002	<0.0020	0.002	<0.0020	0.002	0.015	0.002	0.015	0.002		
Total Sulphide	0.0188	mg/L	<0.0018	0.0018	0.0078	0.0018	<0.0018	0.0018	<0.0018	0.0018	0.014	0.0018	0.014	0.0018		
pH		pH	7.89				8.1	N/A	8.12	N/A	8.41		8.41	N/A		
Dissolved Fluoride (F)	2	mg/L					0.17	0.05	0.16	0.05						
Nitrite (N)	0.2	mg/L														
Nitrate (N)	400	mg/L														
Nitrate plus Nitrite (N)	400	mg/L														
Total Suspended Solids		mg/L														
Total Hardness (CaCO3)		mg/L														
Total Aluminum (Al)		mg/L														
Total Antimony (Sb)	0.09	mg/L														
Total Arsenic (As)	0.05	mg/L														
Total Barium (Ba)	10	mg/L														
Total Beryllium (Be)	0.0015	mg/L														
Total Bismuth (Bi)		mg/L														
Total Boron (B)	12	mg/L														
Total Cadmium (Cd)	0.0005	mg/L														
Total Chromium (Cr)		mg/L														
Total Cobalt (Co)	0.04	mg/L														
Total Copper (Cu)	0.02	mg/L														
Total Iron (Fe)	0.04	mg/L														
Total Lead (Pb)	0.02	mg/L														
Total Lithium (Li)		mg/L														
Total Manganese (Mn)		mg/L														
Total Molybdenum (Mo)	10	mg/L														
Total Nickel (Ni)	0.25	mg/L														
Total Selenium (Se)	0.02	mg/L														
Total Silicon (Si)		mg/L														
Total Silver (Ag)	0.0005	mg/L														
Total Strontium (Sr)		mg/L														
Total Thallium (Tl)	0.003	mg/L														
Total Tin (Sn)		mg/L														
Total Titanium (Ti)	1	mg/L														
Total Uranium (U)	0.085	mg/L														
Total Vanadium (V)		mg/L														
Total Zinc (Zn)	0.075	mg/L														
Total Zirconium (Zr)		mg/L														
Total Calcium (Ca)		mg/L														
Total Magnesium (Mg)		mg/L														
Total Potassium (K)		mg/L														
Total Sodium (Na)		mg/L														
Total Sulphur (S)		mg/L														
Total Mercury (Hg)	0.00025	mg/L														
Total Ammonia (N)	1.31	mg/L														
Total Phosphorus (P)		mg/L														
Total Suspended Solids		mg/L														
Bold & Red	Applies to Ex-situ															

