

**Quinsam Coal  
Corporation – Q2 (July –  
September 2023)**  
**For Effluent Permit PE: 7008**  
**Environmental Department**

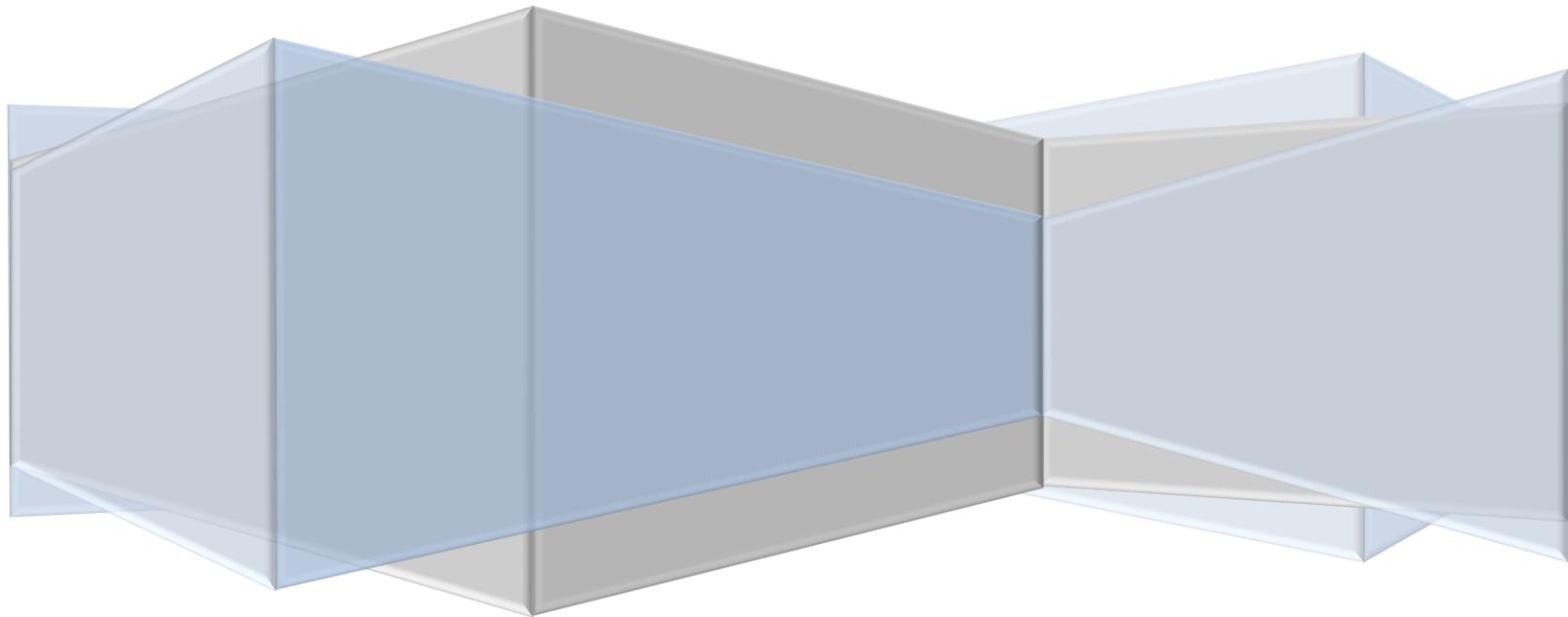


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## INTRODUCTION

During Quarter 2 (July 1<sup>st</sup> through September 30<sup>th</sup>) Quinsam Mine maintained the environmental obligations for permits PE: 7008 held with the Ministry of Environment and Climate Change Strategy and the Mines Act permit C-172. The mine continues to be operated in a “*care and maintenance*” mode with MNP LTD, formerly The Bowra Group Inc. as the Receiver.

For Quarter 2 (Q2), most environmental monitoring was completed as per stipulations found within the effluent permit PE:7008. There was one permit non-compliance event to report this quarter for Iron River (IR6) EMS ID (E297231) was not sampled for two out of five weeks. This was a result of hazardous conditions at this location.

Maintenance of works occurred for the dewatering well pump 1Mains 2-North, (1M2N). The pump was removed in July 2023 for maintenance and troubleshooting due to degraded operating performance. Water levels underground remained low with drought conditions continuing throughout the quarter. The other two remaining dewatering pumps (5M2N and 3M2N) were in operating condition.

A request to temporarily reduce monitoring on the Iron River until 7-South Area 5 is flooded and an amendment to reporting deadlines was submitted to ENV, on September 6<sup>th</sup>, 2023.

Construction started on new stairs leading down to the Long Lake Seep to ensure safe access and egress to the sampling site.

Concentrations for most parameters of interest (POI) (aluminum Al-D), boron (B-T), cadmium (Cd-D), cobalt (Co-T), iron (Fe T and D), lead (Pb), manganese (Mn-T), nickel (Ni-T), selenium (Se-D), silver (Ag-T), sulphate (SO<sub>4</sub>-D), total suspended solids (TSS), and zinc (Zn-D)) were not elevated above British Columbia Water Quality Guideline’s (WQG) for Protection of Freshwater Aquatic Life (FWAL) in the receiving environment, this quarter. Those parameters that were trending above WQG’s in the rivers and lakes include, total arsenic (As-T) at both Iron River sites (IR6 and IR8) and chronic dissolved copper (Cu-D) throughout the receiving environment.

Individual Cu-D results were trending above the individual chronic WQG’s at depth in Long Lake and on the Quinsam River, upstream and downstream of mine influence and the Iron River as well as the No Name and Long Lake outlet’s. Averaged five weeks of dissolved copper results were compared to averaged Cu-D chronic WQG’s with exceedances observed on the Quinsam River upstream of mine influence (WA) and downstream at sites 7SQR and IRQR. There were no results above acute Cu-D, WQG’s this quarter. All other parameters remained below WQG’s.

Summer results for hypolimnetic dissolved oxygen (DO) and total phosphorous (P-T) in Long and Middle Quinsam Lakes were compared to Provisional Water Quality Objectives (WQO) for Middle Quinsam Lake sub-basin. Long Lake displayed anoxic conditions in the hypolimnetic zone (depths 14 to 20 meters below surface) where dissolved oxygen dropped below 3 mg/L. Both lakes (MQL and LL) had P-T below WQO’s of 0.006 mg/L and 0.007 mg/L, respectively.

Groundwater sourced potential seepage areas in the 2-North Mine area entering the Quinsam river downstream of Middle Quinsam Lake Outlet are referred to as S and S2. Both sites displayed elevated results above the WQG's on all three sampling events for total arsenic with S also having elevated total boron and dissolved sulphate and S2A having elevated dissolved iron.

Groundwater wells, underground sumps, and dewatering wells throughout the 2 and 3-North, 2 and 3-South, 4-South, 5-South and 7-South mine areas were monitored. There are certain parameters that continually trend above Standards. These include dissolved arsenic, chloride, sulphide as H<sub>2</sub>S and sulphate. Selenium is also observed periodically in the ex-situ deep groundwater of QU11-05 D downgradient of the 2-North Mine, River Barrier Pillar, and 5-South mine. These parameters (except chloride) were observed to be above Standards this quarter throughout the groundwater found within and outside the mine footprint.

Water levels and flow rates were dry or extremely low at most sites. Discharge from the three authorized discharge locations Settling Pond 1, (SP1 - E218582), Settling Pond 4 (SP4 - E207409) and 7-South Surface Discharge (7SSD - E292069) was limited this quarter. With zero discharge from 7SSD. Pumping rates are slowed during drought conditions and pond water covers are increased to conserve water covers over Potentially Acid Generating material. This procedure reduces discharge, decreasing the overall parameter loading and the potential for adverse aquatic impact in the receiving environment. The biological availability for parameters of concern is much lower than under constant discharge conditions. The Long Lake Seeps were dry throughout the quarter, including the site, LLE. The 2-North underground dewatering well pumps (1M2N and 5M#2) were both turned off June 29<sup>th</sup> and July 7<sup>th</sup>, respectively. The 1M2N was turned off due to observations of lowering flow rates and 5M#2 was turned off due to low water levels underground. A new pump is on order with expected installation in October. There was no risk the mine would flood due to drought conditions on site.

**NORTH WATER MANAGEMENT SYSTEM (NWMS):**

Stage pumping / dewatering continued from 7-South Area 5 (7SA5) into 1-Mains 7-South (1M7S) sump, where it then pumps into the flooded 5-South mine with no further pumping occurring. Previously, the 5-South mine water (5SMW) was pumped into 3-Mains, 2-North underground mine (3M2N) until the pump failed in January 2022 and was not replaced. The 5SMW levels are monitored (

Figure 1) to ensure water remains below the portal, 290 meters above sea level (masl).

North water management system (NWMS) consists of underground 2-North mine water pumped to surface and discharged into either Brinco brook or the 2-North pit pond, (WP). When discharged to Brinco brook, the combined water is released from the authorized discharge location, Settling Pond 4, with flows directed to the inlet of Middle Quinsam Lake. Refer to Graphs (Figure 2 and Figure 3) for underground water levels in 2-North mine.

Pumping systems include the following:

- 3-Mains 2-North (3M2N), dewatering 3-Mains area of 2-North mine
- 2-North Portal Sump (2NPS) collects seepage water from the tailings dam and underground 2-North mine
- 1-Mains, 2-North (1M2N) dewatering 1-Mains area of 2-North mine
- 5-Mains 2-North (5M2N) dewatering 5-Mains area of 2-North mine.

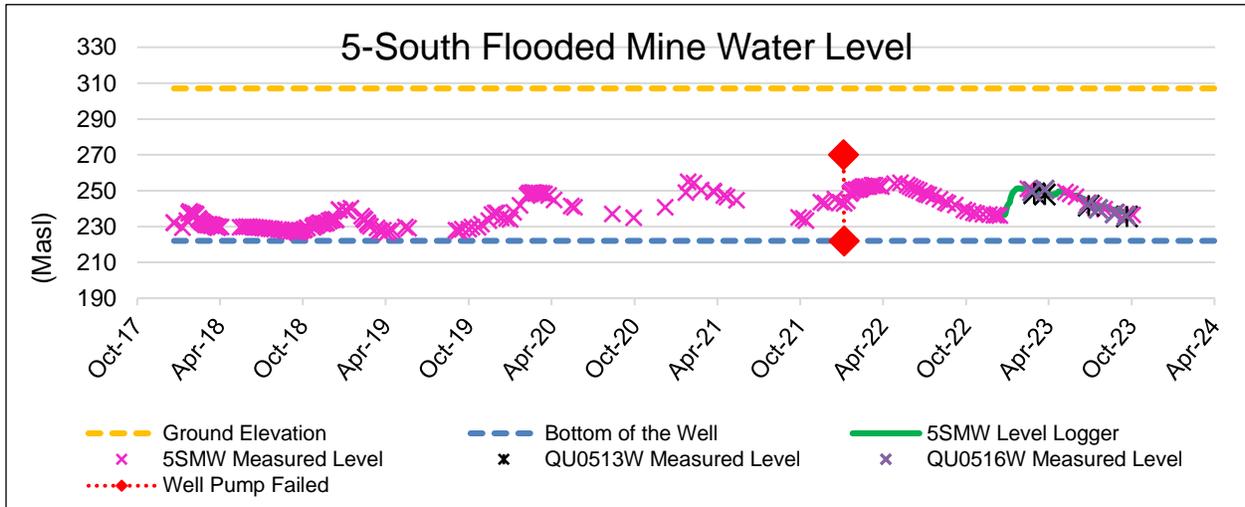


Figure 1: 5-South Flooded Mine Water Level

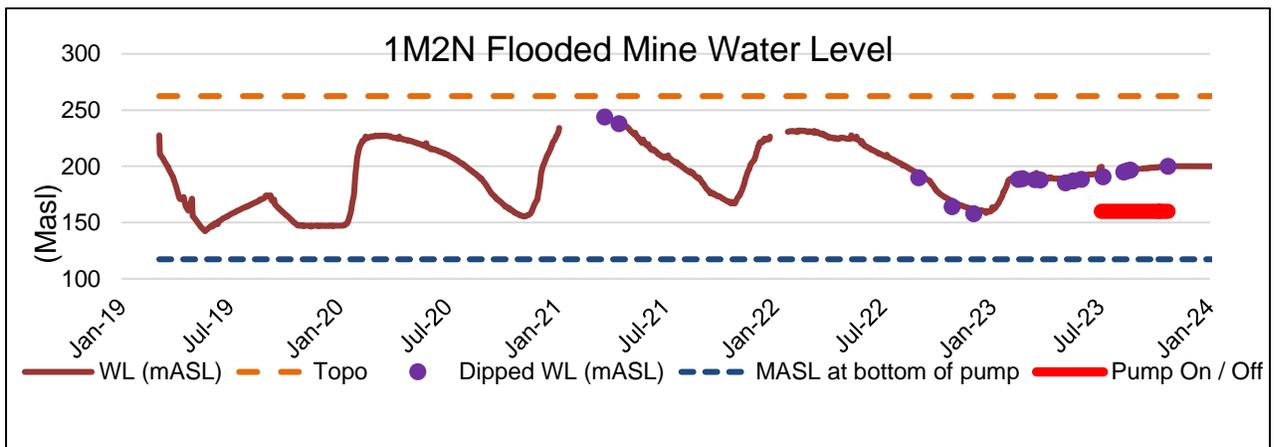


Figure 2: 1M2N Flooded Mine Water Level

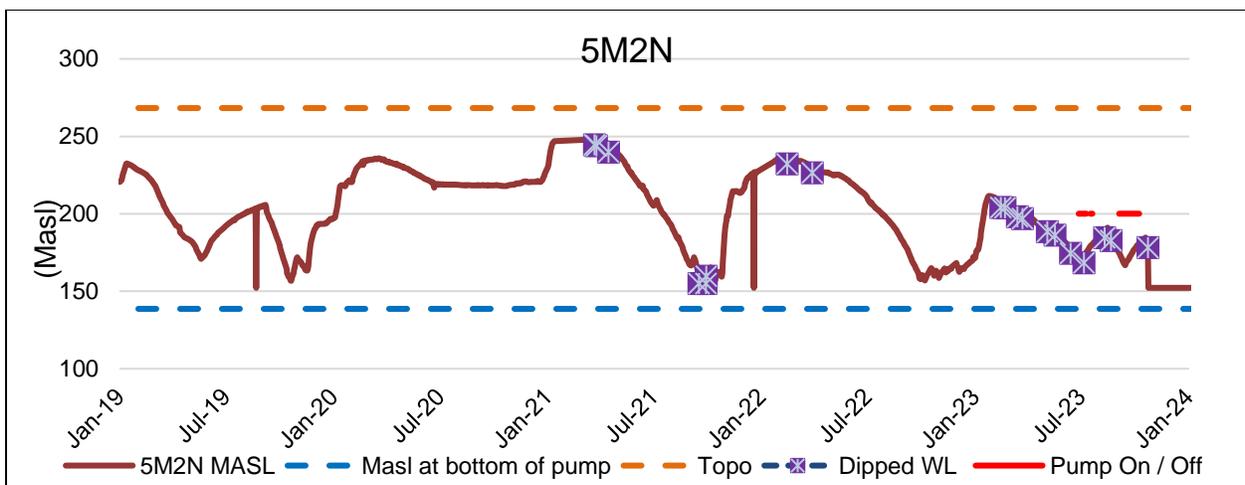


Figure 3: 5M2N Flooded Mine Water Level

Discharge water from pumps (3M2N, 2NPS and 1M2N) enter either Brinco brook or by opening gate valves or moving pipelines, water can be directed into the 2-North pit pond, (WP). The discharge from 5M#2 does not have a gate valve and can only discharge into Brinco brook. Water is used to supply sufficient water cover over the Potentially Acid Generating, Course Coal Refuse (PAG-CCR) stored in WP.

During Q2, WP water cover was maintained with water sourced from 3M2N, 2NPS and a temporary pump in Settling Pond #4. Both 1M2N and 5M2N were not operating for most of the quarter due to low water levels underground at 5M2N and pumping issues with 1M2N. Table 1, below describes the pumping on / off sequence and direction of water for Q2.

**Table 1: Pumping On / Off Sequences and Discharge Direction**

Date	Pump	Power On / Off	Discharged to:
Jun.15 to Sep. 5	3M2N	On	WP
Jun. 29 to Oct. 6	1M2N	Off	
Jul. 10 to 17	Temporary WD to WP	On	WP
Jul. 1 to 7	5M2N	On	Brinco Brook
Jul. 7 to Aug. 15	5M2N	Off	
Aug. 16 to Sep. 13	5M2N	On	Brinco Brook
Sep. 14 to Oct. 18	5M2N	Off	Brinco Brook
Sep. 5 to Oct. 4	3M2N and 2NPS	On	WP
Oct. 4 to Oct 11	3M2N and 2NPS	On	Brinco Brook

The 1M2N well pump was removed in July 2023 for maintenance and troubleshooting due to degraded operating performance.

The mine procured new equipment for the 1M2N well pump installation including a new 125hp motor, pump-end, and stainless-steel riser pipe. The exiting motor and pump-end were sent out for repair to be available as spares.

The new equipment was installed Oct 3 to Oct 6, 2023, but failed after 7-hours of operation. The equipment was pulled from the well Oct 19 to Oct 20, 2023, and the cause of the failure determined to be a grounded motor. The well pump will be reinstalled using the spare motor pending the delivery of new electrical cable. The mine is working with the manufacturer to determine why the new motor failed after only 7 hours of operation. Notification was provided to ENV on July 10, 2023, and an update was sent on October 24, 2023 (PE:7008 Maintenance of Works and Notice of Equipment Failure).

**AUTHORIZED DISCHARGE LOCATION SETTLING POND 4 (EMS ID: E207409)**

Settling Pond 4 (WD / SP4) is the authorized discharge location for the NWMS, where permit limits are applied to water quality and quantity. Discharge occurred 54 out of 92 days (Figure 4), with cumulative quarterly total, calculated as 158,803 m<sup>3</sup> compared to Q2 2022, where 652,406

m<sup>3</sup> was discharged. All water quality remained below effluent permit limits at SP4. Low discharge rates were a result of low pumping rates into Brinco brook with most waters directed into WP.

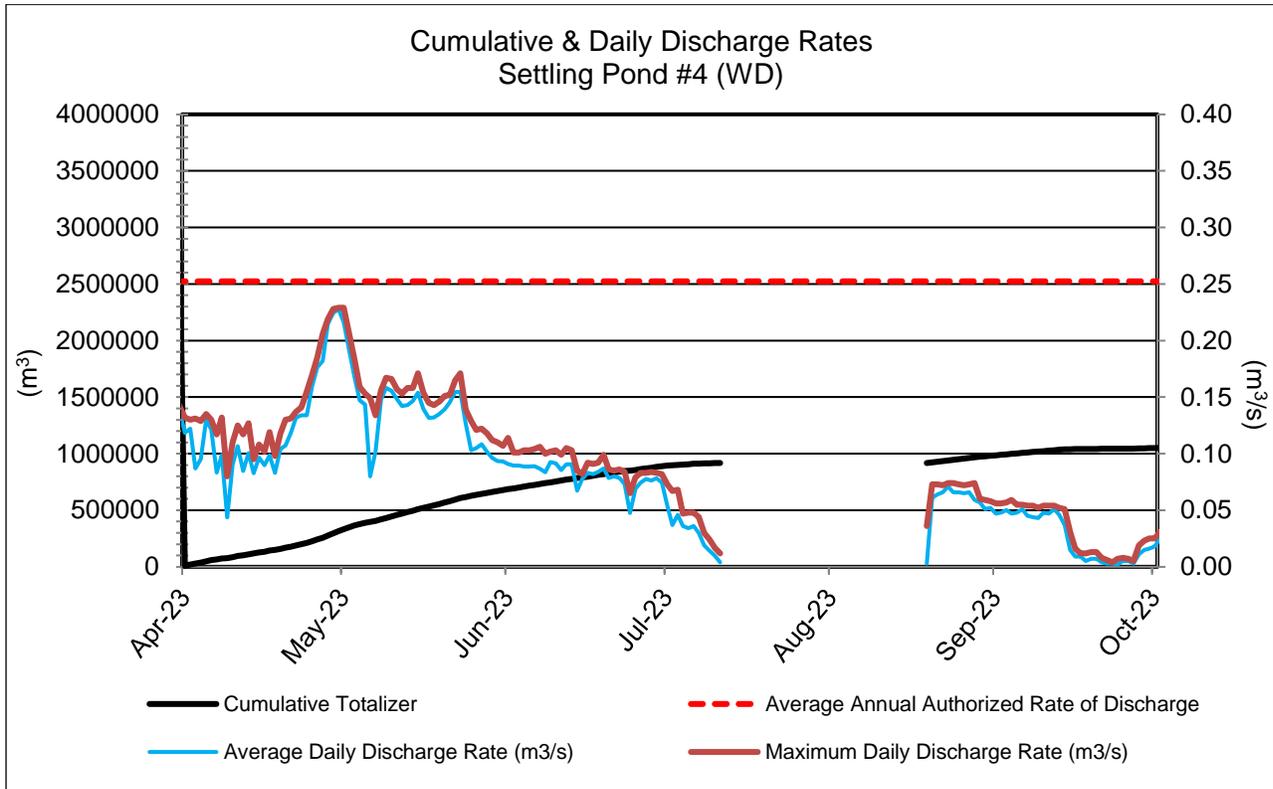


Figure 4: Settling Pond #4 Discharge Rates (E207409)

**SOUTH WATER MANAGEMENT SYSTEM (SWMS):**

The SWMS is managed by directing discharge water from the Passive Treatment System (PTS) into the 2-South and 3-South pits. This conserves a water cover over stored PAG-CCR in the pits during the dry season and maintains mine water within the authorized works. The 2-South underground pump discharges 2-South mine water into the PTS. Water has been pumped at an average of 8.2 L/s from the 2-South flooded mine void (INF) with 5.0 L/s entering the PTS cells and 3.2 L/s (untreated) into the 2-South pit. The PTS includes two cells, the Biochemical reactor (BCREFF) and the Sulphide Polishing Cell (SPCEFF). Treated water flows passively through each cell (BCREFF into SPCEFF) and is gravity feed from the SPCEFF into 2-South pit, entering at 2-South Inflow (2SI). At this location there is a V-notch weir coupled with a pressure transducer and a staff gauge (hydrometric station), where continuous inflow is monitored. A 58-horsepower (Hp) submersible pump installed in 2-South pit, ties into the 3-South pipeline discharging to Settling Pond 1 (SP1/ SPD) (EMS ID: E218582). This pump is used intermittently during the wet season to reduce water levels in 2-South pit from discharging 3-South pit.

The 3-South pit maintains a water cover over the PAG-CCR via seepage and overflow from the 2-South pit as well as precipitation. Combined water (seepage and water cover overflow) from the

2-South pit enters a channel and flows into the 3-South pit. Continuous discharge of the combined water is measured at location 2-South Culvert (2SC) into 3-South Pit. Here there is an H-flume and a flow meter measuring continuous outflow from the 2-South pit and inflow to 3-South pit.

A 58 Hp pump transports waster from 3-South pit to Settling Pond #1 (SPD / SP1). During summer, a gate valve can be opened at a junction on the 3-South pipeline located on the 2-South highwall. From here the 3-South water can be directed either into the 2-South pit or to SPD. When water pumped from 3-South pit is directed into 2-South pit, this maintains a closed loop circuit and aids in maintaining a water cover over the 2-South Pit PAG CCR, when the PTS is not flowing. As a result, SPD will stop discharging, reducing the load from mine contact water on the receiving environment. The valve directing water from 3-South to 2-South was not opened this quarter. This was a result of increasing pumping rates from 4.5 L/s to 8.2 L/s at the 2-South underground mine pump (INF), in efforts to reduce underground mine water levels below the elevation of the Long Lake Seeps. Increased pumping rates and drought conditions on site resulted in SPD having limited discharge.

Pumped water from 3-South pit was directed to SPD with discharge occurring intermittently throughout the quarter. At 3-South pit pond water levels were increased from 1.00 m to 1.85 m for the summer months to assist with evaporation losses.

#### AUTHORIZED DISCHARGE LOCATION SETTLING POND 1 (EMS ID: E218582)

Settling Pond 1 (SP1/ SPD) is the authorized discharge location for the SWMS where permit limits are applied to characteristics of the discharge quality and quantity. Discharge occurred for 21 out of 92 days (Figure 5). With a cumulative quarterly total of 19,552 m<sup>3</sup> compared to Q2, 2022 where 64,636 m<sup>3</sup> was discharged. All water quality remained below effluent permit limits at Settling Pond #1.

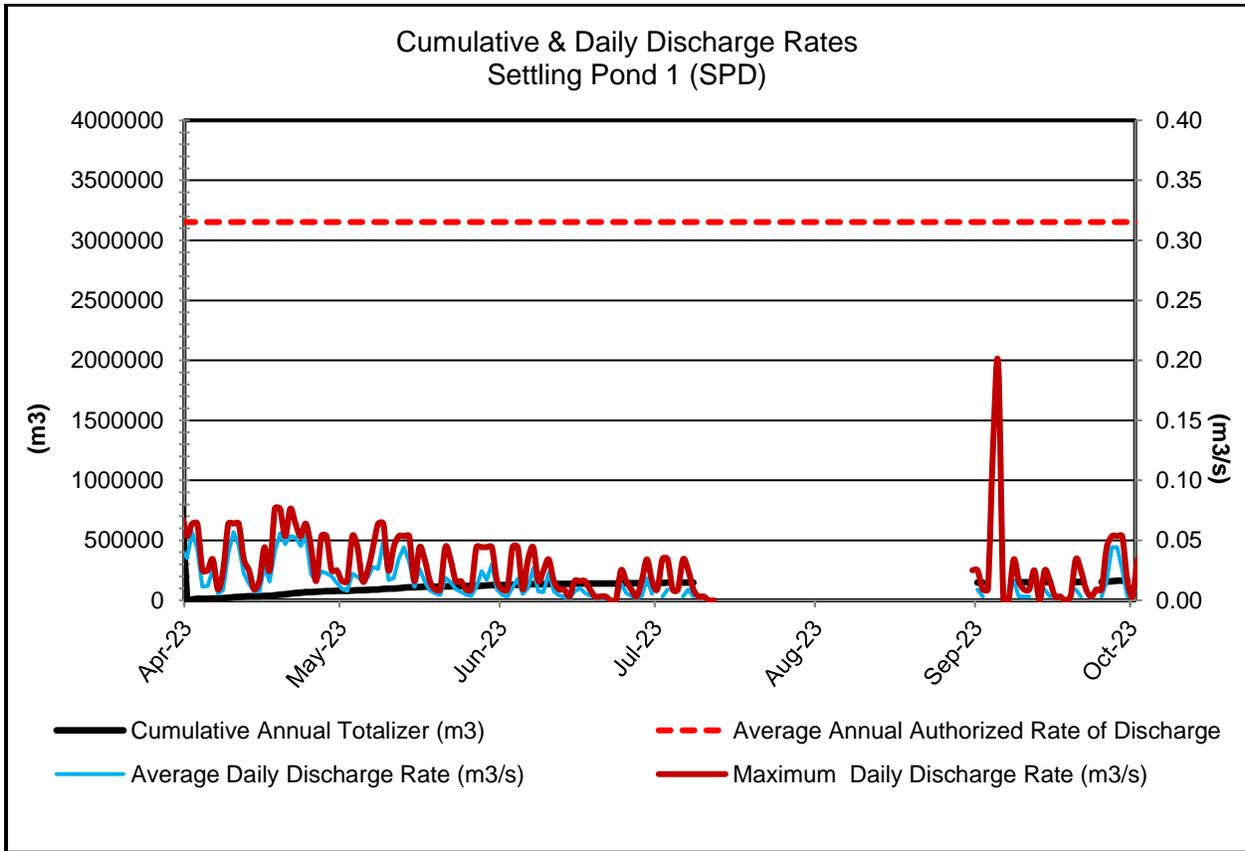


Figure 5: Settling Pond #1 Discharge Rates

AUTHORIZED DISCHARGE LOCATION 7-SOUTH (7SSD) (EMS ID: E218582)

Discharge did not occur during Q2 at the authorized location 7-South Surface Discharge Pond (7SSD). Sedimentation pond outflow is controlled by pumping water accumulated in the pre-settling pond to the 7-South Portal Sump (7SPS).

A quarterly sample was obtained from the water pond (7SSD). There was no flow downstream at Stream 1, 7S (EMS ID: E292109), this quarter. The water quality results corresponding to 7SSD sample are available in Appendix I.

Underground sumps collect mine water from 7-South Area 5 (7SA5) that is pumped into 1 Mains 7-South Area 5 (1M7SA5). This underground water combines with the 7-South Portal water and is pumped into the 5-South Mine workings. The pipelines transporting water from these areas are equipped with totalizers that record water in gallons (G) and cubic meters (m<sup>3</sup>). In Q2, a total of 3,217 gallons was pumped from 7SA5 to the 1M7SA5. The total amount of water from 7-South Mine discharged into the 5-South Mine was 7,776 m<sup>3</sup>. Refer to the Graphs ( Figure 6 and Figure 7) for totalized values from these areas.

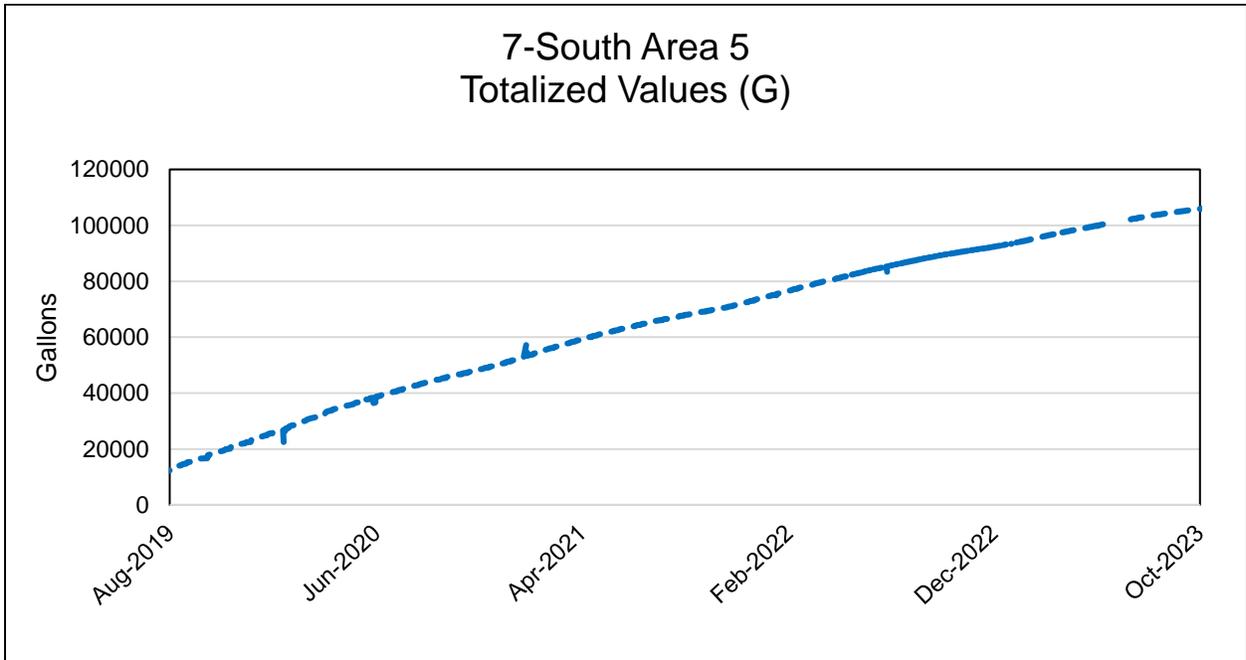


Figure 6: 7-South Area 5 Totalized Values

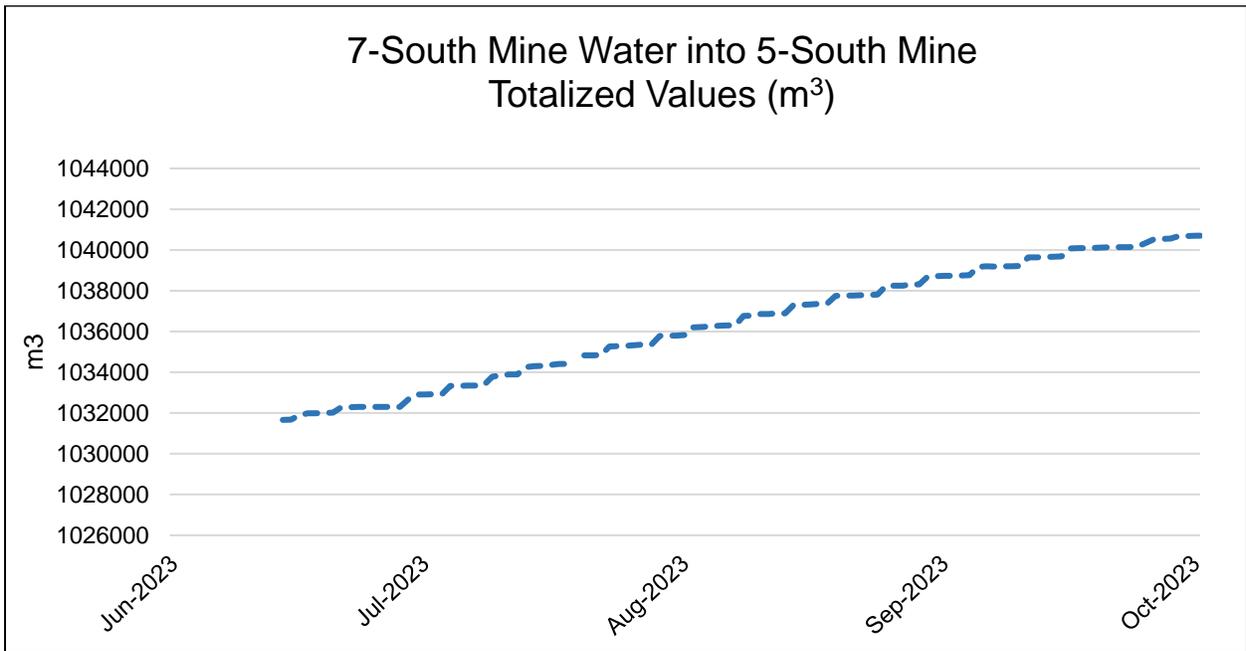


Figure 7: 7-South Mine Water Pumped into 5-South Mine - Totalized Values

QUARTERLY MONITORING:

Summer 2023, receiving environment monitoring program for both lakes and river/stream stations was completed. Quarterly monitoring was performed for groundwater quality, effluent and with-

in (in-situ) mine releases. Most environmental sampling and obligations pertaining to permit PE-7008 were completed with results available in Appendix I.

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

A request to reduce monitoring on the Iron River until 7-South Area 5 is flooded was submitted to ENV, on September 6th, 2023. This letter included rationale for a temporary reduction in monitoring for PE:7008 on the Iron River at two locations. Those include E29723, Iron River upstream of 7SA5 (IR6) and E297232, Iron River downstream of 7SA5 and 242 inputs (IR8). This would only be temporary until flooding is initiated in mining area 7 South Area 5. Currently, there are no impacts on the Iron River as the mine is being dewatered and baseline conditions have been well established. In addition to the above requests, the Permittee requested reporting deadlines be amended to better suit the monitoring schedule. Refer to Appendix III.

#### NON-COMPLIANCE EVENTS:

Permit non-compliances occurred for the following:

E297231 - Iron River (IR6) – Missing weeks 2 out of 5 weeks of summer low-flow, 5 in 30 sampling events due to several hornets' nests. Permitted parameters that are required and missing include total suspended solids, hardness, dissolved sulphate, total alkalinity, acidity, pH, conductivity, total and dissolved metals.

#### PRECIPITATION

The amount of precipitation accumulated this quarter was 100.60 mm, higher than Q2 last year (66.50 mm). Precipitation in Q2 occurred mostly in September (63.80 mm), with July and August having 6.10 mm and 30.70 mm, respectively. This is displayed in Appendix I, Table 31.

#### RECEIVING ENVIRONMENT SITES

##### RIVER, STREAM & LAKE MONITORING SITES

Effluent Permit PE-7008 Section 4.2.3 identifies river, stream, and lake monitoring sites that represent the receiving environment for various mine related discharge(s). Most of these sites are monitored on a 5 in 30 sampling frequency (5 events in 30 days) during the spring, summer and fall seasons. Table 2: Receiving Water (Stream and Lake) Monitoring Sites lists the receiving water monitoring sites.

Table 2: Receiving Water (Stream and Lake) Monitoring Sites

Streams	Lakes
<b>North Mining Operation</b>	
Quinsam River at Argonaut Road (WA) (EMS # 0126402) Outflow from Middle Quinsam Lake (WB) (EMS # 0900504)	Middle Quinsam Lake (MLQ) Centre (EMS # 206618)
<b>South Mining Operation</b>	
Long Lake Outlet (LLO) (EMS # E219412) No Name Lake Outlet (NNO) (EMS # E217017)	Long Lake at Centre (LLM) (EMS #E206619) No Name Lake (NNL) (EMS # E217018)
<b>7-South Mining Operation (Areas 1 to 4)</b>	
Quinsam River upstream of 7 South Mining Operation (QRDS1) (EMS # E286930) Quinsam River downstream of 7 South Mining Operation (7SQR) (EMS # E292113)	Lower Quinsam Lake (LQL) (EMS #E292118)
<b>7-South Area 5 Mining Operation</b>	
Iron River upstream of 7SA5 (IR6) (EMS # E297231) Iron River downstream of 7SA5 and 242 inputs (IR8) (EMS # E297232) Quinsam River downstream of confluence with Iron River (IRQR) (EMS # E299256)	Lower Quinsam Lake (LQL) (EMS # E292118)

**River and Stream Sites in the Quinsam River Sub-Basin**

- Quinsam River at Argonaut Road (WA) EMS #0126402 – Located upstream of all mine related discharges; represents background (baseline) conditions for water quality comparisons.
- Outflow from Middle Quinsam Lake (WB) EMS #0900504 – Located at the outflow of Middle Quinsam lake; represents combined discharge from North and South water management systems.
- No Name Lake Outlet (NNO) EMS #E217017 – Located at the outflow of No Name Lake; not presently influenced by surface mine related discharge in the South.
- Long Lake Outlet (LLO) EMS #E219412 – Located at the outflow to Long Lake; captures all South mine related inputs on surface and a percentage of groundwater (*i.e.*, LLE and Long Lake Seep).
- Quinsam River Downstream Site 1 (QRDS1) EMS #E286930 – This site is located downstream of Middle Quinsam Lake Outflow (WB), the North Mining Operation and upstream of the 7-South Mining Operation; captures changes in water quality before the 7-South Mine and groundwater inputs related to mining.

- Quinsam River downstream of the confluence with the Iron River (IRQR) EMS #E299256 – Located downstream of all current and planned (7-South, Area 5) activities; represents the cumulative mine related discharge.
- 7-South Quinsam River (7SQR) EMS #E292113 – Quinsam River downstream of QRDS1, LWO, and 7-South Mining Operation; captures incremental changes in water quality that may be attributed to 7-South PAG-CCR storage and flooded mine pool.

### **Iron River –7-South Area 5 (7SA5) Mining Operation - (Summer and Fall Only)**

- Iron River Upstream of 7SA5 (IR6) EMS #E297231 – Located upstream of any mine related activity (currently); reflects baseline conditions in an area of different geologic formation(s) and baseline water quality influences (mainly arsenic concentrations).
- Iron River downstream of 7SA5 and 242 inputs (IR8) EMS #E297232 – Downstream monitoring site on the Iron River; will be used to monitor potential influence of 7SA5.

### **Lake Monitoring Sites**

- No Name Lake (NNL) EMS #E217018– Located within the South mine development area (Spring Only)
- Long Lake (LLM) EMS #E206619 – Located within the South mine development area and receives water from No Name Lake, 2 and 3 South flooded mine voids and 3-South Pit as groundwater and surface water (Long Lake Seep). The outlet end receives seepage from 4-South flooded mine pool, estimated at 0.14 m<sup>3</sup>/day and south water management discharge (LLE).
- Middle Quinsam Lake (MQL) EMS #E206618 – Located adjacent to the North mine development area and receives all discharge from the North water management system and upstream (non-mine related) inputs. Long Lake flows into Middle Quinsam Lake at the south end near the outlet (WB) via a small tributary stream (LLO).
- Lower Quinsam Lake (LQL) EMS #E292118 – Located well below mine related discharge(s); reflects the combined influences of Quinsam River and Iron River water quality (Spring Only).

### **RECEIVING ENVIRONMENT WATER QUALITY:**

Water quality in the receiving environment (lakes and rivers) is compared to British Columbia Water Quality Guideline's - Freshwater Aquatic Life (WQG). Summer averages for hypolimnetic dissolved oxygen and total phosphorous in Long and Middle Quinsam Lakes are compared to Provisional Water Quality Objective's (WQO) for Middle Quinsam Lake Sub-Basin.

The receiving environment monitoring program followed the five samples in thirty days schedule with sampling events spanning July 11<sup>th</sup> through August 8<sup>th</sup>. This monitoring period is meant to capture the rivers, summer low flow and lake stratification period.

### Preamble – Water Hardness and Dissolved Copper

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

Dissolved copper (Cu) was calculated from site specific parameters and generated from the Biotic Ligand Model (BLM). The BLM is a series of linked equations that predicts the toxicity of dissolved Cu under specific water chemistry conditions. As a result, the acute short-term and chronic long-term WQG's vary between sites (Figure 8). The chronic WQG is compared to each individual result and then the average of the five weeks is compared to a chronic WQG. Each guideline is different for each result and site.

#### RECEIVING ENVIRONMENT- DISSOLVED COPPER

Individual results are compared to chronic WQG's that vary for each result (Figure 8). Results above the chronic WQG's were observed at the upstream of mine influence location (WA) on 6 out of 6 results. Averaged results were above the averaged chronic WQG at WA. Indicating copper is present upstream of mine influence and prevalent throughout the watershed. Refer to Table 3: Results above the Chronic WQG's for the site wide summary and Table 4: Averaged 5 in 30 Results Above the Averaged Chronic WQG's.

Individual results for dissolved Cu were observed in lowest concentrations at depth in Long Lake at LLMB (0.00024 mg/L) and highest concentrations at depth in Middle Quinsam Lake at MQLB (0.00089 mg/L) and the Quinsam River at WB (0.0085 mg/L) and 7SQR (0.0082 mg/L). The Iron River also had elevated results at both IR6 (0.00085 mg/L) and IR8 (0.00067 mg/L).

Refer to the below Graphs (Figure 8: Dissolved Copper Concentrations Compared to Chronic and Acute WQG's,) for dissolved Cu concentrations compared to WQG's. There were no results for dissolved Cu above acute WQG's at any receiving environment locations.

Table 3: Results above the Chronic WQG's

Sample Name	Copper Concentration (mg/L)	Chronic Guideline (mg/L)	Number of results above WQG
LLMB-1AUG23-M	0.00031	0.0003	1 out of 5
WA-11JUL23-M	0.00051	0.0003	5 out of 6 (includes the replicate)
WA-11JUL23-Replicate	0.00049	0.0003	
WA-17JUL23-M	0.00046	0.0003	
WA-24JUL23-M	0.00049	0.0002	
WA-31JUL23-M	0.00052	0.0002	
WA-8AUG23-M	0.00055	0.0002	
LLO-11JUL23-M	0.00035	0.0002	3 out of 5
LLO-17JUL23-M	0.00028	0.0002	
LLO-24JUL23-M	0.00033	0.0002	
NNO-11JUL23-M	0.00072	0.0002	2 out of 3
NNO-17JUL23-M	0.00042	0.0004	
QRDS1-31JUL23-M	0.00047	0.0003	1 out of 6 (includes replicate)
7SQR-11JUL23-M	0.00061	0.0005	4 out of 6 (includes the replicate)
7SQR-17JUL23-M	0.00041	0.0002	
7SQR-24JUL23-M	0.00046	0.0004	
7SQR-31JUL23-M	0.00082	0.0003	
7SQR-31JUL23-Replicate	0.0005	0.0003	
IRQR-17JUL23-M	0.00041	0.0002	
IRQR-31JUL23-M	0.00049	0.0004	3 out of 5
IRQR-8AUG23-M	0.0005	0.0002	1 out of 3
IR6-11JUL23-M	0.00085	0.0007	
IR8-31JUL23-M	0.00035	0.0002	
IR8-8AUG23-M	0.00067	0.0002	2 out of 5

Highlighted red indicates the calculated GL is below 0.0002 mg/L, however, 0.0002 mg/L is considered to be the lowest concentration routinely measured and therefore replaces the calculated HC5 value for this water chemistry.

Highlighted green indicates the results are greater than the Chronic WQG.

Table 4: Averaged 5 in 30 Results Above the Averaged Chronic WQG's

Sample Name	Av 5 in 30 Copper Concentration (mg/L)	Av Chronic Guideline (mg/L)
WA	0.000506	0.0002
7SQR	0.000548	0.0003
IRQR	0.000466	0.0004

Highlighted red indicates the calculated GL is below 0.0002 mg/L, however, 0.0002 mg/L is considered to be the lowest concentration routinely measured and therefore replaces the calculated HC5 value for this water chemistry.

Highlighted green indicates the Averaged results are greater than the Averaged Chronic WQG.

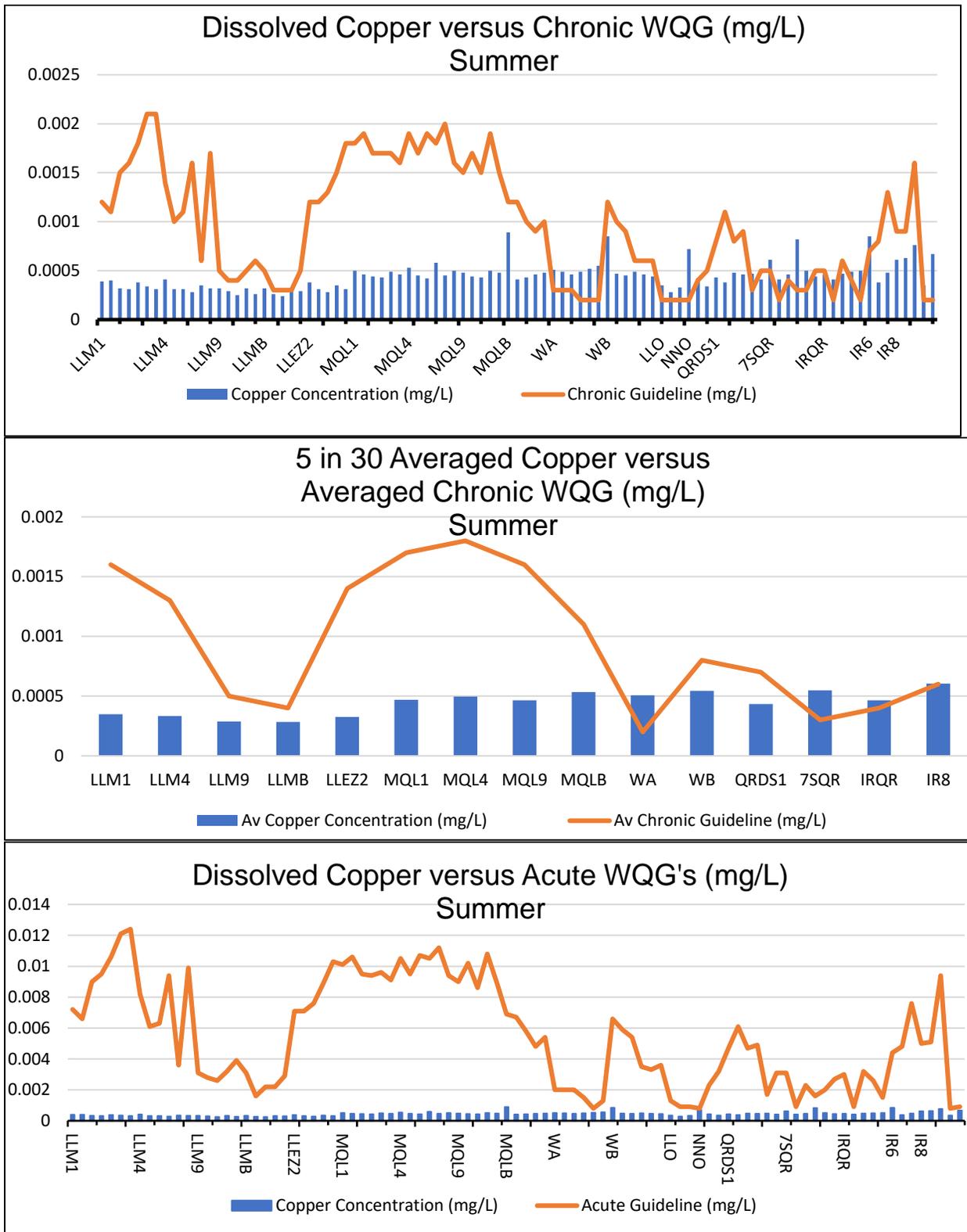


Figure 8: Dissolved Copper Concentrations Compared to Chronic and Acute WQG's

## LAKES

The summer sampling program is scheduled to capture the period of low flow and lake stratification. The summer program spanned July 18th through August 15th. The summer program represents the lake's seasonal thermal stratification and a time when deeper lakes naturally develop anoxia in deeper waters.

Results from this sampling period represent low dilution conditions when the lakes display minimum assimilative capacity and mine related surface discharges and groundwater infiltration have the greatest influence. From June 1st through August 31st, there were high ambient temperatures and lower precipitation levels of accumulated precipitation (44.70 mm). As a result of drought conditions, there was limited mine related surface discharge. Authorized discharge locations (WD and SPD) had limited flow through July and August. Seep locations (LLS and LLSM) were also dry for summer months. Both the Lakes (LL and MQL) inflow rates remained low with LL having zero inflow from July through September.

The Upper Quinsam River flows into Middle Quinsam Lake. These flow from the Quinsam River have been regulated since 1957 when a diversion dam upstream from Middle Quinsam Lake diverted roughly 72% of the flow of the Quinsam River into the Campbell River system via Gooseneck Lake. Middle Quinsam and Long Lake have rapid flushing rates. The estimated mean residence time for Middle Quinsam Lake water is approximately 17 days; for Long Lake it is approximately 34 days<sup>1</sup>, during high flow.

The summer lake monitoring program includes Long Lake (LLM) and Middle Quinsam Lake (MQL). Appendix 1, Tables 3 and 4 provides a summary of parameters observed trending above WQG's. Appendix I, Tables 36 through 38 display results compared to WQG's. Dissolved copper was the only parameter above chronic WQG's.

Hypolimnetic dissolved oxygen (3 mg/L) was outside of the range for the WQO, in Long Lake. Anoxic conditions occurred four out of five weeks in summer at depths between 14-to-20-meters where results fell below 3 mg/L.

The below graphs (Figure 9 and Figure 10) display the results of depth profiling (averaged pH and conductivity) and Temperature versus depth on MQL and LLM. With graphs (Figure 11 and Figure 12) displaying averaged dissolved sulphate from five weeks of monitoring compared to the chronic WQG (128 mg/L) using a background hardness of 30 mg/L. All water quality parameters (except copper) were below the WQG during summer monitoring.

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<sup>1</sup> Ambient Water Quality Assessment and Objectives For Middle Quinsam Lake Sub-Basin Campbell River Area. MOE. 1989

Noteworthy observations resulting from the lake monitoring program include:

- Average sulphate concentrations were measured below the chronic WQG (128 mg/L) in both lakes.
- Average sulphate resulted in 45 mg/L at 1m, 46 mg/L at 4m, 74 mg/L at 9m and 91 mg/L at 1MB, in Long Lake
- Average sulphate results for Middle Quinsam Lake were 10 mg/L at 1 m and 4m, with 9m, and 1MB averaging 17 mg/L and 16 mg/L.
- Hypolimnetic dissolved oxygen (minimum 3 mg/L during June, July, and August) fell below 3 mg/L in the hypolimnion zone (14-to-20-meters depths).
- Conductivity in Long Lake increases between the epilimnion (surface) to metalimnion (middle).
- Middle Quinsam Lake pH was above 9 on individual results in the metalimnion.

In MQL, pH results were above 9 and peaking at 9.53, observed in the metalimnion at depths between 6-to-9-meters (Figure 9). Water chemistry did not indicate elevated alkalinity or hardness concentrations. Both parameters were averaging around 30 mg/L for depths 1m, 4m, 9m and 1 metre from bottom (1MB), in MQL. The YSI-meter used to analyze water quality was recalibrated to confirm accurate results for pH.

LLM, had normally ranges for pH ranging between 6.5 and 8.0. Conductivity results increased in the metalimnion to hypolimnion at depths between 6-to-20-meters (Figure 9).

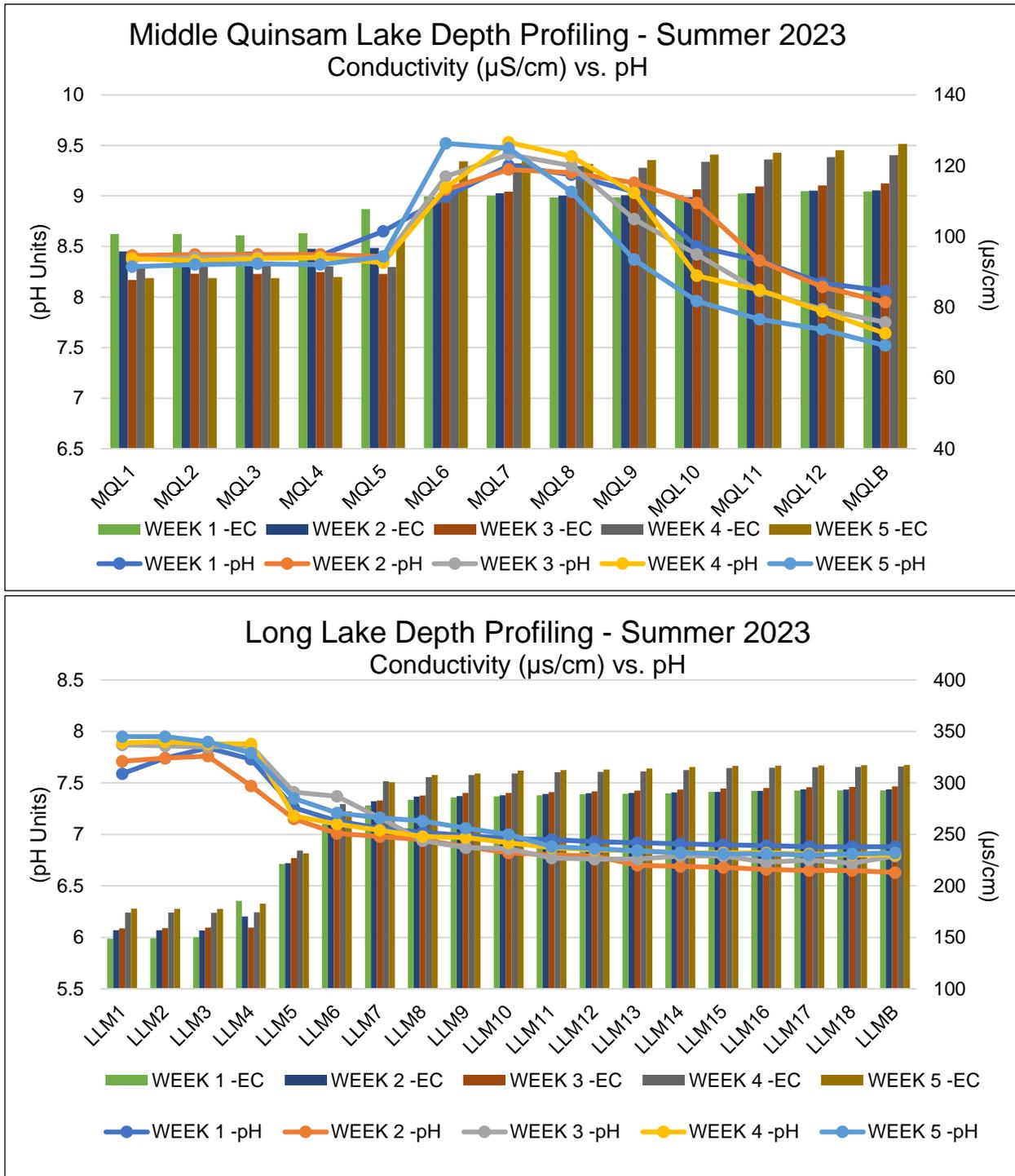


Figure 9: Middle Quinsam and Long Lake's Depth Profiling - Conductivity versus pH

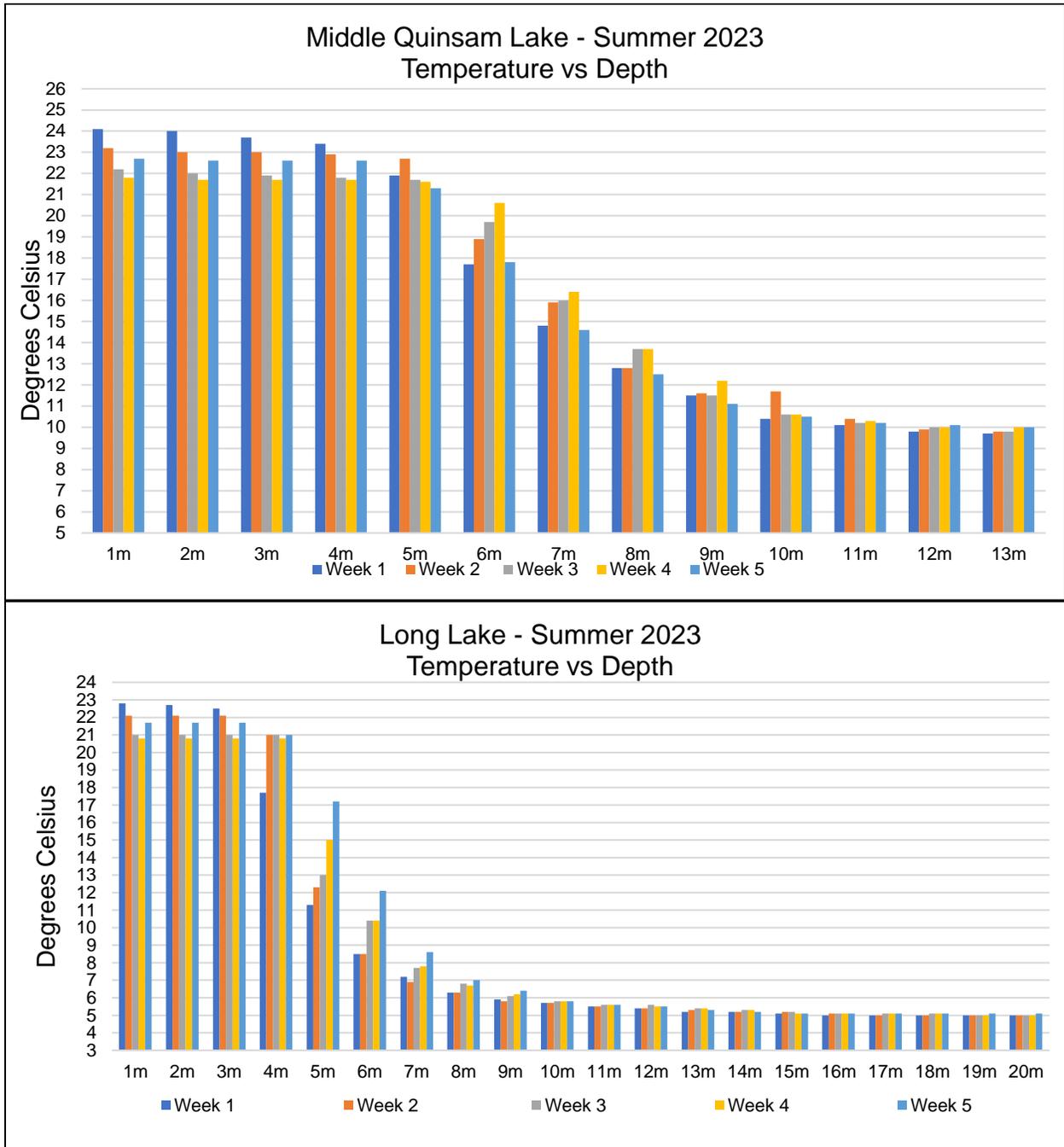


Figure 10: Middle Quinsam and Long Lake’s Depth Profiling – Temperature versus Depth

Temperature gradients were observed in both lakes as stratification occurred. In MQL the epilimnion occurred from depths between 1-to-5-meters. The metalimnion occurred at depths between 6-to-9-meters and hypolimnion occurred at depths between 10-to-13-meters. In LL the epilimnion occurred from depths between 1-to-4-meters. The metalimnion occurred at depths between 5-to-8-meters and hypolimnion occurred at depths between 9-to-20-meters (Figure 10).

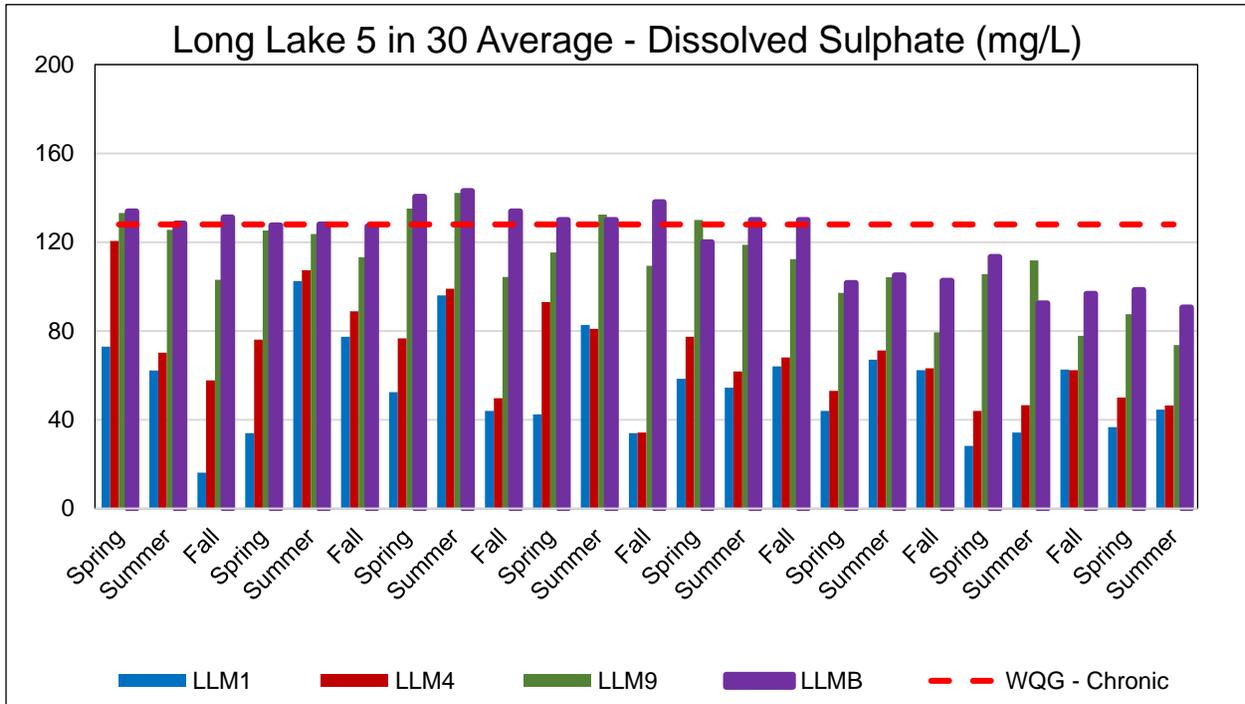


Figure 11: Average Dissolved Sulphate - Long Lake

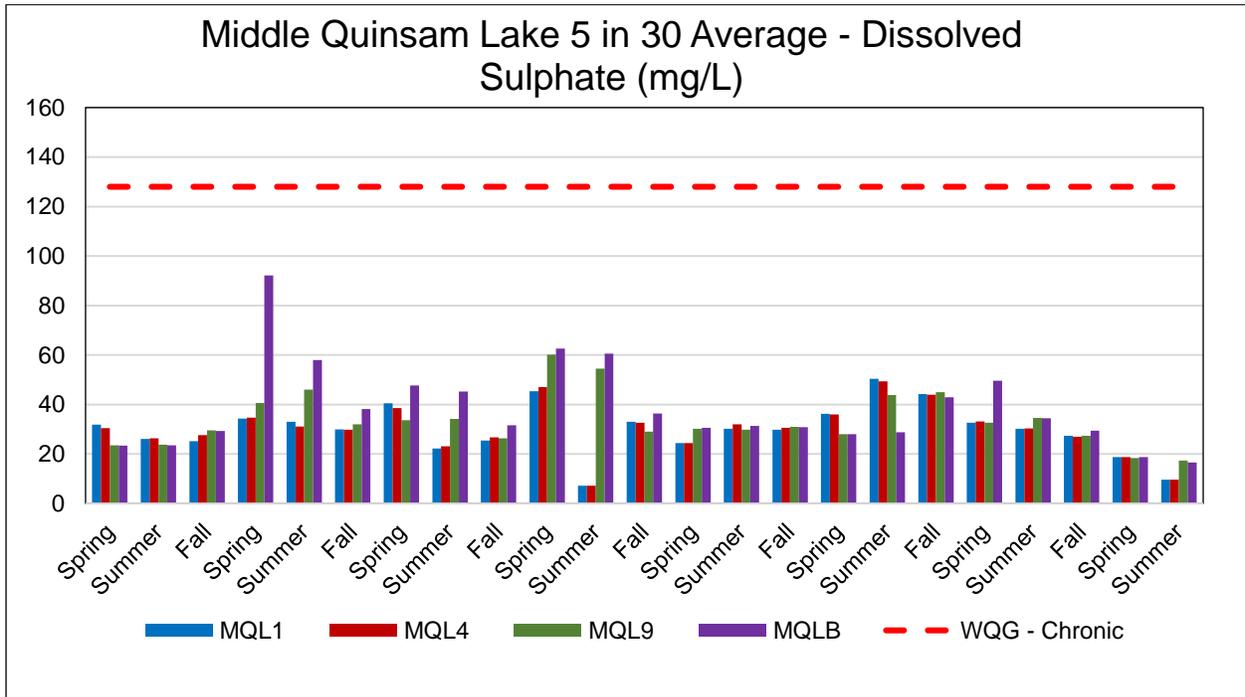


Figure 12: Average Dissolved Sulphate - Middle Quinsam Lake

CHLOROPHYLL “A”, PHYTOPLANKTON AND ZOOPLANKTON ABUNDANCE

Refer to Appendix II for the full data sets and reports.

Chlorophyll “a” concentrations provide an indication of overall phytoplankton biomass at any given time and provide a basis for comparing primary production among lakes. Summer results for Chlorophyll “a” and phytoplankton abundance is shown in Figure 13 and Figure 14 collected on both Long and Middle Quinsam Lake’s. Chlorophyll “a” results, for Long and Middle Quinsam lakes were (1.1 ug/L and 0.53 ug/L), respectively. Long Lake displayed the highest results compared to previous years indicating higher concentrations of phytoplankton during this sampling event. The summer result for Middle Quinsam Lake falls within the range of historical results.

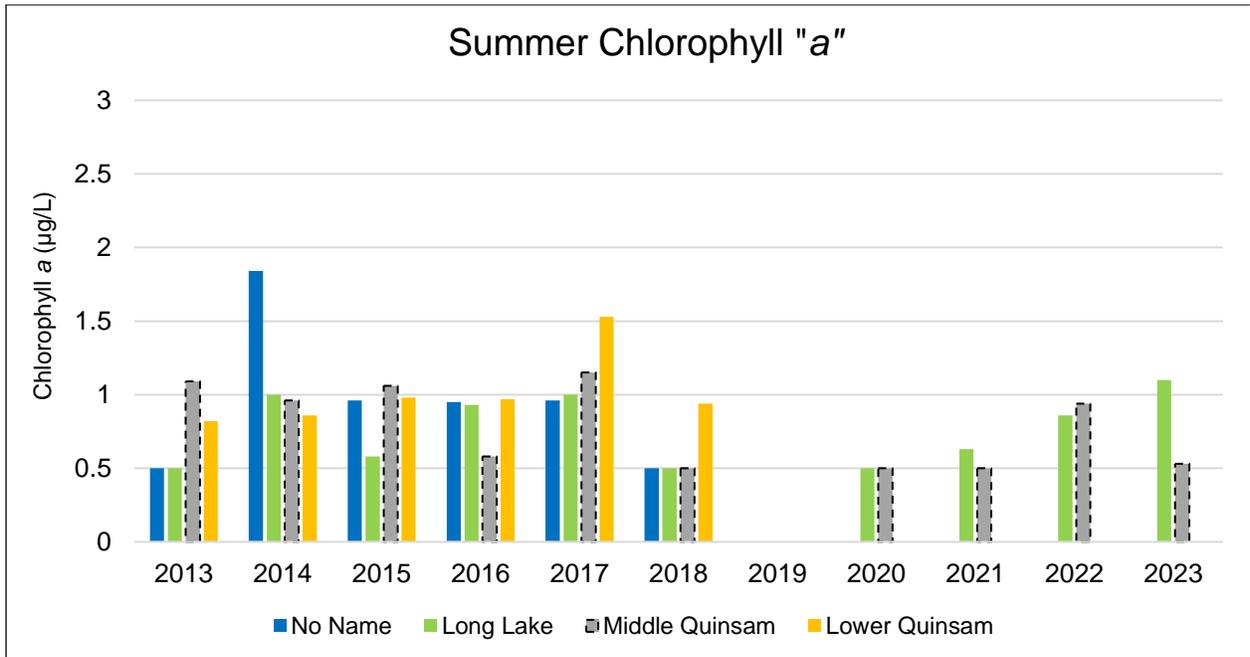


Figure 13: Summer Chlorophyll "a"

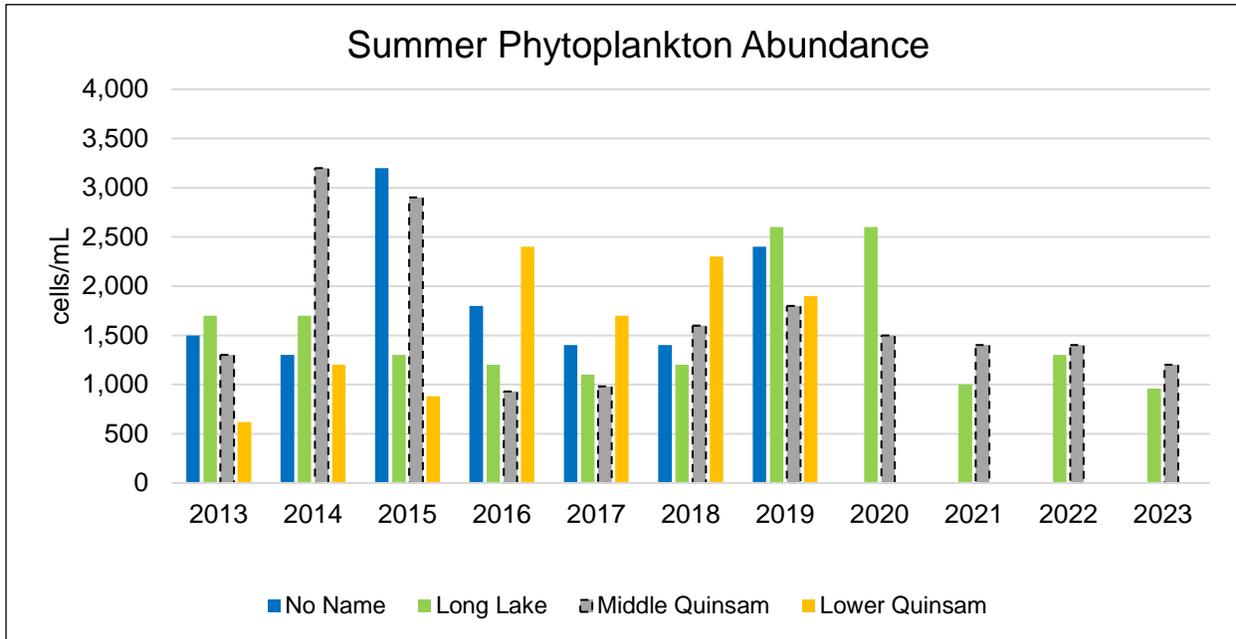


Figure 14: Summer Phytoplankton Abundance

Figure 14: Summer Phytoplankton Abundance, displays summer historical to present total abundance samples. Total abundance for July 2023 ranged from 960 cells/mL to 1,200 cells/mL for Long and Middle Quinsam Lakes, respectively. These numbers are in the range reported historically.

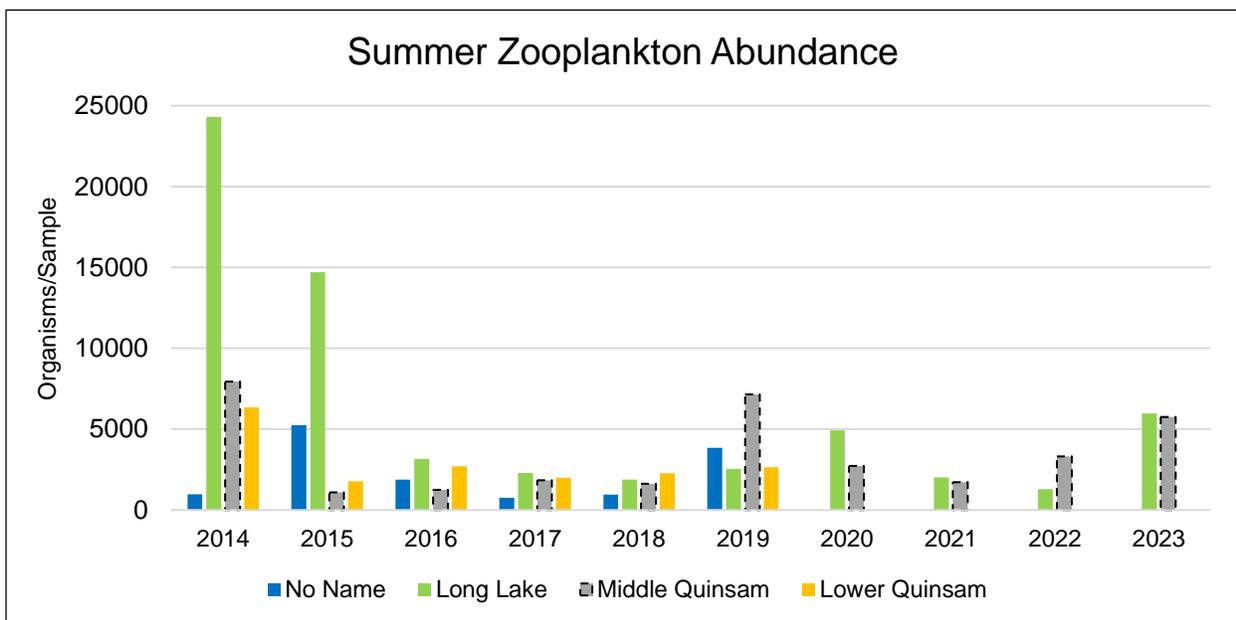


Figure 15: Summer Zooplankton Abundance

Figure 15: Summer Zooplankton Abundance, for Long and Middle Quinsam Lakes in Summer 2023 were higher than those collected since 2019 for Middle Quinsam (5764 collected in 2023

compared to 7153 collected in 2019). Long Lake displayed the highest numbers since 2015 (5981 collected in 2023 compared to 14704, collected in 2015). Both lakes displayed similar results for abundance.

#### SPECIES COMPOSITION

Phytoplankton species composition data for the July 2023 samples are contained in Appendix II, Attachment B. The most abundant phytoplankton in Long Lake were the very small (less than or equal to 5 µm) chrysoflagellates (*Ochromonas* spp. and *Chromulina* spp.). Although these ultra-nanoplankton species were very abundant numerically, they usually contribute little to algal biomass. These were not the most abundant taxa in Middle Quinsam Lake; *Dictyosphaerium pulchellum* was predominant.

In Long Lake, the most abundant of the larger algae were the cryptophytes *Cryptomonas* spp. and *Rhodomonas minuta*, with the chrysophyte *Ochromonas* spp. common. In Middle Quinsam Lake, the colonial chlorophyte *Dictyosphaerium pulchellum* was predominant and small chrysophytes and *Ochromonas* spp. were common. The July 2023 samples were similar in composition and abundance to samples collected during the summer in recent years.

Zooplankton species composition data for the July 2023 organisms per sample are displayed in the below graphs and available in Appendix II. In Long Lake, the most abundant species were Rotifera (2631 organisms / sample) followed by Cladocera (1581 organisms / sample) with the replicate also having Rotifera (2604 organisms / sample) and Cladocera (2031 organisms / sample) as the most abundant. For Middle Quinsam Lake the most abundant zooplankton organisms were the Cladocera (3647 organisms / sample) followed by Calanoida (1156 organisms / sample). Refer to Figure 16: 2023 Zooplankton – Species Composition, Figure 17: Long Lake Zooplankton Species Composition – Summer and Figure 18: Middle Quinsam Lake Zooplankton Species Composition – Summer.

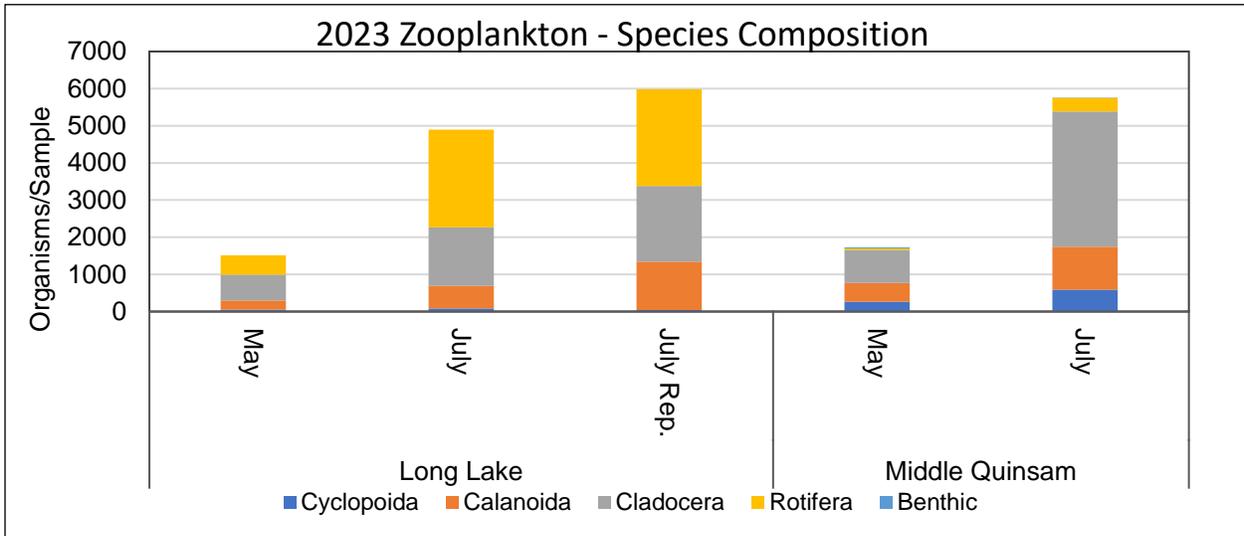


Figure 16: 2023 Zooplankton – Species Composition

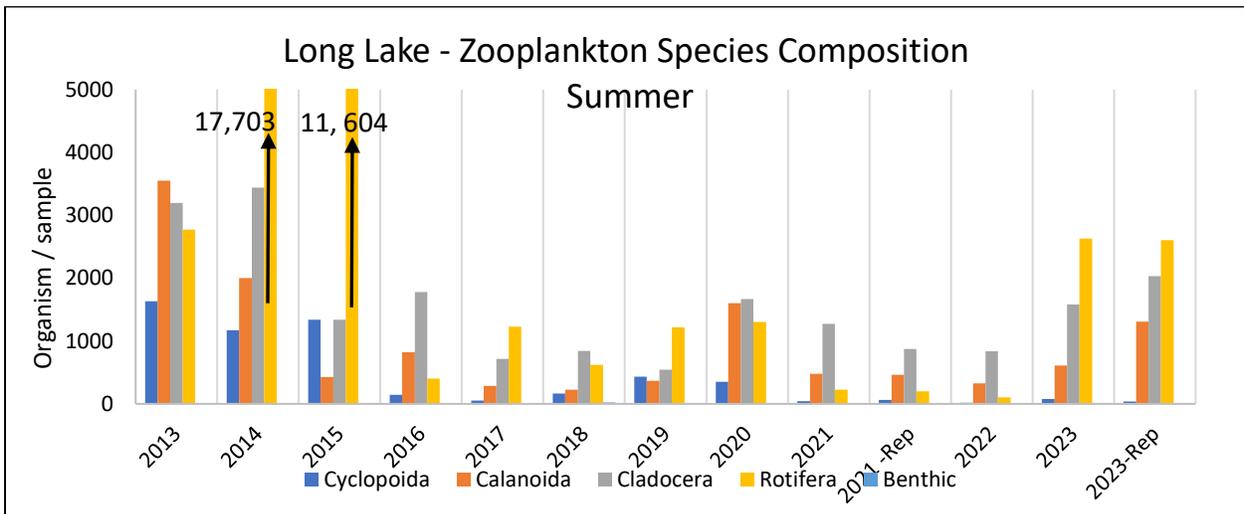


Figure 17: Long Lake Zooplankton Species Composition – Summer

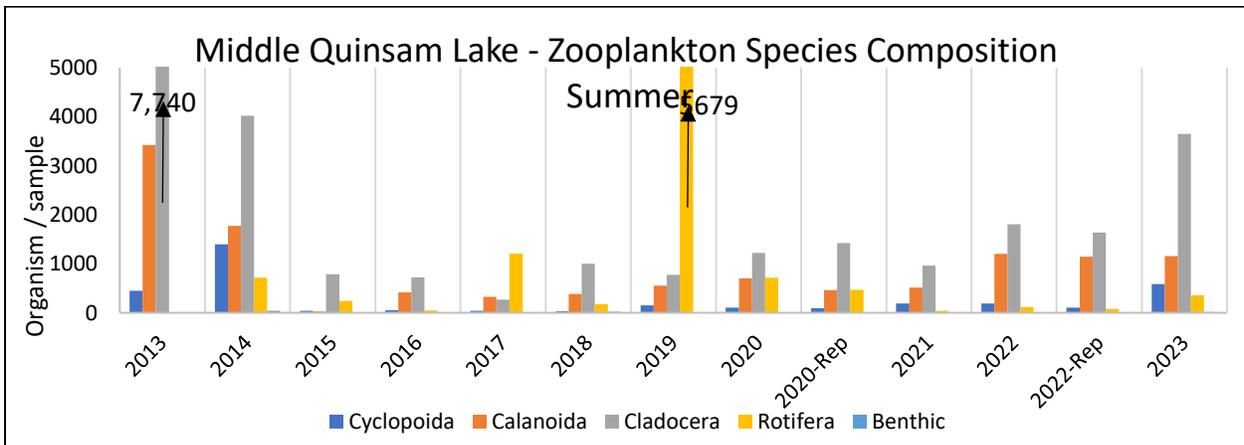


Figure 18: Middle Quinsam Lake Zooplankton Species Composition – Summer

## CONCLUSION

Variations in total abundance when comparing lake phytoplankton abundance may be related to the month sampled and phytoplankton blooms. Differences in taxonomic composition are related to seasonal conditions, including food supply (phytoplankton and organic matter) and grazing pressures from fish. The larger Copepods and Cladocerans are preferred food sources for fish. All four lakes are known to be fish bearing (e.g., salmon and trout species), but there is not enough information about fish populations to estimate grazing pressures on zooplankton. Historical to present graphs (Figure 17 and Figure 18) display the species composition for Long and Middle Quinsam Lake's. As displayed Cladocera's are abundant in both lakes indicating limited impacts from fish grazing.

## STREAMS AND RIVERS

The five samples in thirty days receiving environment program at river and stream sites commenced July 11<sup>th</sup> and concluded August 8<sup>th</sup>. Appendix I, Table's 3, 4 and 39 display water quality results compared to WQG's for the Quinsam and Iron Rivers including streams, No Name and Long Lake Outlets.

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

- Most parameters increase downstream compared to upstream on the Quinsam River.
- Averaged dissolved sulphate for the Quinsam River upstream of mine influence (WA) was lower (1.2 mg/L) compared to downstream of mine influence at 7SQR (12 mg/L) and IRQR (11 mg/L). Averages were the lowest observed since summer 2019.
- Averaged dissolved sulphate at NNO (2.0 mg/L) was lower compared to downstream at LLO (40 mg/L)
- Averaged conductivity increases from upstream Quinsam River 49  $\mu$ S/cm compared to downstream 119  $\mu$ S/cm, indicating mine influence.
- Total arsenic was above the acute WQG of 0.005 mg/L in the Iron River (IR6) during 3 out of 3 weeks of sampling and 3 out of 5 weekly samples at IR8.
- All other parameters were below the acute and chronic WQG's for rivers and streams during the summer monitoring except dissolved copper.
- NNO and LLO stopped flowing and only 3 weeks out of 5 were sampled.

Refer to graphs (Figure 19 to Figure 23) below, displaying trends for parameters of interest for total arsenic, total and dissolved iron, total manganese, and dissolved sulphate on the Quinsam

River since 2017. All results have remained below WQG's. Marginal increases were observed in 2021 and Summer low flow periods related to seepage areas on the Quinsam River. The main indication of mine influence on water quality is observed with dissolved sulphate and incremental increases observed downstream compared to the Middle Quinsam Lake Outlet (WB) (Figure 23). The upstream location (WA) provides the baseline for dissolved sulphate concentrations prior to mine influence. Certain parameters of interest (arsenic, iron and sulphate) are closely monitored, and results graphed to ensure results are not trending above WQG's. Increases in these parameters of interest could indicate potential seepage pathways. As such they are important environmental monitoring points. Underground flooded mine void water elevations are also closely monitored, as discussed in the Groundwater section. This year the average dissolved sulphate concentrations were the lowest observed since 2019. This is related to limited discharge from authorized locations (WD and SPD) as most water was retained on site for water cover in PAG- CCR ponds.