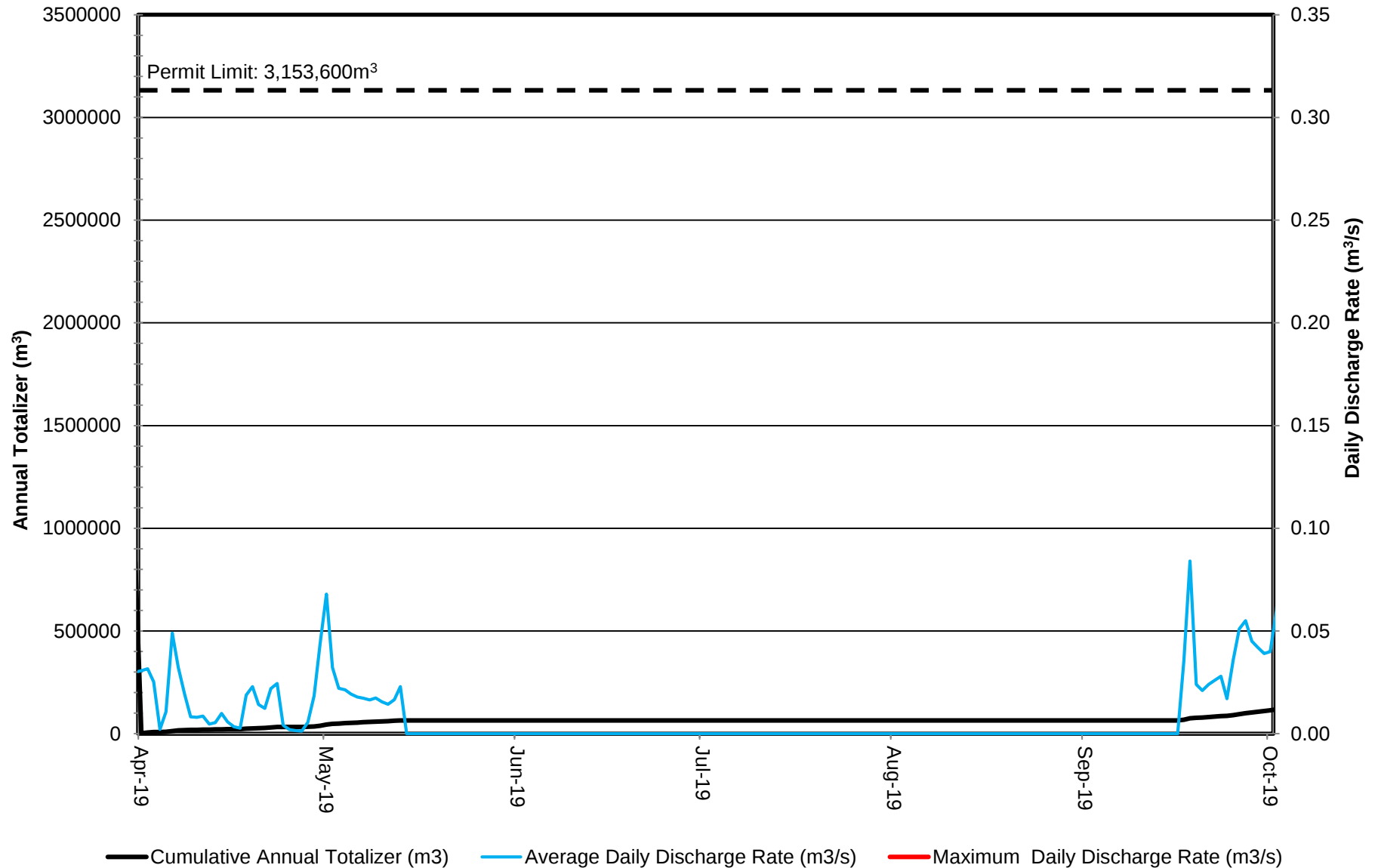
TABLE 88

	Site Location		2N		2N		2N		2N		2N		
Groundwater Q2		Groundwater Well BV Labs Job # Sample ID BV Labs Sample ID Sampled By	Ex-situ MW006S B966017		Ex-situ MW006D B966017		Ex-situ MW001D B966017		Ex-situ QU0821D B974776		Ex-situ QU0821S B974776		
Received Date From	2019/07/01		MW006S-8AUG19-19 WG8047		MW006D-8AUG19- WG8048		MW001D-8AUG19- WG8049		QU0821D-3SEP19-M WL1627		QU0821S-3SEP19-M WL1628		
Received Date To	2019/09/30												
Projects	GROUNDWATER												
Criteria 1	BC CSR Aquatic Life 2019 - LOW			BH 2019-08-08		BH 2019-08-08		BH 2019-08-08		BH 2019-09-03		BH 2019-09-03	
		Sampling Date											
Parameter Name	Criteria 1	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	
Fluoride (F)	2	mg/L	0.056	0.02	0.099	0.02	0.12	0.02	1.7	0.02	0.93	0.02	
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	3	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	1.8	1	<1.0	1	<1.0	1	
Alkalinity (Total as CaCO3)		mg/L	160	1	83	1	94	1	200	1	200	1	
Bicarbonate (HCO3)		mg/L	200	1	100	1	110	1	250	1	240	1	
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	2.1	1	<1.0	1	<1.0	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Chloride (Cl)	1500	mg/L	5.8	1	1.2	1	1.2	1	130	1	1100	10	
Dissolved Sulphate (SO4)	1280	mg/L	550	10	12	1	26	1	<1.0	1	<1.0	1	
Dissolved Bromide (Br)		mg/L	0.1	0.01	<0.010	0.01	0.014	0.01	0.18	0.01	1.6	0.01	
Turbidity		NTU	0.28	0.1	0.22	0.1	22	0.1	1.6	0.1	1	0.1	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	LAB	N/A	
Dissolved Hardness (CaCO3)		mg/L	458	0.5	45.6	0.5	20.3	0.5	74.1	0.5	396	0.5	
Dissolved Aluminum (Al)		mg/L	0.0057	0.003	0.0164	0.003	0.0294	0.003	<0.0060	0.006	<0.030	0.03	
Dissolved Antimony (Sb)	0.09	mg/L	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.0010	0.001	<0.0050	0.005	
Dissolved Arsenic (As)	0.05	mg/L	0.00187	0.0001	0.0282	0.0001	0.0195	0.0001	0.231	0.0002	0.125	0.001	
Dissolved Barium (Ba)	10	mg/L	0.0319	0.001	0.0092	0.001	0.0034	0.001	0.467	0.002	2.98	0.01	
Dissolved Beryllium (Be)	0.0015	mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00020	0.0002	<0.0010	0.001	
Dissolved Bismuth (Bi)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0020	0.002	<0.010	0.01	
Dissolved Boron (B)	12	mg/L	0.187	0.05	0.051	0.05	0.082	0.05	1.96	0.1	3.41	0.5	
Dissolved Cadmium (Cd)	0.0005	mg/L	0.000023	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000020	0.00002	<0.000010	0.00001	
Dissolved Chromium (Cr)		mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0020	0.002	<0.010	0.01	
Dissolved Cobalt (Co)	0.04	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00040	0.0004	<0.0020	0.002	
Dissolved Copper (Cu)	0.02	mg/L	0.00063	0.0002	0.00075	0.0002	0.00041	0.0002	<0.00040	0.0004	<0.0020	0.002	
Dissolved Iron (Fe)		mg/L	0.0277	0.005	<0.0050	0.005	0.0062	0.005	0.891	0.01	1.15	0.05	
Dissolved Lead (Pb)	0.04	mg/L	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00040	0.0004	<0.0020	0.002	
Dissolved Lithium (Li)		mg/L	<0.0020	0.002	<0.0020	0.002	<0.0020	0.002	0.0858	0.004	0.212	0.02	
Dissolved Manganese (Mn)		mg/L	0.126	0.001	<0.0010	0.001	0.0041	0.001	0.157	0.002	0.144	0.01	
Dissolved Molybdenum (Mo)	10	mg/L	0.0294	0.001	0.0035	0.001	0.0107	0.001	<0.0020	0.002	<0.010	0.01	
Dissolved Nickel (Ni)	0.25	mg/L	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0020	0.002	<0.010	0.01	
Dissolved Selenium (Se)	0.02	mg/L	0.00029	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00020	0.0002	<0.0010	0.001	
Dissolved Silicon (Si)		mg/L	4.76	0.1	3.35	0.1	2.56	0.1	3.49	0.2	4.5	1	
Dissolved Silver (Ag)	0.0005	mg/L	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000040	0.00004	<0.00020	0.0002	
Dissolved Strontium (Sr)		mg/L	0.979	0.001	0.0816	0.001	0.0291	0.001	0.557	0.002	2.65	0.01	
Dissolved Thallium (Tl)	0.003	mg/L	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000020	0.00002	<0.00010	0.0001	
Dissolved Tin (Sn)		mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.010	0.01	<0.050	0.05	
Dissolved Titanium (Ti)	1	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.010	0.01	<0.050	0.05	
Dissolved Uranium (U)	0.085	mg/L	0.00689	0.0001	0.0007	0.0001	0.00075	0.0001	<0.00020	0.0002	<0.0010	0.001	
Dissolved Vanadium (V)		mg/L	<0.0050	0.005	<0.0050	0.005	0.0052	0.005	<0.010	0.01	<0.050	0.05	
Dissolved Zinc (Zn)	0.075	mg/L	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.010	0.01	<0.050	0.05	
Dissolved Zirconium (Zr)		mg/L	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00020	0.0002	<0.0010	0.001	
Dissolved Calcium (Ca)		mg/L	158	0.05	17.4	0.05	7.96	0.05	21.7	0.1	129	0.5	
Dissolved Magnesium (Mg)		mg/L	15.5	0.05	0.525	0.05	0.093	0.05	4.83	0.1	18.2	0.5	
Dissolved Potassium (K)		mg/L	2.3	0.05	0.656	0.05	0.51	0.05	4.56	0.1	10.9	0.5	
Dissolved Sodium (Na)		mg/L	156	0.05	20.5	0.05	44.2	0.05	140	0.1	660	0.5	
Dissolved Sulphur (S)		mg/L	210	3	4	3	8	3	<6.0	6	<30	30	
Dissolved Mercury (Hg)	0.00025	mg/L	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	<0.0000020	0.000002	
Dissolved Organic Carbon (C)		mg/L	1.5	0.5	0.58	0.5	2.4	0.5					
Dissolved Phosphorus (P)		mg/L	0.039	0.015	0.12	0.015	0.13	0.015	0.17	0.003	0.024	0.003	
Dissolved Nitrogen (N)		mg/L	0.293	0.02	0.295	0.02	0.204	0.02					
Sulphide (as H2S)	0.02	mg/L	<0.0020	0.002	<0.0020	0.002	0.01	0.002	0.024	0.002	0.058	0.002	
Total Sulphide	0.0188	mg/L	<0.0018	0.0018	<0.0018	0.0018	0.0096	0.0018	0.022	0.0018	0.055	0.0018	
pH		pH							8.24	N/A	8.03	N/A	
Bold & Red	Applies to Ex-situ Groundwater												