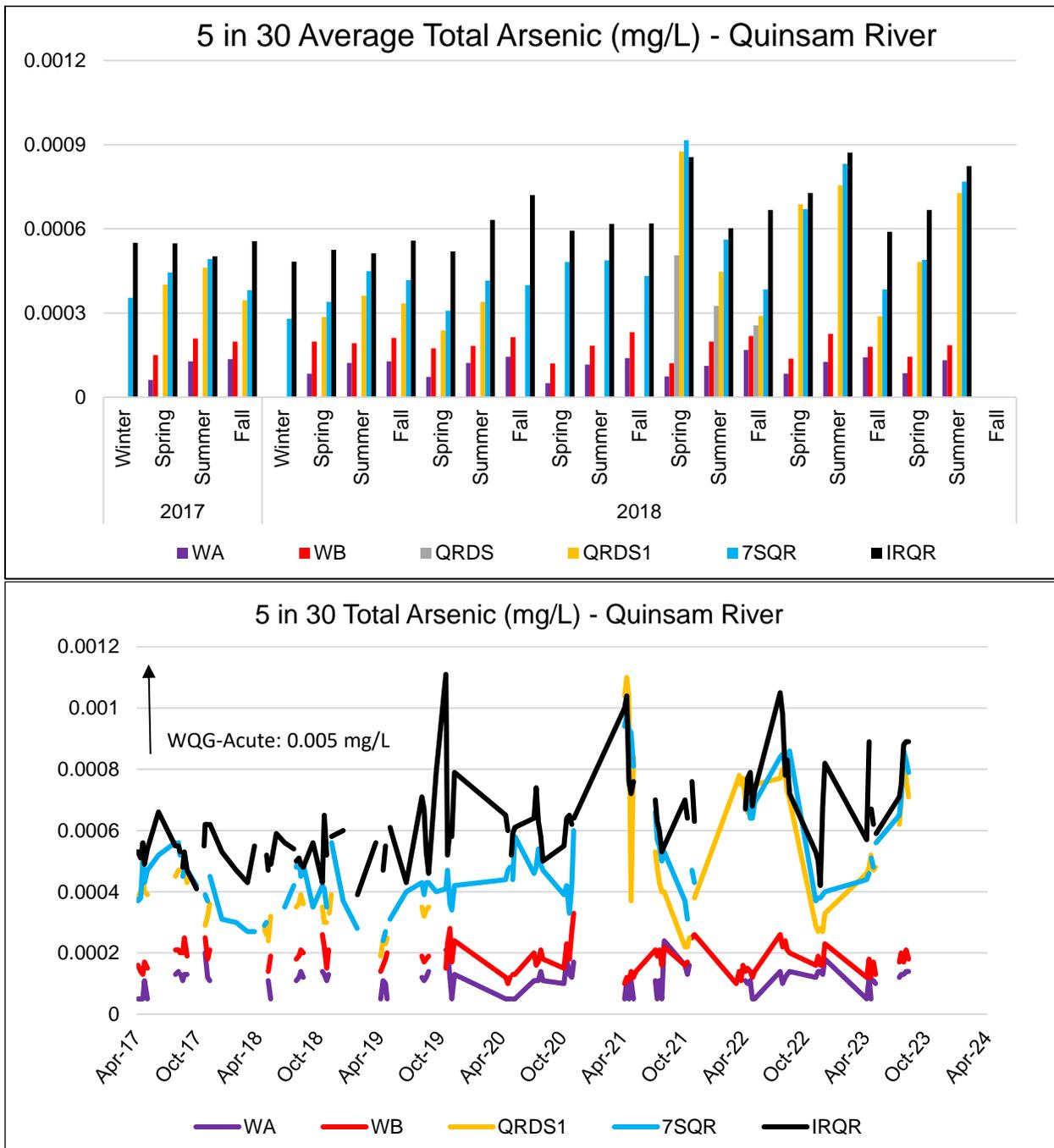


Figure 19: Total Arsenic in Quinsam River Compared to Acute-WQG (0.005 mg/L)

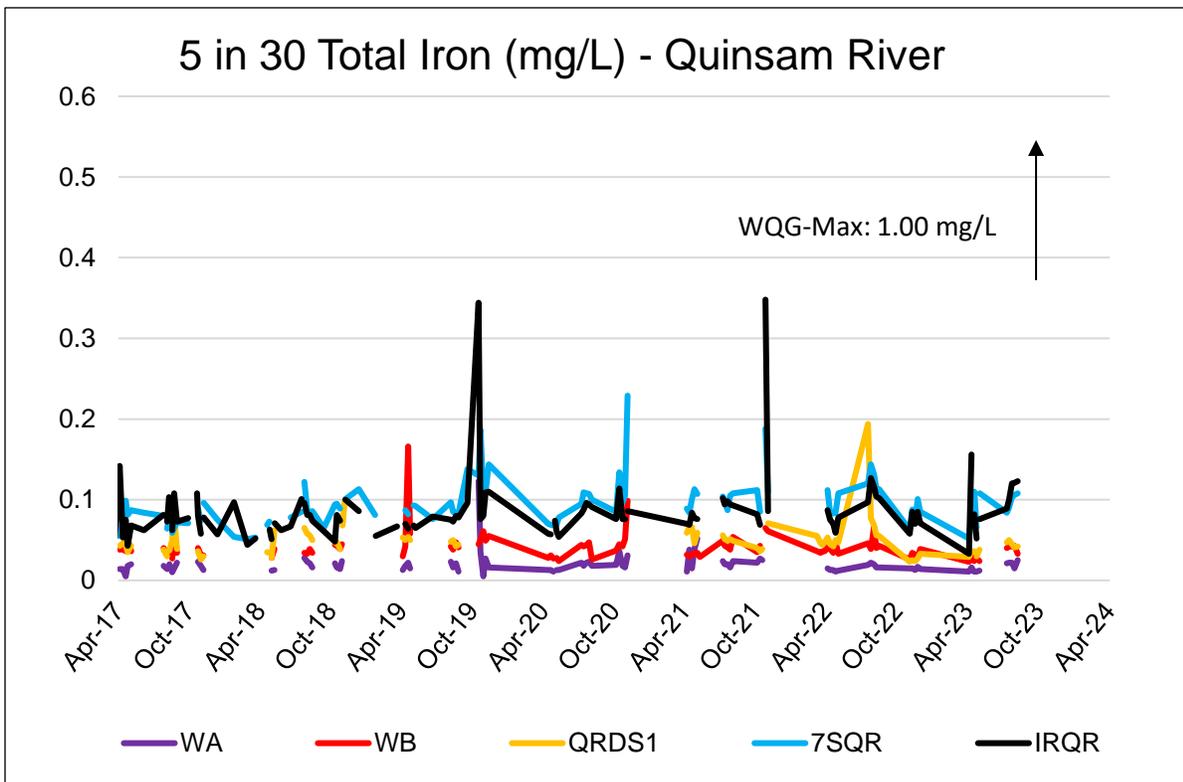
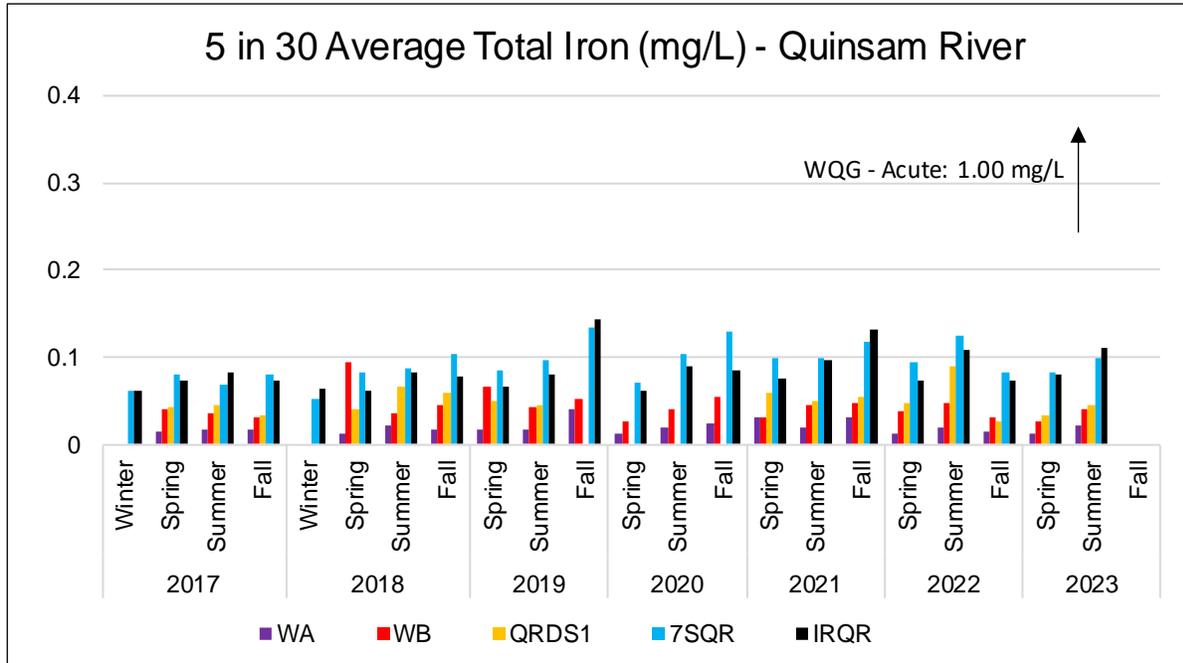


Figure 20: Total Iron in Quinsam River Compared to Acute-WQG (1.00 mg/L)

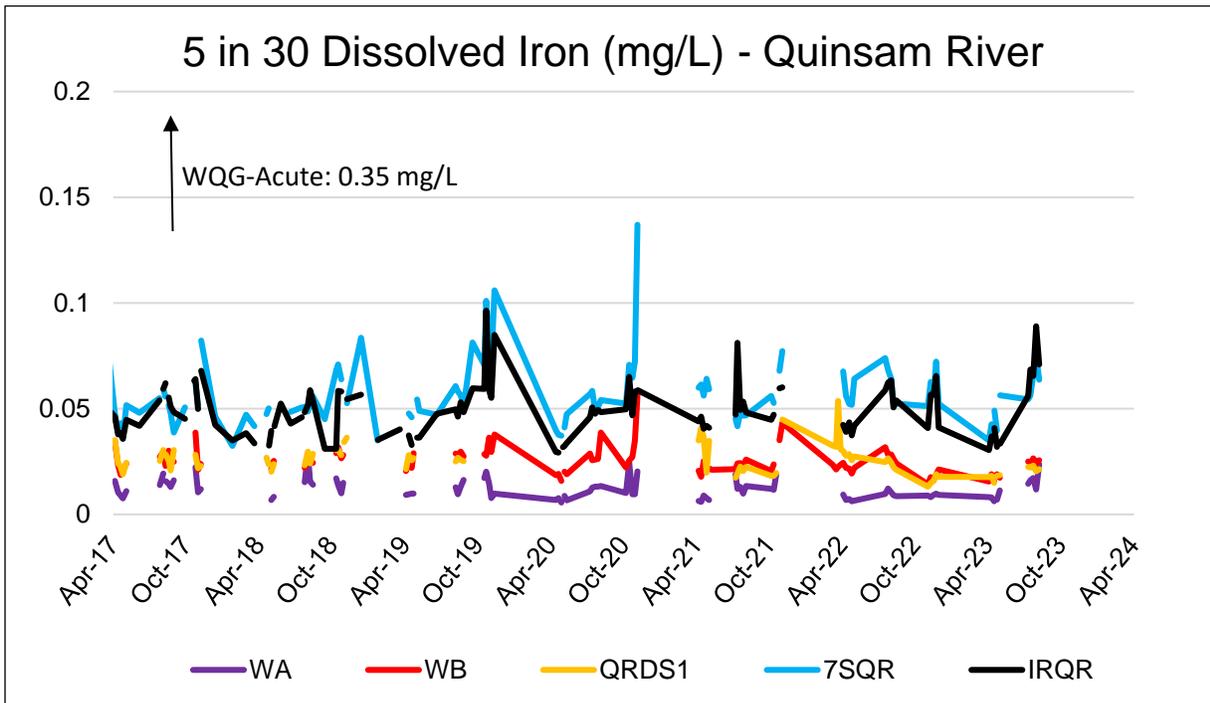
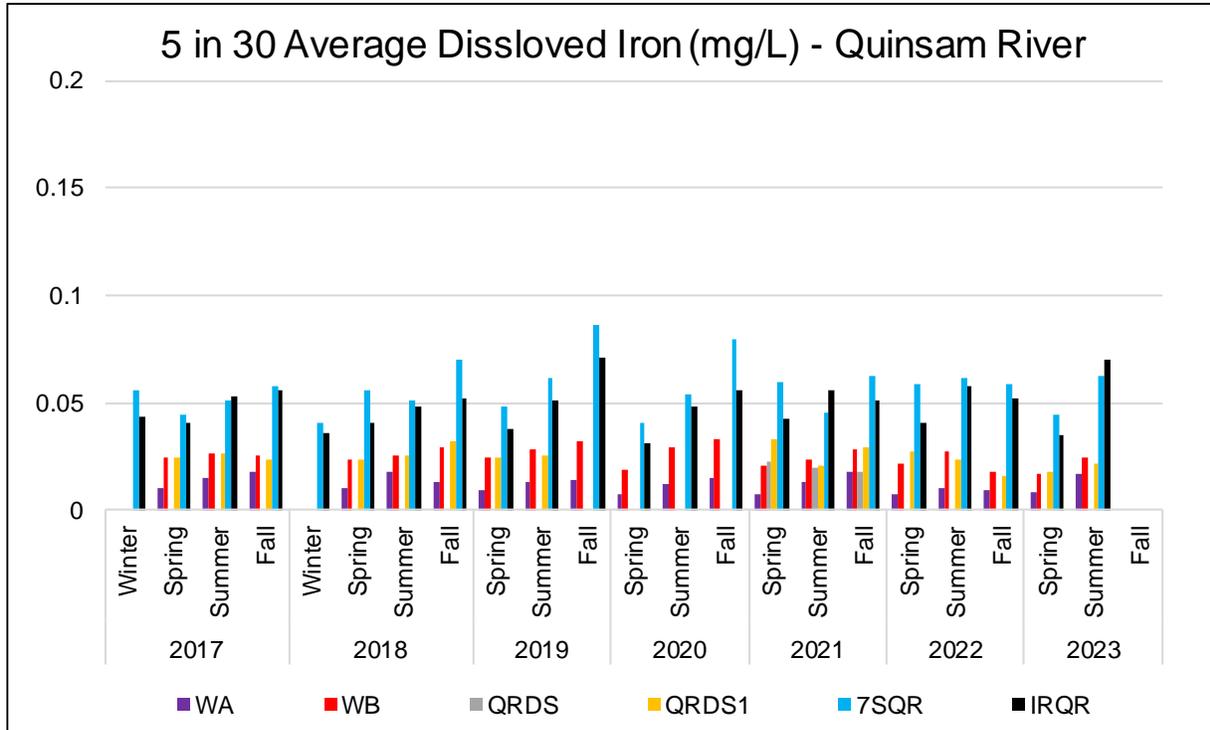


Figure 21: Dissolved Iron in Quinsam River Compared to Acute-WQG (0.35 mg/L)

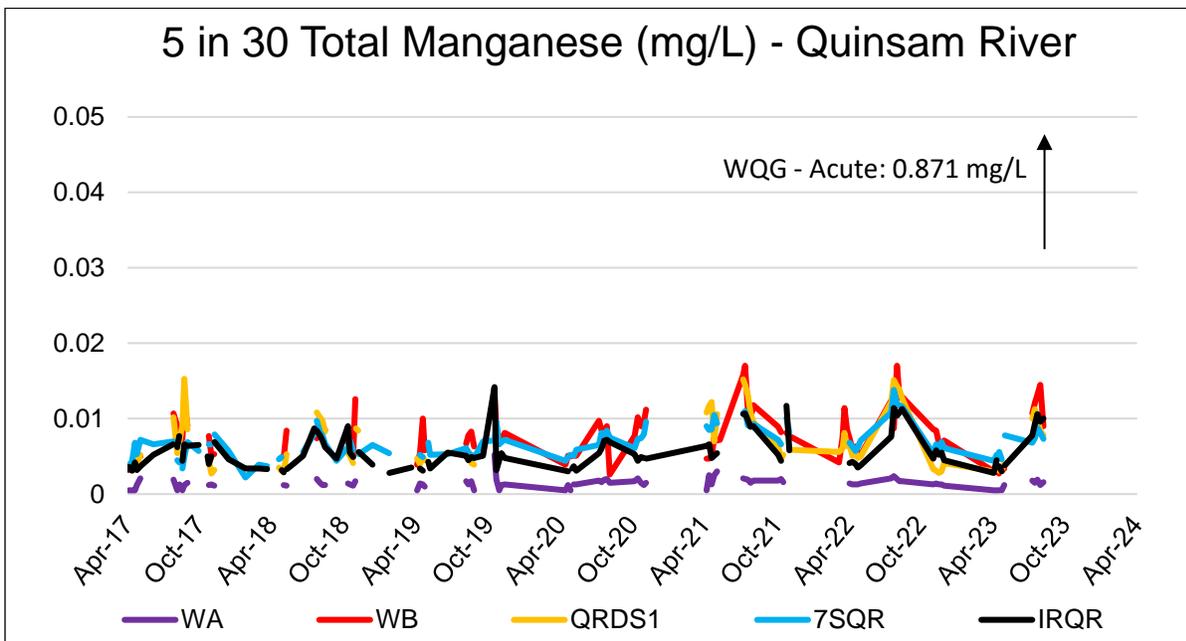
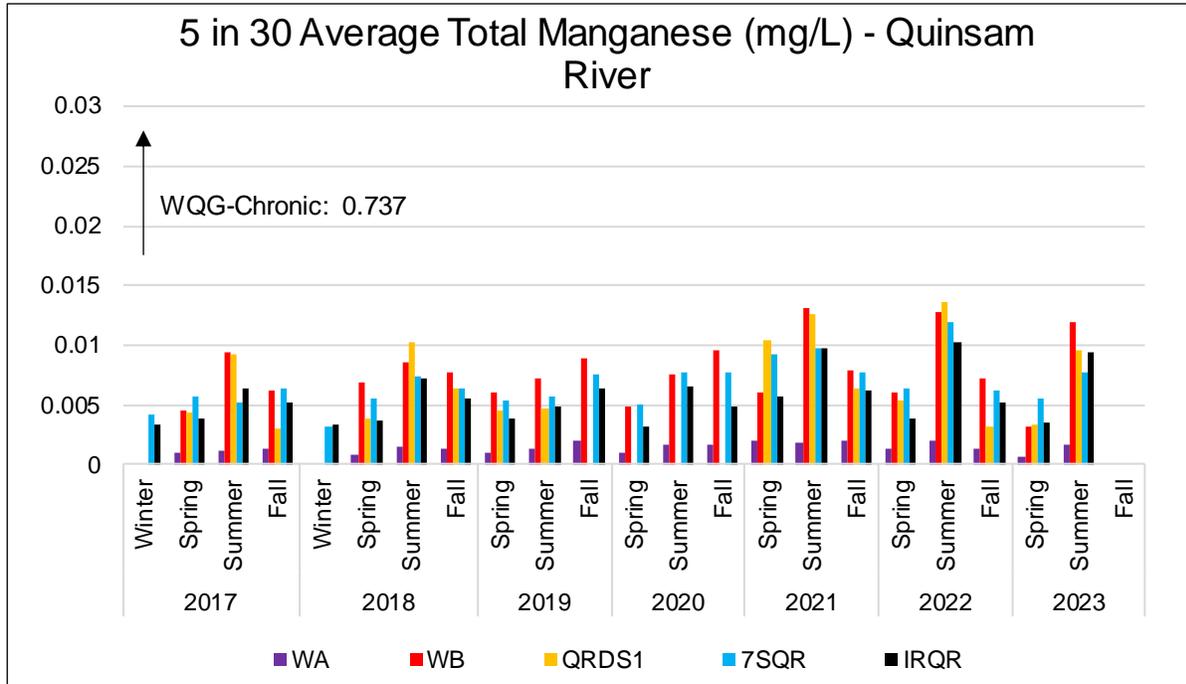


Figure 22: Total Manganese in Quinsam River

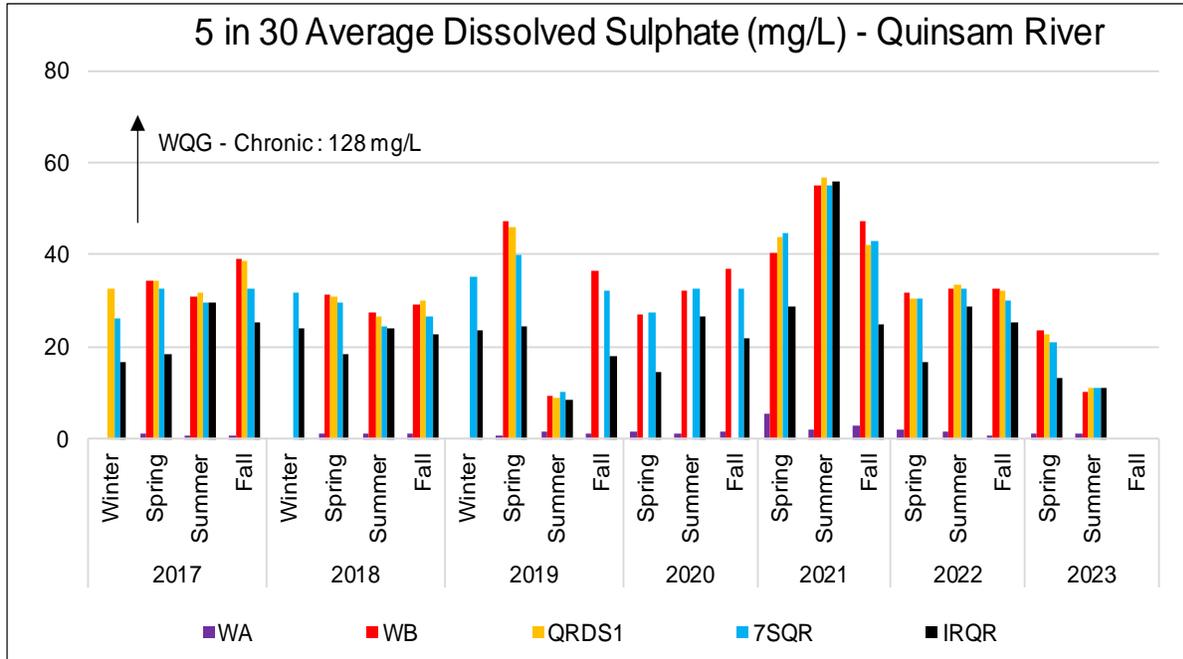


Figure 23: 5 in 30 Average Dissolved Sulphate - Quinsam River

While site LLE is considered the initial dilution zone (for water quality evaluation purposes) it is important to note that this location is a wetland and represents the uppermost extent of an initial dilution zone for the South water management system discharge into Long Lake. During summer, this site has limited inflow and anoxic conditions occur within the wetland. Concentrations of iron increase as a result of low dissolved oxygen with concentrations of dissolved sulphate increasing with decreased flow rates. Refer to graphs (Figure 24 and Figure 25) for concentrations of these parameters historically compared to discharge rates at the culvert. This quarter LLE was not flowing and therefore water quality was not collected.

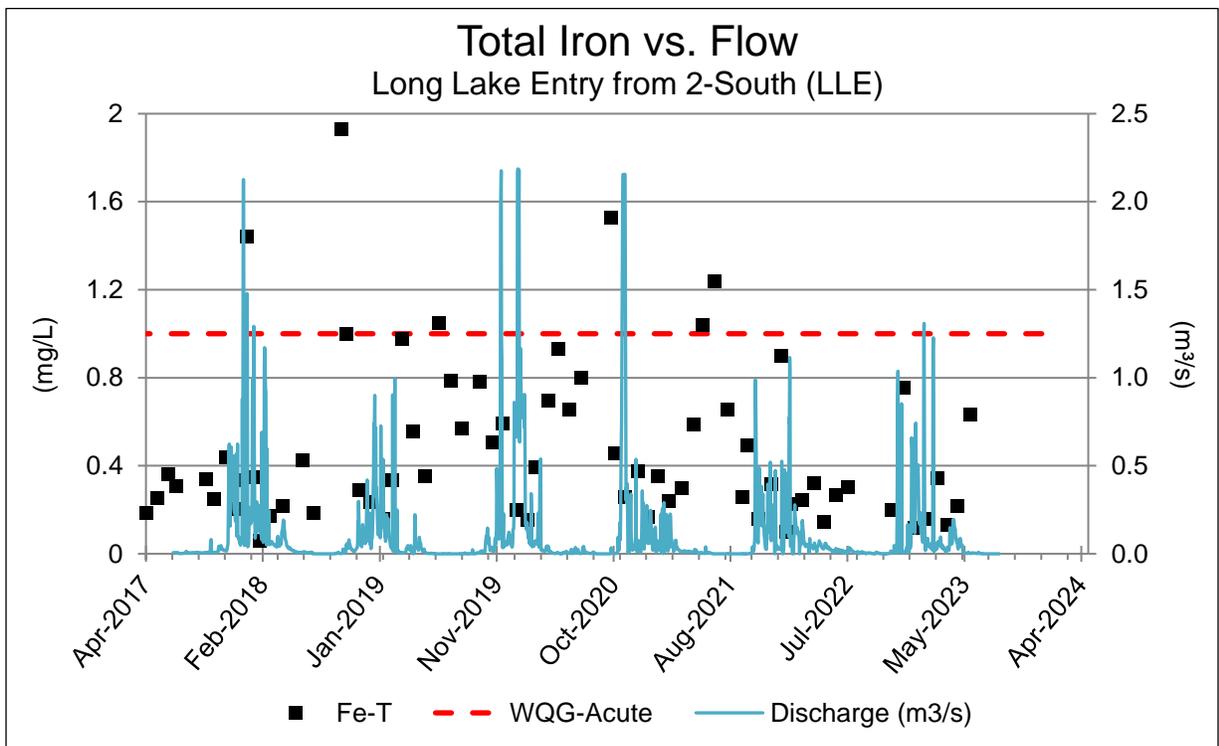
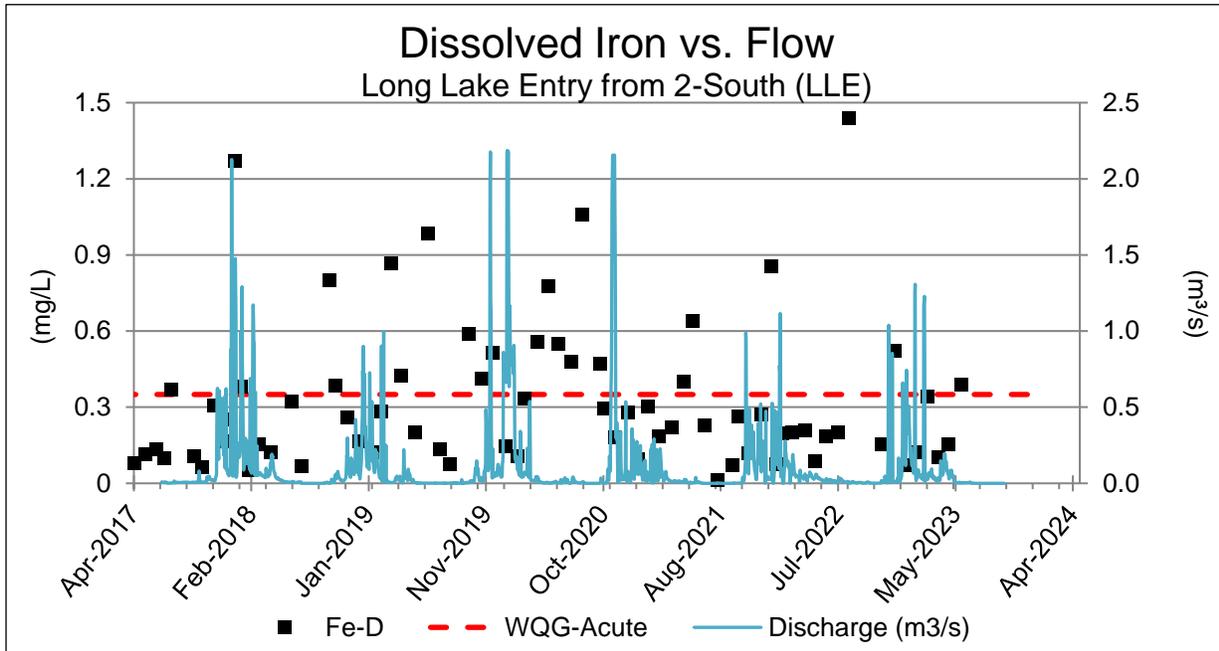


Figure 24: Concentrations of Iron - LLE

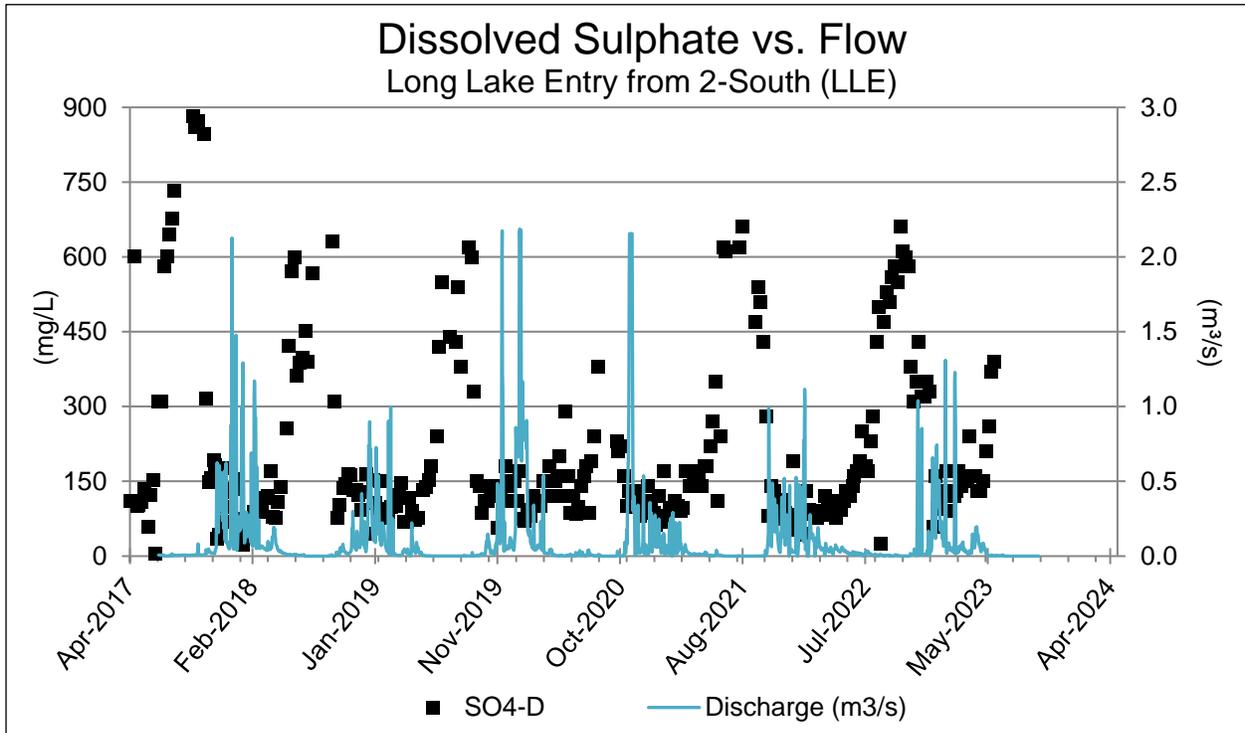


Figure 25: Concentrations of Dissolved Sulphate - LLE

The Long Lake Seeps are not considered receiving environment sites but WQG’s are used for comparison purposes only. The seeps were dry from July 1<sup>st</sup> to September 30, 2023.

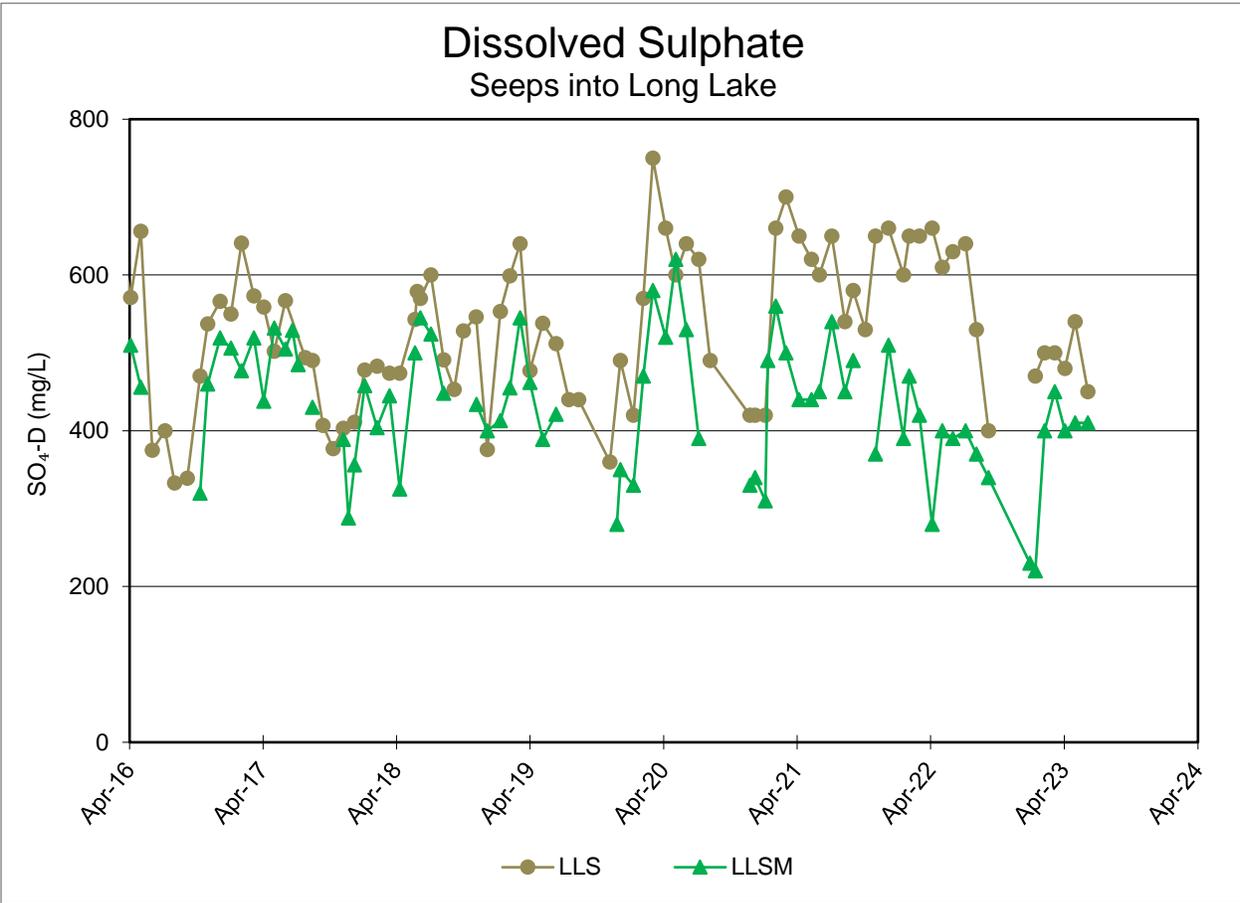


Figure 26: Dissolved Sulphate at Long Lake Seeps

## 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 formation groundwater and indicates seepage from the flooded mine voids towards the receiving environment. This also includes wells up-gradient of workings and formation/ baseline groundwater wells.

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

Appendix 1, Table 5, 31 through 32 provide a description of wells and results of the flooded mine void and groundwater chemistry.

Exceedances of the CSR-AW in ex-situ groundwater were observed for dissolved concentrations of arsenic, selenium, and sulphide as H<sub>2</sub>S as displayed in Appendix 1, Table 4. Arsenic is naturally elevated in the groundwater and is associated with perched water tables interacting with the Dunsmuir sandstone and coal seams. This has been observed in baseline groundwater monitoring.

Groundwater areas elevated compared to CSR-AW for dissolved arsenic (0.05 mg/L) include most areas on the site, in-situ borehole into the flooded mine void (QU10-13D) of 2-North mine, deep (D) and shallow (S) groundwater at 2-North mine QU08-21 (S and D), the River Barrier Pillar at QU11-09 (S), 7-South at QU08-13 (A and B), and the 4-South area at QU10-09 (S and D). The groundwater that the boreholes, QU11-05 (S and D) and QU11-09 (M) intersect did not contain elevated arsenic. Flooded underground 7-South PAG-CCR water cover at QU14-10 and the 7SA5 sump was elevated in As-D.

The potential seepage areas S and S2A located next to the Quinsam river within the vicinity of groundwater wells QU11-09 and QU11-05, continue to be monitored for water quality and quantity. Water chemistry from the seepage sites at S, S2A and S2US from 2021 to present is compared to groundwater chemistry collected from QU11-09S and QU11-05S. Sampling site S is located near QU11-09 and S2 at the river in the vicinity of QU11-05. S2US was the source of the seepage area coming out of the bank at near QU11-05, was dry for Q2.

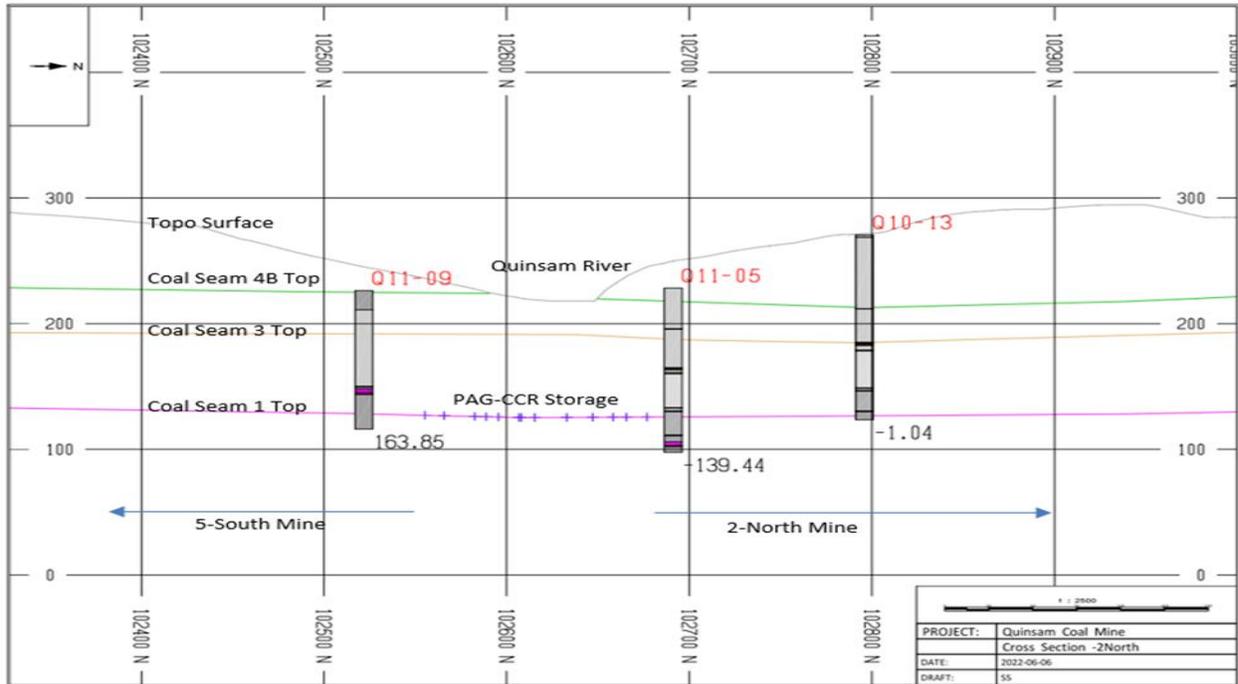


Figure 27: Cross Section in North-South Direction Near Seepage Areas by QU11-09 and QU11-05

Figure 27 above displays a cross section in North-South direction near the seepage areas S at QU11-09 and S2 at QU11-05. The numbers at the bottom of each borehole are the distance offset from the cross-section line. Positive (negative) sign indicate borehole locates in the north (south) of the cross-section line. The PAG-CCR storage area (blue cross) is projected on the coal seam 1 top surface, where the coal was mined at 2-North. Non-arrowed polylines represent different surfaces.

A relationship between flow rates at the seeps and water elevations in the 2-North flooded mine voids continues to be evaluated. In November 2021, a cap was placed on the well QU11-09 to prevent discharge to surface when the underground mine void filled with water. Pressure transducers were placed in the groundwater wells (shallow and deep) to measure the water levels compared to the 2-North flooded mine void water levels.

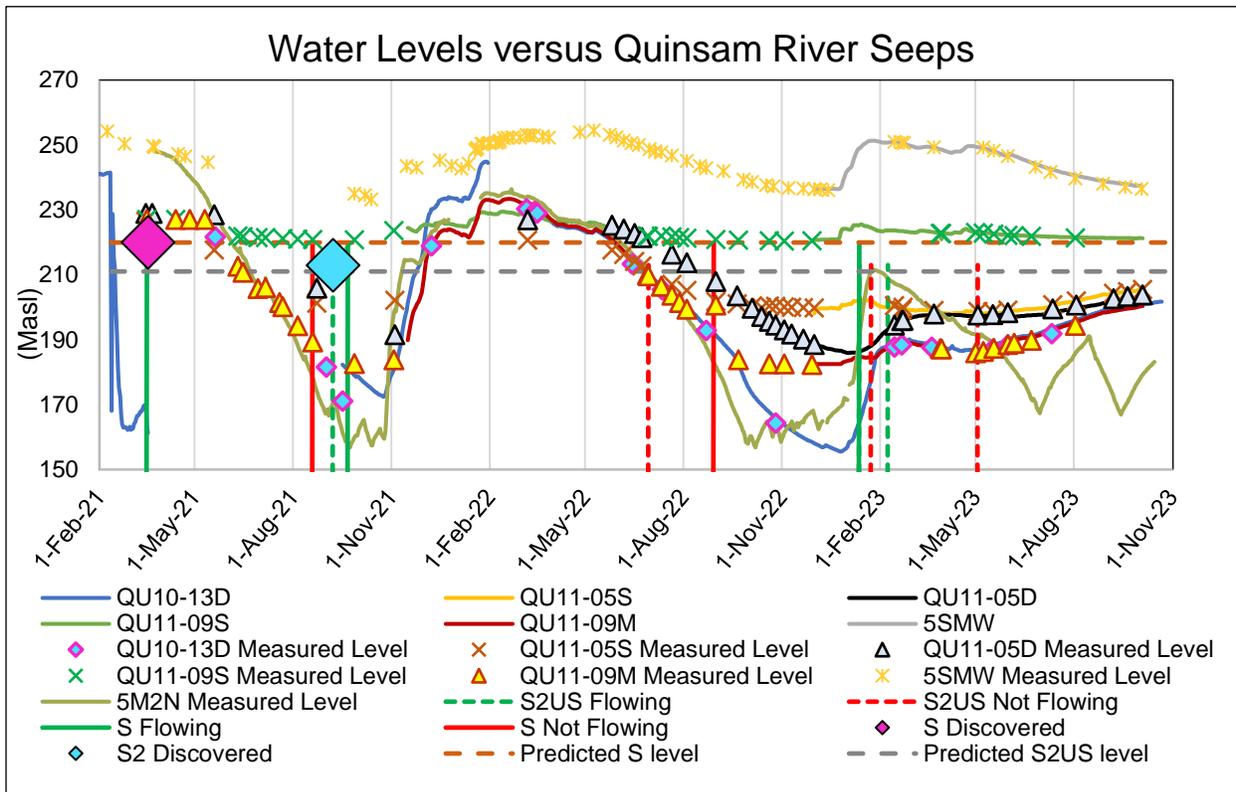


Figure 28: 2 North Flooded Mine Void Compared to Seepage Rates Near QU1109 and QU1105

Figure 28, displays groundwater elevations compared to observations of seepage areas since March 2021, when groundwater well QU11-09 was discharging to surface. The groundwater for both shallow and deep water-tables follow a similar trend compared to 2-North mine water levels measured at dewatering well, 1-Mains well pump (1M2N). As displayed in Figure 28, groundwater in wells (QU11-09 M and S and QU11-05 D) increases to approximately 227 meters above sea level (masl) December through April corresponding to the 2-North, 1-Mains well pump water elevation. Flows from the seepage area near QU11-05, named S2US corresponds directly with the 1-Mains well pump water elevation but seepage from S2A and near QU11-09 seepage (S) could be combined mine related and natural groundwater influences.

At seepage location S near QU11-09 it is still unclear if shallow groundwater interacting with underlying coal seams is the source of elevated arsenic and sulphate in the discharge water or if this seepage is from migrating groundwater from the River Barrier Pillar. At the S2US near QU11-05 location, the trend seems to be related to the water elevations in the 2-North Mine. Observations made indicated that when water levels declined in the mine pool the seepage stopped percolating out of the bank at S2US at an elevation of 213 masl but a flow path to the river continued at lower elevations (S2A). This may also be groundwater interacting with the high sulphur coal seams. Further investigation with a hydrogeologist is warranted.

Seasonal trends are displayed as water levels increase and decrease related to groundwater influxes. Dewatering through pumping at 5M2N and 1M2N is an integral part of the water management plan with the objective being to maintain water levels below elevations of known

subsidence zones where potential seepage may occur (210 - 270 meters above sea level (masl)). Since 2021, seepage areas have been observed at elevations between 210 to 228 masl.

Water quality collected from the S flow paths display elevated concentrations of arsenic, boron and sulphate with arsenic and iron elevated at the S2A site. Elevated concentrations of arsenic and sulphate in these areas could be related to natural conditions where groundwater is interacting with the Dunsmuir sandstone and coal seams containing arsenic and sulfides. Seepage from shallow groundwater flowing to surface in these areas (S and S2A) continued throughout the quarter.

Appendix I, Tables 3, 34 and 35 present the water quality and quantity from the seepage areas. Figure 29, below displays the concentrations of dissolved arsenic, chloride and sulphate compared to the groundwater in the area. Similar trends are noted for these parameters. The flow rates were measured at the entrance where the seepage flows into the Quinsam River.

All parameters (except Cu-D) remained in low concentrations (below WQG's) on the Quinsam River, indicating sufficient mixing and dilution. Flow rates were minimal at the seepage areas.

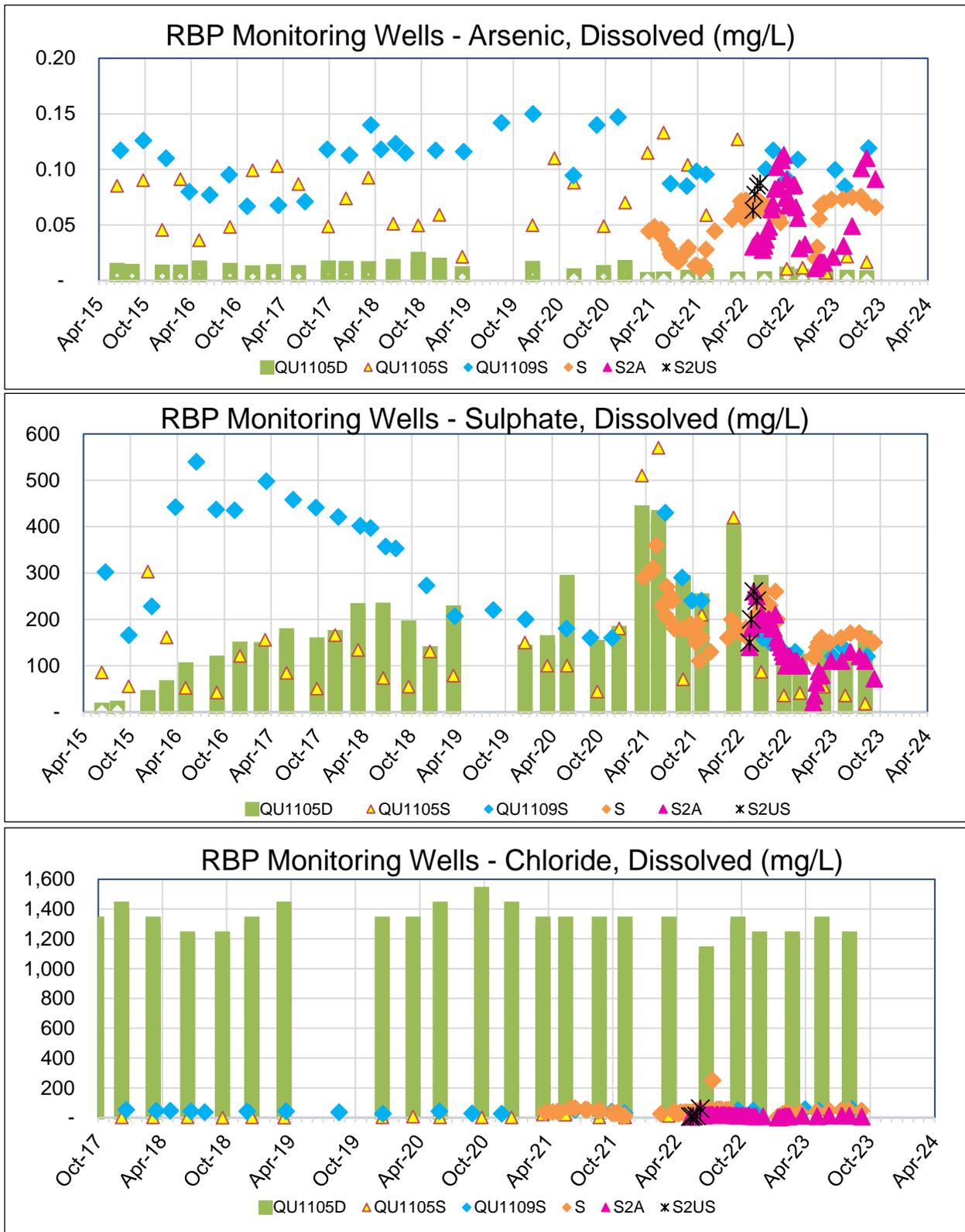


Figure 29: Dissolved Arsenic, Sulphate and Chloride at Groundwater and Seepage Areas

PASSIVE TREATMENT SYSTEM (PTS)

The PTS was operating throughout the quarter. The treatment system was operating at an average of 6.64 L/s, for 91 days in Q2 totaling 52,206 m<sup>3</sup> of pumped mine-water. The mine water level was measured at 9.3 m above the pump in July and decreased to 4.6 m at the end of September. The seep stops flowing when the water level reaches an approximate elevation of 301.5 masl for LLS and 303.5 masl for LLSM measured at MW004. Groundwater levels in MW003 and MW005 also relate to the seep flow as displayed in Figure 30, below.

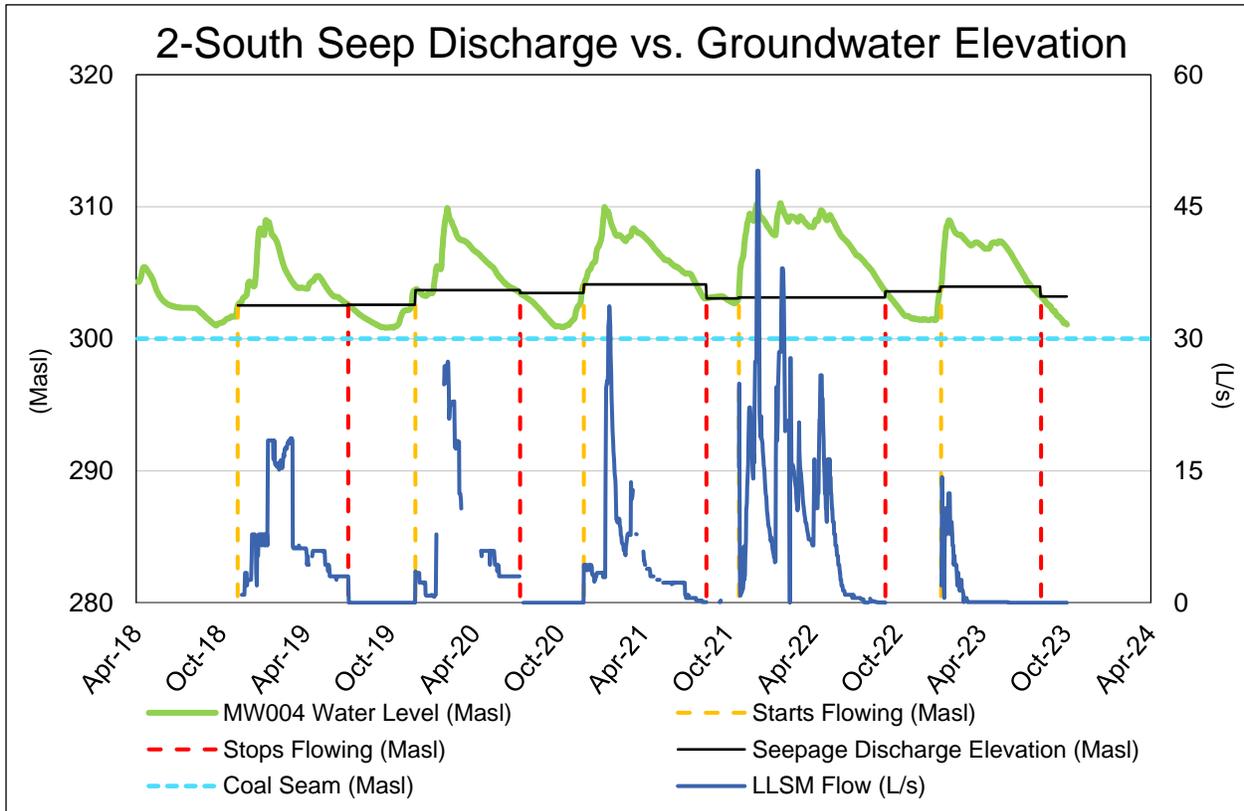


Figure 30: Water Level versus Long Lake Seep Flow

Figure 31, shows average concentrations of dissolved sulphate have been entering the system from 2-South flooded mine void measured at INF resulting in 598 mg/L, average sulphate at the BCR was 518 mg/L and leaving the system at SPCEFF resulting in 434 mg/L. Reduction in average sulphate throughout the PTS (INF to SPCEFF) was 165 mg/L. The station 2-South Inflow (2SI), receives discharge from the PTS, had an average sulphate concentration of 546 mg/L and SP1 averaged 546 mg/L during Q2. Overall, a quarterly average sulphate reduction of 42 mg/L was attained between INF and SPD (Figure 31). The original reduction goal for the PTS, was to reduce sulphate concentrations to 300 mg/L.

Increased pumping rates may have reduced the PTS’s capability to reduce sulphate. In April, the system flow rates were increase from 4.5 L/s to 8.2 L/s with 5.0 L/s of discharge directed into the

PTS and 3.2 L/s directed straight into 2-South pit. The objective being to pump down the mine pool faster to stop the seep discharge for a longer period. In Q2 warmer ambient temperatures increase microbial metabolic activity within the BCR and SPC and a slightly higher reduction efficiency in sulphate was expected between INF and SPC (165 mg/L compared to Q1, 136 mg/L). Low reduction efficiency may indicate that the substrates need to be changed in the BCR.

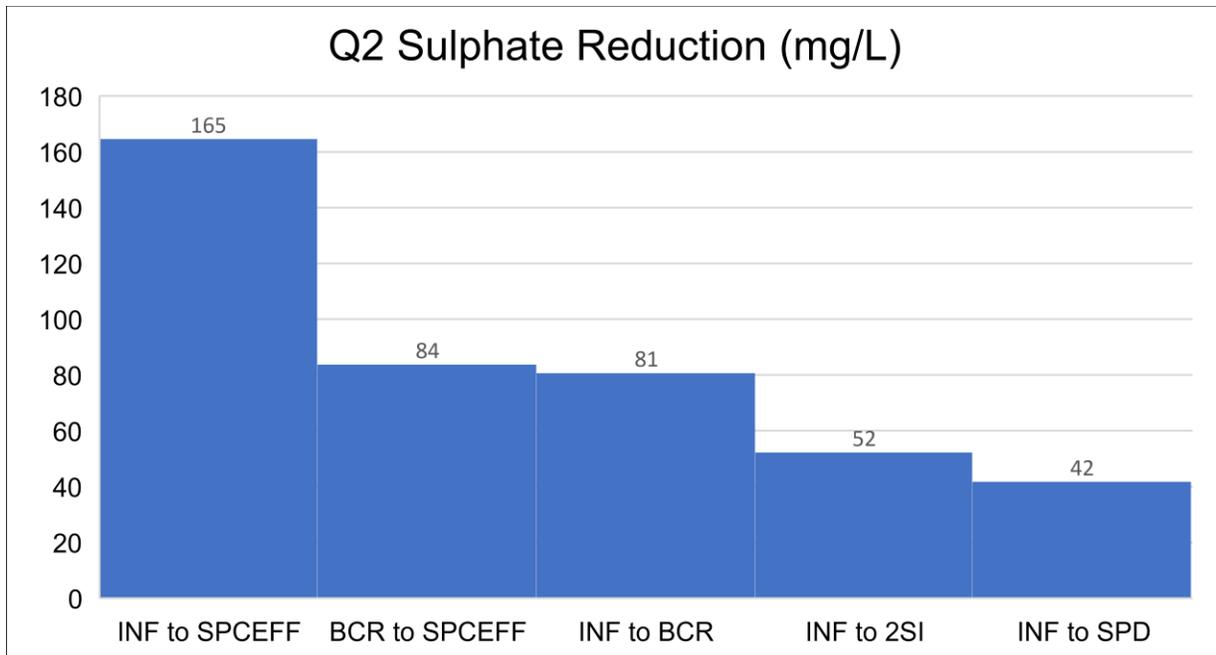
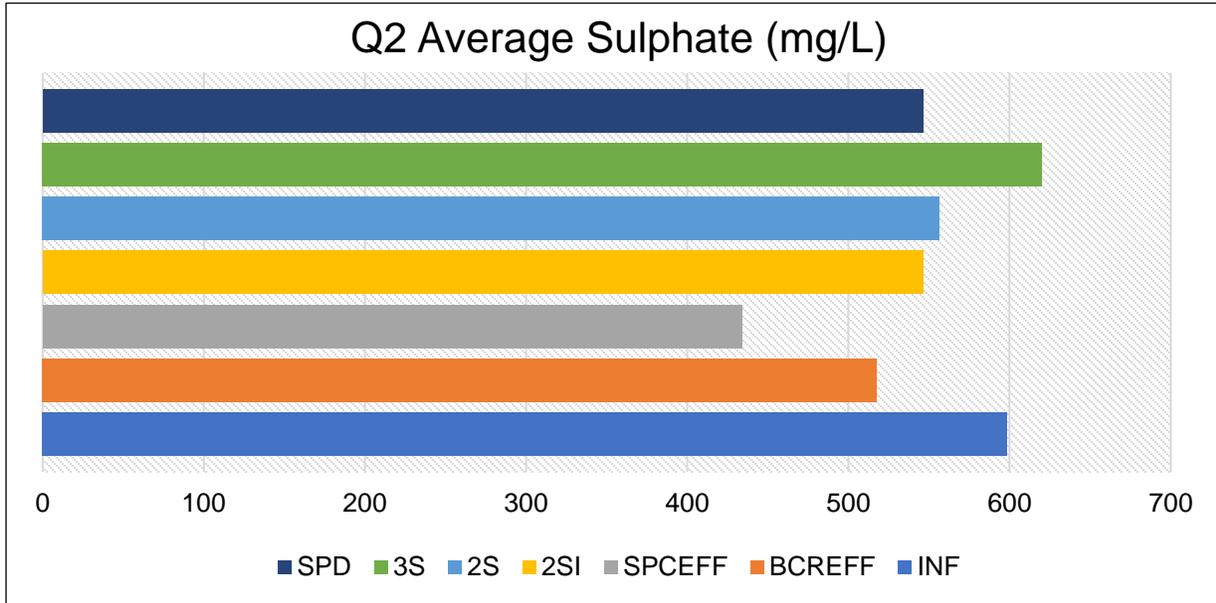


Figure 31: Average Dissolved Sulphate and Average Sulphate Reduction

The PTS is effective at reducing sulphate in mine water, with discharge assisting to maintain a water cover over the PAG-CCR in the 2-South pit during summer and reducing discharge at the Seep into Long Lake during low flow periods. This is accomplished by decreasing the elevation of the 2-South flooded mine void below the elevation of the seep. The period of “no flow” at the Middle Seep into Long Lake (LLSM) has been observed to be extended by pumping down the mine pool. This quarter the seeps stopped flowing in July and throughout Q2.

Further monitoring of the PTS will continue and includes the 2-South and 3-South systems and groundwater wells QU11-11 (INF) and MW004. Relationships between mine pool water elevations and seep flow rates continue to be developed with observations noted every quarter.

#### 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.

For RPD’s and RPD’s calculations greater than 20 percent, refer to Appendix I, Tables 40 to 42.

#### CONCLUSION:

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

# APPENDIX I

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

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

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

Summary of Permit Limit Exceedances, Permit Non-Compliances and Unauthorised Discharges					
EMS ID & Site Name	Non-Compliance (PNC)	Result (mg/L)	Date	Non-Compliance Reason	Number of events or period for PNC, P or spill event.
E297231 - Iron River upstream of 7SA5 and 242 influence	TSS, hardness, SO <sub>4</sub> , alk., acidity, pH, cond., TM and DM	None	Weeks 4 and 5 of summer low flow, 5 in 30 sampling events.	Hazardous conditions at the site. Several hornets nests, resulting in multiple stings, leading to infections.	2 / 5 weekly samples

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

Summary of Water Quality Guideline Observations at Receiving Environment Monitoring Locations Summer 2023 (excluding dissolved copper)								
Quarter 2 (July 1st through September 30th, 2023)								
EMS ID:	Station Name	Date	As-T (mg/L)	B-T (mg/L)	Fe-D (mg/L)	SO4-D (mg/L)	D.O. (mg/L)	Sampling Events Outside Guideline
B.C Water Quality Guideline (WQG) - Freshwater Aquatic Life	WQG-Chronic (A)			1.2		128		
	WQG-Acute (M)		0.005		0.35			
Water Quality Objectives for Middle Quinsam lake Subbasin (WQO)							Minimum 3 mg/L (June-August)	
E297232	Iron River Site 8 (IR8)	2023-07-11	0.0213					(3/5) Summer (5 in 30) weekly sampling events
		2023-07-17	0.0239					
		2023-07-24	0.0267					
E297231	Iron River Site 6 (IR6)	2023-07-11	0.00962					(3/3) Summer (5 in 30) weekly sampling events
		2023-07-17	0.011					
		2023-07-24	0.014					
E206619	LLMB	2023-07-18 to 2023-08-09					<3 mg/L	(4/5) Summer (5 in 30) weekly sampling events
Non-Receiving Environment Site Observations								
N/A	Potential Seepage (S)	2023-07-11	0.0642	1.69		170		(3/3) Monthly sampling events
		2023-08-02	0.0638	1.47		160		
		2023-09-06	0.0604	1.67		150		
N/A	Potential Seepage (S2A)	2023-07-12	0.0896		0.852			(3/3) Monthly sampling events
		2023-08-03	0.117		0.835			
		2023-09-07	0.0845		0.67			
<b>Notes:</b> Highlighted Blue indicates result is above Acute - WQG Highlighted Green indicates result is above Chronic - WQG 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.								

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Table 4 Results Above Freshwater Aquatic Life Dissolved Copper Guidelines - Summer 2023 1 Page(s)

Results Above Freshwater Aquatic Life Dissolved Copper Guidelines - Summer 2023. Calculated from the Biotic Ligand Model (BLM)			
	Copper Concentration (mg/L)	Chronic Guideline (mg/L)	Number of results above WQG
Sample Name	(mg/L)	(mg/L)	
LLMB-1AUG23-M	0.00031	0.0003	1 out of 5
WA-11JUL23-M	0.00051	0.0003	6 out of 6 (includes the replicate)
WA-11JUL23-Replicate	0.00049	0.0003	
WA-17JUL23-M	0.00046	0.0003	
WA-24JUL23-M	0.00049	0.0002	
WA-31JUL23-M	0.00052	0.0002	
WA-8AUG23-M	0.00055	0.0002	
LLO-11JUL23-M	0.00035	0.0002	3 out of 5
LLO-17JUL23-M	0.00028	0.0002	
LLO-24JUL23-M	0.00033	0.0002	
NNO-11JUL23-M	0.00072	0.0002	2 out of 3
NNO-17JUL23-M	0.00042	0.0004	
QRDS1-31JUL23-M	0.00047	0.0003	1 out of 6 (includes replicate)
7SQR-11JUL23-M	0.00061	0.0005	4 out of 6 (includes the replicate)
7SQR-17JUL23-M	0.00041	0.0002	
7SQR-24JUL23-M	0.00046	0.0004	
7SQR-31JUL23-M	0.00082	0.0003	
7SQR-31JUL23-Replicate	0.0005	0.0003	
IRQR-17JUL23-M	0.00041	0.0002	
IRQR-31JUL23-M	0.00049	0.0004	3 out of 5
IRQR-8AUG23-M	0.0005	0.0002	
IR6-11JUL23-M	0.00085	0.0007	1 out of 3
IR8-31JUL23-M	0.00035	0.0002	
IR8-8AUG23-M	0.00067	0.0002	2 out of 5

Highlighted red indicates the calculated GL is below 0.0002 mg/L, however, 0.0002 mg/L is considered to be the lowest concentration routinely measured and therefore replaces the calculated HC5 value for this water chemistry.

Highlighted green indicates the results are greater than the Chronic WQG.

**Averaged 5 Weeks of Results above the Averaged Chronic WQG's**

Sample Name	Av 5 in 30 Copper Concentration (mg/L)	Av Chronic Guideline (mg/L)
	(mg/L)	(mg/L)
WA	0.000506	0.0002
7SQR	0.000548	0.0003
IRQR	0.000466	0.0004

Highlighted red indicates the calculated GL is below 0.0002 mg/L, however, 0.0002 mg/L is considered to be the lowest concentration routinely measured and therefore replaces the calculated HC5 value for this water chemistry.

Highlighted green indicates the Averaged results are greater than the Averaged Chronic WQG.

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Table 5 Contaminated Sites Regulations - Aquatic Life Standards 1 Page(s)

<b>Q2 Groundwater (GW) and Flooded Mine Void Water (MW)</b>						
<b>CSR-AW</b>						
Stn.Code	Date	Sample Class	mg/L	mg/L	mg/L	mg/L
			SO4-D	H2SEquiv	As-D	Se-D
	CSR-AW		1280	0.02	0.05	0.01
QU0516W	2023-07-19	M		0.542		
	2023-08-24	M		0.489		
QU0813A	2023-07-27	M		0.202	0.375	
	2023-07-27	Replicate		0.223	0.374	
QU0813B	2023-07-27	M		0.0276	0.546	
QU0821GD	2023-07-20	M		0.101	0.178	
QU0821GS	2023-07-20	M		0.0553	0.246	
QU1009D	2023-08-14	M		0.106	0.115	
	2023-08-14	Replicate		0.103	0.116	
QU1009S	2023-08-10	M			0.093	
QU1013D	2023-08-16	M		0.0659		
QU1105D	2023-08-03	M		43.6		0.0480
QU1105S	2023-08-03	M		0.117		
QU1109S	2023-08-10	M		2.76	0.119	
7SA5	2023-09-19	M			0.185	
QU1410	2023-07-27	M	1900		0.108	
<p>Notes:</p> <p>Sample classes included in query: M,R</p> <p>Only results that exceed standards are shown.</p> <p>S indicataes shallow GW and D indicates deep GW</p> <p>Station Type: Groundwater (GW) and Flooded Mine Void or contact water (MW)</p>						

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Table 6 Settling Pond # 4 - Authorized Discharge Location for North Mine Water 1 Page(s)

EMS ID	E207409	Stn Std	PL-N												
Site Description Settling Pond # 4 - Authorized Discharge Location for North Mine Water															
Site Name	WD	Std Val													
Date	Max	04-07-2023	10-07-2023	17-07-2023	24-07-2023	02-08-2023	08-08-2023	14-08-2023	21-08-2023	28-08-2023	05-09-2023	11-09-2023	18-09-2023	25-09-2023	
Wlevel	m		0.036	-0.008	-0.395	-0.306	-0.365	-0.419	-0.385	0.079	0.081	0.071	0.076	-0.013	0
pH-F	pH Units	6.00 - 8.50	7.85	7.97	7.54	7.4	7.61	7.71	7.39	7.16	7.15	7.44	7.28	7.37	7.36
Cond-F	uS/cm		1489	1553	1575	1616	1645	1663	1530	1508	1565	1558	1277	1369	1343
SO4-D	mg/L		310	340	460		410			250	180	160	170	170	160
TSS	mg/L	25	2.0	2.0	3.6		<1.0			1.2	<1.0	1.6	4.8	2.8	<1.0
Alk-T	mg/L			380			370								570
Acidity83	mg/L			2.2			3.6								17.8
Al-T	mg/L			<0.0030								<0.0030			
As-T	mg/L			0.00153								0.00222			
Ba-T	mg/L			0.0217								0.0209			
B-T	mg/L			0.732								0.848			
Cd-T	mg/L			<0.000010								<0.000010			
Ca-T	mg/L			102								64.1			
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			311								185			
Fe-T	mg/L			0.189								0.111			
Pb-T	mg/L			<0.00020								<0.00020			
Mg-T	mg/L			14.0								6.11			
Mn-T	mg/L			0.0233								0.0208			
Mo-T	mg/L			0.0012								<0.0010			
Ni-T	mg/L			0.0037								<0.0010			
K-T	mg/L			2.89								2.72			
S-T	mg/L			147								56.6			
Se-T	mg/L			<0.00010								<0.00010			
Si-T	mg/L			3.91								3.61			
Ag-T	mg/L			<0.000020								<0.000020			
Na-T	mg/L			216								254			
Sr-T	mg/L			1.11								0.723			
Zn-T	mg/L			<0.0050								<0.0050			
Al-D	mg/L	0.5		<0.0030			<0.0030					0.0366			
As-D	mg/L			0.00163			0.00417					0.00209			
Ba-D	mg/L			0.0241			0.0157					0.0223			
B-D	mg/L			0.840			0.905					0.854			
Be-D	mg/L			<0.00010			<0.00010					<0.00010			
Cd-D	mg/L			<0.000010			<0.000010					<0.000010			
Ca-D	mg/L			113			83.5					68.5			
Cr-D	mg/L			<0.0010			<0.0010					<0.0010			
Co-D	mg/L			<0.00020			0.00030					<0.00020			
Cu-D	mg/L	0.02		0.00027			0.00056					0.00027			
Hard-D	mg/L			351			272					197			
Fe-D	mg/L	0.3		0.0890			0.230					0.0440			
Pb-D	mg/L	0.05		<0.00020			<0.00020					<0.00020			
Mg-D	mg/L			16.9			15.5					6.23			
Mn-D	mg/L			0.0083			0.237					0.0198			
Mo-D	mg/L			<0.0010			<0.0010					<0.0010			
Ni-D	mg/L			<0.0010			0.0015					<0.0010			
K-D	mg/L			3.25			3.66					2.73			
S-D	mg/L			175			167					57.7			
Se-D	mg/L			<0.00010			<0.00010					<0.00010			
Si-D	mg/L			4.50			13.0					4.05			
Na-D	mg/L			251			256					255			
Sr-D	mg/L			1.30			1.06					0.729			
Zn-D	mg/L	0.1		<0.0050			<0.0050					<0.0050			
O&G	mg/L	10					<1.0								

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Table 7 2 North Pit Sump CCR Water Cover 1 Page(s)

EMS ID		E207412		
Site Description		2 North Pit Sump CCR Water Cover		
Site Name		WP		
Date		10-07-2023	02-08-2023	05-09-2023
pH-F	pH Units	8.11	7.59	7.8
Cond-F	uS/cm	1547	1765	2009
SO4-D	mg/L	460	510	640
TSS	mg/L	1.2	<1.0	2.4
Alk-T	mg/L	300	360	260
Acidity83	mg/L	<1.0	<1.0	13.1
Al-T	mg/L	0.0052	0.0058	0.0046
As-T	mg/L	0.00110	0.00060	0.00049
Ba-T	mg/L	0.0129	0.0128	0.0112
B-T	mg/L	0.821	0.779	0.796
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	68.7	89.6	114
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	228	290	360
Fe-T	mg/L	0.122	0.020	0.021
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	13.6	16.2	18.6
Mn-T	mg/L	0.0184	0.0028	0.0050
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	3.78	3.48	3.59
S-T	mg/L	158	177	218
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	2.23	2.81	2.96
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	247	236	242
Sr-T	mg/L	0.956	1.15	1.24
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	<0.0030	<0.0030	<0.0030
As-D	mg/L	0.00084	0.00062	0.00050
Ba-D	mg/L	0.0128	0.0139	0.0129
B-D	mg/L	0.935	0.927	0.842
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	63.3	102	124
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00039	0.00066	0.00032
Hard-D	mg/L	223	327	393
Fe-D	mg/L	0.0058	<0.0050	0.0091
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	15.7	17.9	20.6
Mn-D	mg/L	0.0013	<0.0010	0.0045
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	4.14	3.92	3.78
S-D	mg/L	178	209	254
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	2.41	3.19	3.41
Na-D	mg/L	275	269	261
Sr-D	mg/L	0.983	1.18	1.36
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Appendix 1 - Tables

Table 8 2-North Portal Sump Effluent 1 Page(s)

EMS ID		E283433		
Site Description		2-North Portal Sump Effluent		
Site Name		2NPS		
Date		10-07-2023	02-08-2023	05-09-2023
pH-F	pH Units	7.73	7.25	7.42
Cond-F	uS/cm	2300	2050	2042
SO4-D	mg/L	840	730	760
Alk-T	mg/L	330	330	340
Acidity83	mg/L	7.4	14.3	14.9
Al-T	mg/L	0.0102	0.0076	0.0048
As-T	mg/L	0.00064	0.00075	0.00072
Ba-T	mg/L	0.0101	0.0108	0.0105
B-T	mg/L	0.725	0.736	0.744
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	203	206	200
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00035	0.00045	0.00036
Cu-T	mg/L	<0.00050	<0.00050	<0.00050
Hard-T	mg/L	605	610	587
Fe-T	mg/L	0.178	0.201	0.188
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	24.2	23.0	21.4
Mn-T	mg/L	0.0847	0.115	0.0916
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	0.0015	0.0017	0.0013
K-T	mg/L	3.39	3.25	3.35
S-T	mg/L	267	242	260
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	2.89	2.97	2.99
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	205	208	217
Sr-T	mg/L	1.68	1.63	1.53
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0066	<0.0030	0.0045
As-D	mg/L	0.00051	0.00059	0.00075
Ba-D	mg/L	0.0110	0.0109	0.0122
B-D	mg/L	0.83	0.781	0.873
Be-D	mg/L	<0.00020	<0.00010	<0.00010
Cd-D	mg/L	<0.000020	<0.000010	<0.000010
Ca-D	mg/L	221	217	226
Cr-D	mg/L	<0.0020	<0.0010	<0.0010
Co-D	mg/L	<0.00040	0.00045	0.00045
Cu-D	mg/L	<0.00040	<0.00020	0.00021
Hard-D	mg/L	665	640	664
Fe-D	mg/L	0.027	0.0260	0.0414
Pb-D	mg/L	<0.00040	<0.00020	<0.00020
Mg-D	mg/L	27.2	23.9	24.2
Mn-D	mg/L	0.0880	0.117	0.110
Mo-D	mg/L	<0.0020	<0.0010	<0.0010
Ni-D	mg/L	<0.0020	0.0016	0.0018
K-D	mg/L	3.60	3.40	3.59
S-D	mg/L	298	298	296
Se-D	mg/L	<0.00020	<0.00010	<0.00010
Si-D	mg/L	3.22	3.24	3.70
Na-D	mg/L	224	234	238
Sr-D	mg/L	1.81	1.59	1.66
Zn-D	mg/L	<0.010	<0.0050	<0.0050

Appendix 1 - Tables

Table 9 Road Side Ditch Draining into MQL 1 Page(s)

EMS ID		
Site Description	Road Side Ditch Draining into MQL	
Site Name	PDSR	
Date	10-07-2023	
pH-F	pH Units	
Cond-F	uS/cm	
SO4-D	mg/L	
TSS	mg/L	
Al-T	mg/L	No Flow for Q2
As-T	mg/L	
Ba-T	mg/L	
B-T	mg/L	
Cd-T	mg/L	
Ca-T	mg/L	
Cr-T	mg/L	
Co-T	mg/L	
Cu-T	mg/L	
Hard-T	mg/L	
Fe-T	mg/L	
Pb-T	mg/L	
Mg-T	mg/L	
Mn-T	mg/L	
Mo-T	mg/L	
Ni-T	mg/L	
K-T	mg/L	
S-T	mg/L	
Se-T	mg/L	
Si-T	mg/L	
Ag-T	mg/L	
Na-T	mg/L	
Sr-T	mg/L	
Zn-T	mg/L	
Al-D	mg/L	
As-D	mg/L	
Ba-D	mg/L	
B-D	mg/L	
Be-D	mg/L	
Cd-D	mg/L	
Ca-D	mg/L	
Cr-D	mg/L	
Co-D	mg/L	
Cu-D	mg/L	
Hard-D	mg/L	
Fe-D	mg/L	
Pb-D	mg/L	
Mg-D	mg/L	
Mn-D	mg/L	
Mo-D	mg/L	
Ni-D	mg/L	
K-D	mg/L	
S-D	mg/L	
Se-D	mg/L	
Si-D	mg/L	
Na-D	mg/L	
Sr-D	mg/L	
Zn-D	mg/L	

Appendix 1 - Tables

Table 10 Culvert at Middle Quinsam Lake Road 1 Page(s)

EMS ID		E207411			
Site Description		Culvert at Middle Quinsam Lake Road			
Site Name		WC			
Date		10-07-2023	02-08-2023	05-09-2023	18-09-2023
pH-F	pH Units	8.41	7.68	8.12	8.05
Cond-F	uS/cm	1350	1480	1620	1283
SO4-D	mg/L	340	320	200	210
TSS	mg/L	<1.0	<1.0		<1.0
Al-T	mg/L	0.0053		0.0049	
As-T	mg/L	0.00063		0.00094	
Ba-T	mg/L	0.0119		0.0098	
B-T	mg/L	0.818		0.884	
Cd-T	mg/L	<0.000010		<0.000010	
Ca-T	mg/L	52.3		42.0	
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	170		135	
Fe-T	mg/L	0.034		0.028	
Pb-T	mg/L	<0.00020		<0.00020	
Mg-T	mg/L	9.52		7.32	
Mn-T	mg/L	0.0176		0.0110	
Mo-T	mg/L	<0.0010		<0.0010	
Ni-T	mg/L	<0.0010		<0.0010	
K-T	mg/L	2.85		2.89	
S-T	mg/L	111		67.5	
Se-T	mg/L	<0.00010		<0.00010	
Si-T	mg/L	4.39		5.07	
Ag-T	mg/L	<0.000020		<0.000020	
Na-T	mg/L	228		261	
Sr-T	mg/L	0.743		0.611	
Zn-T	mg/L	<0.0050		<0.0050	
Al-D	mg/L	0.0048		0.0057	
As-D	mg/L	0.00074		0.00093	
Ba-D	mg/L	0.0133		0.0104	
B-D	mg/L	0.926		0.941	
Be-D	mg/L	<0.00010		<0.00010	
Cd-D	mg/L	<0.000010		<0.000010	
Ca-D	mg/L	58.6		43.8	
Cr-D	mg/L	<0.0010		<0.0010	
Co-D	mg/L	<0.00020		<0.00020	
Cu-D	mg/L	0.00024		0.00040	
Hard-D	mg/L	193		139	
Fe-D	mg/L	0.0204		0.0200	
Pb-D	mg/L	<0.00020		<0.00020	
Mg-D	mg/L	11.4		7.30	
Mn-D	mg/L	0.0185		0.0111	
Mo-D	mg/L	<0.0010		<0.0010	
Ni-D	mg/L	<0.0010		<0.0010	
K-D	mg/L	3.18		2.94	
S-D	mg/L	131		69.9	
Se-D	mg/L	<0.00010		<0.00010	
Si-D	mg/L	5.06		5.57	
Na-D	mg/L	255		252	
Sr-D	mg/L	0.859		0.614	
Zn-D	mg/L	<0.0050		<0.0050	

Appendix 1 - Tables

Table 11 Settling Pond #1 - Authorized Discharge Location for South Mine Water 1 Page(s)

EMS ID	E218582	Stn Std	Stn Std	PL-S											
Site Description	Settling Pond #1 - Authorized Discharge Location for South Mine Water														
Date	Max	04-07-2023	10-07-2023	17-07-2023	24-07-2023	02-08-2023	08-08-2023	14-08-2023	21-08-2023	28-08-2023	05-09-2023	11-09-2023	18-09-2023	25-09-2023	
Wlevel	m		0.00474	-0.01	-0.05	-0.08	-0.1	-0.15	-0.1	-0.08	-0.4	0	0.01	0	0.001
pH-F	pH Units	8.5	7.95	7.91	7.63	7.51	8.05	7.6	7.39	7.54	7.79	7.43	7.56	7.38	7.43
Cond-F	uS/cm		1154	1116	1120	1176	1249	1245	1168	1304	1341	1544	1203	1252	1281
SO4-D	mg/L		550	520	530		510					550	560	580	570
TSS	mg/L	25	1.6	3.6	<1.0		<1.0					1.2	<1.0	<1.0	<1.0
Alk-T	mg/L			97			95					93			
Acidity83	mg/L			3.2			<1.0					4.7			
Al-T	mg/L			<0.0030								0.0039			
As-T	mg/L			0.00169								0.00180			
Ba-T	mg/L			0.0179								0.0175			
B-T	mg/L			0.370								0.359			
Cd-T	mg/L			<0.000010								<0.000010			
Ca-T	mg/L			177								179			
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			544								550			
Fe-T	mg/L			0.135								0.107			
Pb-T	mg/L			<0.00020								<0.00020			
Mg-T	mg/L			24.7								25.4			
Mn-T	mg/L			0.0480								0.0157			
Mo-T	mg/L			<0.0010								<0.0010			
Ni-T	mg/L			<0.0010								<0.0010			
K-T	mg/L			1.89								2.11			
S-T	mg/L			190								201			
Se-T	mg/L			<0.00010								<0.00010			
Si-T	mg/L			2.13								4.98			
Ag-T	mg/L			<0.000020								<0.000020			
Na-T	mg/L			47.1								51.6			
Sr-T	mg/L			1.39								1.33			
Zn-T	mg/L			<0.0050								<0.0050			
Al-D	mg/L	0.5		0.0031			<0.0030					<0.0030			
As-D	mg/L			0.00176			0.00161					0.00172			
Ba-D	mg/L			0.0186			0.0183					0.0190			
B-D	mg/L			0.376			0.367					0.409			
Be-D	mg/L			<0.00010			<0.00010					<0.00010			
Cd-D	mg/L			<0.000010			<0.000010					<0.000010			
Ca-D	mg/L			184			183					192			
Cr-D	mg/L			<0.0010			<0.0010					<0.0010			
Co-D	mg/L			<0.00020			<0.00020					<0.00020			
Cu-D	mg/L	0.02		0.00022			0.00138					<0.00020			
Hard-D	mg/L			569			561					591			
Fe-D	mg/L	0.5		0.116			0.0421					0.0719			
Pb-D	mg/L	0.05		<0.00020			<0.00020					<0.00020			
Mg-D	mg/L			26.7			25.4					27.3			
Mn-D	mg/L			0.0311			<0.0010					0.0151			
Mo-D	mg/L			<0.0010			<0.0010					<0.0010			
Ni-D	mg/L			<0.0010			<0.0010					<0.0010			
K-D	mg/L			1.97			1.94					2.16			
S-D	mg/L			204			203					205			
Se-D	mg/L			<0.00010			<0.00010					<0.00010			
Si-D	mg/L			2.25			3.78					5.64			
Na-D	mg/L			47.7			51.7					54.1			
Sr-D	mg/L			1.44			1.27					1.39			
Zn-D	mg/L	0.2		<0.0050			<0.0050					<0.0050			
O&G	mg/L	10					<1.0								

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Table 12 Passive Treatment System (PTS) Influent from 2-S Mine Pool 1 Page(s)

Passive Treatment System (PTS) Influent from 2-S Mine Pool													
Site Description	INF	04-07-2023	10-07-2023	17-07-2023	24-07-2023	02-08-2023	08-08-2023	14-08-2023	28-08-2023	05-09-2023	11-09-2023	18-09-2023	26-09-2023
Flow	m3/s	0.0084	0.0082	0.00644	0.0064	0.0064	0.0064	0.0063	0.0065	6.5	0.0062	0.0064	0.0063
pH-F	pH Units	7.25	7.35	7.12	7.17	7.07	6.9	6.43	6.82	6.85	6.86	6.85	6.67
Cond-F	uS/cm	1674	1578	1529	1511	1668	172	1575	1708	1792	1460	1490	1517
H2S	mg/L	0.0023	<0.0020	<0.0020	0.0043	0.0028	0.0038	<0.0020	0.0066	0.0027	0.0032	<0.0020	0.0022
SO4-D	mg/L	650	600	620	640	600	640	580	580	540	570	570	570
TSS	mg/L		7.6			5.2							
Turb	NTU									37			
Alk-T	mg/L		250			260				300			
Acidity83	mg/L		15.4			2.0				7.5			
Al-T	mg/L		<0.0030			<0.0030				<0.0030			
As-T	mg/L		0.00387			0.00408				0.00468			
Ba-T	mg/L		0.0183			0.0181				0.0188			
B-T	mg/L		0.577			0.561				0.597			
Cd-T	mg/L		<0.000010			<0.000010				<0.000010			
Ca-T	mg/L		213			212				213			
Cr-T	mg/L		<0.0010			<0.0010				<0.0010			
Co-T	mg/L		0.00055			0.00048				0.00049			
Cu-T	mg/L		<0.00050			<0.00050				<0.00050			
Hard-T	mg/L		594			589				595			
Fe-T	mg/L		2.50			2.53				2.80			
Pb-T	mg/L		<0.00020			<0.00020				<0.00020			
Mg-T	mg/L		14.9			14.2				15.0			
Mn-T	mg/L		0.309			0.323				0.344			
Mo-T	mg/L		<0.0010			<0.0010				<0.0010			
Ni-T	mg/L		0.0011			<0.0010				<0.0010			
K-T	mg/L		1.83			1.72				1.88			
S-T	mg/L		198			176				207			
Se-T	mg/L		<0.00010			<0.00010				<0.00010			
Si-T	mg/L		2.93			2.78				3.03			
Ag-T	mg/L		<0.000020			<0.000020				<0.000020			
Na-T	mg/L		89.5			87.8				102			
Sr-T	mg/L		2.07			2.03				2.07			
Zn-T	mg/L		<0.0050			<0.0050				<0.0050			
Al-D	mg/L		<0.0030			<0.0030				<0.0030			
As-D	mg/L		0.00418			0.00438				0.00488			
Ba-D	mg/L		0.0205			0.0196				0.0207			
B-D	mg/L		0.645			0.639				0.720			
Be-D	mg/L		<0.00010			<0.00010				<0.00010			
Cd-D	mg/L		<0.000010			0.000019				<0.000010			
Ca-D	mg/L		238			239				218			
Cr-D	mg/L		<0.0010			<0.0010				<0.0010			
Co-D	mg/L		0.00060			0.00059				0.00056			
Cu-D	mg/L		<0.00020			<0.00020				<0.00020			
Hard-D	mg/L		669			666				612			
Fe-D	mg/L		2.77			2.78				2.90			
Pb-D	mg/L		<0.00020			<0.00020				<0.00020			
Mg-D	mg/L		17.9			17.0				16.2			
Mn-D	mg/L		0.347			0.343				0.382			
Mo-D	mg/L		<0.0010			<0.0010				<0.0010			
Ni-D	mg/L		<0.0010			<0.0010				<0.0010			
K-D	mg/L		2.03			1.90				1.94			
S-D	mg/L		226			230				210			
Se-D	mg/L		0.00020			<0.00010				<0.00010			
Si-D	mg/L		3.32			3.15				3.28			
Na-D	mg/L		102			110				107			
Sr-D	mg/L		2.37			2.06				2.13			
Zn-D	mg/L		<0.0050			<0.0050				<0.0050			

Appendix 1 - Tables

Table 13 PTS Biochemical Reactor Cell 1 Page(s)

Site Description Passive Treatment System Biochemical Reactor Cell														
Site Name		BCR												
Date		04-07-2023	10-07-2023	17-07-2023	24-07-2023	02-08-2023	08-08-2023	14-08-2023	21-08-2023	28-08-2023	05-09-2023	11-09-2023	18-09-2023	26-09-2023
pH-F	pH Units	7.3	7.34	7.15	7.11	6.91	6.86	6.43	6.92	6.83	6.8	6.83	6.83	6.82
Cond-F	uS/cm	1604	1513	1499	1531	1601	1636	1539	1598	1638	1722	1425	1448	1454
H2S	mg/L	38	31	31	28	22	32	42	40	24	23	19	21	20
SO4-D	mg/L	530	510	520	540	490	540	520	460	540	520	500	550	510
TSS	mg/L		1.2			<1.0								
Turb	NTU										83			
Alk-T	mg/L		330			310					300			
Acidity83	mg/L		13.3			26.4					4.3			
Al-T	mg/L		0.0059			0.0080					0.0104			
As-T	mg/L		0.00016			0.00011					0.00013			
Ba-T	mg/L		0.0271			0.0265					0.0268			
B-T	mg/L		0.632			0.612					0.628			
Cd-T	mg/L		<0.000010			<0.000010					<0.000010			
Ca-T	mg/L		204			206					213			
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		571			577					598			
Fe-T	mg/L		<0.010			<0.010					<0.010			
Pb-T	mg/L		<0.00020			<0.00020					<0.00020			
Mg-T	mg/L		14.9			15.0					15.9			
Mn-T	mg/L		0.201			0.189					0.158			
Mo-T	mg/L		<0.0010			<0.0010					<0.0010			
Ni-T	mg/L		<0.0010			<0.0010					<0.0010			
K-T	mg/L		1.92			1.84					1.92			
S-T	mg/L		170			164					184			
Se-T	mg/L		<0.00010			<0.00010					<0.00010			
Si-T	mg/L		3.59			3.21					3.65			
Ag-T	mg/L		<0.000020			<0.000020					<0.000020			
Na-T	mg/L		92.7			91.2					102			
Sr-T	mg/L		2.15			2.09					2.11			
Zn-T	mg/L		<0.0050			<0.0050					<0.0050			
Al-D	mg/L		0.0063			0.0072					0.0072			
As-D	mg/L		<0.00020			0.00011					<0.00020			
Ba-D	mg/L		0.0322			0.0289					0.0289			
B-D	mg/L		0.81			0.667					0.67			
Be-D	mg/L		<0.00020			<0.00010					<0.00020			
Cd-D	mg/L		<0.000020			<0.000010					<0.000020			
Ca-D	mg/L		244			232					226			
Cr-D	mg/L		<0.0020			<0.0010					<0.0020			
Co-D	mg/L		<0.00040			<0.00020					<0.00040			
Cu-D	mg/L		<0.00040			<0.00020					<0.00040			
Hard-D	mg/L		685			649					637			
Fe-D	mg/L		<0.010			0.0062					<0.010			
Pb-D	mg/L		<0.00040			<0.00020					<0.00040			
Mg-D	mg/L		18.5			17.1					17.3			
Mn-D	mg/L		0.229			0.201					0.182			
Mo-D	mg/L		<0.0020			<0.0010					<0.0020			
Ni-D	mg/L		<0.0020			<0.0010					<0.0020			
K-D	mg/L		2.13			2.05					2.03			
S-D	mg/L		526			226					192			
Se-D	mg/L		0.0116			0.00575					0.00193			
Si-D	mg/L		4.39			3.85					4.06			
Na-D	mg/L		111			112					111			
Sr-D	mg/L		2.46			2.13					2.17			
Zn-D	mg/L		<0.010			<0.0050					<0.010			

Appendix 1 - Tables

Table 14 PTS Sulphide Polishing Cell 1 Page(s)

Site Description		Passive Treatment System Sulphide Polishing Cell													
Site Name		SPCEFF													
Date		04-07-2023	10-07-2023	17-07-2023	24-07-2023	02-08-2023	08-08-2023	14-08-2023	21-08-2023	28-08-2023	05-09-2023	11-09-2023	18-09-2023	26-09-2023	26-09-2023
pH-F	pH Units	7.76	7.78	7.64	7.38	7.24	7.4	7.27	7.42	7.23	7.30	7.34	7.31	7.28	7.28
Cond-F	uS/cm	1445	1369	1355	1503	1555	1585	1454	1514	1524	1682	1274	1313	1266	1266
H2S	mg/L	0.0028	0.0033	0.0073	15	0.39	0.15	0.050	0.016	0.013	0.0041	0.0051	0.0041	<0.0020	<0.0020
S04-D	mg/L	490	460	450	500	480	500	450	440	420	390	370	360	320	330
TSS	mg/L		2.0			2.4									
Turb	NTU										1.6				
Alk-T	mg/L		320			330					350				
Acidity83	mg/L		5.4			<1.0					9.6				
Al-T	mg/L		0.0113			0.0082					0.0152				
As-T	mg/L		0.00172			0.00141					0.00139				
Ba-T	mg/L		0.0275			0.0280					0.0262				
B-T	mg/L		0.728			0.635					0.776				
Cd-T	mg/L		<0.000010			<0.000010					<0.000010				
Ca-T	mg/L		180			196					183				
Cr-T	mg/L		<0.0010			<0.0010					<0.0010				
Co-T	mg/L		0.00028			<0.00020					0.00028				
Cu-T	mg/L		0.00380			<0.00050					0.00339				
Hard-T	mg/L		511			549					523				
Fe-T	mg/L		0.318			0.442					0.346				
Pb-T	mg/L		<0.00020			<0.00020					<0.00020				
Mg-T	mg/L		15.0			14.2					16.0				
Mn-T	mg/L		0.0371			0.106					0.0153				
Mo-T	mg/L		<0.0010			<0.0010					<0.0010				
Ni-T	mg/L		<0.0010			<0.0010					<0.0010				
K-T	mg/L		1.89			1.79					2.11				
S-T	mg/L		159			154					154				
Se-T	mg/L		<0.00010			<0.00010					<0.00010				
Si-T	mg/L		2.72			2.92					2.95				
Ag-T	mg/L		<0.000020			<0.000020					<0.000020				
Na-T	mg/L		101			91.9					117				
Sr-T	mg/L		2.13			2.08					2.12				
Zn-T	mg/L		0.0156			<0.0050					<0.0050				
Al-D	mg/L		0.0113			0.0061					0.0093				
As-D	mg/L		0.00177			0.00132					0.00123				
Ba-D	mg/L		0.0306			0.0314					0.0266				
B-D	mg/L		0.787			0.727					0.730				
Be-D	mg/L		<0.00010			<0.00010					<0.00010				
Cd-D	mg/L		<0.000010			<0.000010					<0.000010				
Ca-D	mg/L		202			229					187				
Cr-D	mg/L		<0.0010			<0.0010					<0.0010				
Co-D	mg/L		0.00031			<0.00020					0.00028				
Cu-D	mg/L		0.00266			<0.00020					0.00195				
Hard-D	mg/L		577			641					536				
Fe-D	mg/L		0.187			0.104					0.179				
Pb-D	mg/L		<0.00020			<0.00020					<0.00020				
Mg-D	mg/L		17.6			16.8					16.4				
Mn-D	mg/L		0.0402			0.117					0.0145				
Mo-D	mg/L		<0.0010			<0.0010					<0.0010				
Ni-D	mg/L		<0.0010			<0.0010					<0.0010				
K-D	mg/L		2.11			2.01					2.02				
S-D	mg/L		181			193					155				
Se-D	mg/L		0.00011			0.00017					<0.00010				
Si-D	mg/L		3.12			3.40					3.12				
Na-D	mg/L		113			114					115				
Sr-D	mg/L		2.39			2.17					2.13				
Zn-D	mg/L		0.0050			<0.0050					<0.0050				