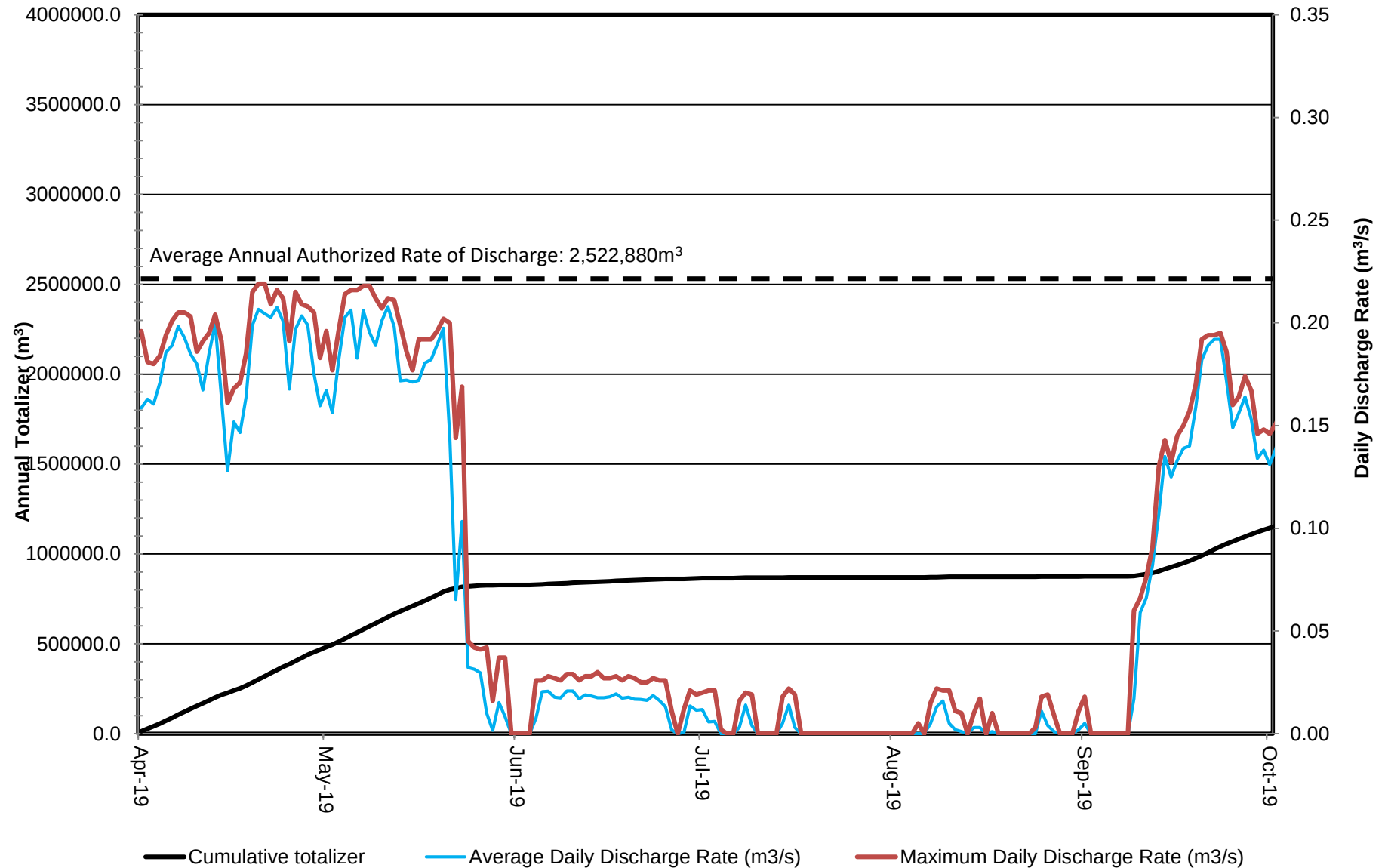
TABLE 89

		Site Location	2N		4S		4S		4S		7S		5S		
Groundwater Q2		Groundwater Well BV Labs Job # Sample ID BV Labs Sample ID Sampled By	Ex-situ QU0821D B974776		Ex-situ QU1009S B974802		Ex-situ QU1009D B974802		Ex-situ QU1009D B974802		Ex-situ QU0813A B963465		Ex-situ QU1109S B968040		
Received Date From			QU0821D-3SEPT19-R WL1629		QU1009S-5SEPT19-M WL1743		QU1009D-5SEPT19- WL1744		QU1009D-5SEPT19-R WL1745		QU0813A-31JUL19-M WF4676		QU1109S-15AUG19- WH7272		
Received Date To															
Projects															
Criteria 1		BC CSR Aquatic Life 2019 - LOW		BH		BH		BH		BH		BH			
		Sampling Date		2019-09-03		2019-09-05		2019-09-05		2019-09-05		2019-07-31		2019-08-15	
Parameter Name	Criteria 1	Units	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	
Fluoride (F)	2	mg/L	1.7	0.02							0.75	0.02	0.49	0.02	
Acidity (pH 4.5)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Acidity (pH 8.3)		mg/L	<1.0	1	16.6	1	3.2	1	2.9	1	<1.0	1	<1.0	1	
Alkalinity (PP as CaCO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	16	1	
Alkalinity (Total as CaCO3)		mg/L	200	1	140	1	190	1	180	1	190	1	420	1	
Bicarbonate (HCO3)		mg/L	250	1	170	1	230	1	220	1	230	1	470	1	
Carbonate (CO3)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	19	1	
Hydroxide (OH)		mg/L	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Dissolved Chloride (Cl)	1500	mg/L	130	1	<1.0	1	2	1	1.8	1	9	1	38	1	
Dissolved Sulphate (SO4)	1280	mg/L	<1.0	1	100	1	76	1	72	1	36	1	220	10	
Dissolved Bromide (Br)		mg/L	0.18	0.01	0.038	0.01	0.022	0.01	0.019	0.01	0.01	0.01	0.079	0.01	
Turbidity		NTU	0.72	0.1	37	0.1	3.7	0.1	3.8	0.1	1.2	0.1	0.61	0.1	
Filter and HNO3 Preservation		N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	FIELD	N/A	
Dissolved Hardness (CaCO3)		mg/L	73.5	0.5	223	0.5	171	0.5	170	0.5	119	0.5	118	0.5	
Dissolved Aluminum (Al)		mg/L	<0.0060	0.006	0.0209	0.003	<0.0030	0.003	<0.0030	0.003	<0.0030	0.003	<0.0030	0.003	
Dissolved Antimony (Sb)	0.09	mg/L	<0.0010	0.001	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	<0.00050	0.0005	
Dissolved Arsenic (As)	0.05	mg/L	0.232	0.0002	0.0921	0.0001	0.122	0.0001	0.122	0.0001	0.371	0.0001	0.142	0.0001	
Dissolved Barium (Ba)	10	mg/L	0.464	0.002	0.128	0.001	0.126	0.001	0.124	0.001	0.246	0.001	0.0545	0.001	
Dissolved Beryllium (Be)	0.0015	mg/L	<0.00020	0.0002	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Bismuth (Bi)		mg/L	<0.0020	0.002	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Boron (B)	12	mg/L	1.97	0.1	0.062	0.05	0.595	0.05	0.607	0.05	0.754	0.05	1.78	0.05	
Dissolved Cadmium (Cd)	0.0005	mg/L	<0.000020	0.00002	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Chromium (Cr)		mg/L	<0.0020	0.002	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Cobalt (Co)	0.04	mg/L	<0.00040	0.0004	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Copper (Cu)	0.02	mg/L	<0.00040	0.0004	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Iron (Fe)		mg/L	0.892	0.01	4.37	0.005	0.472	0.005	0.473	0.005	0.166	0.005	0.147	0.005	