Appendix 1 - Tables

Table 15 2-South Pit Inflow 1 Page(s)

Site Description 2-South Pit Inflow																	
Site Name		2SI															
Date		04-07-2023	04-07-2023	10-07-2023	17-07-2023	24-07-2023	02-08-2023	08-08-2023	14-08-2023	21-08-2023	28-08-2023	05-09-2023	05-09-2023	11-09-2023	18-09-2023	18-09-2023	26-09-2023
pH-F	pH Units	7.96	7.96	8	7.84	8.04	7.66	7.65	7.21	7.8	7.56	7.6	7.6	7.63	7.6	7.6	7.48
Cond-F	uS/cm	1550	1550	1479	1488	1528	1604	1618	1499	1588	1642	1846	1846	1396	1447	1447	1414
H2S	mg/L	0.082	0.12	0.054	0.16	<0.0020	0.0023	0.024	0.073	0.073	0.049	0.015	0.14	0.020	0.034	0.042	0.014
SO4-D	mg/L	580	580	570	560	620	570	570	490	500	540	560	390	510	530	520	510
TSS	mg/L			37			<1.0										
Turb	NTU											3.1	3.0				
Alk-T	mg/L			280			250					260	350				
Acidity83	mg/L			2.4			1.1					<1.0	9.8				
Al-T	mg/L			<0.0030			<0.0030					<0.0030	0.0041				
As-T	mg/L			0.00079			0.00038					0.00045	0.00056				
Ba-T	mg/L			0.0252			0.0244					0.0251	0.0262				
B-T	mg/L			0.605			0.588					0.561	0.583				
Cd-T	mg/L			<0.000010			<0.000010					<0.000010	<0.000010				
Ca-T	mg/L			212			220					200	205				
Cr-T	mg/L			<0.0010			<0.0010					<0.0010	<0.0010				
Co-T	mg/L			0.00021			<0.00020					0.00029	0.00032				
Cu-T	mg/L			<0.00050			<0.00050					<0.00050	<0.00050				
Hard-T	mg/L			593			613					559	574				
Fe-T	mg/L			0.335			0.238					0.044	0.297				
Pb-T	mg/L			<0.00020			<0.00020					<0.00020	<0.00020				
Mg-T	mg/L			15.4			15.5					14.5	15.1				
Mn-T	mg/L			0.308			0.168					0.219	0.228				
Mo-T	mg/L			<0.0010			<0.0010					<0.0010	<0.0010				
Ni-T	mg/L			<0.0010			<0.0010					<0.0010	<0.0010				
K-T	mg/L			1.84			1.65					1.67	1.72				
S-T	mg/L			190			188					181	191				
Se-T	mg/L			<0.00010			<0.00010					<0.00010	<0.00010				
Si-T	mg/L			3.70			3.82					3.55	3.58				
Ag-T	mg/L			<0.000020			<0.000020					<0.000020	<0.000020				
Na-T	mg/L			94.4			94.2					93.6	100				
Sr-T	mg/L			2.11			2.10					1.90	1.89				
Zn-T	mg/L			<0.0050			<0.0050					<0.0050	<0.0050				
Al-D	mg/L			<0.0030			<0.0030					<0.0030	<0.0030				
As-D	mg/L			0.00068			0.00034					0.00047	0.00046				
Ba-D	mg/L			0.0275			0.0250					0.0291	0.0290				
B-D	mg/L			0.690			0.656					0.654	0.640				
Be-D	mg/L			<0.00010			<0.00010					<0.00010	<0.00010				
Cd-D	mg/L			<0.000010			<0.000010					<0.000010	<0.000010				
Ca-D	mg/L			235			231					213	211				
Cr-D	mg/L			<0.0010			<0.0010					<0.0010	<0.0010				
Co-D	mg/L			0.00025			<0.00020					0.00034	0.00034				
Cu-D	mg/L			<0.00020			<0.00020					<0.00020	<0.00020				
Hard-D	mg/L			662			648					603	596				
Fe-D	mg/L			0.0409			0.0480					0.0928	0.0485				
Pb-D	mg/L			<0.00020			<0.00020					<0.00020	<0.00020				
Mg-D	mg/L			18.2			17.4					17.6	16.7				
Mn-D	mg/L			0.407			0.124					0.266	0.270				
Mo-D	mg/L			<0.0010			<0.0010					<0.0010	<0.0010				
Ni-D	mg/L			<0.0010			<0.0010					<0.0010	<0.0010				
K-D	mg/L			1.96			1.74					1.91	1.86				
S-D	mg/L			217			233					206	199				
Se-D	mg/L			<0.00010			<0.00010					<0.00010	<0.00010				
Si-D	mg/L			4.22			4.07					4.05	4.00				
Na-D	mg/L			105			110					112	107				
Sr-D	mg/L			2.33			1.98					2.11	2.11				
Zn-D	mg/L			<0.0050			<0.0050					<0.0050	<0.0050				

Appendix 1 - Tables

Table 16 2-South Pit in Pit Water Cover Over PAG-CCR 1 Page(s)

EMS ID		E292127		
Site Description		2-South Pit in Pit Water Cover Over PAG-CCR		
Site Name		2S		
Date		10-07-2023	02-08-2023	05-09-2023
pH-F	pH Units	8.16	7.88	7.79
Cond-F	uS/cm	1308	1443	1562
SO4-D	mg/L	560	580	530
Alk-T	mg/L	150	130	280
Acidity83	mg/L	<1.0	1.6	13.5
Al-T	mg/L	0.0058	0.104	0.0372
As-T	mg/L	0.00041	0.00064	0.00042
Ba-T	mg/L	0.0200	0.0181	0.0191
B-T	mg/L	0.592	0.581	0.609
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	170	158	181
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	<0.00020	<0.00020	<0.00020
Cu-T	mg/L	<0.00050	0.00074	0.00055
Hard-T	mg/L	490	456	516
Fe-T	mg/L	0.027	0.299	0.132
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	15.9	14.8	15.7
Mn-T	mg/L	0.0070	0.0061	0.0059
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	1.83	1.71	1.80
S-T	mg/L	195	177	203
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	2.22	1.74	2.66
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	93.7	92.6	102
Sr-T	mg/L	1.97	1.91	1.92
Zn-T	mg/L	0.0094	<0.0050	<0.0050
Al-D	mg/L	0.0046	0.0041	<0.0030
As-D	mg/L	0.00042	0.00042	0.00032
Ba-D	mg/L	0.0217	0.0197	0.0208
B-D	mg/L	0.662	0.712	0.674
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	184	173	177
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	<0.00020	<0.00020	<0.00020
Cu-D	mg/L	0.00035	0.00025	<0.00020
Hard-D	mg/L	532	502	516
Fe-D	mg/L	0.0127	0.0168	0.0107
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	18.0	16.7	18.1
Mn-D	mg/L	0.0076	0.0012	0.0023
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	<0.0010	<0.0010	<0.0010
K-D	mg/L	1.98	1.77	1.95
S-D	mg/L	223	238	221
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	2.50	2.05	2.77
Na-D	mg/L	105	106	114
Sr-D	mg/L	2.19	1.97	2.07
Zn-D	mg/L	<0.0050	<0.0050	<0.0050

Appendix 1 - Tables

Table 17 2-South Outflow Culvert into 3-South Pit 1 Page(s)

EMS ID				
Site Description 2-South Outflow Culvert into 3-South Pit				
Site Name 2SC				
Date		10-07-2023	02-08-2023	05-09-2023
pH-F	pH Units	8.13	7.85	7.71
Cond-F	uS/cm	1389	1513	1728
SO4-D	mg/L	620	600	670
Alk-T	mg/L	190	210	200
Acidity83	mg/L	1.2	3.1	3.0
Al-T	mg/L	<0.0030	<0.0030	<0.0030
As-T	mg/L	0.00031	0.00026	0.00030
Ba-T	mg/L	0.0153	0.0130	0.0143
B-T	mg/L	0.400	0.345	0.409
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	237	234	232
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	697	689	681
Fe-T	mg/L	0.017	<0.010	0.013
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	25.7	25.7	24.8
Mn-T	mg/L	0.0041	0.0034	0.0111
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	<0.0010	<0.0010	<0.0010
K-T	mg/L	2.35	2.24	2.42
S-T	mg/L	218	193	230
Se-T	mg/L	0.00022	0.00014	0.00019
Si-T	mg/L	2.62	2.52	2.43
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	52.9	46.9	55.8
Sr-T	mg/L	1.55	1.49	1.49
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	<0.0060	<0.0060	<0.030
As-D	mg/L	0.00029	0.00027	<0.0010
Ba-D	mg/L	0.0159	0.0136	0.015
B-D	mg/L	0.48	0.41	0.55
Be-D	mg/L	<0.00020	<0.00020	<0.0010
Cd-D	mg/L	<0.000020	<0.000020	<0.00010
Ca-D	mg/L	248	248	262
Cr-D	mg/L	<0.0020	<0.0020	<0.010
Co-D	mg/L	<0.00040	<0.00040	<0.0020
Cu-D	mg/L	<0.00040	<0.00040	<0.0020
Hard-D	mg/L	734	739	775
Fe-D	mg/L	0.012	<0.010	<0.050
Pb-D	mg/L	<0.00040	<0.00040	<0.0020
Mg-D	mg/L	27.8	29.0	29.5
Mn-D	mg/L	0.0039	0.0035	0.014
Mo-D	mg/L	<0.0020	<0.0020	<0.010
Ni-D	mg/L	<0.0020	<0.0020	<0.010
K-D	mg/L	2.30	2.37	2.60
S-D	mg/L	228	232	270
Se-D	mg/L	0.00028	<0.00020	<0.0010
Si-D	mg/L	2.56	2.70	2.7
Na-D	mg/L	55.4	54.8	67.0
Sr-D	mg/L	1.59	1.44	1.54
Zn-D	mg/L	<0.010	<0.010	<0.050

Appendix 1 - Tables

Table 18 3-South Pit Water Cover Over PAG-CCR 1 Page(s)

EMS ID		E217015		
Site Description		3-South Pit Water Cover Over PAG-CCR		
Site Name		3S		
Date		10-07-2023	02-08-2023	05-09-2023
pH-F	pH Units	8.17	7.87	7.62
Cond-F	uS/cm	1366	1522	1633
SO4-D	mg/L	620	590	650
Alk-T	mg/L	170	200	140
Acidity83	mg/L	1.1	2.7	2.1
Al-T	mg/L		0.0054	0.0064
As-T	mg/L		0.00025	0.00036
Ba-T	mg/L		0.0126	0.0143
B-T	mg/L		0.336	0.393
Cd-T	mg/L		<0.000010	<0.000010
Ca-T	mg/L		226	241
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		666	711
Fe-T	mg/L		0.016	0.026
Pb-T	mg/L		<0.00020	<0.00020
Mg-T	mg/L		24.8	26.8
Mn-T	mg/L		0.0032	0.0094
Mo-T	mg/L		<0.0010	<0.0010
Ni-T	mg/L		<0.0010	<0.0010
K-T	mg/L		2.14	2.66
S-T	mg/L		183	242
Se-T	mg/L		0.00013	0.00014
Si-T	mg/L		2.39	2.76
Ag-T	mg/L		<0.000020	<0.000020
Na-T	mg/L		44.7	58.2
Sr-T	mg/L		1.44	1.56
Zn-T	mg/L		<0.0050	<0.0050
Al-D	mg/L		<0.0060	<0.030
As-D	mg/L		0.00027	<0.0010
Ba-D	mg/L		0.0138	0.015
B-D	mg/L		0.41	0.53
Be-D	mg/L		<0.00020	<0.0010
Cd-D	mg/L		<0.000020	<0.00010
Ca-D	mg/L		249	256
Cr-D	mg/L		<0.0020	<0.010
Co-D	mg/L		<0.00040	<0.0020
Cu-D	mg/L		<0.00040	<0.0020
Hard-D	mg/L		740	765
Fe-D	mg/L		<0.010	<0.050
Pb-D	mg/L		<0.00040	<0.0020
Mg-D	mg/L		28.7	30.6
Mn-D	mg/L		0.0032	<0.010
Mo-D	mg/L		<0.0020	<0.010
Ni-D	mg/L		<0.0020	<0.010
K-D	mg/L		2.31	2.64
S-D	mg/L		235	275
Se-D	mg/L		<0.00020	<0.0010
Si-D	mg/L		2.70	2.7
Na-D	mg/L		55.0	66.8
Sr-D	mg/L		1.41	1.54
Zn-D	mg/L		<0.010	<0.050

Appendix 1 - Tables

Table 19 Culvert Downstream End at Access Road 1 Page(s)

EMS ID		E217014
Site Description		Culvert Downstream End at Access Road
Site Name		SPC
Date		10-Jul-23
pH-F	pH Units	
Cond-F	uS/cm	
SO4-D	mg/L	
TSS	mg/L	Dry for Q2
Alk-T	mg/L	
Acidity83	mg/L	
Al-T	mg/L	
As-T	mg/L	
Ba-T	mg/L	
B-T	mg/L	
Cd-T	mg/L	
Ca-T	mg/L	
Cr-T	mg/L	
Co-T	mg/L	
Cu-T	mg/L	
Hard-T	mg/L	
Fe-T	mg/L	
Pb-T	mg/L	
Mg-T	mg/L	
Mn-T	mg/L	
Mo-T	mg/L	
Ni-T	mg/L	
K-T	mg/L	
S-T	mg/L	
Se-T	mg/L	
Si-T	mg/L	
Ag-T	mg/L	
Na-T	mg/L	
Sr-T	mg/L	
Zn-T	mg/L	
Al-D	mg/L	
As-D	mg/L	
Ba-D	mg/L	
B-D	mg/L	
Be-D	mg/L	
Cd-D	mg/L	
Ca-D	mg/L	
Cr-D	mg/L	
Co-D	mg/L	
Cu-D	mg/L	
Hard-D	mg/L	
Fe-D	mg/L	
Pb-D	mg/L	
Mg-D	mg/L	
Mn-D	mg/L	
Mo-D	mg/L	
Ni-D	mg/L	
K-D	mg/L	
S-D	mg/L	
Se-D	mg/L	
Si-D	mg/L	
Na-D	mg/L	
Sr-D	mg/L	
Zn-D	mg/L	

Appendix 1 - Tables

Table 20 South End Mine Water Entering Long Lake Near the Outlet 1 Page(s)

EMS ID	E292130		Stn Std		Max-WQG										
Site Description	South End Mine Water Entering Long Lake Near the Outlet														
Site Name	LLE	Std Val													
Date	Max	04-07-2023	10-07-2023	17-07-2023	24-07-2023	02-08-2023	08-08-2023	14-08-2023	21-08-2023	28-08-2023	05-09-2023	11-09-2023	18-09-2023	25-09-2023	
Flow	m3/s	0	0	0	0	0	0	0	0	0	0	0	0	0	
pH-F	pH Units														
Cond-F	uS/cm		Dry for Q2												
SO4-D	mg/L														
TSS	mg/L	25													
DOC	mg/L														
Alk-T	mg/L														
Acidity83	mg/L														
N-NH3	mg/L	12.9													
N-NO23	mg/L														
P-T	mg/L														
Al-T	mg/L														
As-T	mg/L	0.005													
Ba-T	mg/L														
B-T	mg/L														
Cd-T	mg/L														
Ca-T	mg/L														
Cr-T	mg/L														
Co-T	mg/L	0.11													
Cu-T	mg/L														
Hard-T	mg/L														
Fe-T	mg/L	1.0													
Pb-T	mg/L	0.01763													
Mg-T	mg/L														
Mn-T	mg/L	0.8706													
Mo-T	mg/L	2.0													
Ni-T	mg/L														
K-T	mg/L														
S-T	mg/L														
Se-T	mg/L														
Si-T	mg/L														
Ag-T	mg/L	0.0001													
Na-T	mg/L														
Sr-T	mg/L														
Zn-T	mg/L	0.033													
Al-D	mg/L	0.1													
As-D	mg/L														
Ba-D	mg/L														
B-D	mg/L														
Be-D	mg/L														
Cd-D	mg/L	0.00017													
Ca-D	mg/L														
Cr-D	mg/L														
Co-D	mg/L														
Cu-D	mg/L														
Hard-D	mg/L														
Fe-D	mg/L	0.35													
Pb-D	mg/L														
Mg-D	mg/L														
Mn-D	mg/L														
Mo-D	mg/L														
Ni-D	mg/L														
K-D	mg/L														
S-D	mg/L														
Se-D	mg/L														
Si-D	mg/L														
Na-D	mg/L														
Sr-D	mg/L														
Zn-D	mg/L	0.033													

Appendix 1 - Tables

Table 21 Seep into Long Lake 1 Page(s)

EMS ID	E292131		Stn Std	Max-WQG		
Site Description	Seep into Long Lake					
Site Name	LLS	Std Val				
Date	Max		04-07-2023	12-07-2023	07-09-2023	
SG	m		0.009			
pH-F	pH Units					
Cond-F	uS/cm		Water level to low to collect a sample. Seepage not reaching the lake during Q2.			
SO4-D	mg/L					
TSS	mg/L	25				
Alk-T	mg/L					
Acidity83	mg/L					
Al-T	mg/L					
As-T	mg/L	0.005				
Ba-T	mg/L					
B-T	mg/L					
Cd-T	mg/L					
Ca-T	mg/L					
Cr-T	mg/L					
Co-T	mg/L	0.11				
Cu-T	mg/L					
Hard-T	mg/L					
Fe-T	mg/L	1.0				
Pb-T	mg/L	0.01763				
Mg-T	mg/L					
Mn-T	mg/L	0.8706				
Mo-T	mg/L	2.0				
Ni-T	mg/L					
K-T	mg/L					
S-T	mg/L					
Se-T	mg/L					
Si-T	mg/L					
Ag-T	mg/L	0.0001				
Na-T	mg/L					
Sr-T	mg/L					
Zn-T	mg/L	0.033				
Al-D	mg/L	0.1				
As-D	mg/L					
Ba-D	mg/L					
B-D	mg/L					
Be-D	mg/L					
Cd-D	mg/L	0.00017				
Ca-D	mg/L					
Cr-D	mg/L					
Co-D	mg/L					
Cu-D	mg/L					
Hard-D	mg/L					
Fe-D	mg/L	0.35				
Pb-D	mg/L					
Mg-D	mg/L					
Mn-D	mg/L					
Mo-D	mg/L					
Ni-D	mg/L					
K-D	mg/L					
S-D	mg/L					
Se-D	mg/L					
Si-D	mg/L					
Na-D	mg/L					
Sr-D	mg/L					
Zn-D	mg/L	0.033				

Appendix 1 - Tables

Table 22 Long Lake Middle Seep 1 Page(s)

EMS ID	E292131		Max-WQG		
Site Description	Long Lake Middle Seep				
Site Name	LLSM	Std Val			
Date		Max	04-07-2023	12-07-2023	07-09-2023
Flow	m3/s		Dry. No flow for Q2.		
SG	m		0		
pH-F	pH Units				
Cond-F	uS/cm				
SO4-D	mg/L				
TSS	mg/L	25			
Alk-T	mg/L				
Acidity83	mg/L				
Al-T	mg/L				
As-T	mg/L	0.005			
Ba-T	mg/L				
B-T	mg/L				
Cd-T	mg/L				
Ca-T	mg/L				
Cr-T	mg/L				
Co-T	mg/L	0.11			
Cu-T	mg/L				
Hard-T	mg/L				
Fe-T	mg/L	1.0			
Pb-T	mg/L	0.01763			
Mg-T	mg/L				
Mn-T	mg/L	0.8706			
Mo-T	mg/L	2.0			
Ni-T	mg/L				
K-T	mg/L				
S-T	mg/L				
Se-T	mg/L				
Si-T	mg/L				
Ag-T	mg/L	0.0001			
Na-T	mg/L				
Sr-T	mg/L				
Zn-T	mg/L	0.033			
Al-D	mg/L	0.1			
As-D	mg/L				
Ba-D	mg/L				
B-D	mg/L				
Be-D	mg/L				
Cd-D	mg/L	0.00017			
Ca-D	mg/L				
Cr-D	mg/L				
Co-D	mg/L				
Cu-D	mg/L				
Hard-D	mg/L				
Fe-D	mg/L	0.35			
Pb-D	mg/L				
Mg-D	mg/L				
Mn-D	mg/L				
Mo-D	mg/L				
Ni-D	mg/L				
K-D	mg/L				
S-D	mg/L				
Se-D	mg/L				
Si-D	mg/L				
Na-D	mg/L				
Sr-D	mg/L				
Zn-D	mg/L	0.033			

Appendix 1 - Tables

Table 23 Authorised Discharge Location for 7S South Mine Water 1 Page(s)

EMS ID	E292069	PL-7S		
Site Description	Authorised Discharge Location for 7S South Mine Water			
Site Name	7SSD	Std Val		
Date		Max	10-07-2023	10-07-2023
pH-F	pH Units	6.00 - 8.00	7.95	7.95
Cond-F	uS/cm		386	386
SO4-D	mg/L	500	7.0	6.7
TSS	mg/L	25	4.0	2.8
Alk-T	mg/L		180	180
Acidity83	mg/L		1.2	1.4
DOC	mg/L		12	11
Al-T	mg/L		0.0055	0.0066
As-T	mg/L		0.0106	0.0117
Ba-T	mg/L		0.0070	0.0072
B-T	mg/L		0.052	0.058
Cd-T	mg/L		<0.000010	<0.000010
Ca-T	mg/L		34.1	37.9
Cr-T	mg/L		<0.0010	<0.0010
Co-T	mg/L		<0.00020	<0.00020
Cu-T	mg/L		0.00054	0.00056
Hard-T	mg/L		148	162
Fe-T	mg/L		0.778	0.838
Pb-T	mg/L		<0.00020	<0.00020
Mg-T	mg/L		15.4	16.4
Mn-T	mg/L		0.847	0.922
Mo-T	mg/L		<0.0010	<0.0010
Ni-T	mg/L		<0.0010	<0.0010
K-T	mg/L		2.20	2.38
S-T	mg/L		<3.0	<3.0
Se-T	mg/L		<0.00010	<0.00010
Si-T	mg/L		12.6	14.0
Ag-T	mg/L		<0.000020	<0.000020
Na-T	mg/L		11.1	12.1
Sr-T	mg/L		0.161	0.177
Zn-T	mg/L		<0.0050	<0.0050
Al-D	mg/L	0.1	0.0040	0.0041
As-D	mg/L		0.0111	0.0114
Ba-D	mg/L		0.0070	0.0069
B-D	mg/L		0.055	0.059
Be-D	mg/L		<0.00010	<0.00010
Cd-D	mg/L	0.000045	<0.000010	<0.000010
Ca-D	mg/L		40.1	40.3
Cr-D	mg/L		<0.0010	<0.0010
Co-D	mg/L		<0.00020	<0.00020
Cu-D	mg/L	0.014	0.00048	0.00049
Hard-D	mg/L		175	175
Fe-D	mg/L	0.35	0.326	0.355
Pb-D	mg/L		<0.00020	<0.00020
Mg-D	mg/L		18.3	18.1
Mn-D	mg/L		0.916	0.908
Mo-D	mg/L		<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010
K-D	mg/L		2.43	2.50
S-D	mg/L		3.2	4.3
Se-D	mg/L	0.016	<0.00010	<0.00010
Si-D	mg/L		15.4	15.5
Na-D	mg/L		12.9	13.0
Sr-D	mg/L		0.202	0.202
Zn-D	mg/L		<0.0050	<0.0050

Appendix 1 - Tables

Table 24 7 South Portal Sump 1 Page(s)

EMS ID		E292110		
Site Description		7 South Portal Sump		
Site Name		7SPS		
Date		10-07-2023	02-08-2023	05-09-2023
pH-F	pH Units	7.88	7.6	7.75
Cond-F	uS/cm	971	1132	1254
SO4-D	mg/L	370	390	410
TSS	mg/L	7.2	6.8	5.2
Alk-T	mg/L	160	160	150
Acidity83	mg/L	4.6	3.7	<1.0
Al-T	mg/L	0.0163	0.0167	0.0080
As-T	mg/L	0.00047	0.00047	0.00038
Ba-T	mg/L	0.0147	0.0144	0.0160
B-T	mg/L	0.100	0.091	0.107
Cd-T	mg/L	<0.000010	<0.000010	<0.000010
Ca-T	mg/L	142	148	163
Cr-T	mg/L	<0.0010	<0.0010	<0.0010
Co-T	mg/L	0.00071	0.00024	<0.00020
Cu-T	mg/L	0.00068	0.00064	0.00066
Hard-T	mg/L	485	497	548
Fe-T	mg/L	4.13	2.57	1.55
Pb-T	mg/L	<0.00020	<0.00020	<0.00020
Mg-T	mg/L	31.4	31.0	34.5
Mn-T	mg/L	0.138	0.0370	0.0124
Mo-T	mg/L	<0.0010	<0.0010	<0.0010
Ni-T	mg/L	0.0035	0.0023	0.0014
K-T	mg/L	1.12	1.47	1.98
S-T	mg/L	125	122	156
Se-T	mg/L	<0.00010	<0.00010	<0.00010
Si-T	mg/L	5.82	6.31	6.47
Ag-T	mg/L	<0.000020	<0.000020	<0.000020
Na-T	mg/L	17.5	18.5	22.3
Sr-T	mg/L	0.582	0.620	0.650
Zn-T	mg/L	<0.0050	<0.0050	<0.0050
Al-D	mg/L	0.0031	<0.0030	0.0037
As-D	mg/L	0.00031	0.00039	0.00041
Ba-D	mg/L	0.0147	0.0147	0.0164
B-D	mg/L	0.098	0.095	0.122
Be-D	mg/L	<0.00010	<0.00010	<0.00010
Cd-D	mg/L	<0.000010	<0.000010	<0.000010
Ca-D	mg/L	156	163	162
Cr-D	mg/L	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.00062	<0.00020	<0.00020
Cu-D	mg/L	0.00062	0.00050	0.00061
Hard-D	mg/L	536	564	561
Fe-D	mg/L	0.231	0.0988	0.167
Pb-D	mg/L	<0.00020	<0.00020	<0.00020
Mg-D	mg/L	35.6	37.9	38.3
Mn-D	mg/L	0.137	0.0274	0.0041
Mo-D	mg/L	<0.0010	<0.0010	<0.0010
Ni-D	mg/L	0.0033	0.0022	0.0015
K-D	mg/L	1.24	1.67	2.05
S-D	mg/L	141	157	165
Se-D	mg/L	<0.00010	<0.00010	<0.00010
Si-D	mg/L	6.26	6.77	6.72
Na-D	mg/L	19.1	23.4	24.0
Sr-D	mg/L	0.640	0.622	0.688
Zn-D	mg/L	<0.0050	<0.0050	0.0054

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Table 25 Road Side Crossing Bridge on Stream 1 above the Lower Wetland 1 Page(s)

EMS ID	E292109	Stn Std	Max-WQG
Site Description	Road Side Crossing Bridge on Stream 1 above the Lower Wetland		
Site Name	7S	Std Val	
Date		Max	10-07-2023
SG	m		0
pH-F	pH Units		Dry - No Flow for Q2
Cond-F	uS/cm		
SO4-D	mg/L		
TSS	mg/L	25	
Alk-T	mg/L		
Acidity <sup>83</sup>	mg/L		
DOC	mg/L		
Al-T	mg/L		
As-T	mg/L	0.005	
Ba-T	mg/L		
B-T	mg/L		
Cd-T	mg/L		
Ca-T	mg/L		
Cr-T	mg/L		
Co-T	mg/L	0.11	
Cu-T	mg/L		
Hard-T	mg/L		
Fe-T	mg/L	1.0	
Pb-T	mg/L	0.01763	
Mg-T	mg/L		
Mn-T	mg/L	0.8706	
Mo-T	mg/L	2.0	
Ni-T	mg/L		
K-T	mg/L		
S-T	mg/L		
Se-T	mg/L		
Si-T	mg/L		
Ag-T	mg/L	0.0001	
Na-T	mg/L		
Sr-T	mg/L		
Zn-T	mg/L	0.033	
Al-D	mg/L	0.1	
As-D	mg/L		
Ba-D	mg/L		
B-D	mg/L		
Be-D	mg/L		
Cd-D	mg/L	0.00017	
Ca-D	mg/L		
Cr-D	mg/L		
Co-D	mg/L		
Cu-D	mg/L	≤ 0.00334	
Hard-D	mg/L		
Fe-D	mg/L	0.35	
Pb-D	mg/L		
Mg-D	mg/L		
Mn-D	mg/L		
Mo-D	mg/L		
Ni-D	mg/L		
K-D	mg/L		
S-D	mg/L		
Se-D	mg/L		
Si-D	mg/L		
Na-D	mg/L		
Sr-D	mg/L		
Zn-D	mg/L	0.033	

Appendix 1 - Tables

Table 26 Continuous Discharge at Settling Pond # 4 1 Page(s)

EMS ID E207409													
Discharge From Settling Pond #4 (SP4/WD)													
Date	April		May		June		July		August		September		
	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	
1	0.1320	0.1186	0.2290	0.2161	0.1140	0.0910	0.0730	0.0540	NF	NF	0.0560	0.0470	
2	0.1300	0.1222	0.2060	0.1913	0.1010	0.0894	0.0670	0.0370	NF	NF	0.0560	0.0480	
3	0.1310	0.0871	0.1830	0.1675	0.1010	0.0895	0.0680	0.0460	NF	NF	0.0570	0.0500	
4	0.1290	0.0951	0.1590	0.1473	0.1030	0.0887	0.0470	0.0360	NF	NF	0.0590	0.0470	
5	0.1350	0.1300	0.1530	0.1435	0.1030	0.0885	0.0480	0.0340	NF	NF	0.0550	0.0480	
6	0.1300	0.1212	0.1490	0.0800	0.1040	0.0889	0.0480	0.0360	NF	NF	0.0550	0.0510	
7	0.1170	0.0833	0.1340	0.1021	0.1060	0.0866	0.0440	0.0300	NF	NF	0.0540	0.0450	
8	0.1320	0.0989	0.1560	0.1478	0.1000	0.0835	0.0300	0.0190	NF	NF	0.0540	0.0440	
9	0.0800	0.0435	0.1670	0.1580	0.1020	0.0926	0.0240	0.0140	NF	NF	0.0520	0.0430	
10	0.1100	0.0905	0.1660	0.1556	0.1030	0.0915	0.0170	0.0100	NF	NF	0.0540	0.0480	
11	0.1250	0.1065	0.1570	0.1483	0.0990	0.0855	0.0120	0.0040	NF	NF	0.0540	0.0470	
12	0.1170	0.0848	0.1530	0.1420	0.1050	0.0905	NF	NF	NF	NF	0.0540	0.0510	
13	0.1270	0.1005	0.1580	0.1429	0.1030	0.0908	NF	NF	NF	NF	0.0520	0.0460	
14	0.0950	0.0828	0.1580	0.1467	0.0850	0.0672	NF	NF	NF	NF	0.0510	0.0370	
15	0.1080	0.0966	0.1710	0.1540	0.0820	0.0776	NF	NF	NF	NF	0.0310	0.0150	
16	0.1020	0.0897	0.1540	0.1397	0.0920	0.0831	NF	NF	NF	NF	0.0160	0.0090	
17	0.1190	0.0986	0.1450	0.1317	0.0910	0.0820	NF	NF	NF	NF	0.0120	0.0090	
18	0.0980	0.0831	0.1430	0.1318	0.0920	0.0838	NF	NF	NF	NF	0.0120	0.0050	
19	0.1180	0.1040	0.1460	0.1352	0.0990	0.0870	NF	NF	0.0360	0.0030	0.0130	0.0070	
20	0.1300	0.1073	0.1510	0.1392	0.0860	0.0785	NF	NF	0.0730	0.0610	0.0130	0.0070	
21	0.1310	0.1183	0.1520	0.1454	0.0850	0.0799	NF	NF	0.0730	0.0640	0.0080	0.0040	
22	0.1370	0.1319	0.1650	0.1545	0.0860	0.0785	NF	NF	0.0720	0.0660	0.0060	0.0030	
23	0.1410	0.1340	0.1710	0.1546	0.0840	0.0733	NF	NF	0.0740	0.0710	0.0040	0.0030	
24	0.1550	0.1340	0.1390	0.1266	0.0650	0.0476	NF	NF	0.0740	0.0660	0.0070	0.0020	
25	0.1690	0.1590	0.1290	0.1031	0.0790	0.0690	NF	NF	0.0730	0.0660	0.0080	0.0050	
26	0.1850	0.1765	0.1210	0.1049	0.0830	0.0743	NF	NF	0.0720	0.0650	0.0070	0.0050	
27	0.2060	0.1819	0.1220	0.1084	0.0830	0.0778	NF	NF	0.0730	0.0660	0.0050	0.0030	
28	0.2190	0.2146	0.1180	0.1016	0.0840	0.0764	NF	NF	0.0740	0.0590	0.0190	0.0110	
29	0.2280	0.2246	0.1120	0.0964	0.0830	0.0783	NF	NF	0.0600	0.0570	0.0230	0.0150	
30	0.2290	0.2275	0.1100	0.0935	0.0820	0.0747	NF	NF	0.0590	0.0510	0.0250	0.0160	
31			0.1070	0.0932			NF	NF	0.0580	0.0520			
Monthly Max	0.2290		0.2290		0.1140		0.0730		0.0740		0.0590		
Monthly Avg	0.1216		0.1356		0.0815		0.0291		0.0575		0.0257		
TSS is required weekly when max daily flow > 0.054 m <sup>3</sup> /s													
NF= No Flow PNC= Permit Non-compliance All flow data is subject to review													

Appendix 1 - Tables

Table 27 Continuous Discharge at Settling Pond # 1 1 Page(s)

EMS ID E218582													
Discharge From Settling Pond #1 (SP1/SPD)													
Date	April		May		June		July		August		September		
	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	Max. (m <sup>3</sup> /s)	Daily (m <sup>3</sup> /s)	
1	0.0534	0.0351	0.0160	0.0094	0.0091	0.0045	0.0091	0.0000	NF	NF	0.0250	0.0091	
2	0.0639	0.0568	0.0160	0.0079	0.0091	0.0031	0.0341	0.0032	NF	NF	0.0091	0.0032	
3	0.0639	0.0433	0.0534	0.0222	0.0443	0.0105	0.0341	0.0091	NF	NF	0.0091	0.0000	
4	0.0250	0.0114	0.0443	0.0195	0.0443	0.0181	0.0091	0.0000	NF	NF	0.1279	0.0000	
5	0.0250	0.0119	0.0160	0.0161	0.0091	0.0052	0.0091	0.0000	NF	NF	0.1970	0.0000	
6	0.0341	0.0262	0.0250	0.0194	0.0341	0.0104	0.0341	0.0032	NF	NF	NF	NF	
7	0.0091	0.0055	0.0443	0.0277	0.0443	0.0268	0.0250	0.0091	NF	NF	NF	NF	
8	0.0250	0.0085	0.0639	0.0261	0.0160	0.0073	0.0091	0.0032	NF	NF	0.0341	0.0160	
9	0.0639	0.0398	0.0639	0.0487	0.0250	0.0068	0.0032	0.0000	NF	NF	0.0160	0.0032	
10	0.0639	0.0569	0.0250	0.0169	0.0341	0.0229	0.0032	0.0000	NF	NF	0.0091	0.0032	
11	0.0639	0.0457	0.0443	0.0184	0.0160	0.0075	NF	NF	NF	NF	0.0091	0.0032	
12	0.0341	0.0225	0.0534	0.0349	0.0091	0.0041	NF	NF	NF	NF	0.0250	0.0000	
13	0.0250	0.0140	0.0534	0.0441	0.0091	0.0029	NF	NF	NF	NF	NF	NF	
14	0.0091	0.0074	0.0534	0.0325	0.0032	0.0016	NF	NF	NF	NF	0.0250	0.0091	
15	0.0160	0.0075	0.0160	0.0113	0.0160	0.0073	NF	NF	NF	NF	0.0160	0.0032	
16	0.0443	0.0277	0.0443	0.0261	0.0160	0.0103	NF	NF	NF	NF	0.0032	0.0000	
17	0.0250	0.0155	0.0341	0.0159	0.0160	0.0062	NF	NF	NF	NF	0.0032	0.0000	
18	0.0764	0.0414	0.0160	0.0085	0.0091	0.0039	NF	NF	NF	NF	NF	NF	
19	0.0764	0.0559	0.0091	0.0059	0.0032	0.0028	NF	NF	NF	NF	0.0032	0.0000	
20	0.0534	0.0469	0.0091	0.0045	0.0032	0.0020	NF	NF	NF	NF	0.0341	0.0091	
21	0.0764	0.0535	0.0443	0.0187	0.0032	0.0011	NF	NF	NF	NF	0.0250	0.0032	
22	0.0639	0.0524	0.0341	0.0154	0.0000	0.0004	NF	NF	NF	NF	0.0091	0.0000	
23	0.0534	0.0454	0.0160	0.0092	0.0000	0.0000	NF	NF	NF	NF	0.0032	0.0000	
24	0.0639	0.0532	0.0160	0.0070	0.0250	0.0139	NF	NF	NF	NF	0.0091	0.0000	
25	0.0443	0.0219	0.0091	0.0047	0.0160	0.0060	NF	NF	NF	NF	0.0091	0.0032	
26	0.0160	0.0157	0.0091	0.0036	0.0091	0.0036	NF	NF	NF	NF	0.0443	0.0160	
27	0.0534	0.0240	0.0443	0.0109	0.0032	0.0019	NF	NF	NF	NF	0.0534	0.0443	
28	0.0534	0.0226	0.0443	0.0243	0.0160	0.0037	NF	NF	NF	NF	0.0534	0.0443	
29	0.0250	0.0200	0.0443	0.0173	0.0341	0.0182	NF	NF	NF	NF	0.0534	0.0250	
30	0.0250	0.0146	0.0443	0.0299	0.0160	0.0056	NF	NF	NF	NF	0.0160	0.0032	
31			0.0160	0.0089			NF	NF	0.0250	0.0000			
Monthly Max	0.0764		0.0639		0.0443		0.0341		0.0250		0.1970		
Monthly Avg		0.0301		0.0183		0.0073		0.0028		0.0000		0.0076	
PNC = Permit Non-compliance													
TSS is required weekly when max daily flow > 0.046m <sup>3</sup> /s													
NF= No Flow All flow data is subject to review													

Appendix 1 - Tables

Table 28 Continuous Discharge at 7-South 1 Page(s)

EMS ID E292069						
Discharge From 7 South Surface Decant Pond (7SSD)						
	April	May	June	July	August	September
Date	Daily Average L/S			Daily Average L/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	NF	NF
18	NF	NF	NF	NF	NF	NF
19	NF	NF	NF	NF	NF	NF
20	NF	NF	NF	NF	NF	NF
21	NF	NF	NF	NF	NF	NF
22	NF	NF	NF	NF	NF	NF
23	NF	NF	NF	NF	NF	NF
24	NF	NF	NF	NF	NF	NF
25	NF	NF	NF	NF	NF	NF
26	NF	NF	NF	NF	NF	NF
27	NF	NF	NF	NF	NF	NF
28	NF	NF	NF	NF	NF	NF
29	NF	NF	NF	NF	NF	NF
30	NF	NF	NF	NF	NF	NF
31	NF	NF	NF	NF	NF	NF
Monthly Avg	0.000	0.000	0.000	0.000	0.000	0.000
Annual Avg						
Cummulative Daily Totalizer Value						
For Maximum Decant Flow (5.00 L/s)						

Appendix 1 - Tables

Table 29 2-South Inflow and Outflow 1 Page(s)

EMS ID: E292127 2-South Pit Inflow							EMS ID: E292127 2-South Pit Outflow						
2S Inflow							2S Outflow Culvert into 3S Pit						
Date	April Q (L/s)	May Q (L/s)	June Q (L/s)	July Q (L/s)	August Q (L/s)	September Q (L/s)	Date	April Q (L/s)	May Q (L/s)	June Q (L/s)	July Q (L/s)	August Q (L/s)	September Q (L/s)
1	16.223	14.376	21.33	16.53	4.87	3.07	1	4.995	5.335	4.096	6.90	4.123	5.33
2	15.901	17.705	20.94	16.16	6.32	3.50	2	4.802	5.157	4.160	6.73	3.460	4.91
3	19.204	17.373	20.16	15.99	7.76	6.92	3	4.771	5.140	4.089	6.63	2.982	4.81
4	22.050	17.242	19.55	14.89	8.19	14.06	4	4.637	5.156	3.953	6.52	2.873	4.90
5	20.554	19.749	14.33	14.20	8.11	7.85	5	5.075	6.065	3.813	6.35	2.811	5.00
6	21.220	13.422	9.00	14.04	8.30	8.19	6	5.233	6.198	3.615	6.22	2.972	5.67
7	19.744	17.682	9.19	2.45	8.32	36.91	7	5.036	5.812	3.544	6.08	3.013	5.49
8	19.343	15.316	9.50	0.27	11.75	14.15	8	5.020	5.795	3.386	6.05	3.623	5.30
9	26.594	15.433	10.29	16.10	14.27	6.83	9	6.090	5.790	3.754	5.97	5.976	5.17
10	22.862	11.559	11.11	14.37	13.60	5.16	10	6.042	5.759	3.778	6.00	6.674	5.59
11	18.282	10.733	11.12	13.24	13.71	3.76	11	5.981	5.712	3.475	5.93	6.112	5.88
12	11.134	10.630	11.48	12.11	13.60	7.74	12	5.473	5.456	3.394	5.69	5.667	6.82
13	14.195	10.126	14.49	13.19	13.08	12.43	13	5.423	5.165	3.487	5.48	5.278	6.16
14	20.059	9.467	16.63	12.90	12.42	12.19	14	5.574	4.924	3.459	5.25	5.221	5.63
15	18.560	14.680	16.56	12.53	11.42	12.48	15	5.833	4.824	3.858	5.13	4.848	5.40
16	17.733	13.048	16.50	12.41	9.01	15.30	16	5.678	4.763	3.692	5.10	4.386	5.50
17	20.530	19.184	15.54	8.22	11.08	13.43	17	6.979	4.900	3.542	4.84	4.298	5.60
18	18.475	15.472	15.36	4.24	7.37	13.57	18	7.130	4.885	3.683	3.82	4.308	5.41
19	23.846	10.569	14.28	3.95	4.20	13.39	19	7.502	4.567	3.746	3.20	4.000	6.20
20	23.876	9.965	13.10	3.13	3.91	13.90	20	8.785	4.361	3.413	3.09	4.278	6.50
21	23.723	10.021	13.32	3.27	1.73	11.86	21	9.100	4.612	3.457	3.03	4.415	5.20
22	20.601	10.078	13.59	3.46	1.53	12.03	22	9.317	4.319	3.898	3.19	4.565	5.03
23	20.878	10.051	14.06	3.73	9.31	7.88	23	8.873	4.448	5.066	3.30	5.428	5.56
24	16.963	10.082	14.11	6.08	6.25	10.63	24	8.083	4.088	5.496	3.38	5.151	6.08
25	11.263	9.960	13.95	12.66	5.13	3.95	25	7.595	4.053	5.460	3.30	5.047	9.45
26	12.610	9.930	13.71	14.74	8.08	1.45	26	7.422	3.998	5.420	3.00	4.762	8.17
27	11.933	10.091	13.63	14.19	14.57	0.11	27	6.460	3.953	5.482	2.95	4.653	3.93
28	11.475	9.854	14.77	13.40	30.77	2.07	28	6.135	3.843	5.566	2.98	4.859	3.33
29	11.452	11.880	16.75	12.95	31.88	4.68	29	5.933	3.869	6.587	3.16	5.701	3.07
30	11.433	17.111	16.48	12.31	8.41	11.31	30	5.911	4.051	7.004	3.72	5.877	3.01
31		16.93		9.50	4.52		31		4.188		4.56	6.458	

Appendix 1 - Tables

Table 30 Flow Tables LLS, LLSM, 7S, WA, WB, LLO and IR8 7 Page(s)

<b>Water Level</b>			
<b>EMS ID: E292131</b>			
<b>Site LLS</b>			
<b>Water Level (m)</b>			
<b>Weeks</b>	<b>Level (m)</b>	<b>Weeks</b>	<b>Level</b>
1	0.010		
2	0.010		
3	0.010		
4	0.010		
5	0.010		
6	0.010		
7	0.010		
8	0.010		
9	0.010		
10	0.009		
11	0.009		
12	0.009		
13	0.009		
14	NF		
15	NF		
16	NF		
17	NF		
18	NF		
19	NF		
20	NF		
21	NF		
22	NF		
23	NF		
24	NF		
25	NF		
26	NF		
27			
28			
29			
30			
31			

Notes: **No flow = NF**

Appendix 1 - Tables

Table 30 Flow Tables LLS, LLSM, 7S, WA, WB, LLO and IR8 7 Page(s)

<b>Weekly Flow Requirements (L/s)</b>						
<b>EMS ID:</b>		<b>E292131</b>				
<b>Site</b>		<b>LLSM</b>				
<b>Flow (L/s)</b>						
<b>Date</b>	<b>Apr</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>
1	0.078	0.078	NF	NF	NF	NF
2	0.078	0.078	NF	NF	NF	NF
3	0.078	0.078	NF	NF	NF	NF
4	0.078	0.078	NF	NF	NF	NF
5	0.078	0.078	NF	NF	NF	NF
6	0.078	0.078	NF	NF	NF	NF
7	0.078	0.078	NF	NF	NF	NF
8	0.078	0.078	NF	NF	NF	NF
9	0.078	0.078	NF	NF	NF	NF
10	0.078	0.078	NF	NF	NF	NF
11	0.078	0.078	NF	NF	NF	NF
12	0.078	0.078	NF	NF	NF	NF
13	0.078	0.078	NF	NF	NF	NF
14	0.078	0.078	NF	NF	NF	NF
15	0.078	0.078	NF	NF	NF	NF
16	0.078	0.078	NF	NF	NF	NF
17	0.078	0.078	NF	NF	NF	NF
18	0.078	0.078	NF	NF	NF	NF
19	0.078	0.078	NF	NF	NF	NF
20	0.078	0.078	NF	NF	NF	NF
21	0.078	0.078	NF	NF	NF	NF
22	0.078	0.078	NF	NF	NF	NF
23	0.078	0.078	NF	NF	NF	NF
24	0.078	0.078	NF	NF	NF	NF
25	0.078	0.078	NF	NF	NF	NF
26	0.078	0.078	NF	NF	NF	NF
27	0.078	0.078	NF	NF	NF	NF
28	0.078	0.078	NF	NF	NF	NF
29	0.078	0.078	NF	NF	NF	NF
30	0.078	NF	NF	NF	NF	NF
31		NF		NF	NF	

Notes: **No flow = NF**

Appendix 1 - Tables

Table 30 Flow Tables LLS, LLSM, 7S, WA, WB, LLO and IR8 7 Page(s)

<b>Continuous Flow Requirements (L/s)</b>						
<b>EMS ID: E292109</b>						
<b>Site 7S</b>						
<b>Flow (L/S)</b>	<b>Estimated Flow</b>					
<b>Date</b>	<b>Apr</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>
1	0.86	1.03	NF	NF	NF	NF
2	0.86	0.88	NF	NF	NF	NF
3	0.84	0.76	NF	NF	NF	NF
4	0.76	0.65	NF	NF	NF	NF
5	0.78	1.06	NF	NF	NF	NF
6	1.74	0.50	NF	NF	NF	NF
7	2.50	1.64	NF	NF	NF	NF
8	1.91	1.34	NF	NF	NF	NF
9	5.81	1.13	NF	NF	NF	NF
10	12.06	1.09	NF	NF	NF	NF
11	7.36	0.90	NF	NF	NF	NF
12	5.17	0.73	NF	NF	NF	NF
13	3.60	0.61	NF	NF	NF	NF
14	3.06	0.49	NF	NF	NF	NF
15	2.24	0.35	NF	NF	NF	NF
16	2.13	0.05	NF	NF	NF	NF
17	4.61	0.24	NF	NF	NF	NF
18	18.00	0.17	NF	NF	NF	NF
19	14.08	0.15	NF	NF	NF	NF
20	20.49	0.13	NF	NF	NF	NF
21	26.55	0.10	NF	NF	NF	NF
22	13.21	0.09	NF	NF	NF	NF
23	7.52	0.07	NF	NF	NF	NF
24	4.09	0.04	NF	NF	NF	NF
25	3.24	0.02	NF	NF	NF	NF
26	2.76	0.01	NF	NF	NF	NF
27	2.62	0.01	NF	NF	NF	NF
28	2.00	NF	NF	NF	NF	NF
29	1.59	NF	NF	NF	NF	NF
30	1.16	NF	NF	NF	NF	NF
31		NF		NF	NF	

Notes: **No flow = NF**

Appendix 1 - Tables

Table 30 Flow Tables LLS, LLSM, 7S, WA, WB, LLO and IR8 7 Page(s)

<b>5 in 30 Flow Requirements</b>						
<b>EMS ID: 126402</b>						
<b>Site WA</b>						
<b>Flow (m<sup>3</sup>/s)</b>						
<b>Date</b>	<b>Apr</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>
1	2.17	1.75	1.35	0.72	0.52	0.76
2	2.18	1.33	1.36	0.73	0.53	0.76
3	2.18	1.32	1.36	0.74	0.53	0.76
4	2.18	1.32	1.36	0.74	0.53	0.76
5	2.18	1.23	1.36	0.73	0.53	0.76
6	2.18	1.05	1.36	0.73	0.53	0.76
7	2.18	1.13	1.36	0.73	0.53	0.76
8	2.17	1.14	1.36	0.73	0.62	0.75
9	2.20	1.15	1.36	0.73	0.71	0.75
10	2.22	1.16	1.36	0.73	0.73	0.75
11	2.22	1.17	1.36	0.73	0.75	0.76
12	2.21	1.40	1.37	0.73	0.78	0.76
13	2.20	1.44	1.33	0.73	0.78	0.75
14	2.20	1.47	1.27	0.72	0.78	0.75
15	2.20	1.47	1.25	0.72	0.78	0.75
16	2.21	1.48	1.25	0.72	0.78	0.76
17	2.24	1.49	1.25	0.73	0.78	0.77
18	2.26	1.49	1.24	0.72	0.78	0.76
19	2.26	1.49	1.23	0.65	0.78	0.77
20	2.27	1.48	1.08	0.58	0.78	0.77
21	2.28	1.47	1.23	0.57	0.77	0.76
22	2.27	1.46	1.22	0.57	0.77	0.75
23	2.26	1.46	1.05	0.56	0.77	0.75
24	2.25	1.44	1.08	0.56	0.76	0.75
25	2.23	1.42	1.12	0.55	0.76	0.76
26	2.25	1.41	1.14	0.54	0.76	0.73
27	2.25	1.41	1.10	0.53	0.76	0.72
28	2.24	1.40	1.14	0.53	0.77	0.70
29	2.24	1.39	1.11	0.53	0.77	0.80
30	2.24	1.37	0.93	0.53	0.77	0.96
31		1.35		0.53	0.77	
<b>Av</b>	2.22	1.37	1.25	0.66	0.71	0.76

Appendix 1 - Tables

Table 30 Flow Tables LLS, LLSM, 7S, WA, WB, LLO and IR8 7 Page(s)

<b>5 in 30 Flow Requirements (Level)</b>						
<b>EMS ID: 900504</b>						
<b>Site WB</b>						
<b>Average Level (m)</b>						
<b>Date</b>	<b>Apr</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>
1	0.5843	0.5913	0.5069	0.4615	0.3922	0.3800
2	0.5833	0.5597	0.5044	0.4507	0.3897	0.3861
3	0.5843	0.5409	0.5040	0.4412	0.3955	0.4120
4	0.5831	0.5326	0.5037	0.4390	0.3956	0.4498
5	0.5845	0.5298	0.5055	0.4373	0.3964	0.4172
6	0.5872	0.5031	0.5063	0.4349	0.3960	0.4167
7	0.5821	0.5227	0.5034	0.3508	0.3977	0.5243
8	0.5791	0.5257	0.5029	0.3049	0.4054	0.4467
9	0.5868	0.5277	0.5032	0.4426	0.4158	0.4101
10	0.6043	0.5319	0.5060	0.4305	0.4212	0.3931
11	0.6055	0.5303	0.5081	0.4312	0.4237	0.3826
12	0.6111	0.5312	0.5088	0.4243	0.4285	0.4120
13	0.6064	0.5381	0.5058	0.4299	0.4351	0.4403
14	0.6017	0.5393	0.4994	0.4303	0.4353	0.4433
15	0.5969	0.5354	0.4957	0.4307	0.4356	0.4405
16	0.5946	0.4994	0.4959	0.4310	0.4251	0.4530
17	0.6030	0.5316	0.4971	0.4248	0.4375	0.4446
18	0.6079	0.5240	0.4943	0.4286	0.4073	0.4435
19	0.6126	0.5243	0.4910	0.4282	0.3878	0.4453
20	0.6274	0.5232	0.4867	0.4201	0.3871	0.4486
21	0.6319	0.5210	0.4884	0.4150	0.3563	0.4432
22	0.6443	0.5190	0.4947	0.4096	0.3522	0.4437
23	0.6366	0.5167	0.4881	0.4080	0.4199	0.4132
24	0.6290	0.5158	0.4815	0.4061	0.4055	0.4361
25	0.6269	0.5145	0.4832	0.4054	0.3954	0.3772
26	0.6223	0.5129	0.4858	0.4086	0.4180	0.3514
27	0.6173	0.5110	0.4796	0.4055	0.4535	0.3075
28	0.6119	0.5109	0.4807	0.4028	0.5088	0.3612
29	0.6038	0.5099	0.4815	0.3990	0.5099	0.3908
30	0.5976	0.5069	0.4810	0.3971	0.4229	0.4367
31		0.4872		0.3961	0.3953	

Notes: Flow curve is being developed.

Appendix 1 - Tables

Table 30 Flow Tables LLS, LLSM, 7S, WA, WB, LLO and IR8 7 Page(s)

<b>5 in 30 Flow Requirements</b>						
<b>EMS ID: E219412</b>						
<b>Site LLO</b>						
<b>Average Level (m)</b>						
<b>Date</b>	<b>Apr</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>
1	0.3316	0.3602	0.2089	0.0816	NF	NF
2	0.3283	0.3475	0.2031	0.0750	NF	NF
3	0.3301	0.3360	0.1983	0.0631	NF	NF
4	0.3271	0.3272	0.1930	0.0560	NF	NF
5	0.3231	0.3288	0.1895	0.0513	NF	NF
6	0.3231	0.3302	0.1856	0.0429	NF	NF
7	0.3262	0.3719	0.1772	-0.0483	NF	NF
8	0.3200	0.3913	0.1742	-0.0993	NF	NF
9	0.3359	0.4002	0.1726	0.0331	NF	NF
10	0.4188	0.4027	0.1734	0.0129	NF	NF
11	0.4458	0.3863	0.1733	0.0084	NF	NF
12	0.4433	0.3698	0.1710	NF	NF	NF
13	0.4196	0.3615	0.1642	NF	NF	NF
14	0.3964	0.3527	0.1568	NF	NF	NF
15	0.3794	0.3370	0.1527	NF	NF	NF
16	0.3686	0.2883	0.1537	NF	NF	NF
17	0.3774	0.3105	0.1529	NF	NF	NF
18	0.4122	0.2948	0.1465	NF	NF	NF
19	0.4376	0.2871	0.1406	NF	NF	NF
20	0.4568	0.2777	0.1365	NF	NF	NF
21	0.4768	0.2676	0.1379	NF	NF	NF
22	0.4995	0.2578	0.1374	NF	NF	NF
23	0.4859	0.2515	0.1296	NF	NF	NF
24	0.4688	0.2473	0.1230	NF	NF	NF
25	0.4562	0.2436	0.1218	NF	NF	NF
26	0.4367	0.2369	0.1178	NF	NF	NF
27	0.4230	0.2280	0.1110	NF	NF	NF
28	0.4100	0.2241	0.1020	NF	NF	NF
29	0.3902	0.2190	0.0951	NF	NF	NF
30	0.3724	0.2106	0.0908	NF	NF	NF
31		0.1908		NF	NF	

Notes: Flow curve is being developed.

Appendix 1 - Tables

Table 30 Flow Tables LLS, LLSM, 7S, WA, WB, LLO and IR8 7 Page(s)

<b>5 in 30 Flow Requirements</b>						
<b>EMS ID: E297232</b>						
<b>Site IR8</b>						
<b>Average Level (m)</b>						
<b>Date</b>	<b>Apr</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>
1	0.91	1.16	0.81	0.67	0.63	0.58
2	0.90	1.17	0.79	0.67	0.63	0.59
3	0.89	1.20	0.79	0.66	0.64	0.61
4	0.88	1.18	0.78	0.66	0.64	0.64
5	0.88	1.23	0.77	0.66	0.63	0.61
6	0.90	1.24	0.77	0.66	0.63	0.61
7	0.98	1.24	0.76	0.57	0.64	0.72
8	1.01	1.21	0.75	0.52	0.66	0.64
9	1.20	1.19	0.75	0.66	0.70	0.60
10	1.31	1.17	0.75	0.65	0.70	0.58
11	1.16	1.13	0.74	0.65	0.68	0.58
12	1.10	1.13	0.74	0.64	0.67	0.62
13	1.06	1.15	0.73	0.64	0.66	0.65
14	1.03	1.15	0.72	0.64	0.65	0.65
15	1.01	1.14	0.72	0.64	0.65	0.64
16	1.01	1.09	0.72	0.64	0.63	0.65
17	1.03	1.10	0.72	0.64	0.64	0.64
18	1.06	1.06	0.71	0.64	0.61	0.64
19	1.08	1.03	0.70	0.64	0.58	0.65
20	1.11	1.00	0.70	0.64	0.58	0.67
21	1.14	0.98	0.70	0.64	0.55	0.66
22	1.12	0.95	0.70	0.63	0.54	0.66
23	1.10	0.93	0.69	0.64	0.62	0.62
24	1.09	0.91	0.69	0.64	0.60	0.65
25	1.08	0.90	0.69	0.65	0.59	0.64
26	1.11	0.89	0.68	0.65	0.61	0.75
27	1.15	0.88	0.68	0.65	0.64	0.72
28	1.15	0.86	0.67	0.64	0.70	0.76
29	1.19	0.85	0.67	0.64	0.71	0.75
30	1.20	0.83	0.67	0.64	0.62	0.77
31		0.80		0.64	0.60	

Notes: Flow curve is being developed.

Appendix 1 - Tables

Table 31 Precipitation 1 Page(s)

Daily Precipitation (mm)						
DATE	APRIL	MAY	JUNE	JULY	AUG	SEPT
1	0.0	0.0	0.0	0.0	1.1	2.6
2	0.8	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.7	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	1.1	19.0	0.0	0.0	0.0	0.0
6	9.0	5.0	0.0	0.0	0.0	0.7
7	0.6	1.5	0.0	0.0	0.1	0.3
8	0.5	0.4	0.0	0.0	0.0	0.1
9	23.0	0.0	0.0	0.0	15.5	0.0
10	1.6	0.0	2.8	0.0	3.1	0.0
11	1.9	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.2	3.3
13	0.7	0.0	0.0	0.0	0.1	4.5
14	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0
16	0.8	0.0	0.4	0.0	0.0	0.0
17	18.7	0.0	0.0	0.1	0.0	0.0
18	5.6	0.0	4.7	0.0	0.0	2.1
19	0.4	0.0	0.0	0.0	0.0	0.1
20	12.7	0.0	0.0	0.0	0.0	12.0
21	0.2	0.0	0.0	0.0	0.0	0.1
22	0.0	0.0	0.0	0.0	0.0	0.0
23	0.6	0.0	0.0	0.0	0.0	0.0
24	0.2	0.0	0.0	0.2	2.5	0.4
25	0.0	0.0	0.0	3.9	0.0	9.4
26	6.4	0.0	0.0	1.7	0.0	20.4
27	0.0	0.0	0.0	0.0	0.0	3.0
28	0.0	0.0	0.0	0.0	0.0	3.5
29	0.0	0.0	0.0	0.0	0.6	1.1
30	0.0	0.0	0.0	0.2	2.6	0.2
31		0.0		0.0	4.2	
<b>Monthly Total (mm)</b>	<b>84.80</b>	<b>25.90</b>	<b>7.90</b>	<b>6.10</b>	<b>30.70</b>	<b>63.80</b>
<b>Quarterly Total (mm)</b>	<b>118.60</b>				<b>100.60</b>	

Appendix 1 - Tables

Table 32 Groundwater Description 1 Page(s)

Groundwater Wells - Description				
Area	Groundwater ID	In-situ / Ex-situ	Screened Interval	Comment
2-North	1 Mains 2-North (1M2N)	In-situ	No. 1 Seam	Flooded depillared mine void in 1-Mains Area, dewatering well
	5 Mains#2 (5M#2)	In-situ	No. 1 Seam	Flooded depillared mine void in 5-Mains Area, dewatering well
	3 Mains 2-North (3M2N)	In-situ	No. 1 Seam	Flooded depillared mine void in 3-Mains Area, underground pump system
	QU08-21GD	Ex-situ	No. 1 Seam	Down gradient of u/g tailings disposal, measures water quality and hydraulic head downgradient from forjan fault
	QU08-21GS	Ex-situ	No. 4 Coal Seam and No. 1 Seam	
	QU10-10D	Ex-situ	No. 1 Seam / mudstone	Down gradient of u/g tailings disposal, measures water quality and hydraulic head, downgradient of 2 North workings
	QU10-10S	Ex-situ	No. 4 Seam /	
	QU10-11S	Ex-situ	Fractured Sandstone	Measures water quality and hydraulic gradient in Forjan Fault
	QU10-11D	Ex-situ	No.1 Seam	Down gradient of u/g tailings disposal, measures water quality and hydraulic head, downgradient of 2 North workings
QU10-13D	In-situ	Caved Zone	Down gradient of u/g tailings disposal, measures water quality and hydraulic head, downgradient of 2-North workings	
5-South MineVoid	QU0516W	In-situ	Flooded Mine Void (1 Seam)	5-South Flooded Mine Void
River Barrier Pillar (RBP)	QU11-05S	Ex-situ	Sandstone	Down gradient of u/g tailings disposal, measures water quality and hydraulic head, down gradient of 2-North workings
	QU11-05D	Ex-situ	Sandstone	Monitoring water quality and vertical gradients from of the RBP and 2-North mine.
	QU11-09S	Ex-situ	Sandstone	Monitoring water quality & upward vertical gradients of the RBP and 2-North workings. Mine pool – CCR backfill in River Barrier Pillar
	QU11-09M	In-situ	RBP Mine Pool	Monitoring water quality in the RBP and 2-North workings. Mine pool – CCR backfill in River Barrier Pillar.
2-North Plant Site	MW-00-1S	Ex-situ	Till	Shallow groundwater below coal pad
	MW-00-1D	Ex-situ	1-Seam	Deeper groundwater below the coal pad
	MW-00-6D	Ex-situ	Till	Deeper groundwater below the coal pad
	MW-00-6S	Ex-situ	Till	Shallow groundwater below coal pad
4-South	QU10-08D	Ex-situ	No. 3 Seam	4-South (just outside mine pool) up gradient of existing workings
	QU11-01	In-Situ	Foot print area of 4 South GOB	Assess 4-South flooded mine void water quality
	QU10-09S	Ex-situ	Down gradient of existing workings	Assess shallow vertical gradients and water quality adjacent to Long Lake
	QU10-09D	Ex-situ	Down gradient of existing workings	Assess deeper vertical gradients and water quality adjacent to Long Lake
2-South & 3-South	MW002	Ex-situ	1 Seam	3-South pit shallow groundwater
	MW004	In-Situ	Mine Pool (1 Seam)	2-South flooded mine void gob depillared area
	MW005	In-Situ	Mine Pool (1 Seam)	2-South mine pool gob depillared area
	QU11-11 (INF)	In-Situ	Mine Pool (1 Seam)	2-South mine pool dewatering well for Passive Treatment System
7-South	1M7SA5	In-Situ	No. 4 Coal Seam	Underground Sump
	QU08-10	Ex-situ	No. 4 Coal Seam	Downgradient of 7S - Screened No. 3 Coal - Southern margin of workings
	QU08-13A	Ex-situ	No. 4 Coal Seam	Downgradient of the CCR backfill towards QR
	QU08-13B	Ex-situ	Till & SST contact	Downgradient of the CCR backfill towards QR
	QU14-10	In-Situ	Mine Void	PAG-CCR water coover in mine void
7- South Area 5	7SA5	In-Situ	Sump	Underground Sump
	QU11-35	Ex-situ	Sandstone above No. 4 Seam	South end of 7SA5 footprint at 100280m N (mine grid)
	QU11-36S	Ex-situ	Sandstone below No. 5 seam	Downgradient of 7SA5
242 AREA	QU11-36D	Ex-situ	Sandstone below No. 5 seam	Downgradient of 7SA5
	242MW	In-situ	No. 4 Seam	Mine pool

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2				
Parameter	unit	Description Well ID	2 - 3 North GW	2 - 3 North GW
			QU0821G5	QU0821GD
		*Station Type	GW	GW
		Top Elev.	215.4279556	215.4279556
		Bottom Elev.	135.1279556	39.6279556
		Water Level (m)	0	0
		CSR	20-Jul-23	20-Jul-23
SO4-D	mg/L	1280	<1.0	<1.0
H2SEquiv	mg/L	0.02	0.0553	0.101
Cond-F	uS/cm		1108.7	3691.6
pH-F	pH Units		7.83	7.27
Temp-F	C		12.127	12.931
DO-F	mg/L			0.1
ORP-F	mV		-210.3	-137.5
Turb	NTU		1.4	2.6
Alk-T	mg/L		200	200
Acidity83	mg/L		<1.0	2.7
N-D	mg/L		0.219	0.442
DOC	mg/L		0.92	0.82
Hydrox	mg/L		<1.0	<1.0
Bicarb	mg/L		240	250
Carb	mg/L		<1.0	<1.0
Cl-D	mg/L	1500	210	1100
F-D	mg/L		1.7	1.0
**Flu-CSR	mg/L		3.00	3.00
Br-D	mg/L		0.26	1.49
P-D	mg/L		0.17	0.12
Al-D	mg/L		<0.0030	<0.015
Ag-D	mg/L		<0.000020	<0.00010
**Ag-CSR	mg/L		0.000500	0.0150
As-D	mg/L	0.05	0.246	0.178
Ba-D	mg/L	10	0.704	2.63
B-D	mg/L	50	2.02	2.90
Be-D	mg/L	0.053	<0.00010	<0.00050
Bi-D	mg/L		<0.0010	<0.0050
Cd-D	mg/L		<0.000010	<0.000050
**Cd-CSR	mg/L		0.000500	0.000600
Ca-D	mg/L		29.1	120
Cr-D	mg/L	0.010	<0.0010	<0.0050
Co-D	mg/L	0.009	<0.00020	<0.0010
Cu-D	mg/L		<0.00020	<0.0010
**Cu-CSR	mg/L		0.0400	0.0900
Fe-D	mg/L		1.14	1.50
Hard-D	mg/L		93.3	360
Pb-D	mg/L		<0.00020	<0.0010
**Pb-CSR	mg/L		0.0500	0.160
Mg-D	mg/L		4.99	14.4
Mn-D	mg/L		0.0702	0.128
Na-D	mg/L		168	579
Mo-D	mg/L	10	<0.0010	<0.0050
Ni-D	mg/L		<0.0010	<0.0050
**Ni-CSR	mg/L		0.650	1.50
K-D	mg/L		4.49	8.65
S-D	mg/L		<3.0	<15
Sb-D	mg/L	0.2	<0.00050	<0.0025
Se-D	mg/L	0.01	<0.00010	<0.00050
Si-D	mg/L		3.65	4.56
Sr-D	mg/L		0.721	2.38
Tl-D	mg/L	0.003	<0.000010	<0.000050
Ti-D	mg/L	1.00	<0.0050	<0.025
U-D	mg/L	3	<0.00010	<0.00050
V-D	mg/L		<0.0050	<0.025
Zn-D	mg/L		<0.0050	<0.025
**Zn-CSR	mg/L		0.150	2.400

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2						
Parameter	unit	Description Well ID	RBP and 2N	RBP and 2N	RBP shallow	RBP
			QU11055	QU1105D	QU1109S	QU1109M
		*Station Type	GW	GW	GW	GW
		Top Elev.	228.95	228.95	226.897	226.897
		Bottom Elev.	195.383	98.65	202.097	143.032
		Water Level (m)	26.94	28.27	5.635	31.78
		CSR	3-Aug-23	3-Aug-23	10-Aug-23	10-Aug-23
SO4-D	mg/L	1280	18	160	120	460
H2SEquiv	mg/L	0.02	<b>0.117</b>	<b>43.6</b>	<b>2.76</b>	0.0191
Cond-F	uS/cm		177.8	4509	1437	1932
pH-F	pH Units		7.31	7.68	7.96	7.1
Temp-F	C		11.3	10.5	9.7	9.2
DO-F	mg/L		0.2	0.33	0.22	1.11
ORP-F	mV		-6.8	-246.9	-39.8	3
Turb	NTU		0.71	0.68	11	43
Alk-T	mg/L		66	410	510	490
Acidity83	mg/L		<1.0	<1.0	<1.0	21.1
N-D	mg/L		0.079	0.413	0.453	0.291
DOC	mg/L		1.2	6.9	1.2	0.91
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		80	430	580	600
Carb	mg/L		<1.0	30	18	<1.0
Cl-D	mg/L	1500	<1.0	1200	58	31
F-D	mg/L		0.090	0.076	0.68	0.11
**Flu-CSR	mg/L		2.00	3.00	3.00	3.00
Br-D	mg/L		<0.010	2.08	0.41	0.39
P-D	mg/L		0.010	0.34	0.059	0.0052
Al-D	mg/L		<0.0030	<0.015	<0.0030	<0.0060
Ag-D	mg/L		<0.00020	<0.00010	<0.00020	<0.000040
**Ag-CSR	mg/L		0.000500	0.0150	0.000500	0.0150
As-D	mg/L	0.05	0.0165	0.00258	<b>0.119</b>	0.00484
Ba-D	mg/L	10	0.0397	0.137	0.0554	0.0138
B-D	mg/L	50	0.132	0.61	2.11	0.94
Be-D	mg/L	0.053	<0.00010	<0.00050	<0.00010	<0.00020
Bi-D	mg/L		<0.0010	<0.0050	<0.0010	<0.0020
Cd-D	mg/L		<0.000010	<0.000050	<0.000010	<0.000020
**Cd-CSR	mg/L		0.000300	0.000600	0.000300	0.000600
Ca-D	mg/L		13.2	113	17.1	93.3
Cr-D	mg/L	0.010	<0.0010	<0.0050	<0.0010	<0.0020
Co-D	mg/L	0.009	<0.00020	<0.0010	<0.00020	<0.00040
Cu-D	mg/L		<0.00020	<0.0010	<0.00020	<0.00040
**Cu-CSR	mg/L		0.0200	0.0900	0.0300	0.0900
Fe-D	mg/L		0.175	<0.025	0.0409	4.99
Hard-D	mg/L		41.6	299	59.0	272
Pb-D	mg/L		<0.00020	<0.0010	<0.00020	<0.00040
**Pb-CSR	mg/L		0.0400	0.110	0.0500	0.110
Mg-D	mg/L		2.09	3.96	3.98	9.49
Mn-D	mg/L		0.0202	0.127	0.0202	0.185
Na-D	mg/L		16.6	792	292	346
Mo-D	mg/L	10	<0.0010	<0.0050	<0.0010	0.0024
Ni-D	mg/L		<0.0010	<0.0050	<0.0010	<0.0020
**Ni-CSR	mg/L		0.250	1.50	0.250	1.50
K-D	mg/L		0.736	4.16	3.60	4.77
S-D	mg/L		6.5	122	44.8	173
Sb-D	mg/L	0.2	<0.00050	<0.0025	<0.00050	<0.0010
Se-D	mg/L	0.01	<0.00010	<b>0.0480</b>	0.00060	<0.00020
Si-D	mg/L		2.10	6.46	5.32	3.64
Sr-D	mg/L		0.114	1.37	0.347	1.13
Tl-D	mg/L	0.003	<0.000010	<0.000050	<0.000010	<0.000020
Ti-D	mg/L	1.00	<0.0050	<0.025	<0.0050	<0.010
U-D	mg/L	3	<0.00010	<0.00050	<0.00010	<0.00020
V-D	mg/L		<0.0050	<0.025	<0.0050	<0.010
Zn-D	mg/L		<0.0050	<0.025	<0.0050	<0.010
**Zn-CSR	mg/L		0.075	1.650	0.075	1.650

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2					
Parameter	unit	Description Well ID	75 GW MW	75 GW MW	75 GW MW
			QU0813A	QU0813A-Rep	QU0813B
*Station Type			GW	GW	GW
Top Elev.			221.0979556	221.0979556	221.0979556
Bottom Elev.			168.9979556	168.9979556	194.6979556
Water Level (m)			13.65	13.65	16.59
			27-Jul-23	27-Jul-23	27-Jul-23
CSR					
SO4-D	mg/L	1280	61	60	44
H2SEquiv	mg/L	0.02	0.202	0.223	0.0276
Cond-F	uS/cm		502.8	502.8	289.1
pH-F	pH Units		7.74	7.74	7.97
Temp-F	C		9.3	9.3	9.7
DO-F	mg/L		0.06	0.06	0.38
ORP-F	mV		23.9	23.9	26.6
Turb	NTU		2.3	1.9	2.2
Alk-T	mg/L		210	210	120
Acidity83	mg/L		<1.0	7.5	<1.0
N-D	mg/L		0.216	0.243	0.137
DOC	mg/L		0.60	0.67	0.68
Hydrox	mg/L		<1.0	<1.0	<1.0
Bicarb	mg/L		260	260	150
Carb	mg/L		<1.0	<1.0	<1.0
Cl-D	mg/L	1500	14	14	1.2
F-D	mg/L		0.71	0.73	0.40
**Flu-CSR	mg/L		3.00	3.00	3.00
Br-D	mg/L		0.027	0.027	<0.010
P-D	mg/L		0.11	0.12	0.22
Al-D	mg/L		<0.0030	<0.0030	0.0037
Ag-D	mg/L		<0.000020	<0.000020	<0.000020
**Ag-CSR	mg/L		0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.375	0.374	0.546
Ba-D	mg/L	10	0.164	0.164	0.0626
B-D	mg/L	50	0.806	0.813	0.292
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00010
Bi-D	mg/L		<0.0010	<0.0010	<0.0010
Cd-D	mg/L		<0.000010	<0.000010	<0.000010
**Cd-CSR	mg/L		0.000600	0.000500	0.000500
Ca-D	mg/L		42.9	42.3	33.9
Cr-D	mg/L	0.010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.009	<0.00020	<0.00020	<0.00020
Cu-D	mg/L		<0.00020	<0.00020	<0.00020
**Cu-CSR	mg/L		0.0700	0.0600	0.0500
Fe-D	mg/L		0.174	0.167	0.197
Hard-D	mg/L		150	149	109
Pb-D	mg/L		<0.00020	<0.00020	<0.00020
**Pb-CSR	mg/L		0.0600	0.0600	0.0600
Mg-D	mg/L		10.4	10.5	5.93
Mn-D	mg/L		0.0337	0.0339	0.0725
Na-D	mg/L		62.0	62.1	24.7
Mo-D	mg/L	10	<0.0010	<0.0010	0.0022
Ni-D	mg/L		<0.0010	<0.0010	<0.0010
**Ni-CSR	mg/L		1.10	1.10	0.650
K-D	mg/L		2.43	2.47	1.43
S-D	mg/L		20.7	20.6	12.6
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	0.00052	0.00063	<0.00010
Si-D	mg/L		3.86	3.77	4.17
Sr-D	mg/L		0.599	0.600	0.281
Tl-D	mg/L	0.003	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	1.00	<0.0050	<0.0050	<0.0050
U-D	mg/L	3	<0.00010	<0.00010	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.0050
Zn-D	mg/L		<0.0050	<0.0050	<0.0050
**Zn-CSR	mg/L		0.900	0.900	0.900

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2					
Parameter	unit	Description Well ID	4S GW MW	4S GW MW	4S GW MW
			QU10095	QU1009D	QU1009D- Rep
		*Station Type	GW	GW	GW
		Top Elev.	303.8	303.8	303.8
		Bottom Elev.	288.3	265.3	265.3
		Water Level (m)	4.21	4.94	4.94
		CSR	10-Aug-23	14-Aug-23	14-Aug-23
SO4-D	mg/L	1280	99	64	63
H2SEquiv	mg/L	0.02	0.00638	0.106	0.103
Cond-F	uS/cm		504.2	456.1	456.1
pH-F	pH Units		6.96	7.52	7.52
Temp-F	C		9.7	9.8	9.8
DO-F	mg/L		0.68	0.31	0.31
ORP-F	mV		38.2	46.4	46.4
Turb	NTU		44	4.5	4.4
Alk-T	mg/L		130	180	190
Acidity83	mg/L		8.6	<1.0	<1.0
N-D	mg/L		0.088	0.147	0.146
DOC	mg/L		1.4	1.1	1.1
Hydrox	mg/L		<1.0	<1.0	<1.0
Bicarb	mg/L		160	220	230
Carb	mg/L		<1.0	<1.0	<1.0
Cl-D	mg/L	1500	<1.0	1.1	1.3
F-D	mg/L		0.066	0.28	0.28
**Flu-CSR	mg/L		3.00	3.00	3.00
Br-D	mg/L		0.021	<0.010	<0.010
P-D	mg/L		0.037	0.050	0.041
Al-D	mg/L		<0.0030	<0.0030	<0.0030
Ag-D	mg/L		<0.000020	<0.000020	<0.000020
**Ag-CSR	mg/L		0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.0925	0.115	0.116
Ba-D	mg/L	10	0.123	0.126	0.126
B-D	mg/L	50	0.063	0.507	0.534
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00010
Bi-D	mg/L		<0.0010	<0.0010	<0.0010
Cd-D	mg/L		<0.000010	<0.000010	<0.000010
**Cd-CSR	mg/L		0.000600	0.000600	0.000600
Ca-D	mg/L		66.7	49.0	49.2
Cr-D	mg/L	0.010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.009	<0.00020	<0.00020	<0.00020
Cu-D	mg/L		<0.00020	<0.00020	<0.00020
**Cu-CSR	mg/L		0.0900	0.0700	0.0700
Fe-D	mg/L		4.05	0.448	0.438
Hard-D	mg/L		207	162	163
Pb-D	mg/L		<0.00020	<0.00020	<0.00020
**Pb-CSR	mg/L		0.110	0.0600	0.0600
Mg-D	mg/L		9.89	9.72	9.81
Mn-D	mg/L		0.324	0.0421	0.0421
Na-D	mg/L		8.76	37.6	38.0
Mo-D	mg/L	10	<0.0010	<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010	<0.0010
**Ni-CSR	mg/L		1.50	1.10	1.10
K-D	mg/L		0.661	1.71	1.67
S-D	mg/L		35.7	20.2	20.5
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	<0.00010	<0.00010	<0.00010
Si-D	mg/L		9.20	9.66	9.74
Sr-D	mg/L		0.262	0.930	0.934
Tl-D	mg/L	0.003	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	1.00	<0.0050	<0.0050	<0.0050
U-D	mg/L	3	<0.00010	<0.00010	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.0050
Zn-D	mg/L		<0.0050	<0.0050	<0.0050
**Zn-CSR	mg/L		1.650	0.900	0.900

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2						
Parameter	unit	Description Well ID	2N Flooded Mine Void	2N GW MW	2N MW	2N MW
			5M#2	QU1013D	3M2N	3M2N
		*Station Type	MW	GW	MW	MW
		Top Elev.	268.22	270.68		
		Bottom Elev.	138.69	127.68		
		Water Level (m)	85.47	74.83		
		CSR	21-Aug-23	16-Aug-23	19-Jul-23	19-Sep-23
SO4-D	mg/L	1280	160	210	800	800
H2SEquiv	mg/L	0.02	0.0181	<b>0.0659</b>		0.000957
Cond-F	uS/cm		1498	1663	2100	2330
pH-F	pH Units		7.27	7.05	7.25	7.09
Temp-F	C		14.6	9.9	13.5	10.4
DO-F	mg/L			0.99		
ORP-F	mV			87.6		
Turb	NTU			6.8	0.18	14
Alk-T	mg/L		580	540	290	390
Acidity83	mg/L		<1.0	9.7	5.2	2.0
N-D	mg/L		0.150	0.359	0.071	0.229
DOC	mg/L		0.87	1.4	0.52	0.68
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		700	660	350	480
Carb	mg/L		<1.0	<1.0	<1.0	<1.0
Cl-D	mg/L	1500	15	49	11	3.5
F-D	mg/L		0.085	0.12	0.10	0.14
**Flu-CSR	mg/L		3.00	3.00	3.00	3.00
Br-D	mg/L		<0.50	<0.10	<0.10	<0.10
P-D	mg/L		0.0036	0.014	<0.0030	<0.0030
Al-D	mg/L		<0.0030	<0.0030	<0.0060	<0.0030
Ag-D	mg/L		<0.000020	<0.000020	<0.000040	<0.000020
**Ag-CSR	mg/L		0.0150	0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.00725	0.00096	<0.00020	0.00029
Ba-D	mg/L	10	0.0305	0.0366	0.0108	0.0155
B-D	mg/L	50	0.895	1.04	0.76	0.750
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00020	<0.00010
Bi-D	mg/L		<0.0010	<0.0010	<0.0020	<0.0010
Cd-D	mg/L		<0.000010	<0.000010	<0.000020	<0.000010
**Cd-CSR	mg/L		0.000600	0.000600	0.000600	0.000600
Ca-D	mg/L		63.6	64.5	210	142
Cr-D	mg/L	0.010	<0.0010	<0.0010	<0.0020	<0.0010
Co-D	mg/L	0.009	<0.00020	<0.00020	<0.00040	0.00074
Cu-D	mg/L		<0.00020	<0.00020	0.00075	<0.00020
**Cu-CSR	mg/L		0.0800	0.0800	0.0900	0.0900
Fe-D	mg/L		0.633	1.36	<0.010	0.0332
Hard-D	mg/L		184	187	597	438
Pb-D	mg/L		<0.00020	<0.00020	<0.00040	<0.00020
**Pb-CSR	mg/L		0.0600	0.0600	0.160	0.160
Mg-D	mg/L		6.11	6.41	17.9	20.4
Mn-D	mg/L		0.152	0.256	0.0055	0.182
Na-D	mg/L		240	285	204	336
Mo-D	mg/L	10	<0.0010	<0.0010	<0.0020	<0.0010
Ni-D	mg/L		<0.0010	<0.0010	<0.0020	0.0014
**Ni-CSR	mg/L		1.50	1.50	1.50	1.50
K-D	mg/L		2.64	3.69	3.56	3.78
S-D	mg/L		53.2	75.1	257	303
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.0010	<0.00050
Se-D	mg/L	0.01	<0.00010	<0.00010	<0.00020	<0.00010
Si-D	mg/L		3.50	3.95	2.88	3.19
Sr-D	mg/L		0.761	0.714	1.47	1.69
Tl-D	mg/L	0.003	<0.000010	<0.000010	<0.000020	<0.000010
Ti-D	mg/L	1.00	<0.0050	<0.0050	<0.010	<0.0050
U-D	mg/L	3	<0.00010	<0.00010	<0.00020	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.010	<0.0050
Zn-D	mg/L		<0.0050	<0.0050	<0.010	<0.0050
**Zn-CSR	mg/L		0.900	0.900	2.400	2.400

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2					
Parameter	unit	Description Well ID	Passive Treatment System (PTS) Influent from 25 Flooded Mine Void		
			INF	INF	INF
		*Station Type	MW	MW	MW
		Top Elev.	353.5	353.5	353.5
		Bottom Elev.	291	291	291
		Water Level (m)	7.4	8	6.3
		CSR	10-Jul-23	2-Aug-23	5-Sep-23
SO4-D	mg/L	1280	600	600	540
H2SEquiv	mg/L	0.02	0.000957	0.00287	0.00266
Cond-F	uS/cm		1578	1668	1792
pH-F	pH Units		7.35	7.07	6.85
Temp-F	C		12.2	10.9	10.3
DO-F	mg/L				
ORP-F	mV				
Turb	NTU				37
Alk-T	mg/L		250	260	300
Acidity83	mg/L		15.4	2.0	7.5
N-D	mg/L				
DOC	mg/L				
Hydrox	mg/L		<1.0	<1.0	<1.0
Bicarb	mg/L		310	310	370
Carb	mg/L		<1.0	<1.0	<1.0
Cl-D	mg/L	1500			
F-D	mg/L				
**Flu-CSR	mg/L		3.00	3.00	3.00
Br-D	mg/L				
P-D	mg/L				
Al-D	mg/L		<0.0030	<0.0030	<0.0030
Ag-D	mg/L		<0.000020	<0.000020	<0.000020
**Ag-CSR	mg/L		0.0150	0.0150	0.0150
As-D	mg/L	0.05	0.00418	0.00438	0.00488
Ba-D	mg/L	10	0.0205	0.0196	0.0207
B-D	mg/L	50	0.645	0.639	0.720
Be-D	mg/L	0.053	<0.00010	<0.00010	<0.00010
Bi-D	mg/L		<0.0010	<0.0010	<0.0010
Cd-D	mg/L		<0.000010	0.000019	<0.000010
**Cd-CSR	mg/L		0.000600	0.000600	0.000600
Ca-D	mg/L		238	239	218
Cr-D	mg/L	0.010	<0.0010	<0.0010	<0.0010
Co-D	mg/L	0.009	0.00060	0.00059	0.00056
Cu-D	mg/L		<0.00020	<0.00020	<0.00020
**Cu-CSR	mg/L		0.0900	0.0900	0.0900
Fe-D	mg/L		2.77	2.78	2.90
Hard-D	mg/L		669	666	612
Pb-D	mg/L		<0.00020	<0.00020	<0.00020
**Pb-CSR	mg/L		0.160	0.160	0.160
Mg-D	mg/L		17.9	17.0	16.2
Mn-D	mg/L		0.347	0.343	0.382
Na-D	mg/L		102	110	107
Mo-D	mg/L	10	<0.0010	<0.0010	<0.0010
Ni-D	mg/L		<0.0010	<0.0010	<0.0010
**Ni-CSR	mg/L		1.50	1.50	1.50
K-D	mg/L		2.03	1.90	1.94
S-D	mg/L		226	230	210
Sb-D	mg/L	0.2	<0.00050	<0.00050	<0.00050
Se-D	mg/L	0.01	0.00020	<0.00010	<0.00010
Si-D	mg/L		3.32	3.15	3.28
Sr-D	mg/L		2.37	2.06	2.13
Tl-D	mg/L	0.003	<0.000010	<0.000010	<0.000010
Ti-D	mg/L	1.00	<0.0050	<0.0050	<0.0050
U-D	mg/L	3	<0.00010	<0.00010	<0.00010
V-D	mg/L		<0.0050	<0.0050	<0.0050
Zn-D	mg/L		<0.0050	<0.0050	<0.0050
**Zn-CSR	mg/L		2.400	2.400	2.400

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2					
Parameter	unit	Description Well ID	35 Pit GW	25 Flooded Mine Void	
			MW002	MW004	MW004 - Rep
		*Station Type	GW	MW	MW
		Top Elev.	325	347.8	347.8
		Bottom Elev.		298.1	298.1
		Water Level (m)		46.95	46.95
		CSR	11-Sep-23	28-Aug-23	28-Aug-23
SO4-D	mg/L	<b>1280</b>	1200	380	380
H2SEquiv	mg/L	<b>0.02</b>	0.000957	0.000957	0.000957
Cond-F	uS/cm			1178	1178
pH-F	pH Units			7.03	7.03
Temp-F	C			15.1	15.1
DO-F	mg/L			0.68	0.68
ORP-F	mV			74.5	74.5
Turb	NTU		21	1.3	1.6
Alk-T	mg/L		280	160	160
Acidity83	mg/L		29.1	3.3	8.3
N-D	mg/L		0.311	0.121	0.426
DOC	mg/L		1.0	2.0	1.9
Hydrox	mg/L		<1.0	<1.0	<1.0
Bicarb	mg/L		340	190	190
Carb	mg/L		<1.0	<1.0	<1.0
Cl-D	mg/L	<b>1500</b>	1.6	<1.0	<1.0
F-D	mg/L		0.11	0.083	0.084
**Flu-CSR	mg/L		3.000	3.00	3.00
Br-D	mg/L		<0.10	<1.0	<0.10
P-D	mg/L		0.0048	0.0038	0.0031
Al-D	mg/L		<0.015	0.0034	0.0039
Ag-D	mg/L		<0.00010	<0.00020	<0.00020
**Ag-CSR	mg/L		0.01500	0.0150	0.0150
As-D	mg/L	<b>0.05</b>	0.00204	0.00066	0.00068
Ba-D	mg/L	<b>10</b>	0.0141	0.0368	0.0369
B-D	mg/L	<b>50</b>	0.81	0.221	0.228
Be-D	mg/L	<b>0.053</b>	<0.00050	<0.00010	<0.00010
Bi-D	mg/L		<0.0050	<0.0010	<0.0010
Cd-D	mg/L		<0.000050	<0.000010	<0.000010
**Cd-CSR	mg/L		0.0006000	0.000600	0.000600
Ca-D	mg/L		447	162	166
Cr-D	mg/L	<b>0.010</b>	<0.0050	<0.0010	<0.0010
Co-D	mg/L	<b>0.009</b>	0.0032	0.00062	0.00061
Cu-D	mg/L		<0.0010	0.00063	0.00049
**Cu-CSR	mg/L		0.09000	0.0900	0.0900
Fe-D	mg/L		4.66	0.0339	0.0316
Hard-D	mg/L		1320	480	489
Pb-D	mg/L		<0.0010	<0.00020	<0.00020
**Pb-CSR	mg/L		0.1600	0.160	0.160
Mg-D	mg/L		48.9	18.5	18.3
Mn-D	mg/L		1.66	0.0972	0.0940
Na-D	mg/L		53.2	41.9	41.9
Mo-D	mg/L	<b>10</b>	<0.0050	<0.0010	<0.0010
Ni-D	mg/L		<0.0050	0.0012	0.0011
**Ni-CSR	mg/L		1.500	1.50	1.50
K-D	mg/L		5.27	1.63	1.63
S-D	mg/L		442	138	137
Sb-D	mg/L	<b>0.2</b>	<0.0025	<0.00050	<0.00050
Se-D	mg/L	<b>0.01</b>	<0.00050	<0.00010	<0.00010
Si-D	mg/L		3.63	2.81	2.81
Sr-D	mg/L		4.38	1.29	1.26
Tl-D	mg/L	<b>0.003</b>	<0.000050	<0.000010	<0.000010
Ti-D	mg/L	<b>1.00</b>	<0.025	<0.0050	<0.0050
U-D	mg/L	<b>3</b>	<0.00050	<0.00010	<0.00010
V-D	mg/L		<0.025	<0.0050	<0.0050
Zn-D	mg/L		<0.025	0.0067	0.0066
**Zn-CSR	mg/L		2.400	2.400	2.400