Dissolved Lead (Pb)	0.04	mg/L	<0.00040	0.0004	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	<0.00020	0.0002	
Dissolved Lithium (Li)		mg/L	0.0842	0.004	0.0153	0.002	0.0402	0.002	0.0403	0.002	0.0483	0.002	0.0608	0.002	
Dissolved Manganese (Mn)		mg/L	0.157	0.002	0.35	0.001	0.0502	0.001	0.0492	0.001	0.0351	0.001	0.0284	0.001	
Dissolved Molybdenum (Mo)	10	mg/L	<0.0020	0.002	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Nickel (Ni)	0.25	mg/L	<0.0020	0.002	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	<0.0010	0.001	
Dissolved Selenium (Se)	0.02	mg/L	<0.00020	0.0002	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	0.00018	0.0001	
Dissolved Silicon (Si)		mg/L	3.5	0.2	9.23	0.1	9.64	0.1	9.52	0.1	3.58	0.1	6.45	0.1	
Dissolved Silver (Ag)	0.0005	mg/L	<0.000040	0.00004	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	<0.000020	0.00002	
Dissolved Strontium (Sr)		mg/L	0.565	0.002	0.273	0.001	0.985	0.001	0.986	0.001	0.433	0.001	0.455	0.001	
Dissolved Thallium (Tl)	0.003	mg/L	<0.000020	0.00002	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	<0.000010	0.00001	
Dissolved Tin (Sn)		mg/L	<0.010	0.01	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Titanium (Ti)	1	mg/L	<0.010	0.01	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Uranium (U)	0.085	mg/L	<0.00020	0.0002	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Vanadium (V)		mg/L	<0.010	0.01	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zinc (Zn)	0.075	mg/L	<0.010	0.01	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	<0.0050	0.005	
Dissolved Zirconium (Zr)		mg/L	<0.00020	0.0002	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	<0.00010	0.0001	
Dissolved Calcium (Ca)		mg/L	21.4	0.1	72	0.05	51.1	0.05	50.6	0.05	34.6	0.05	32.3	0.05	
Dissolved Magnesium (Mg)		mg/L	4.85	0.1	10.6	0.05	10.6	0.05	10.5	0.05	7.92	0.05	9.18	0.05	
Dissolved Potassium (K)		mg/L	4.63	0.1	0.701	0.05	1.95	0.05	1.9	0.05	2.22	0.05	3.5	0.05	
Dissolved Sodium (Na)		mg/L	142	0.1	8.99	0.05	43.3	0.05	42.4	0.05	48.8	0.05	254	0.05	
Dissolved Sulphur (S)		mg/L	<6.0	6	34.8	3	25.6	3	25.4	3	12	3	87.1	3	
Dissolved Mercury (Hg)	0.00025	mg/L	<0.0000020	0.000002	<0.00000020	0.0000002	<0.00000020	0.0000002	<0.00000020	0.0000002	<0.00000020	0.0000002	<0.00000020	0.0000002	
Dissolved Organic Carbon (C)		mg/L			1.5	0.5	0.95	0.5	1	0.5	0.52	0.5	1.1	0.5	
Dissolved Phosphorus (P)		mg/L	0.16	0.003	0.0055	0.003	0.013	0.003	0.014	0.003	0.02	0.003	0.033	0.003	
Dissolved Nitrogen (N)		mg/L			0.178	0.02	0.23	0.02	0.221	0.02	0.222	0.02	0.337	0.02	
Sulphide (as H2S)	0.02	mg/L	0.013	0.002	0.012	0.002	0.13	0.002	0.12	0.002	0.2	0.002	0.44	0.006	
Total Sulphide	0.0188	mg/L	0.012	0.0018	0.011	0.0018	0.12	0.0018	0.11	0.0018	0.19	0.0018	0.42	0.0054	
pH		pH	8.22	N/A									8.62	N/A	
Bold & Red	Applies to Ex-situ Groundwater														

Cumulative & Daily Discharge Rates Settling Pond 1 (SPD)

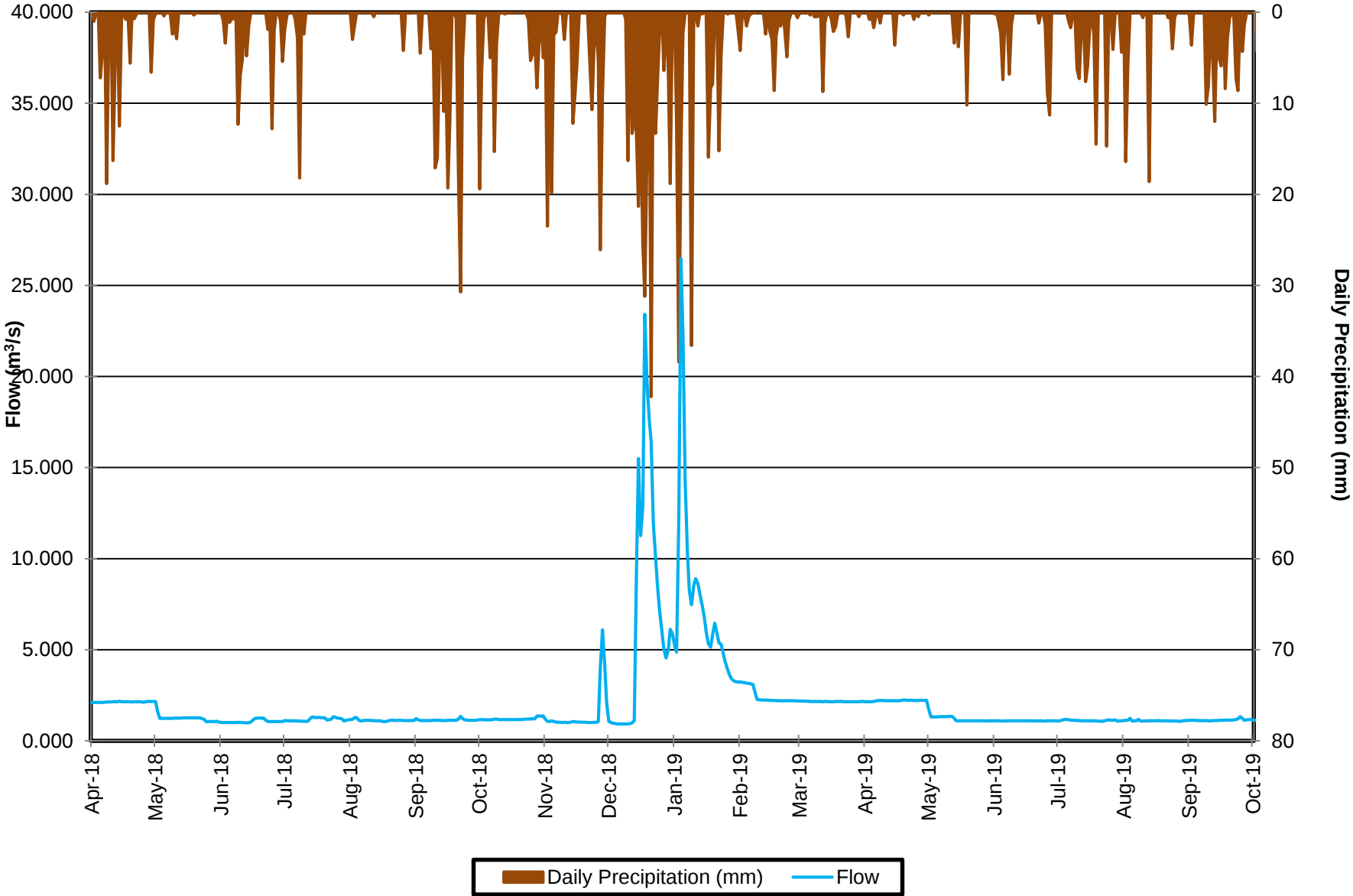


Cumulative & Daily Discharge Rates Settling Pond 4 (WD)



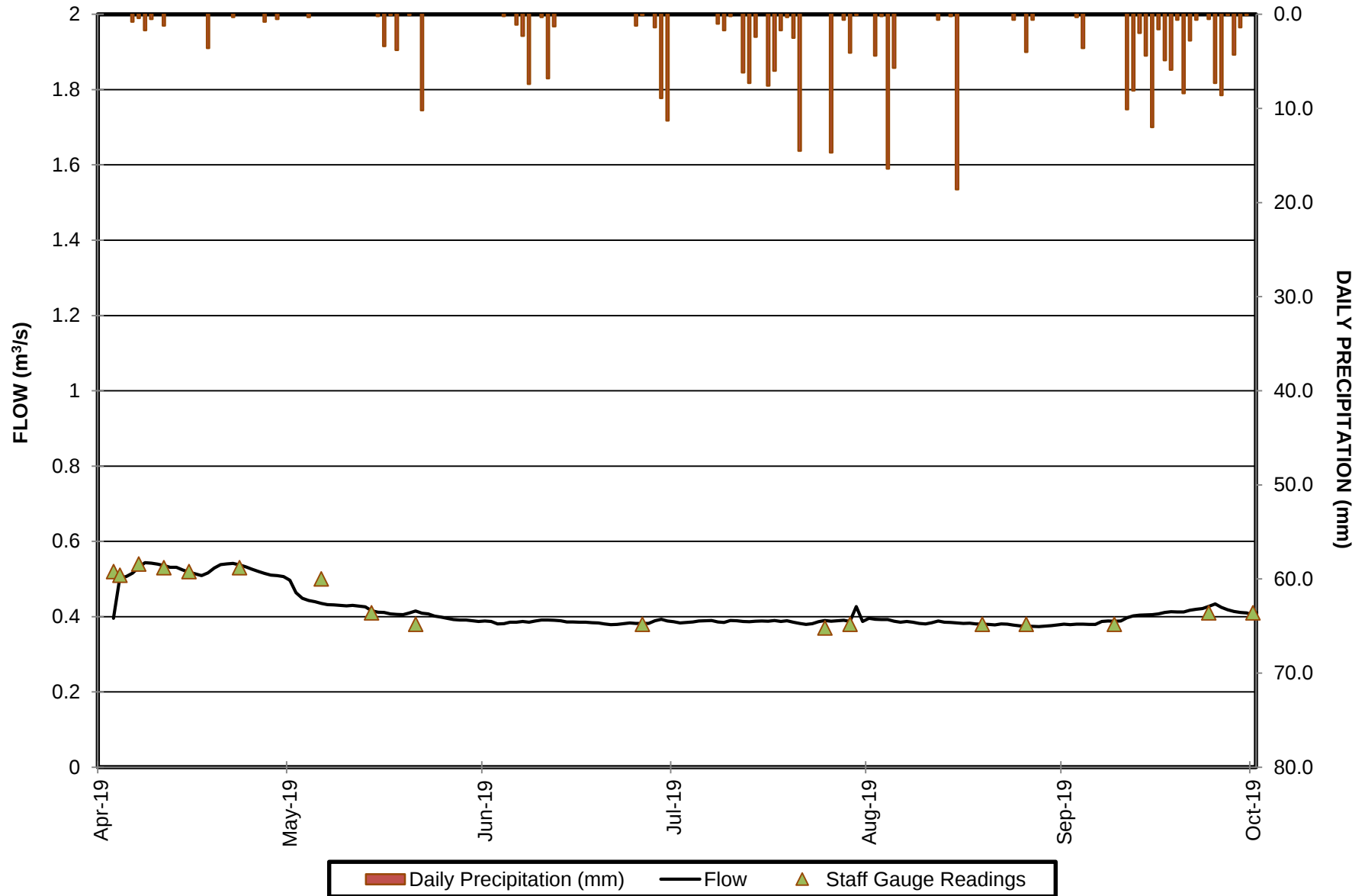
FLOW & PRECIPITATION

Quinsam River @ Argonaut Bridge (WA)

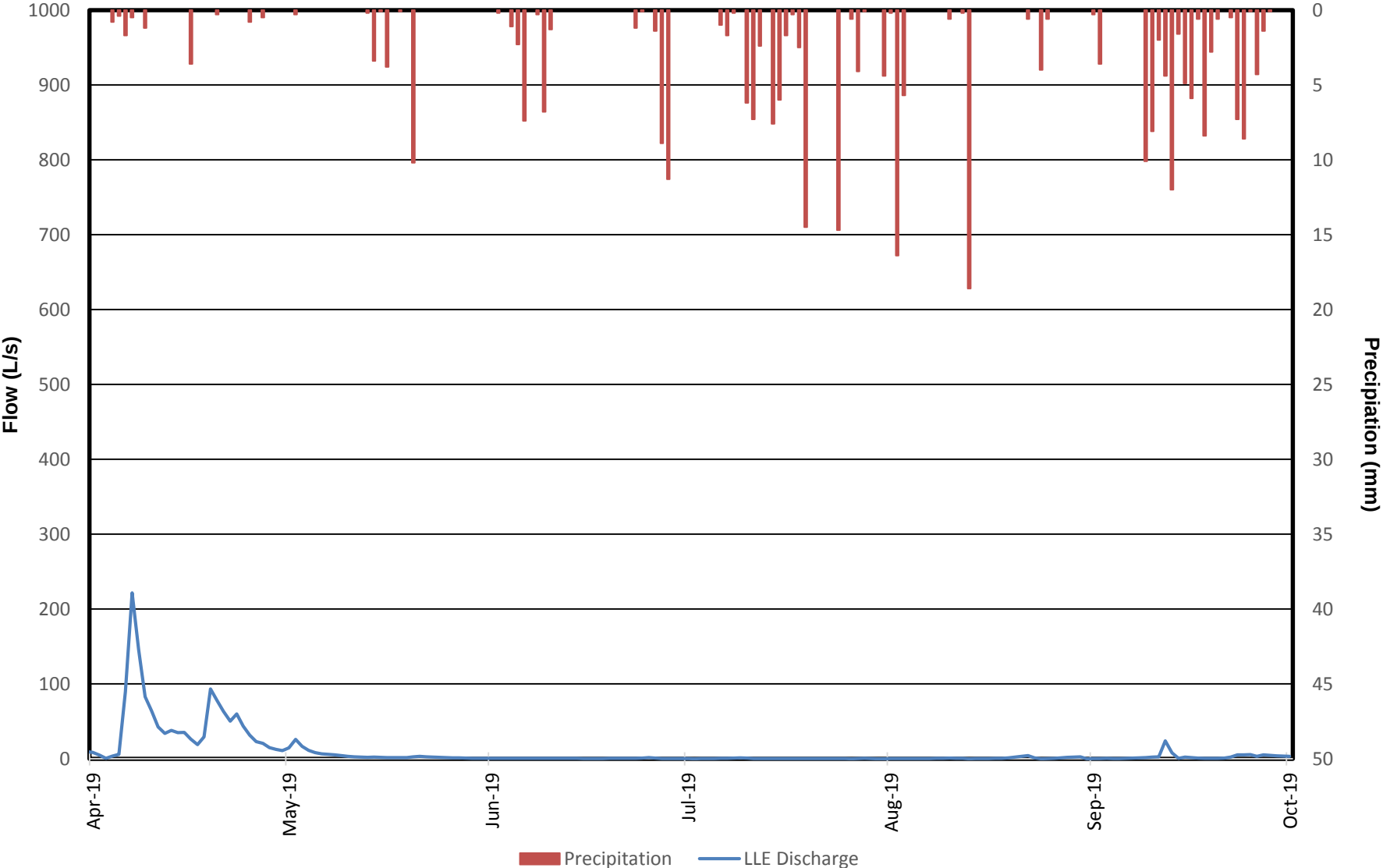


FLOW VS PRECIPITATION

Middle Quinsam Lake Outlet - WB

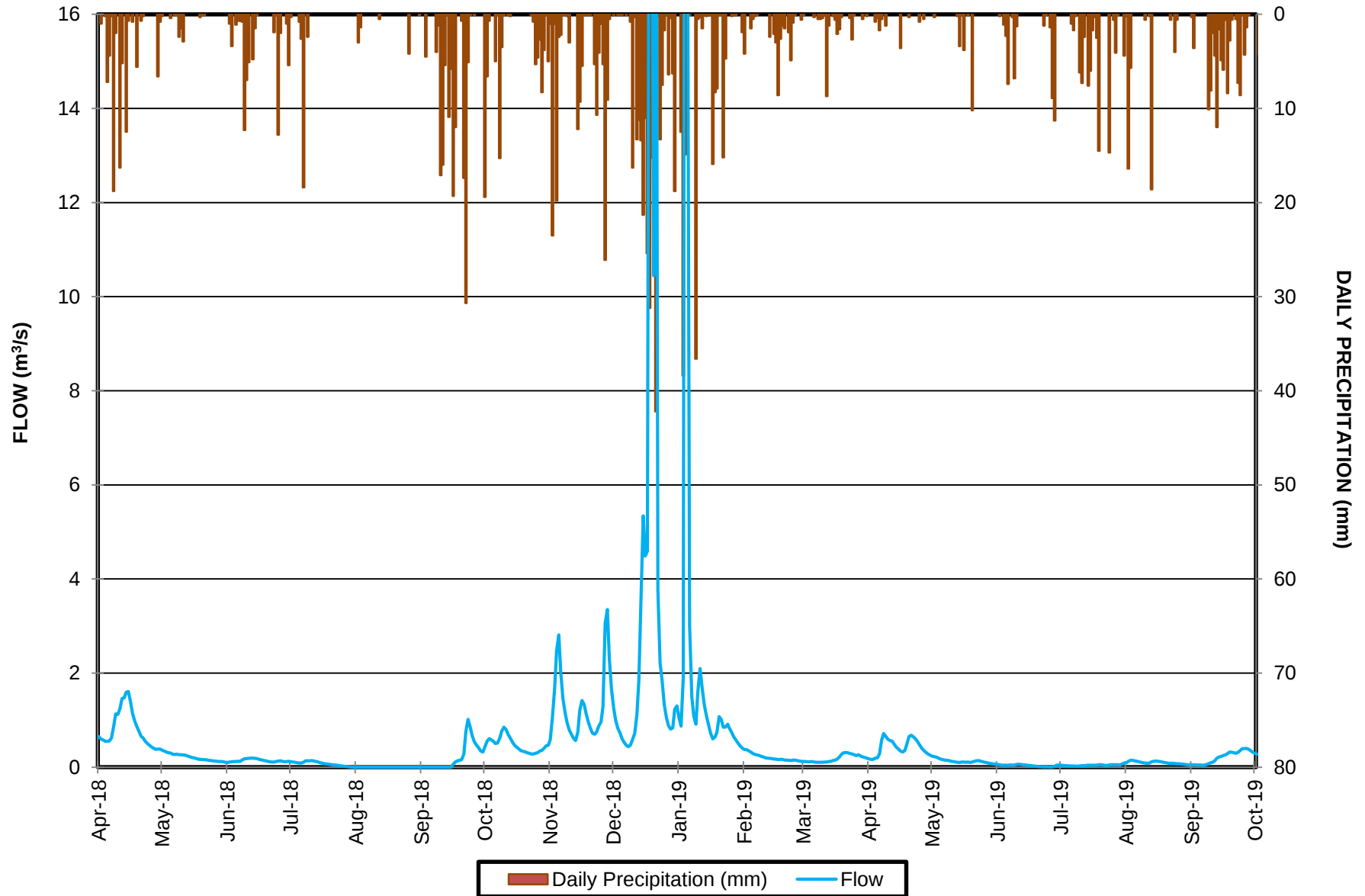


DISCHARGE vs PRECIPITATION
Long Lake Entry - LLE



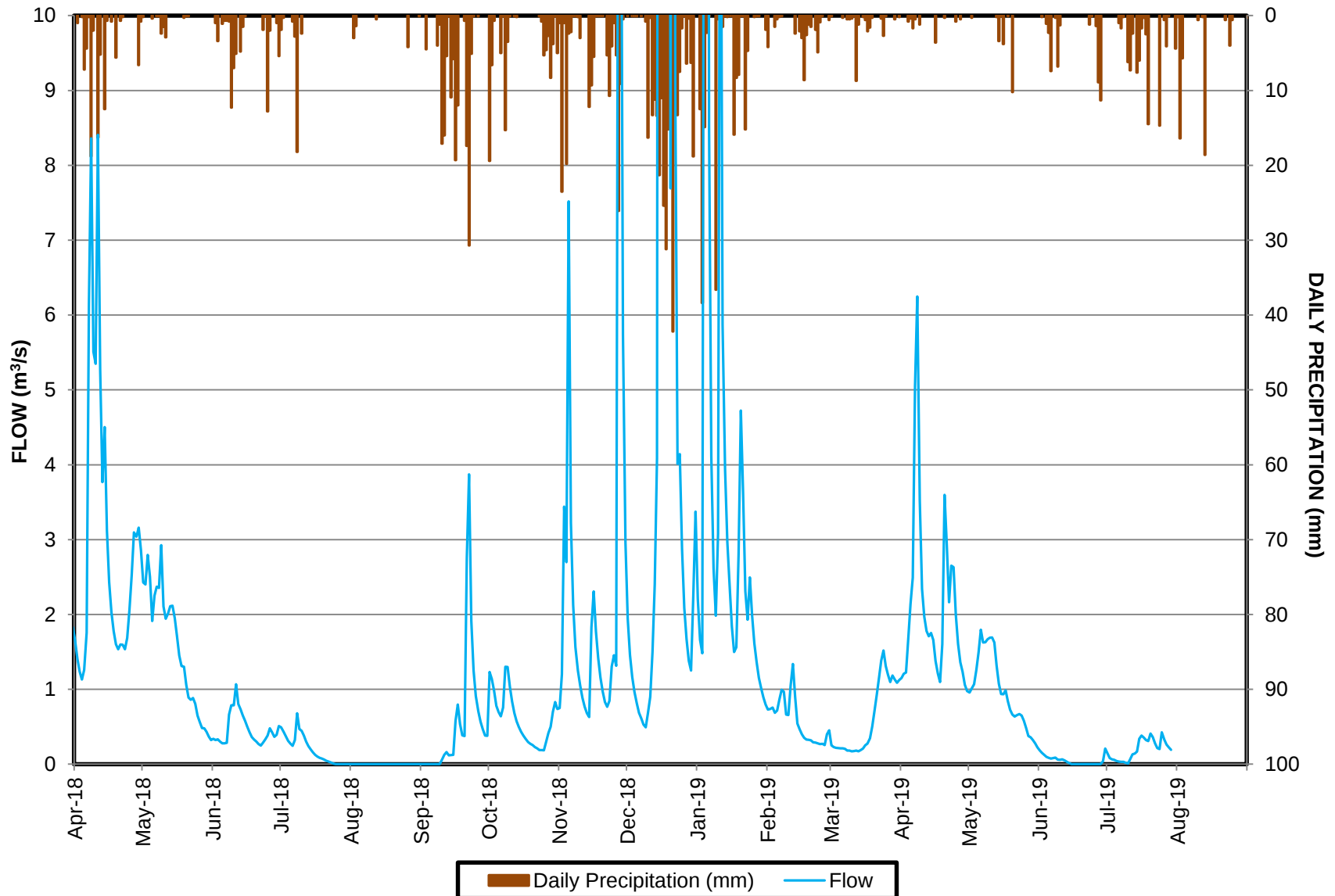
FLOW vs PRECIPITATION

Long Lake Outlet (LLO)



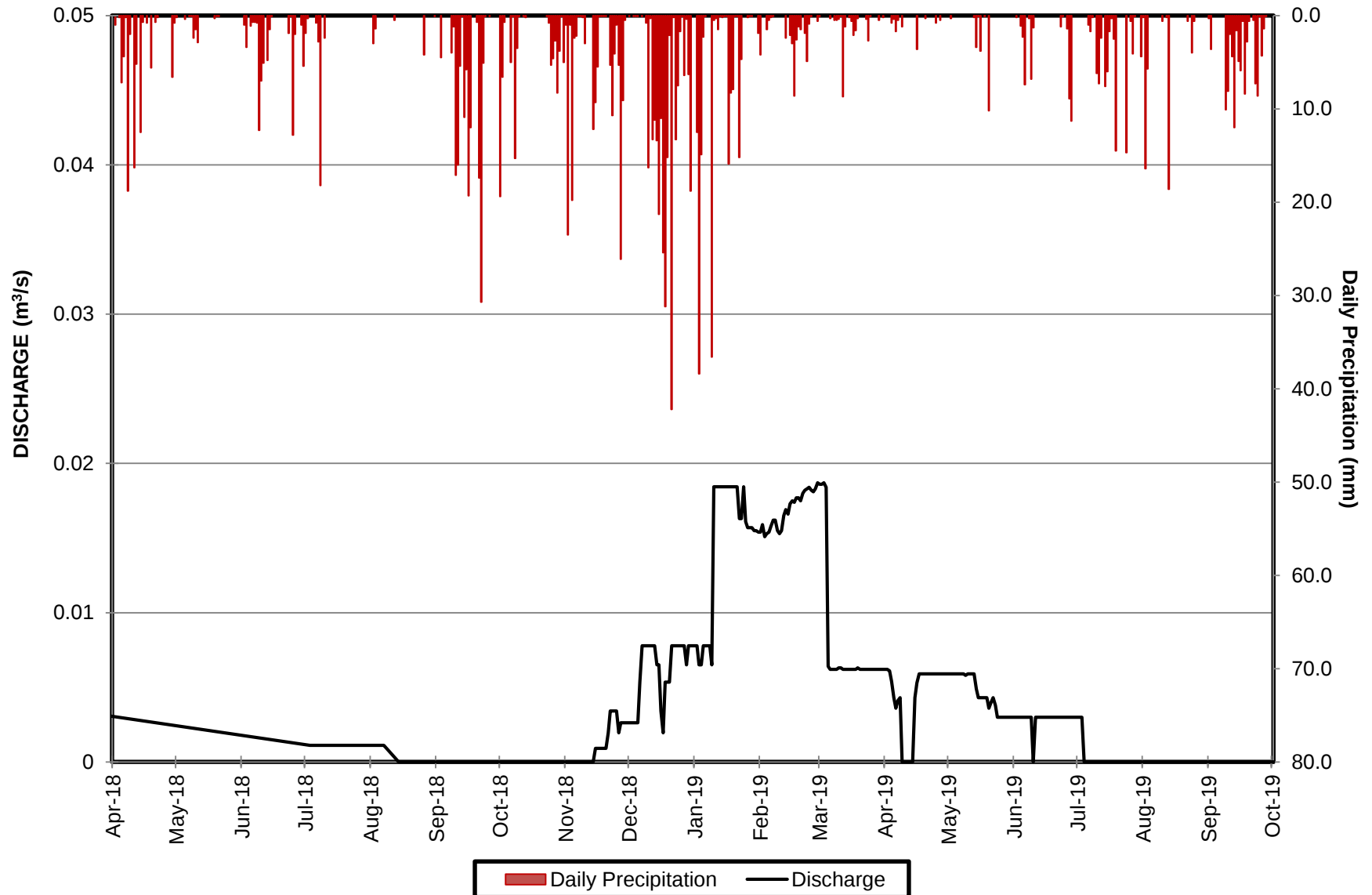
FLOW vs PRECIPITATION

Iron River - IR8



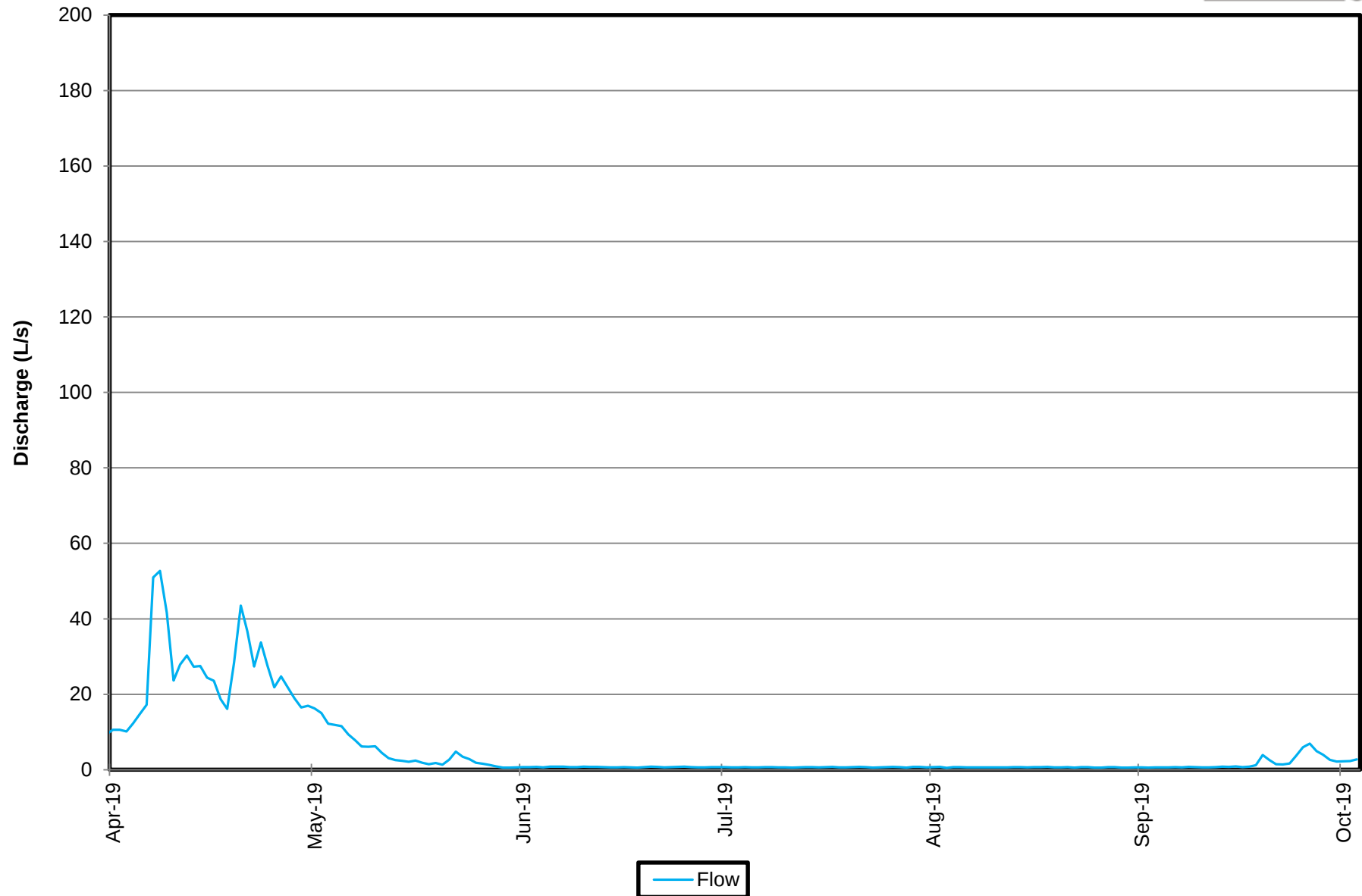
DISCHARGE vs PRECIPITATION

Long Lake Seep Middle - LLSM



FLOW

7S Stream 1 (7S)



Q (L/s) @ 90o V-notch Weir - 2-South Inflow