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2							
Parameter	Description Well ID	unit	75 PAG-CCR Water Cover	242 Flooded Mine Void	75 UG Sump	75 UG Sump	
			QU1410	242MW	1M7SA5	1M7SA5	
			MW	MW	MW	MW	
			Top Elev.	240.832	290		
			Bottom Elev.	209.432	256.5		
			Water Level (m)	8.94	23.01		
			CSR	27-Jul-23	1-Aug-23	19-Jul-23	19-Sep-23
SO4-D	mg/L	1280	1900	27	130	180	
H2SEquiv	mg/L	0.02	0.000957	0.0191		0.000957	
Cond-F	uS/cm		2792	295.4	504	700	
pH-F	pH Units		6.71	6.73	7.13	7.24	
Temp-F	C		11.7	10.5	17.7	9.6	
DO-F	mg/L		1.37	1.07			
ORP-F	mV		64.1	40.6			
Turb	NTU		8.0	74	0.59	0.71	
Alk-T	mg/L		320	99	140	140	
Acidity <sup>83</sup>	mg/L		39.6	13.1	7.0	<1.0	
N-D	mg/L		0.204	0.111	0.255	0.463	
DOC	mg/L		1.2	0.99	1.0	0.63	
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0	
Bicarb	mg/L		390	120	170	170	
Carb	mg/L		<1.0	<1.0	<1.0	<1.0	
Cl-D	mg/L	1500	4.9	<1.0	1.3	<1.0	
F-D	mg/L		<0.050	0.068	0.51	0.48	
**Flu-CSR	mg/L		3.000	3.00	3.00	3.00	
Br-D	mg/L		<0.10	<0.010	<0.010	<0.010	
P-D	mg/L		0.019	0.033	0.0033	0.0038	
Al-D	mg/L		<0.015	<0.0030	0.0117	0.0068	
Ag-D	mg/L		<0.00010	<0.000020	<0.000020	<0.000020	
**Ag-CSR	mg/L		0.01500	0.0150	0.0150	0.0150	
As-D	mg/L	0.05	0.108	0.125	0.00512	0.0240	
Ba-D	mg/L	10	0.0146	0.0771	0.155	0.137	
B-D	mg/L	50	1.05	0.059	0.520	0.566	
Be-D	mg/L	0.053	<0.00050	<0.00010	<0.00010	<0.00010	
Bi-D	mg/L		<0.0050	<0.0010	<0.0010	<0.0010	
Cd-D	mg/L		<0.000050	<0.000010	<0.000010	<0.000010	
**Cd-CSR	mg/L		0.0006000	0.000500	0.000600	0.000600	
Ca-D	mg/L		534	43.4	61.7	72.6	
Cr-D	mg/L	0.010	<0.0050	<0.0010	<0.0010	<0.0010	
Co-D	mg/L	0.009	<0.0010	0.00060	0.00068	0.00041	
Cu-D	mg/L		<0.0010	<0.00020	0.00158	0.00029	
**Cu-CSR	mg/L		0.09000	0.0500	0.0900	0.0900	
Fe-D	mg/L		2.73	14.8	0.114	0.0548	
Hard-D	mg/L		2100	123	218	269	
Pb-D	mg/L		<0.0010	<0.00020	<0.00020	<0.00020	
**Pb-CSR	mg/L		0.1600	0.0600	0.110	0.110	
Mg-D	mg/L		187	3.48	15.6	21.3	
Mn-D	mg/L		1.52	0.563	0.0397	0.0216	
Na-D	mg/L		60.6	2.18	20.3	21.3	
Mo-D	mg/L	10	<0.0050	<0.0010	<0.0010	<0.0010	
Ni-D	mg/L		<0.0050	<0.0010	0.0029	0.0022	
**Ni-CSR	mg/L		1.500	1.10	1.50	1.50	
K-D	mg/L		7.33	0.427	2.26	2.31	
S-D	mg/L		619	10.4	48.1	61.3	
Sb-D	mg/L	0.2	<0.0025	<0.00050	<0.00050	<0.00050	
Se-D	mg/L	0.01	<0.00050	<0.00010	<0.00010	<0.00010	
Si-D	mg/L		3.28	3.81	4.76	4.37	
Sr-D	mg/L		4.58	0.0651	0.637	0.718	
Tl-D	mg/L	0.003	<0.000050	<0.000010	0.000014	0.000011	
Ti-D	mg/L	1.00	<0.025	<0.0050	<0.0050	<0.0050	
U-D	mg/L	3	0.00082	<0.00010	<0.00010	<0.00010	
V-D	mg/L		<0.025	<0.0050	<0.0050	<0.0050	
Zn-D	mg/L		<0.025	<0.0050	0.0089	<0.0050	
**Zn-CSR	mg/L		2.400	0.900	1.650	1.650	

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 33 Groundwater 9 Page(s)

Groundwater Q2						
Parameter	Description Well ID	unit	75 UG Sump		Tailings Dam Seepage	
			75A5	TDF	QU0516W	55 Flooded Mine Void QU0516W
			MW	EFF	GW	GW
	*Station Type					
	Top Elev.				309.346	309.346
	Bottom Elev.				183.996	183.996
	Water Level (m)				70.25	72.8
			19-Sep-23	10-Jul-23	19-Jul-23	24-Aug-23
SO4-D	mg/L	1280	130	1500	140	86
H2SEquiv	mg/L	0.02	0.000957		0.542	0.489
Cond-F	uS/cm		599	2820	819	1017
pH-F	pH Units		7.02	7.87	8.26	8.24
Temp-F	C		11.6	15.5	8	10.3
DO-F	mg/L				0.33	0.38
ORP-F	mV				-6.4	30.1
Turb	NTU		2.4		0.36	1.9
Alk-T	mg/L		150	330	340	360
Acidity <sup>83</sup>	mg/L		4.3	12.2	<1.0	<1.0
N-D	mg/L		0.366		0.111	0.312
DOC	mg/L		0.50		0.82	22
Hydrox	mg/L		<1.0	<1.0	<1.0	<1.0
Bicarb	mg/L		180	400	400	410
Carb	mg/L		<1.0	<1.0	8.7	16
Cl-D	mg/L	1500	1.5		34	32
F-D	mg/L		0.57		1.6	1.6
**Flu-CSR	mg/L		3.00	3.000	2.00	2.00
Br-D	mg/L		<0.010		<0.10	<1.0
P-D	mg/L		0.029		0.12	0.22
Al-D	mg/L		0.0362	<0.015	<0.0060	0.0062
Ag-D	mg/L		<0.00020	<0.00010	<0.00040	<0.00040
**Ag-CSR	mg/L		0.0150	0.01500	0.000500	0.000500
As-D	mg/L	0.05	0.185	<0.00050	0.0165	0.0331
Ba-D	mg/L	10	0.117	0.0100	0.0558	0.0481
B-D	mg/L	50	0.634	0.96	3.25	3.24
Be-D	mg/L	0.053	<0.00010	<0.00050	<0.00020	<0.00020
Bi-D	mg/L		<0.0010	<0.0050	<0.0020	<0.0020
Cd-D	mg/L		<0.000010	<0.000050	<0.000020	<0.000020
**Cd-CSR	mg/L		0.000600	0.0006000	0.000100	0.000100
Ca-D	mg/L		56.3	447	9.18	8.29
Cr-D	mg/L	0.010	<0.0010	<0.0050	<0.0020	<0.0020
Co-D	mg/L	0.009	0.00026	<0.0010	<0.00040	<0.00040
Cu-D	mg/L		0.00034	<0.0010	<0.00040	<0.00040
**Cu-CSR	mg/L		0.0900	0.09000	0.0200	0.0200
Fe-D	mg/L		0.0623	<0.025	0.055	0.040
Hard-D	mg/L		207	1310	27.3	24.3
Pb-D	mg/L		<0.00020	<0.0010	<0.00040	<0.00040
**Pb-CSR	mg/L		0.110	0.1600	0.0400	0.0400
Mg-D	mg/L		16.1	45.8	1.06	0.88
Mn-D	mg/L		0.0075	0.0261	0.0542	0.0528
Na-D	mg/L		24.4	254	221	202
Mo-D	mg/L	10	0.0011	<0.0050	<0.0020	<0.0020
Ni-D	mg/L		0.0020	<0.0050	<0.0020	<0.0020
**Ni-CSR	mg/L		1.50	1.500	0.250	0.250
K-D	mg/L		2.19	5.22	1.58	1.47
S-D	mg/L		46.6	523	49.3	29.8
Sb-D	mg/L	0.2	<0.00050	<0.0025	<0.0010	<0.0010
Se-D	mg/L	0.01	<0.00010	<0.00050	0.00027	<0.00020
Si-D	mg/L		5.12	4.58	3.85	4.14
Sr-D	mg/L		0.690	3.44	0.169	0.144
Tl-D	mg/L	0.003	<0.000010	<0.000050	<0.000020	<0.000020
Ti-D	mg/L	1.00	<0.0050	<0.025	<0.010	<0.010
U-D	mg/L	3	<0.00010	<0.00050	<0.00020	<0.00020
V-D	mg/L		<0.0050	<0.025	<0.010	<0.010
Zn-D	mg/L		<0.0050	<0.025	<0.010	<0.010
**Zn-CSR	mg/L		1.650	2.400	0.075	0.075

\*Station Type: Mine Water (MW) or Groundwater (GW).

\*\* CSR Calculated Parameter

Bold Red Result above CSR

Appendix 1 - Tables

Table 34 Potential Seepage Near QU1109 (S) 1 Page(s)

EMS ID	Stn Std		Max-WQG	Chronic-WQG		
Site Description	Potential Seepage near QU1109					
Site Name	S	Std Val				
Date	Acute	Chronic	11-07-2023	02-08-2023	06-09-2023	
Flow	m3/s			0.00005	0.00006	0.00004
pH-F	pH Units		6.5 - 9.0	8.13	7.92	7.9
Cond-F	uS/cm			1273	1448	1553
SO4-D	mg/L		<= 128	<b>170</b>	<b>160</b>	<b>150</b>
TSS	mg/L	25		<1.0	<1.0	
Alk-T	mg/L			490	490	500
Acidity83	mg/L			<1.0	<1.0	<1.0
DOC	mg/L			2.4	3.0	2.4
Cl-D	mg/L	600	≤ 150	50	52	48
F-D	mg/L	≤ 1.29		0.69	0.66	
Al-T	mg/L			0.0096	0.0109	0.0126
As-T	mg/L	0.005		<b>0.0642</b>	<b>0.0638</b>	<b>0.0604</b>
Ba-T	mg/L		≤ 1	0.0387	0.0392	0.0366
B-T	mg/L		≤ 1.2	<b>1.69</b>	<b>1.47</b>	<b>1.67</b>
Cd-T	mg/L			<0.000010	<0.000010	<0.000020
Ca-T	mg/L			22.4	22.2	22.0
Cr-T	mg/L			<0.0010	<0.0010	<0.0020
Co-T	mg/L	0.11	≤ 0.004	<0.00020	<0.00020	<0.00040
Cu-T	mg/L			<0.00050	<0.00050	<0.0010
Hard-T	mg/L			78.7	79.0	78.9
Fe-T	mg/L	1.0		0.106	0.094	0.098
Pb-T	mg/L	0.01763	≤ 0.004	<0.00020	<0.00020	<0.00040
Mg-T	mg/L			5.55	5.74	5.79
Mn-T	mg/L	0.8706	≤ 0.737	0.0151	0.0173	0.0248
Mo-T	mg/L	2.0		<0.0010	<0.0010	<0.0020
Ni-T	mg/L			<0.0010	<0.0010	<0.0020
K-T	mg/L			3.59	3.56	3.66
S-T	mg/L			52.0	49.3	50.8
Se-T	mg/L			<0.00010	<0.00010	<0.00020
Si-T	mg/L			4.14	4.14	4.53
Ag-T	mg/L	0.0001		<0.000020	<0.000020	<0.000040
Na-T	mg/L			249	258	277
Sr-T	mg/L			0.345	0.367	0.335
Zn-T	mg/L			<0.0050	<0.0050	<0.010
Al-D	mg/L		≤ 0.242	0.0079	0.0080	0.0111
As-D	mg/L			0.0754	0.0696	0.0659
Ba-D	mg/L			0.0447	0.0423	0.0404
B-D	mg/L			1.59	1.73	1.66
Be-D	mg/L			<0.00010	<0.00010	<0.00020
Cd-D	mg/L	0.00017	≤ 0.000087	<0.000010	<0.000010	<0.000020
Ca-D	mg/L			25.5	24.8	22.9
Cr-D	mg/L			<0.0010	<0.0010	<0.0020
Co-D	mg/L			<0.00020	<0.00020	<0.00040
Cu-D	mg/L	≤ 0.00822	≤ 0.00139	0.00032	0.00027	0.00044
DOC	mg/L			2.4	3.0	2.4
Hard-D	mg/L			89.8	88.1	82.6
Fe-D	mg/L	0.35		0.0801	0.0652	0.075
Pb-D	mg/L			<0.00020	<0.00020	<0.00040
Mg-D	mg/L			6.35	6.34	6.18
Mn-D	mg/L			0.0072	0.0100	0.0201
Mo-D	mg/L			<0.0010	<0.0010	<0.0020
Ni-D	mg/L			<0.0010	<0.0010	<0.0020
K-D	mg/L			4.00	3.95	3.98
S-D	mg/L			58.9	61.4	55.2
Se-D	mg/L			<0.00010	<0.00010	<0.00020
Si-D	mg/L			4.66	4.86	4.95
Na-D	mg/L			285	292	296
Sr-D	mg/L			0.424	0.387	0.352
Zn-D	mg/L	≤ 0.0439	≤ 0.00767	0.0074	<0.0050	<b>&lt;0.010</b>
<b>Notes:</b>						
Bold blue indicates result is greater than Acute -WQG,						
Bold green indicates result is greater than Chronic -WQG,						
Italics bold indicates detection limit is greater than Chronic -WQG						

Appendix 1 - Tables

Table 35 Potential Seepage on QR by QU1105 (S2A) 1 Page(s)

EMS ID	Stn Std		Max-WQG			
Site Description	Potential Seepage (S2A) near QU1105 entering river					
Site Name	S2A	Std Val	WQG			
Date	Acute		Chronic	12-07-2023	03-08-2023	07-09-2023
Flow	m3/s			0.0002		0.00025
pH-F	pH Units		6.5 - 9.0	7.4	7.5	6.72
Cond-F	uS/cm			704	739	651
SO4-D	mg/L		≤ 128	120	110	72
Turb	NTU				1.6	
Alk-T	mg/L			220	220	170
Acidity83	mg/L			10.3	7.0	2.4
Cl-D	mg/L	≤ 600	≤ 150	14	14	8.1
DOC	mg/L			2.1	1.9	1.7
F-D	mg/L	≤ 1.29		0.43	0.39	
Al-T	mg/L			0.0078	0.0101	0.0133
As-T	mg/L	≤ 0.005		0.0896	0.117	0.0845
Ba-T	mg/L		≤ 1	0.0440	0.0491	0.0296
B-T	mg/L		≤ 1.2	0.508	0.599	0.384
Bicarb	mg/L			270	270	200
Cd-T	mg/L			<0.000010	<0.000010	<0.000010
Ca-T	mg/L			26.9	28.6	17.7
Cr-T	mg/L			<0.0010	<0.0010	<0.0010
Co-T	mg/L	≤ 0.11	≤ 0.004	0.00027	0.00028	<0.00020
Cu-T	mg/L			<0.00050	<0.00050	<0.00050
Hard-T	mg/L			90.7	97.1	59.9
Fe-T	mg/L	≤ 1		0.763	0.898	0.645
Pb-T	mg/L	≤ 0.01763	≤ 0.0039978	<0.00020	<0.00020	<0.00020
Mg-T	mg/L			5.72	6.23	3.79
Mn-T	mg/L	≤ 0.8706	≤ 0.737	0.308	0.293	0.155
Mo-T	mg/L	≤ 2		<0.0010	<0.0010	<0.0010
Ni-T	mg/L			<0.0010	<0.0010	<0.0010
K-T	mg/L			2.73	3.11	1.93
S-T	mg/L			37.2	42.3	21.6
Se-T	mg/L			<0.00010	<0.00010	<0.00010
Si-T	mg/L			2.93	3.35	2.58
Ag-T	mg/L	≤ 0.0001		<0.000020	<0.000020	<0.000020
Na-T	mg/L			103	117	67.5
Sr-T	mg/L			0.433	0.466	0.287
Zn-T	mg/L			<0.0050	<0.0050	<0.0050
Al-D	mg/L		≤ 0.118	0.0043	0.0053	0.0071
As-D	mg/L			0.101	0.110	0.0913
Ba-D	mg/L			0.0501	0.0473	0.0350
B-D	mg/L			0.528	0.562	0.398
Be-D	mg/L			<0.00010	<0.00010	<0.00010
Cd-D	mg/L	≤ 0.00017	≤ 0.000087	<0.000010	<0.000010	<0.000010
Ca-D	mg/L			30.2	28.7	20.2
Cr-D	mg/L			<0.0010	<0.0010	<0.0010
Co-D	mg/L			0.00028	0.00027	<0.00020
Cu-D	mg/L	≤ 0.00282	≤ 0.000465	<0.00020	<0.00020	<0.00020
DOC	mg/L			2.1	1.9	1.7
Hard-D	mg/L			102	96.3	68.4
Fe-D	mg/L	≤ 0.35		0.852	0.835	0.670
Pb-D	mg/L			<0.00020	<0.00020	<0.00020
Mg-D	mg/L			6.34	5.95	4.38
Mn-D	mg/L			0.341	0.280	0.181
Mo-D	mg/L			<0.0010	<0.0010	<0.0010
Ni-D	mg/L			<0.0010	<0.0010	<0.0010
K-D	mg/L			3.05	2.93	2.31
S-D	mg/L			42.5	40.6	25.7
Se-D	mg/L			<0.00010	<0.00010	<0.00010
Si-D	mg/L			3.54	3.52	3.09
Na-D	mg/L			117	113	79.7
Sr-D	mg/L			0.496	0.443	0.335
Zn-D	mg/L	≤ 0.0415	≤ 0.013	<0.0050	<0.0050	<0.0050

Appendix 1 - Tables

Table 36 Depth Profiling Lakes 1 Page(s)

EMS ID: E206619		LONG LAKE DEPTH PROFILING SUMMER																													
Sample Date	Parameter	12-Jul						18-Jul						26-Jul						01-Aug						09-Aug					
Sample Depth (m)	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	
	Celcius		µS/cm		mg/L	mV	Celcius		µS/cm		mg/L	mV	Celcius		µS/cm		mg/L	mV	Celcius		µS/cm		mg/L	mV	Celcius		µS/cm		mg/L	mV	
1	22.8	7.59	148.7	81.6	7.05	140.4	22.1	7.71	157.0	86.6	7.51	25.0	21.0	7.87	158.8	76.4	6.73	3.9	20.8	7.89	174.1	80.5	7.21	132.3	21.7	7.95	177.9	79.1	6.81	140.7	
2	22.7	7.74	149.1	79.6	6.86	139.1	22.1	7.74	157.0	79.1	6.91	28.0	21.0	7.86	159.1	73.7	6.53	-5.6	20.8	7.90	174.1	75.9	6.75	133.7	21.7	7.95	177.7	72.9	6.41	139.3	
3	22.5	7.84	150.2	78.1	6.95	135.7	22.1	7.76	156.6	75.0	6.62	35.2	21.0	7.85	159.4	78.6	7.06	-22.0	20.8	7.88	173.9	76.1	6.65	133.2	21.7	7.90	177.7	75.3	6.50	137.6	
4	17.7	7.73	185.5	95.1	9.35	133.2	21.0	7.47	170.2	87.0	7.79	35.6	21.0	7.86	159.4	81.0	7.14	-22.6	20.8	7.88	174.3	77.4	6.87	132.6	21.0	7.79	182.6	68.9	6.32	138.6	
5	11.3	7.26	221.3	99.2	10.95	128.3	12.3	7.15	222.1	89.0	9.24	46.4	13.0	7.41	227.0	82.6	8.67	-31.4	15.0	7.18	234.4	86.2	8.71	143.0	17.2	7.35	231.5	86.4	8.32	146.4	
6	8.5	7.13	260.2	79.3	9.36	135.5	8.5	7.01	266.2	63.7	7.49	47.0	10.4	7.37	254.7	78.2	8.81	-34.2	10.4	7.10	279.5	71.9	8.07	142.5	12.1	7.21	272.5	80.0	8.56	145.3	
7	7.2	7.06	278.1	64.6	7.72	142.9	6.9	6.98	282.2	50.4	6.16	48.2	7.7	7.16	283.0	55.7	6.52	-33.4	7.8	7.04	301.6	53.4	6.32	138.6	8.6	7.16	300.7	61.4	7.08	144.0	
8	6.3	7.02	283.6	54.6	6.68	145.3	6.3	6.95	286.7	44.8	5.50	47.3	6.8	6.94	287.7	43.6	5.30	-41.3	6.7	6.98	305.7	45.0	5.47	139.0	7.0	7.13	307.8	48.4	5.80	140.2	
9	5.9	6.99	286.0	48.0	5.96	147.4	5.8	6.88	287.3	40.7	5.06	46.2	6.1	6.87	290.4	40.6	5.05	-46.5	6.2	6.97	307.8	40.7	5.02	138.5	6.4	7.06	309.3	40.9	5.02	140.3	
10	5.7	6.96	287.0	47.1	5.90	147.3	5.7	6.82	288.0	41.7	5.21	47.8	5.8	6.86	290.2	39.7	4.91	-40.0	5.8	6.92	309.2	35.0	4.31	136.8	5.8	7.00	311.9	31.8	3.94	139.6	
11	5.5	6.95	288.0	43.1	5.43	146.4	5.5	6.80	289.2	36.2	4.56	48.1	5.6	6.77	291.1	37.1	4.63	-26.4	5.6	6.87	310.4	30.4	3.81	117.4	5.6	6.88	312.5	29.9	3.72	136.2	
12	5.4	6.93	288.9	39.6	5.00	143.3	5.4	6.79	290.0	34.4	4.33	48.6	5.6	6.76	291.8	33.1	4.17	-52.0	5.5	6.85	310.7	29.6	3.73	104.4	5.5	6.86	313.0	27.7	3.47	131.7	
13	5.2	6.92	289.5	38.0	4.82	138.0	5.3	6.70	290.4	32.1	4.05	48.9	5.4	6.76	292.6	30.2	3.76	-80.4	5.4	6.84	311.3	27.7	3.50	90.2	5.3	6.84	313.9	25.3	3.24	128.3	
14	5.2	6.91	289.9	36.8	4.71	138.7	5.2	6.69	290.8	30.6	3.84	49.5	5.3	6.79	293.6	28.5	3.61	-60.1	5.3	6.82	312.5	25.8	3.30	82.1	5.2	6.82	315.4	21.5	2.70	113.0	
15	5.1	6.90	291.4	32.6	4.13	139.6	5.2	6.68	291.3	29.7	3.77	49.7	5.2	6.79	294.5	25.3	3.20	-63.5	5.1	6.82	314.4	20.5	2.59	77.5	5.1	6.81	316.4	18.2	2.32	83.2	
16	5.0	6.89	292.2	29.2	3.71	141.1	5.1	6.66	292.3	27.2	3.47	49.2	5.1	6.73	295.0	24.5	3.06	-57.5	5.1	6.82	314.7	19.8	2.50	74.8	5.1	6.81	316.7	16.7	2.13	70.1	
17	5.0	6.88	292.5	28.1	3.54	141.7	5.0	6.65	293.9	26.2	3.38	49.0	5.1	6.75	295.9	21.7	2.74	-94.2	5.1	6.81	315.2	18.4	2.32	70.4	5.1	6.80	317.1	16.7	2.10	65.5	
18	5.0	6.88	292.7	26.6	3.40	142.6	5.0	6.65	293.5	23.6	2.92	49.5	5.1	6.72	296.0	21.4	2.72	-99.5	5.1	6.80	315.6	17.6	2.23	75.6	5.1	6.81	317.2	16.6	2.02	62.0	
19	5.0	6.88	292.7	25.8	3.30	142.1	5.0	6.63	293.7	22.1	2.80	48.2	5.0	6.79	296.6	18.5	2.37	-74.3	5.0	6.80	316.0	16.1	2.04	78.3	5.1	6.82	317.4	15.5	1.98	54.6	
20	5.0	6.88	293.2	24.2	3.08	141.9	5.0	6.61	294.3	19.8	2.50	48.5	5.0	6.81	297.0	18.6	2.36	-72.1	5.0	6.82	316.1	15.6	1.96	79.0	5.1	6.77	320.9	12.0	1.47	51.0	
1m from Bottom (BS)		BS=20 m						BS=20 m						BS=20 m						BS=20 m											

Appendix 1 - Tables

Table 37 Depth Profiling Lakes 1 Page(s)

EMS ID E206618																																
Site NAME: MIDDLE QUINSAM LAKE (MQL)																																
MIDDLE QUINSAM LAKE DEPTH PROFILING SUMMER																																
Sample Date	12-Jul						18-Jul						26-Jul						01-Aug						09-Aug							
	Parameter	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	TEMP.	pH	COND.	% Sat.	D.O.	ORP	
Sample Depth (m)	Celcius		µS/cm		mg/L		mV		Celcius		µS/cm		mg/L		mV		Celcius		µS/cm		mg/L		mV		Celcius		µS/cm		mg/L		mV	
1	24.1	8.40	100.7	78.6	6.52	111.6	23.2	8.41	95.8	85.0	7.27	55.8	22.2	8.37	87.7	86.4	7.54	73.1	21.8	8.38	92.2	81.7	7.18	117.9	22.7	8.30	88.2	81.3	6.81	45.4		
2	24.0	8.41	100.7	75.2	6.33	109.5	23.0	8.42	95.1	88.7	7.57	54.6	22.0	8.39	89.5	87.2	7.50	72.4	21.7	8.36	92.0	83.1	7.18	114.8	22.6	8.32	88.2	76.4	6.68	42.2		
3	23.7	8.41	100.3	74.7	6.34	107.9	23.0	8.42	95.7	89.0	7.44	52.2	21.9	8.39	89.4	82.6	7.17	70.4	21.7	8.38	92.0	74.0	6.64	117.7	22.6	8.33	88.2	77.9	6.76	46.1		
4	23.4	8.41	100.9	75.9	6.53	106.7	22.9	8.42	96.5	87.8	7.33	53.2	21.8	8.39	89.9	77.0	6.73	70.5	21.7	8.39	91.5	77.1	6.85	116.8	22.6	8.32	88.5	74.1	6.38	45.7		
5	21.9	8.65	107.7	92.4	8.13	106.2	22.7	8.40	96.7	84.5	7.28	52.4	21.7	8.36	89.4	80.0	7.15	65.2	21.6	8.34	91.4	85.6	7.35	118.0	21.3	8.40	99.2	83.9	7.53	44.2		
6	17.7	8.99	111.3	108.1	10.19	92.8	18.9	9.06	111.0	118.0	11.00	57.3	19.7	9.19	111.1	126.5	12.05	70.3	20.6	9.08	114.1	107.7	9.62	116.5	17.8	9.52	121.2	136.8	12.97	42.0		
7	14.8	9.30	111.5	113.3	11.49	90.9	15.9	9.26	112.2	132.4	13.09	54.2	16.0	9.41	112.6	132.7	12.85	66.4	16.4	9.53	120.6	135.7	13.36	97.5	14.6	9.47	121.3	129.7	13.22	42.1		
8	12.8	9.21	111.0	111.2	11.87	91.7	12.8	9.23	111.5	128.4	13.84	56.6	13.7	9.30	112.2	127.2	13.05	57.6	13.7	9.39	119.9	122.0	12.67	961.0	12.5	9.04	120.5	107.2	11.40	28.5		
9	11.5	9.04	111.0	104.4	11.47	94.1	11.6	9.13	111.6	122.4	13.40	52.4	11.5	8.77	112.2	108.6	11.83	56.2	12.2	9.03	119.4	115.1	12.24	90.0	11.1	8.37	121.6	93.1	10.30	16.3		
10	10.4	8.50	111.7	93.6	10.60	101.5	11.7	8.93	111.1	121.0	13.14	47.1	10.6	8.42	113.3	100.4	11.20	57.0	10.6	8.21	121.1	93.1	10.36	81.3	10.5	7.96	123.1	82.8	9.28	10.8		
11	10.1	8.36	112.1	89.3	10.11	106.3	10.4	8.36	112.2	106.7	11.94	46.6	10.2	8.06	114.1	89.6	10.01	57.1	10.3	8.07	121.7	86.2	9.61	86.0	10.2	7.78	123.6	78.8	8.73	9.5		
12	9.8	8.14	112.8	86.4	9.74	109.2	9.9	8.10	112.9	96.4	10.78	48.2	10.0	7.88	114.4	82.8	9.38	58.9	10.0	7.86	122.4	79.2	9.07	84.5	10.1	7.68	124.4	74.1	8.35	5.1		
13	9.7	8.06	112.7	83.3	9.51	112.3	9.8	7.95	113.0	95.1	10.80	52.5	9.8	7.75	115.0	83.5	9.44	60.7	10.0	7.64	123.0	77.8	8.78	71.3	10.0	7.52	126.1	64.9	7.21	6.0		
1m from Bottom (BS)	BS=13.0m						BS=13.0m						BS=13.0m						BS=13.0m						BS=13.0m							

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206619					Water Quality Guidelines							Count of results exceeding standard
StnName		Long Lake Middle 1 M												
StnCode		LLM1												
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	41	44	44	47	47	5	47	44.6	128		47	0.0	
Turb	NTU	0.17	0.23	0.31	0.18	0.27	5	0.31	0.23			0.29	0.0	
Alk-T	mg/L	25	27	27	28	28	5	28	27.0			28	0.0	
Al-T	mg/L	0.0120	0.0103	0.0103	0.0087	0.0085	5	0.0120	0.0100	*		0.0113	0.0	
As-T	mg/L	0.00055	0.00056	0.00060	0.00060	0.00059	5	0.00060	0.00058		0.005	0.0006	0.0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0.0	
Ba-T	mg/L	0.0041	0.0042	0.0042	0.0049	0.0045	5	0.0049	0.0044	1		0.0047	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0.0	
Ca-T	mg/L	16.3	15.3	16.6	17.7	17.9	5	17.9	16.8			17.8	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0.0	
Fe-T	mg/L	0.037	0.031	0.028	0.027	0.025	5	0.037	0.030		1	0.035	0.0	
Hard-T	mg/L	50.1	47.4	51.0	53.7	55.3	5	55.3	51.5			54.7	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	2.32	2.26	2.32	2.32	2.56	5	2.56	2.36			2.46	0.0	
Mn-T	mg/L	0.0115	0.0074	0.0051	0.0050	0.0036	5	0.0115	0.0065	0.737	0.8706	0.0099	0.0	
P-T	mg/L	<0.0030	0.0032	<0.0030	<0.0030	0.0063	5	0.0063	0.00280	0.007		0.00506	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.203	0.199	0.201	0.200	0.218	5	0.218	0.204			0.212	0.0	
S-T	mg/L	12.1	11.9	13.0	12.5	14.5	5	14.5	12.8			13.9	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	4.65	4.30	4.84	4.75	5.05	5	5.05	4.72			4.97	0.0	
Sr-T	mg/L	0.0942	0.0938	0.100	0.105	0.109	5	0.109	0.1004			0.1074	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0103	0.0111	0.0101	0.0094	0.0087	5	0.0111	0.0099			0.0108	0.0	
As-D	mg/L	0.00062	0.00064	0.00059	0.00064	0.00065	5	0.00065	0.00063			0.00065	0.0	
Ba-D	mg/L	0.0047	0.0048	0.0051	0.0050	0.0050	5	0.0051	0.0049			0.0051	0.0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0.0	
Ca-D	mg/L	18.6	18.4	19.3	20.0	21.3	5	21.3	19.5			20.8	0.0	
Cl-D	mg/L		<1.0	<1.0	<1.0	<1.0	4	<1.0	0.50	150	600	0.5	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00039	0.00032	0.00031	0.00038	0.00034	5	0.00039	0.00035	*	*	0.00039	*	
DOC	mg/L	3.3	3.6	3.2	3.5	3.7	5	3.7	3.5			3.7	0.0	
Hard-D	mg/L	57.0	56.7	59.5	61.7	64.5	5	64.5	59.9			63.4	0.0	
Fe-D	mg/L	0.0343	0.0307	0.0253	0.0296	0.0223	5	0.0343	0.0284		0.35	0.0329	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	2.54	2.63	2.74	2.85	2.78	5	2.85	2.71			2.82	0.0	
Mn-D	mg/L	0.0088	0.0020	0.0021	0.0022	<0.0010	5	0.0088	0.00312			0.00616	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			1.00E-05	0.0	
K-D	mg/L	0.219	0.232	0.255	0.253	0.245	5	0.255	0.241			0.254	0.0	
S-D	mg/L	13.5	15.1	14.9	15.2	16.7	5	16.7	15.1			16.1	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	5.03	5.42	5.57	5.72	5.65	5	5.72	5.48			5.69	0.0	
Sr-D	mg/L	0.107	0.111	0.122	0.119	0.121	5	0.122	0.116			0.122	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	<0.020	0.028	<0.020	0.089	0.060	5	0.089	0.0394			0.0774	0.0	
Chlr-a	ug/L			<1.1								<0.53	0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206619					Water Quality Guidelines							Count of results exceeding standard
StnName		Long Lake Middle 4 M												
StnCode		LLM4												
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	48	45	45	47	47	5	48	46.4	128		47.6	0.0	
Turb	NTU	0.18	0.30	0.20	0.18	0.35	5	0.35	0.24			0.33	0.0	
Alk-T	mg/L	26	25	27	27	27	5	27	26.4			27	0.0	
Al-T	mg/L	0.0109	0.0112	0.0095	0.0086	0.0087	5	0.0112	0.0098	*		0.0111	0.0	
As-T	mg/L	0.00054	0.00051	0.00059	0.00060	0.00061	5	0.00061	0.00057		0.005	0.00061	0.0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0.0	
Ba-T	mg/L	0.0040	0.0039	0.0043	0.0054	0.0044	5	0.0054	0.0044	1		0.005	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.000050			0.00001	0.0	
Ca-T	mg/L	15.6	15.6	16.6	17.7	17.7	5	17.7	16.6			17.7	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0.0	
Fe-T	mg/L	0.041	0.032	0.027	0.027	0.025	5	0.041	0.030		1	0.037	0.0	
Hard-T	mg/L	48.2	48.0	50.8	53.7	54.2	5	54.2	51.0			54	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	2.21	2.18	2.29	2.31	2.45	5	2.45	2.29			2.39	0.0	
Mn-T	mg/L	0.0114	0.0080	0.0050	0.0052	0.0036	5	0.0114	0.0066	0.737	0.8706	0.01	0.0	
P-T	mg/L	0.0037	<0.0030	<0.0030	<0.0030	0.0033	5	0.0037	0.00230	0.007		0.00354	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.195	0.193	0.199	0.202	0.214	5	0.214	0.201			0.209	0.0	
S-T	mg/L	11.6	12.3	12.8	12.6	14.0	5	14.0	12.7			13.5	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	4.34	4.41	4.68	4.75	4.95	5	4.95	4.63			4.87	0.0	
Sr-T	mg/L	0.0916	0.0917	0.101	0.102	0.106	5	0.106	0.0985			0.1044	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0128	0.0112	0.0096	0.0098	0.0083	5	0.0128	0.0103			0.0122	0.0	
As-D	mg/L	0.00065	0.00065	0.00059	0.00063	0.00064	5	0.00065	0.00063			0.00065	0.0	
Ba-D	mg/L	0.0047	0.0050	0.0050	0.0049	0.0050	5	0.0050	0.0049			0.005	0.0	
B-D	mg/L	0.059	<0.050	<0.050	<0.050	<0.050	5	0.059	0.0318			0.0454	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.000050	0.000087	0.00017	0.00001	0.0	
Ca-D	mg/L	19.1	18.9	19.7	19.8	20.2	5	20.2	19.5			20	0.0	
Cl-D	mg/L		<1.0	<1.0	<1.0	<1.0	4	<1.0	0.50	150	600	0.5	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00041	0.00031	0.00028	0.00035	0.00032	5	0.00041	0.00033	*	*	0.00039	*	
DOC	mg/L	3.4	3.2	3.2	1.2	3.6	5	3.6	2.9			3.5	0.0	
Hard-D	mg/L	57.8	58.4	60.4	61.3	62.1	5	62.1	60.0			61.8	0.0	
Fe-D	mg/L	0.0395	0.0303	0.0248	0.0255	0.0225	5	0.0395	0.0285		0.35	0.0358	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	2.44	2.72	2.75	2.89	2.83	5	2.89	2.73			2.87	0.0	
Mn-D	mg/L	0.0095	0.0027	0.0020	0.0025	<0.0010	5	0.0095	0.00344			0.00678	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			0.00001	0.0	
K-D	mg/L	0.227	0.240	0.251	0.256	0.242	5	0.256	0.243			0.254	0.0	
S-D	mg/L	13.6	16.2	13.6	15.0	15.7	5	16.2	14.8			16	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	4.94	5.65	5.44	5.71	5.70	5	5.71	5.49			5.71	0.0	
Sr-D	mg/L	0.108	0.119	0.125	0.121	0.122	5	0.125	0.119			0.124	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	5	<0.020	0.0100			0.01	0.0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206619					Water Quality Guidelines							Count of results exceeding standard
StnName		Long Lake Middle 9 M												
StnCode		LLM9												
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	95	45	64	70	94	5	95	73.6	128		94.6	0.0	
Turb	NTU	0.42	0.18	0.23	0.17	0.29	5	0.42	0.26			0.37	0.0	
Alk-T	mg/L	41	26	32	34	41	5	41	34.8			41	0.0	
Al-T	mg/L	0.0068	0.0108	0.0089	0.0080	0.0070	5	0.0108	0.0083	*		0.01	0.0	
As-T	mg/L	0.00023	0.00059	0.00044	0.00043	0.00024	5	0.00059	0.00039		0.005	0.00053	0.0	
B-T	mg/L	0.072	<0.050	0.058	0.059	0.074	5	0.074	0.0576	1.2		0.0732	0.0	
Ba-T	mg/L	0.0065	0.0042	0.0052	0.0059	0.0066	5	0.0066	0.0057	1		0.0066	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0.0	
Ca-T	mg/L	33.5	16.8	23.6	27.7	33.8	5	33.8	27.1			33.7	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0.0	
Fe-T	mg/L	0.016	0.035	0.023	0.023	0.016	5	0.035	0.023		1	0.03	0.0	
Hard-T	mg/L	99.6	51.9	71.3	82.5	101	5	101	81.3			100.4	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	3.90	2.39	2.97	3.24	4.13	5	4.13	3.33			4.04	0.0	
Mn-T	mg/L	0.0198	0.0087	0.0102	0.0125	0.0179	5	0.0198	0.0138	0.737	0.8706	0.019	0.0	
P-T	mg/L	0.0040	0.0031	<0.0030	<0.0030	0.0062	5	0.0062	0.00326	0.007		0.00532	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.385	0.210	0.271	0.302	0.394	5	0.394	0.312			0.39	0.0	
S-T	mg/L	27.9	12.8	20.1	21.4	30.5	5	30.5	22.5			29.5	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	10.8	4.66	7.18	8.06	10.9	5	10.9	8.32			10.86	0.0	
Sr-T	mg/L	0.244	0.101	0.171	0.191	0.259	5	0.259	0.193			0.253	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0057	0.0113	0.0076	0.0078	0.0058	5	0.0113	0.0076			0.0099	0.0	
As-D	mg/L	0.00025	0.00065	0.00041	0.00043	0.00025	5	0.00065	0.00040			0.00056	0.0	
Ba-D	mg/L	0.0073	0.0047	0.0061	0.0060	0.0072	5	0.0073	0.0063			0.0073	0.0	
B-D	mg/L	0.090	<0.050	0.063	0.063	0.087	5	0.090	0.0656			0.0888	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0.0	
Ca-D	mg/L	38.4	18.9	27.8	27.7	37.3	5	38.4	30.0			38	0.0	
Cl-D	mg/L		<1.0	<1.0	<1.0	<1.0	4	<1.0	0.50	150	600	0.5	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00032	0.00029	0.00025	0.00032	0.00026	5	0.00032	0.00029	*	*	0.00032	*	
DOC	mg/L	2.6	3.4	2.8	3.0	2.9	5	3.4	2.9			3.2	0.0	
Hard-D	mg/L	114	57.8	84.0	83.9	112	5	114	90.3			113.2	0.0	
Fe-D	mg/L	0.0136	0.0300	0.0187	0.0202	0.0120	5	0.0300	0.0189		0.35	0.0261	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	4.36	2.54	3.55	3.60	4.57	5	4.57	3.72			4.49	0.0	
Mn-D	mg/L	0.0203	0.0024	0.0092	0.0096	0.0172	5	0.0203	0.0117			0.0191	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			0.00001	0.0	
K-D	mg/L	0.430	0.230	0.344	0.350	0.438	5	0.438	0.358			0.435	0.0	
S-D	mg/L	33.2	15.6	22.3	23.3	32.6	5	33.2	25.4			33	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	11.8	5.49	8.31	8.76	12.1	5	12.1	9.29			11.98	0.0	
Sr-D	mg/L	0.279	0.113	0.193	0.182	0.278	5	0.279	0.209			0.279	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	0.082	<0.020	<0.020	<0.020	0.056	5	0.082	0.0336			0.0716	0.0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206619					Water Quality Guidelines							Count of results exceeding standard
StnName	Long Lake Middle 1M From B													
StnCode	LLMB													
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	92	100	84	100	77	5	100	90.6	128		100	0.0	
Turb	NTU	0.14	0.42	0.30	0.72	0.56	5	0.72	0.43			0.66	0.0	
Alk-T	mg/L	40	42	37	42	36	5	42	39.4			42	0.0	
Al-T	mg/L	0.0063	0.0066	0.0073	0.0060	0.0069	5	0.0073	0.0066	*		0.0071	0.0	
As-T	mg/L	0.00030	0.00032	0.00032	0.00039	0.00043	5	0.00043	0.00035		0.005	0.00041	0.0	
B-T	mg/L	0.074	0.073	0.083	0.074	0.065	5	0.083	0.074	1.2		0.079	0.0	
Ba-T	mg/L	0.0089	0.0092	0.0067	0.0113	0.0073	5	0.0113	0.0087	1		0.0105	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.000050			0.00001	0.0	
Ca-T	mg/L	33.7	33.7	29.6	35.1	28.2	5	35.1	32.1			34.5	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0.0	
Fe-T	mg/L	0.046	0.062	0.025	0.112	0.047	5	0.112	0.058		1	0.092	0.0	
Hard-T	mg/L	101	101	88.8	104	84.5	5	104	95.9			102.8	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	3.96	4.02	3.65	3.94	3.45	5	4.02	3.80			4	0.0	
Mn-T	mg/L	0.171	0.247	0.0771	0.461	0.163	5	0.461	0.2238	0.737	0.8706	0.3754	0.0	
P-T	mg/L	<0.0030	0.0056	<0.0030	0.0036	0.0057	5	0.0057	0.00358	0.007		0.00566	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.403	0.409	0.345	0.400	0.329	5	0.409	0.377			0.407	0.0	
S-T	mg/L	29.2	30.7	26.8	29.2	24.2	5	30.7	28.0			30.1	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	10.9	11.4	9.66	11.1	8.90	5	11.4	10.39			11.28	0.0	
Sr-T	mg/L	0.249	0.248	0.233	0.270	0.206	5	0.270	0.241			0.262	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0043	0.0042	0.0063	0.0047	0.0052	5	0.0063	0.0049			0.0059	0.0	
As-D	mg/L	0.00026	0.00028	0.00030	0.00028	0.00039	5	0.00039	0.00030			0.00035	0.0	
Ba-D	mg/L	0.0099	0.0103	0.0079	0.0123	0.0084	5	0.0123	0.0098			0.0115	0.0	
B-D	mg/L	0.092	0.091	0.079	0.086	0.076	5	0.092	0.085			0.092	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.000050	0.000087	0.00017	0.00001	0.0	
Ca-D	mg/L	39.3	39.0	35.4	37.1	32.4	5	39.3	36.6			39.2	0.0	
Cl-D	mg/L		<1.0	<1.0	<1.0	<1.0	4	<1.0	0.50	150	600	0.5	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00032	0.00026	0.00024	0.00031	0.00029	5	0.00032	0.00028	*	*	0.00032	*	
DOC	mg/L	3.0	2.4	2.5	2.4	3.2	5	3.2	2.7			3.1	0.0	
Hard-D	mg/L	117	116	106	111	97.7	5	117	109.5			116.6	0.0	
Fe-D	mg/L	0.0149	0.0179	0.0136	0.0345	0.0221	5	0.0345	0.0206		0.35	0.0295	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	4.46	4.44	4.29	4.57	4.06	5	4.57	4.36			4.53	0.0	
Mn-D	mg/L	0.187	0.253	0.0839	0.476	0.192	5	0.476	0.2384			0.3868	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			0.00001	0.0	
K-D	mg/L	0.446	0.444	0.425	0.476	0.389	5	0.476	0.436			0.464	0.0	
S-D	mg/L	33.5	35.4	29.1	34.1	26.6	5	35.4	31.7			34.9	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	12.2	12.5	11.0	12.5	10.2	5	12.5	11.7			12.5	0.0	
Sr-D	mg/L	0.301	0.273	0.266	0.291	0.230	5	0.301	0.272			0.297	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	0.083	0.086	0.767	0.087	0.051	5	0.767	0.215			0.495	0.0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.

Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206618					Water Quality Guidelines							Count of results exceeding standard
StnName		Middle Quinsam Lake 1M												
StnCode		MQL1												
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	12	11	9.5	8.2	7.6	5	12	9.7	128		11.6	0.0	
Turb	NTU	0.30	0.30	0.40	0.35	0.34	5	0.40	0.34			0.38	0.0	
Alk-T	mg/L	34	33	32	32	30	5	34	32.2			33.6	0.0	
Al-T	mg/L	0.0135	0.0141	0.0138	0.0127	0.0129	5	0.0141	0.0134	*		0.014	0.0	
As-T	mg/L	0.00015	0.00015	0.00018	0.00019	0.00017	5	0.00019	0.00017		0.005	0.00019	0.0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.0025	0.0	
Ba-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1		0.0005	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0.0	
Ca-T	mg/L	8.45	8.21	8.14	8.35	8.21	5	8.45	8.27			8.41	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0.0	
Fe-T	mg/L	0.034	0.034	0.036	0.036	0.031	5	0.036	0.034		1	0.036	0.0	
Hard-T	mg/L	25.3	24.6	24.5	24.8	24.5	5	25.3	24.7			25.1	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	1.01	0.996	1.01	0.954	0.962	5	1.01	0.986			1.01	0.0	
Mn-T	mg/L	0.0070	0.0073	0.0089	0.0093	0.0069	5	0.0093	0.0079	0.737	0.8706	0.0091	0.0	
P-T	mg/L	<0.0030	<0.0030	0.0034	<0.0030	0.0065	5	0.0065	0.00288	0.006		0.00526	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.129	0.121	0.113	0.106	0.109	5	0.129	0.116			0.126	0.0	
S-T	mg/L	3.1	3.5	<3.0	<3.0	<3.0	5	3.5	2.22			3.34	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	7.45	6.61	6.12	5.61	5.05	5	7.45	6.17			7.11	0.0	
Sr-T	mg/L	0.0338	0.0307	0.0315	0.0301	0.0287	5	0.0338	0.0310			0.0329	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0123	0.0122	0.0131	0.0125	0.0120	5	0.0131	0.0124			0.0129	0.0	
As-D	mg/L	0.00017	0.00016	0.00012	0.00015	0.00017	5	0.00017	0.00015			0.00017	0.0	
Ba-D	mg/L	0.0010	<0.0010	0.0012	<0.0010	<0.0010	5	0.0012	0.00074			0.00112	0.0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0.0	
Ca-D	mg/L	9.46	8.89	9.29	8.92	9.09	5	9.46	9.13			9.39	0.0	
Cl-D	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	0.50	150	600	0.5	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00050	0.00046	0.00044	0.00049	0.00046	5	0.00050	0.00047	*	*	0.0005	*	
DOC	mg/L	2.1	2.3	2.2	2.3	2.3	5	2.3	2.2			2.3	0.0	
Hard-D	mg/L	28.2	26.6	27.8	26.7	27.0	5	28.2	27.3			28	0.0	
Fe-D	mg/L	0.0198	0.0193	0.0212	0.0210	0.0192	5	0.0212	0.0201		0.35	0.0211	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	1.11	1.07	1.11	1.08	1.05	5	1.11	1.08			1.11	0.0	
Mn-D	mg/L	0.0012	0.0011	<0.0010	0.0010	<0.0010	5	0.0012	0.00086			0.00116	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			0.00001	0.0	
K-D	mg/L	0.136	0.133	0.134	0.133	0.114	5	0.136	0.130			0.135	0.0	
S-D	mg/L	4.1	3.1	<3.0	3.3	<3.0	5	4.1	2.70			3.78	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	8.14	7.48	6.79	6.18	5.52	5	8.14	6.82			7.88	0.0	
Sr-D	mg/L	0.0369	0.0335	0.0359	0.0320	0.0309	5	0.0369	0.0338			0.0365	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	5	<0.020	0.0100			0.01	0.0	
Chlr-a	ug/L		<0.53											

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.

Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206618					Water Quality Guidelines							Count of results exceeding standard
StnName		Middle Quinsam Lake 4M												
StnCode		MQL4												
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	12	11	9.4	8.1	7.6	5	12	9.6	128		11.6	0.0	
Turb	NTU	0.35	0.31	0.52	0.30	0.33	5	0.52	0.36			0.45	0.0	
Alk-T	mg/L	35	32	31	31	30	5	35	31.8			33.8	0.0	
Al-T	mg/L	0.0139	0.0145	0.0135	0.0127	0.0144	5	0.0145	0.0138	*		0.0145	0.0	
As-T	mg/L	0.00017	0.00017	0.00017	0.00019	0.00018	5	0.00019	0.00018		0.005	0.00019	0.0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0.0	
Ba-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1		0.0005	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0.0	
Ca-T	mg/L	8.64	8.34	8.23	7.79	7.66	5	8.64	8.13			8.52	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0.0	
Fe-T	mg/L	0.035	0.034	0.036	0.035	0.029	5	0.036	0.034		1	0.036	0.0	
Hard-T	mg/L	25.9	25.2	24.6	23.2	22.9	5	25.9	24.4			25.6	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	1.06	1.06	0.983	0.903	0.912	5	1.06	0.984			1.06	0.0	
Mn-T	mg/L	0.0075	0.0081	0.0088	0.0090	0.0068	5	0.0090	0.0080	0.737	0.8706	0.0089	0.0	
P-T	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	0.0034	5	0.0034	0.00188	0.006		0.00264	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.137	0.129	0.110	0.104	0.106	5	0.137	0.117			0.134	0.0	
S-T	mg/L	3.1	3.7	3.0	<3.0	<3.0	5	3.7	2.56			3.46	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	7.58	7.30	5.89	5.26	4.88	5	7.58	6.18			7.47	0.0	
Sr-T	mg/L	0.0359	0.0327	0.0311	0.0290	0.0275	5	0.0359	0.0312			0.0346	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0159	0.0124	0.0138	0.0131	0.0130	5	0.0159	0.0136			0.0151	0.0	
As-D	mg/L	0.00017	0.00016	0.00013	0.00015	0.00017	5	0.00017	0.00016			0.00017	0.0	
Ba-D	mg/L	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	0.0010	0.00060			0.0008	0.0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0.0	
Ca-D	mg/L	9.49	8.61	9.14	8.97	9.19	5	9.49	9.08			9.37	0.0	
Cl-D	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	0.50	150	600	0.5	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00053	0.00045	0.00042	0.00058	0.00050	5	0.00058	0.00050	*	*	0.00056	*	
DOC	mg/L	2.2	2.1	2.5	2.5	2.3	5	2.5	2.3			2.5	0.0	
Hard-D	mg/L	28.3	25.8	27.2	26.9	27.6	5	28.3	27.2			28	0.0	
Fe-D	mg/L	0.0210	0.0196	0.0212	0.0211	0.0186	5	0.0212	0.0203		0.35	0.0212	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	1.11	1.04	1.07	1.08	1.12	5	1.12	1.08			1.12	0.0	
Mn-D	mg/L	0.0010	0.0011	<0.0010	<0.0010	<0.0010	5	0.0011	0.00072			0.00106	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			0.00001	0.0	
K-D	mg/L	0.136	0.131	0.131	0.132	0.126	5	0.136	0.131			0.134	0.0	
S-D	mg/L	3.9	3.4	3.3	<3.0	<3.0	5	3.9	2.72			3.7	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	8.24	7.13	6.64	6.12	5.94	5	8.24	6.81			7.8	0.0	
Sr-D	mg/L	0.0384	0.0332	0.0361	0.0336	0.0332	5	0.0384	0.0349			0.0375	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	5	<0.020	0.0100			0.01	0.0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206618					Water Quality Guidelines							Count of results exceeding standard
StnName		Middle Quinsam Lake 9M												
StnCode		MQL9												
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	17	18	17	17	18	5	18	17.4	128		18	0.0	
Turb	NTU	0.26	0.32	0.35	0.30	0.46	5	0.46	0.34			0.42	0.0	
Alk-T	mg/L	<1.0	32	34	34	34	5	34	26.90			34	0.0	
Al-T	mg/L	0.0093	0.0100	0.0103	0.0156	0.0083	5	0.0156	0.0107	*		0.0135	0.0	
As-T	mg/L	0.00014	0.00013	0.00015	0.00015	0.00014	5	0.00015	0.00014		0.005	0.00015	0.0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0.0	
Ba-T	mg/L	0.0010	0.0010	0.0011	0.0012	0.0011	5	0.0012	0.0011	1		0.0012	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0.0	
Ca-T	mg/L	9.09	8.61	9.15	9.41	8.57	5	9.41	8.97			9.31	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	0.00057	<0.00050	5	0.00057	0.000314			0.000442	0.0	
Fe-T	mg/L	0.019	0.023	0.023	0.022	0.020	5	0.023	0.021		1	0.023	0.0	
Hard-T	mg/L	27.5	26.0	27.6	28.2	25.9	5	28.2	27.0			28	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	1.16	1.08	1.15	1.13	1.10	5	1.16	1.12			1.16	0.0	
Mn-T	mg/L	0.0047	0.0061	0.0072	0.0073	0.0070	5	0.0073	0.0065	0.737	0.8706	0.0073	0.0	
P-T	mg/L	<0.0030	0.0031	<0.0030	<0.0030	0.0053	5	0.0053	0.00258	0.006		0.00442	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.138	0.120	0.127	0.119	0.118	5	0.138	0.124			0.134	0.0	
S-T	mg/L	5.1	5.0	5.6	5.6	5.5	5	5.6	5.4			5.6	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	9.33	8.25	9.11	9.52	8.99	5	9.52	9.04			9.44	0.0	
Sr-T	mg/L	0.0419	0.0369	0.0426	0.0445	0.0421	5	0.0445	0.0416			0.0437	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0083	0.0085	0.0086	0.0078	0.0069	5	0.0086	0.0080			0.0086	0.0	
As-D	mg/L	0.00014	0.00014	<0.00010	0.00011	0.00014	5	0.00014	0.000116			0.00014	0.0	
Ba-D	mg/L	0.0014	0.0010	0.0012	0.0012	0.0012	5	0.0014	0.0012			0.0013	0.0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0.0	
Ca-D	mg/L	10.1	9.19	10.1	10.2	10.7	5	10.7	10.06			10.5	0.0	
Cl-D	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	0.50	150	600	0.5	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00048	0.00044	0.00043	0.00050	0.00048	5	0.00050	0.00047	*	*	0.00049	*	
DOC	mg/L	2.0	2.3	2.0	2.3	2.3	5	2.3	2.2			2.3	0.0	
Hard-D	mg/L	30.1	27.9	30.3	30.9	32.1	5	32.1	30.3			31.6	0.0	
Fe-D	mg/L	0.0074	0.0081	0.0069	0.0074	<0.0050	5	0.0081	0.00646		0.35	0.00782	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	1.21	1.20	1.25	1.29	1.32	5	1.32	1.25			1.31	0.0	
Mn-D	mg/L	<0.0010	0.0013	<0.0010	<0.0010	<0.0010	5	0.0013	0.00066			0.00098	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			0.00001	0.0	
K-D	mg/L	0.134	0.131	0.147	0.142	0.132	5	0.147	0.137			0.145	0.0	
S-D	mg/L	5.6	6.0	5.6	5.9	6.4	5	6.4	5.9			6.2	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	9.98	9.37	10.1	10.4	10.7	5	10.7	10.11			10.58	0.0	
Sr-D	mg/L	0.0456	0.0413	0.0489	0.0479	0.0488	5	0.0489	0.0465			0.0489	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	5	<0.020	0.0100			0.01	0.0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID		E206618							Water Quality Guidelines					Count of results exceeding standard
StnName		Middle Quinsam Lake 1MB												
StnCode		MQLB												
		12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23	Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile		
SO4-D	mg/L	17	19	14	18	15	5	19	16.6	128		18.6	0.0	
Turb	NTU	0.21	0.18	0.38	0.21	0.44	5	0.44	0.28			0.42	0.0	
Alk-T	mg/L	34	34	32	33	33	5	34	33.2			34	0.0	
Al-T	mg/L	0.0071	0.0071	0.0106	0.0057	0.0101	5	0.0106	0.0081	*		0.0104	0.0	
As-T	mg/L	<0.00010	<0.00010	0.00014	0.00011	0.00015	5	0.00015	0.000100		0.005	0.000146	0.0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0.0	
Ba-T	mg/L	<0.0010	0.0013	0.0011	0.0016	0.0011	5	0.0016	0.00112	1		0.00148	0.0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0.0	
Ca-T	mg/L	8.71	8.63	8.58	9.63	8.21	5	9.63	8.75			9.26	0.0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0.0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0.0	
Fe-T	mg/L	0.013	0.016	0.024	0.018	0.025	5	0.025	0.019		1	0.025	0.0	
Hard-T	mg/L	26.4	26.6	26.0	29.3	24.8	5	29.3	26.6			28.2	0.0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0.0	
Mg-T	mg/L	1.14	1.23	1.11	1.27	1.05	5	1.27	1.16			1.25	0.0	
Mn-T	mg/L	0.0034	0.0045	0.0071	0.0063	0.0082	5	0.0082	0.0059	0.737	0.8706	0.0078	0.0	
P-T	mg/L	<0.0030	<0.0030	<0.0030	0.0050	0.0045	5	0.0050	0.00280	0.006		0.0048	0.0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0.0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0.0	
K-T	mg/L	0.140	0.151	0.129	0.154	0.127	5	0.154	0.140			0.153	0.0	
S-T	mg/L	4.6	5.8	4.7	5.4	4.4	5	5.8	5.0			5.6	0.0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0.0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0.0	
Na-T	mg/L	9.12	9.40	7.94	9.96	7.61	5	9.96	8.81			9.74	0.0	
Sr-T	mg/L	0.0415	0.0399	0.0387	0.0463	0.0368	5	0.0463	0.0406			0.0444	0.0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
Al-D	mg/L	0.0126	0.0053	0.0103	0.0047	0.0080	5	0.0126	0.0082			0.0117	0.0	
As-D	mg/L	0.00012	0.00012	<0.00010	<0.00010	0.00015	5	0.00015	0.000098			0.000138	0.0	
Ba-D	mg/L	0.0013	0.0013	0.0012	0.0017	0.0011	5	0.0017	0.0013			0.0015	0.0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0.0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.000005	0.0	
Ca-D	mg/L	10.1	9.55	9.66	10.1	9.76	5	10.1	9.83			10.1	0.0	
Cl-D	mg/L	1.0	<1.0	<1.0	1.2	<1.0	5	1.2	0.74	150	600	1.12	0.0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Cu-D	mg/L	0.00089	0.00041	0.00043	0.00046	0.00048	5	0.00089	0.00053	*	*	0.00073	*	
DOC	mg/L	2.1	2.2	2.3	2.0	2.7	5	2.7	2.3			2.5	0.0	
Hard-D	mg/L	30.6	29.3	29.2	30.8	29.3	5	30.8	29.8			30.7	0.0	
Fe-D	mg/L	0.0092	0.0075	0.0137	0.0082	0.0105	5	0.0137	0.0098		0.35	0.0124	0.0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0.0	
Mg-D	mg/L	1.29	1.31	1.23	1.37	1.20	5	1.37	1.28			1.35	0.0	
Mn-D	mg/L	0.0022	0.0027	0.0011	0.0029	0.0015	5	0.0029	0.0021			0.0028	0.0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0.0	
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100			0.00001	0.0	
K-D	mg/L	0.155	0.155	0.159	0.183	0.140	5	0.183	0.158			0.173	0.0	
S-D	mg/L	6.4	6.7	4.4	5.8	5.0	5	6.7	5.7			6.6	0.0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0.0	
Na-D	mg/L	10.3	10.1	8.74	10.9	8.74	5	10.9	9.76			10.66	0.0	
Sr-D	mg/L	0.0466	0.0431	0.0440	0.0495	0.0414	5	0.0495	0.0449			0.0483	0.0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0.0	
N-NO23	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	5	<0.020	0.0100			0.01	0.0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 38 Lakes Summer 9 Page(s)

EMS ID	LLE Zone of Dilution 2						Water Quality Guidelines						Count of results exceeding standard
StnName	LLEZ2						Count	Max	5 in 30 Ave	Chronic	Acute	90th Percentile	
StnCode	12-Jul-23	18-Jul-23	26-Jul-23	1-Aug-23	9-Aug-23								
SO4-D	mg/L	40	44	44	46	47	5	47	44.2	128		46.6	0
Turb	NTU	0.45	0.22	0.2	0.19	0.28	5	0.45	0.27			0.38	0
Alk-T	mg/L	25	27	27	28	28	5	28	27			28	0
Al-T	mg/L	0.013	0.0104	0.0101	0.0085	0.0094	5	0.013	0.0103	*		0.012	0
As-T	mg/L	0.00042	0.00058	0.00062	0.00062	0.00064	5	0.00064	0.00058		0.005	0.00063	0
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0
Ba-T	mg/L	0.0044	0.0043	0.0044	0.0044	0.0048	5	0.0048	0.0045	1		0.0046	0
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.000050			0.000005	0
Ca-T	mg/L	18.2	15.9	17.6	17.8	19	5	19	17.7			18.7	0
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0
Fe-T	mg/L	0.033	0.033	0.024	0.027	0.031	5	0.033	0.03		1	0.033	0
Hard-T	mg/L	56	49.5	54.1	54.1	58.3	5	58.3	54.4			57.4	0
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0
Mg-T	mg/L	2.53	2.36	2.43	2.32	2.67	5	2.67	2.46			2.61	0
Mn-T	mg/L	0.0103	0.0083	0.0027	0.0053	0.0058	5	0.0103	0.0065	0.737	0.8706	0.0095	0
P-T	mg/L	0.0055	0.0031	<0.0030	<0.0030	0.0047	5	0.0055	0.00326	0.007		0.00518	0
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.0005000	1	2	0.0005	0
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0
K-T	mg/L	0.223	0.2	0.213	0.202	0.232	5	0.232	0.21400			0.228	0
S-T	mg/L	14.2	12.2	13.9	12.8	14.800	5	14.8	13.6			14.6	0
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.0	0.002		0.00005	0
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.000010	0.00005	0.0001	0.00001	0
Na-T	mg/L	5.57	4.41	5.02	4.86	5.34	5	5.57	5.0400000			5.48	0
Sr-T	mg/L	0.104	0.0959	0.105	0.103	0.11	5	0.113	0.1042			0.1098	0
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.0025	0.0075	0.033	0.0025	0
Al-D	mg/L	0.0109	0.0112	0.0099	0.0087	0.0083	5	0.0112	0.00980			0.0111	0
As-D	mg/L	0.0005	0.00066	0.00062	0.00064	0.00065	5	0.00066	0.00061			0.00066	0
Ba-D	mg/L	0.0051	0.0047	0.0051	0.0049	0.0049	5	0.0051	0.0049			0.0051	0
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.025			0.025	0
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.000005	0.000087	0.00017	0.000005	0
Ca-D	mg/L	20.8	19.2	19.8	19.5	19.8	5	20.8	19.80			20.40	0
Cl-D	mg/L		<1.0	<1.0	<1.0	<1.0	4	<1.0	0.5	150	600	0.5	0
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00			0.0005	0
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.00010			0.0001	0
Cu-D	mg/L	0.00038	0.00031	0.00028	0.00035	0.00031	5	0.00038	0.000330	*	*	0.00037	*
DOC	mg/L	3.10	3.20	3.00	3.00	3.40	5	3.4	3.1			3.3	0
Hard-D	mg/L	63.1	58.4	60.3	60.1	61.4	5	63.1	60.7			62.4	0
Fe-D	mg/L	0.0298	0.0322	0.0307	0.0249	0.0240	5	0.0322	0.0283		0.35	0.0316	0
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.0001			0.0001	0
Mg-D	mg/L	2.71	2.55	2.65	2.78	2.92	5	2.92	2.72			2.86	0
Mn-D	mg/L	0.008	0.0021	0.0051	0.0027	0.0014	5	0.008	0.0039			0.0068	0
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.0005			0.0005	0
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0
Ag-D	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.00001			0.00001	0
K-D	mg/L	0.238	0.225	0.253	0.244	0.248	5	0.253	0.242			0.251	0
S-D	mg/L	15.9	15.1	14.4	15.5	15.5	5	15.9	15.3			15.7	0
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0
Na-D	mg/L	5.65	5.32	5.39	5.66	5.7	5	5.7	5.54			5.68	0
Sr-D	mg/L	0.12	0.111	0.124	0.117	0.122	5	0.124	0.119			0.123	0
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0
N-NO23	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	5	<0.020	0.0100			0.01	0

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

River's Summer 2023													
EMS ID	E217017			Water Quality Guidelines									
StnName	No Name Lake Outlet												Count of results exceeding standard
StnCode	NNO												
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	No Flow	No Flow	Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile	
pH-F	pH Units	6.65	7.07	7.19			3	7.19	6.97	6.5 - 9.0		7.17	0
Cond-F	uS/cm	54.4	87.4	177.1			3	177.1	106.3			159.2	0
SO4-D	mg/L	2.4	1.8	1.7			3	2.4	2.0	128		2.3	0
Cl-D	mg/L									150	600		0
TSS	mg/L	<1.0	2.4	1.6			3	2.4	1.50	5	25	2.24	0
Alk-T	mg/L	25	29	34			3	34	29.3			33	0
Al-T	mg/L	0.0115	0.0094	0.0103			3	0.0115	0.0104	*		0.0113	0
As-T	mg/L	0.00049	0.00051	0.00064			3	0.00064	0.00055		0.005	0.00061	0
Ba-T	mg/L	0.0018	0.0017	0.0023			3	0.0023	0.0019	1		0.0022	0
B-T	mg/L	<0.050	<0.050	<0.050			3	<0.050	0.0250	1.2		0.025	0
Bicarb	mg/L	31	36	41			3	41	36.0			40	0
Cd-T	mg/L	<0.000010	<0.000010	<0.000010			3	<0.000010	0.0000050			0.00001	0
Ca-T	mg/L	6.63	7.07	8.92			3	8.92	7.54			8.55	0
Cr-T	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
Co-T	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100	0.004	0.11	0.0001	0
Cu-T	mg/L	<0.00050	<0.00050	<0.00050			3	<0.00050	0.000250			0.00025	0
Hard-T	mg/L	22.6	24.0	30.5			3	30.5	25.7			29.2	0
Fe-T	mg/L	0.090	0.102	0.177			3	0.177	0.123		1	0.162	0
Pb-T	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100	0.004	0.01763	0.0001	0
Mg-T	mg/L	1.47	1.54	2.00			3	2.00	1.67			1.91	0
Mn-T	mg/L	0.102	0.0633	0.117			3	0.117	0.0941	0.737	0.8706	0.114	0
Mo-T	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050	1	2	0.0005	0
Ni-T	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050	0.025		0.0005	0
K-T	mg/L	0.145	0.165	0.225			3	0.225	0.178			0.213	0
S-T	mg/L	<3.0	<3.0	<3.0			3	<3.0	1.50			1.5	0
Se-T	mg/L	<0.00010	<0.00010	<0.00010			3	<0.00010	0.000050	0.002		0.00005	0
Ag-T	mg/L	<0.000020	<0.000020	<0.000020			3	<0.000020	0.0000100	0.00005	0.0001	0.00001	0
Na-T	mg/L	1.55	1.73	2.45			3	2.45	1.91			2.31	0
Sr-T	mg/L	0.0227	0.0237	0.0301			3	0.0301	0.0255			0.0288	0
Zn-T	mg/L	<0.0050	<0.0050	<0.0050			3	<0.0050	0.00250	0.0075	0.033	0.0025	0
Al-D	mg/L	0.0072	0.0060	0.0047			3	0.0072	0.0060			0.007	0
As-D	mg/L	0.00047	0.00055	0.00063			3	0.00063	0.00055			0.00061	0
Ba-D	mg/L	0.0020	0.0020	0.0020			3	0.0020	0.0020			0.002	0
B-D	mg/L	<0.050	<0.050	<0.050			3	<0.050	0.0250			0.025	0
Cd-D	mg/L	<0.000010	<0.000010	<0.000010			3	<0.000010	0.0000050	0.000087	0.00017	0.00001	0
Ca-D	mg/L	7.15	7.39	9.16			3	9.16	7.90			8.81	0
Cr-D	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
Co-D	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100			0.0001	0
Cu-D	mg/L	0.00072	0.00042	0.00034			3	0.00072	0.00049	*	*	0.00066	*
Hard-D	mg/L	24.3	25.2	31.1			3	31.1	26.9			29.9	0
DOC	mg/L	2.0	2.6	2.9			3	2.9	2.5			2.8	0
Fe-D	mg/L	0.0509	0.0512	0.0884			3	0.0884	0.0635		0.35	0.081	0
Pb-D	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100			0.0001	0
Mg-D	mg/L	1.57	1.64	1.99			3	1.99	1.73			1.92	0
Mn-D	mg/L	0.101	0.0690	0.0980			3	0.101	0.0893			0.1004	0
Mo-D	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
Ni-D	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
K-D	mg/L	0.160	0.188	0.226			3	0.226	0.191			0.218	0
S-D	mg/L	<3.0	<3.0	<3.0			3	<3.0	1.50			1.5	0
Se-D	mg/L	<0.00010	<0.00010	<0.00010			3	<0.00010	0.000050			0.00005	0
Na-D	mg/L	1.73	1.87	2.34			3	2.34	1.98			2.25	0
Sr-D	mg/L	0.0243	0.0246	0.0301			3	0.0301	0.0263			0.029	0
Zn-D	mg/L	<0.0050	<0.0050	<0.0050			3	<0.0050	0.00250	0.0075	0.033	0.0025	0

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID	E219412		Water Quality Guidelines										Count of results exceeding standard
StnName	Long Lake Outlet												
StnCode	LLO												
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	No Flow	No Flow	Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile	
pH-F	pH Units	6.9	6.74	6.65			3	6.9	6.76	6.5 - 9.0		6.87	0
Cond-F	uS/cm	142.6	155.6	167.2			3	167.2	155.1			164.9	0
SO4-D	mg/L	39	40	42			3	42	40.3	128		41.6	0
Cl-D	mg/L									150	600		0
TSS	mg/L	<1.0	<1.0	<1.0			3	<1.0	0.50	5	25	0.5	0
Alk-T	mg/L	29	31	38			3	38	32.7			36.6	0
Al-T	mg/L	0.0070	0.0072	0.0182			3	0.0182	0.0108	*		0.016	0
As-T	mg/L	0.00035	0.00035	0.00054			3	0.00054	0.00041		0.005	0.0005	0
Ba-T	mg/L	0.0048	0.0060	0.0105			3	0.0105	0.0071	1		0.0096	0
B-T	mg/L	<0.050	<0.050	<0.050			3	<0.050	0.0250	1.2		0.025	0
Bicarb	mg/L	36	38	46			3	46	40.0			44.4	0
Cd-T	mg/L	<0.000010	<0.000010	<0.000010			3	<0.000010	0.0000050			0.00001	0
Ca-T	mg/L	16.7	18.4	22.7			3	22.7	19.3			21.8	0
Cr-T	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
Co-T	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100	0.004	0.11	0.0001	0
Cu-T	mg/L	<0.00050	<0.00050	<0.00050			3	<0.00050	0.000250			0.00025	0
Hard-T	mg/L	51.8	57.2	70.9			3	70.9	60.0			68.2	0
Fe-T	mg/L	0.010	0.015	0.097			3	0.097	0.041		1	0.081	0
Pb-T	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100	0.004	0.01763	0.0001	0
Mg-T	mg/L	2.46	2.70	3.49			3	3.49	2.88			3.33	0
Mn-T	mg/L	0.0112	0.0333	0.431			3	0.431	0.1585	0.737	0.8706	0.3515	0
Mo-T	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050	1	2	0.0005	0
Ni-T	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050	0.025		0.0005	0
K-T	mg/L	0.250	0.297	0.373			3	0.373	0.307			0.358	0
S-T	mg/L	11.1	12.3	15.4			3	15.4	12.9			14.8	0
Se-T	mg/L	<0.00010	<0.00010	<0.00010			3	<0.00010	0.000050	0.002		0.00005	0
Ag-T	mg/L	<0.000020	<0.000020	<0.000020			3	<0.000020	0.0000100	0.00005	0.0001	0.00001	0
Na-T	mg/L	4.47	4.64	5.17			3	5.17	4.76			5.06	0
Sr-T	mg/L	0.0990	0.106	0.128			3	0.128	0.1110			0.1236	0
Zn-T	mg/L	<0.0050	<0.0050	<0.0050			3	<0.0050	0.00250	0.0075	0.033	0.0025	0
Al-D	mg/L	0.0042	0.0034	0.0039			3	0.0042	0.0038			0.0041	0
As-D	mg/L	0.00036	0.00036	0.00048			3	0.00048	0.00040			0.00046	0
Ba-D	mg/L	0.0057	0.0068	0.0089			3	0.0089	0.0071			0.0085	0
B-D	mg/L	<0.050	<0.050	<0.050			3	<0.050	0.0250			0.025	0
Cd-D	mg/L	<0.000010	<0.000010	<0.000010			3	<0.000010	0.0000050	0.000087	0.00017	0.00001	0
Ca-D	mg/L	19.2	19.9	22.5			3	22.5	20.5			22	0
Cr-D	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
Co-D	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100			0.0001	0
Cu-D	mg/L	0.00035	0.00028	0.00033			3	0.00035	0.00032	*	*	0.00035	*
Hard-D	mg/L	59.3	61.4	69.8			3	69.8	63.5			68.1	0
DOC	mg/L	1.5	1.4	1.6			3	1.6	1.5			1.6	0
Fe-D	mg/L	<0.0050	0.0076	0.0426			3	0.0426	0.01757		0.35	0.0356	0
Pb-D	mg/L	<0.00020	<0.00020	<0.00020			3	<0.00020	0.000100			0.0001	0
Mg-D	mg/L	2.76	2.83	3.28			3	3.28	2.96			3.19	0
Mn-D	mg/L	0.0109	0.0482	0.372			3	0.372	0.1437			0.3072	0
Mo-D	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
Ni-D	mg/L	<0.0010	<0.0010	<0.0010			3	<0.0010	0.00050			0.0005	0
K-D	mg/L	0.292	0.314	0.358			3	0.358	0.321			0.349	0
S-D	mg/L	11.9	14.9	15.4			3	15.4	14.1			15.3	0
Se-D	mg/L	<0.00010	<0.00010	<0.00010			3	<0.00010	0.000050			0.00005	0
Na-D	mg/L	5.10	5.08	5.01			3	5.10	5.06			5.1	0
Sr-D	mg/L	0.112	0.120	0.128			3	0.128	0.120			0.126	0
Zn-D	mg/L	<0.0050	<0.0050	<0.0050			3	<0.0050	0.00250	0.0075	0.033	0.0025	0

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID	E0126402										Water Quality Guidelines			Count of results exceeding standard
StnName	Quinsam River at Argonaut Bridge													
StnCode	WA													
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	31-Jul-23	8-Aug-23	Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile		
pH-F	pH Units	7.24	7.38	7.15	6.7	6.91	5	7.38	7.08	6.5 - 9.0		7.32	0	
Cond-F	uS/cm	47.8	38.9	51.9	56.8	50.5	5	56.8	49.2			54.8	0	
SO4-D	mg/L	1.6	1.1	1.5	1.1	1.3	5	1.6	1.3	128		1.6	0	
Cl-D	mg/L									150	600		0	
TSS	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	0.50	5	25	0.5	0	
Alk-T	mg/L	22	22	22	22	22	5	22	22.0			22	0	
Al-T	mg/L	0.0177	0.0171	0.0156	0.0135	0.0149	5	0.0177	0.0158	*		0.0175	0	
As-T	mg/L	0.00012	0.00013	0.00013	0.00014	0.00014	5	0.00014	0.00013		0.005	0.00014	0	
Ba-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1		0.0005	0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0	
Bicarb	mg/L	27	27	27	27	27	5	27	27.0			27	0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0	
Ca-T	mg/L	6.61	6.56	7.53	6.42	6.41	5	7.53	6.71			7.16	0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0	
Cu-T	mg/L	<0.00050	0.00060	0.00054	<0.00050	<0.00050	5	0.00060	0.000378			0.000576	0	
Hard-T	mg/L	19.5	19.2	22.1	18.7	18.9	5	22.1	19.7			21.1	0	
Fe-T	mg/L	0.021	0.022	0.022	0.015	0.025	5	0.025	0.021		1	0.024	0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0040	0.01763	0.0001	0	
Mg-T	mg/L	0.718	0.694	0.800	0.653	0.691	5	0.800	0.711			0.767	0	
Mn-T	mg/L	0.0018	0.0015	0.0019	0.0012	0.0016	5	0.0019	0.0016	0.737	0.8706	0.0019	0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0	
K-T	mg/L	0.056	0.056	0.059	<0.050	0.064	5	0.064	0.0520			0.062	0	
S-T	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50			1.5	0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0	
Na-T	mg/L	0.576	0.576	0.654	0.564	0.570	5	0.654	0.588			0.623	0	
Sr-T	mg/L	0.0111	0.0105	0.0125	0.0107	0.0106	5	0.0125	0.0111			0.0119	0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	
Al-D	mg/L	0.0147	0.0158	0.0130	0.0135	0.0132	5	0.0158	0.0140			0.0154	0	
As-D	mg/L	0.00011	0.00015	0.00014	0.00013	0.00016	5	0.00016	0.00014			0.00016	0	
Ba-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0	
Ca-D	mg/L	7.36	7.02	7.48	7.12	7.32	5	7.48	7.26			7.43	0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Cu-D	mg/L	0.00051	0.00046	0.00049	0.00052	0.00055	5	0.00055	0.00051	*	*	0.00054	*	
Hard-D	mg/L	21.6	20.6	21.8	21.1	21.6	5	21.8	21.3			21.7	0	
DOC	mg/L	1.9	1.6	1.7	1.8	2.1	5	2.1	1.8			2	0	
Fe-D	mg/L	0.0145	0.0162	0.0172	0.0118	0.0237	5	0.0237	0.0167		0.35	0.0211	0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Mg-D	mg/L	0.792	0.749	0.762	0.802	0.803	5	0.803	0.782			0.803	0	
Mn-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
K-D	mg/L	0.068	0.057	0.060	0.064	0.068	5	0.068	0.063			0.068	0	
S-D	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	5	<3.0	1.50			1.5	0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0	
Na-D	mg/L	0.684	0.667	0.633	0.676	0.662	5	0.684	0.664			0.681	0	
Sr-D	mg/L	0.0123	0.0116	0.0113	0.0126	0.0130	5	0.0130	0.0122			0.0128	0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID	E0900504										Water Quality Guidelines			Count of results exceeding standard
StnName	Middle Quinsam Lake Outlet													
StnCode	WB													
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	31-Jul-23	8-Aug-23	Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile		
pH-F	pH Units	7.73	7.7	7.62	7.25	7.23	5	7.73	7.51	6.5 - 9.0		7.72	0	
Cond-F	uS/cm	94.6	92.4	88.8	87.8	89.6	5	94.6	90.6			93.7	0	
SO4-D	mg/L	12	12	9.7	8.6	7.9	5	12	10.0	128		12	0	
Cl-D	mg/L									150	600		0	
TSS	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	0.50	5	25	0.5	0	
Alk-T	mg/L	34	33	33	32	30	5	34	32.4			33.6	0	
Al-T	mg/L	0.0148	0.0164	0.0144	0.0131	0.0132	5	0.0164	0.0144	*		0.0158	0	
As-T	mg/L	0.00017	0.00020	0.00017	0.00021	0.00018	5	0.00021	0.00019		0.005	0.00021	0	
Ba-T	mg/L	<0.0010	0.0011	0.0010	0.0010	<0.0010	5	0.0011	0.00082	1		0.00106	0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0	
Bicarb	mg/L	41	40	40	39	37	5	41	39.4			40.6	0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0	
Ca-T	mg/L	8.71	9.52	9.10	8.50	8.04	5	9.52	8.77			9.35	0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0	
Cu-T	mg/L	0.00053	0.00054	<0.00050	0.00058	<0.00050	5	0.00058	0.000430			0.000564	0	
Hard-T	mg/L	26.3	28.7	27.2	25.1	24.0	5	28.7	26.3			28.1	0	
Fe-T	mg/L	0.040	0.042	0.042	0.043	0.033	5	0.043	0.040		1	0.043	0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0	
Mg-T	mg/L	1.11	1.19	1.08	0.947	0.963	5	1.19	1.058			1.158	0	
Mn-T	mg/L	0.0107	0.0121	0.0132	0.0145	0.0090	5	0.0145	0.0119	0.737	0.8706	0.014	0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0	
K-T	mg/L	0.146	0.150	0.130	0.116	0.108	5	0.150	0.130			0.148	0	
S-T	mg/L	3.7	4.4	<3.0	<3.0	<3.0	5	4.4	2.52			4.12	0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0	
Na-T	mg/L	8.09	8.09	6.81	5.80	5.26	5	8.09	6.81			8.09	0	
Sr-T	mg/L	0.0375	0.0382	0.0346	0.0322	0.0294	5	0.0382	0.0344			0.0379	0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	
Al-D	mg/L	0.0135	0.0138	0.0126	0.0125	0.0121	5	0.0138	0.0129			0.0137	0	
As-D	mg/L	0.00015	0.00020	0.00018	0.00021	0.00018	5	0.00021	0.00018			0.00021	0	
Ba-D	mg/L	0.0013	0.0011	<0.0010	0.0010	<0.0010	5	0.0013	0.00088			0.00122	0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0	
Ca-D	mg/L	9.83	9.08	9.32	9.04	9.07	5	9.83	9.27			9.63	0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Cu-D	mg/L	0.00085	0.00047	0.00045	0.00049	0.00046	5	0.00085	0.00054	*	*	0.00071	*	
Hard-D	mg/L	29.4	27.2	27.7	27.3	27.1	5	29.4	27.7			28.7	0	
DOC	mg/L	2.5	2.4	2.5	2.5	2.5	5	2.5	2.5			2.5	0	
Fe-D	mg/L	0.0250	0.0242	0.0265	0.0241	0.0256	5	0.0265	0.0251		0.35	0.0261	0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Mg-D	mg/L	1.17	1.10	1.08	1.14	1.08	5	1.17	1.11			1.16	0	
Mn-D	mg/L	0.0029	0.0040	0.0023	0.0028	0.0014	5	0.0040	0.0027			0.0036	0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
K-D	mg/L	0.166	0.134	0.124	0.127	0.114	5	0.166	0.133			0.153	0	
S-D	mg/L	3.9	6.5	3.6	3.3	<3.0	5	6.5	3.76			5.46	0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0	
Na-D	mg/L	8.84	7.78	6.77	6.49	5.70	5	8.84	7.12			8.42	0	
Sr-D	mg/L	0.0401	0.0349	0.0327	0.0348	0.0324	5	0.0401	0.0350			0.038	0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.

Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID	E286930										Water Quality Guidelines			Count of results exceeding standard
StnName	Quinsam River Downstream Site 1													
StnCode	QRDS1													
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	31-Jul-23	8-Aug-23	Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile		
pH-F	pH Units	7.5	7.72	7.6	6.73	7.2	5	7.72	7.35	6.5 - 9.0		7.67	0	
Cond-F	uS/cm	113.5	103.9	151.1	133.8	105.9	5	151.1	121.6			144.2	0	
SO4-D	mg/L	14	12	11	10	9.2	5	14	11.2	128		13.2	0	
Cl-D	mg/L									150	600		0	
TSS	mg/L	<1.0	1.6	<1.0	<1.0	<1.0	5	1.6	0.72	5	25	1.16	0	
Alk-T	mg/L	38	36	37	36	34	5	38	36.2			37.6	0	
Al-T	mg/L	0.0170	0.0193	0.0150	0.0143	0.0156	5	0.0193	0.0162	*		0.0184	0	
As-T	mg/L	0.00062	0.00070	0.00084	0.00077	0.00071	5	0.00084	0.00073		0.005	0.00081	0	
Ba-T	mg/L	0.0016	0.0018	0.0019	0.0017	0.0016	5	0.0019	0.0017	1		0.0019	0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0	
Bicarb	mg/L	47	44	45	44	41	5	47	44.2			46.2	0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0	
Ca-T	mg/L	8.75	9.27	9.84	8.70	8.13	5	9.84	8.94			9.61	0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0	
Cu-T	mg/L	<0.00050	<0.00050	0.00052	<0.00050	0.00062	5	0.00062	0.000378			0.00058	0	
Hard-T	mg/L	26.5	28.0	29.6	26.0	24.5	5	29.6	26.9			29	0	
Fe-T	mg/L	0.047	0.050	0.045	0.041	0.042	5	0.050	0.045		1	0.049	0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0	
Mg-T	mg/L	1.12	1.19	1.22	1.04	1.02	5	1.22	1.12			1.21	0	
Mn-T	mg/L	0.0100	0.0113	0.0100	0.0084	0.0078	5	0.0113	0.0095	0.737	0.8706	0.0108	0	
Mo-T	mg/L	0.0014	<0.0010	<0.0010	<0.0010	<0.0010	5	0.0014	0.00068	1	2	0.00104	0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	0.025		0.0005	0	
K-T	mg/L	0.173	0.179	0.181	0.146	0.151	5	0.181	0.166			0.18	0	
S-T	mg/L	3.4	4.7	4.1	3.2	3.1	5	4.7	3.7			4.5	0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0	
Na-T	mg/L	9.56	9.34	9.31	7.63	6.80	5	9.56	8.53			9.47	0	
Sr-T	mg/L	0.0405	0.0412	0.0427	0.0371	0.0337	5	0.0427	0.0390			0.0421	0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	
Al-D	mg/L	0.0106	0.0103	0.0093	0.0109	0.0088	5	0.0109	0.0100			0.0108	0	
As-D	mg/L	0.00063	0.00064	0.00073	0.00072	0.00068	5	0.00073	0.00068			0.00073	0	
Ba-D	mg/L	0.0019	0.0018	0.0018	0.0018	0.0017	5	0.0019	0.0018			0.0019	0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050	0.000087	0.00017	0.00001	0	
Ca-D	mg/L	9.89	9.42	9.21	9.21	9.07	5	9.89	9.36			9.7	0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Cu-D	mg/L	0.00043	0.00038	0.00048	0.00047	0.00041	5	0.00048	0.00043	*	*	0.00048	*	
Hard-D	mg/L	29.9	28.4	28.0	28.0	27.3	5	29.9	28.3			29.3	0	
DOC	mg/L	2.2	2.3	2.1	2.6	2.3	5	2.6	2.3			2.5	0	
Fe-D	mg/L	0.0225	0.0222	0.0231	0.0204	0.0215	5	0.0231	0.0219		0.35	0.0229	0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Mg-D	mg/L	1.26	1.18	1.20	1.22	1.14	5	1.26	1.20			1.24	0	
Mn-D	mg/L	0.0018	0.0015	0.0015	0.0017	0.0015	5	0.0018	0.0016			0.0018	0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
K-D	mg/L	0.191	0.166	0.164	0.175	0.174	5	0.191	0.174			0.185	0	
S-D	mg/L	4.8	4.8	4.1	4.3	4.2	5	4.8	4.4			4.8	0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0	
Na-D	mg/L	10.9	9.58	8.88	8.86	7.56	5	10.9	9.16			10.37	0	
Sr-D	mg/L	0.0433	0.0402	0.0372	0.0401	0.0405	5	0.0433	0.0403			0.0422	0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID	E292113										Water Quality Guidelines			Count of results exceeding standard
StnName	7 South Quinsam River													
StnCode	75QR													
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	31-Jul-23	8-Aug-23	Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile		
pH-F	pH Units	7.28	6.58	7.08	6.86	7.11	5	7.28	6.98	6.5 - 9.0		7.21	0	
Cond-F	uS/cm	114	108.7	101.1	103.5	167.1	5	167.1	118.9			145.9	0	
SO4-D	mg/L	13	13	11	9.9	9.3	5	13	11.2	128		13	0	
Cl-D	mg/L									150	600		0	
TSS	mg/L	2.4	<1.0	<1.0	<1.0	<1.0	5	2.4	0.88	5	25	1.64	0	
Alk-T	mg/L	37	36	38	36	37	5	38	36.8			37.6	0	
Al-T	mg/L	0.0165	0.0186	0.0142	0.0166	0.0188	5	0.0188	0.0169	*		0.0187	0	
As-T	mg/L	0.00065	0.00071	0.00086	0.00083	0.00079	5	0.00086	0.00077		0.005	0.00085	0	
Ba-T	mg/L	0.0017	0.0020	0.0022	0.0020	0.0020	5	0.0022	0.0020	1		0.0021	0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0	
Bicarb	mg/L	45	44	47	43	45	5	47	44.8			46.2	0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	5	<0.000010	0.0000050			0.00001	0	
Ca-T	mg/L	8.35	8.88	9.79	8.82	8.52	5	9.79	8.87			9.43	0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0	
Cu-T	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	5	<0.00050	0.000250			0.00025	0	
Hard-T	mg/L	25.3	26.9	29.4	26.6	25.6	5	29.4	26.8			28.4	0	
Fe-T	mg/L	0.084	0.090	0.103	0.106	0.108	5	0.108	0.098		1	0.107	0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0	
Mg-T	mg/L	1.07	1.14	1.21	1.10	1.06	5	1.21	1.12			1.18	0	
Mn-T	mg/L	0.0068	0.0074	0.0088	0.0081	0.0073	5	0.0088	0.0077	0.737	0.8706	0.0085	0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050	1	2	0.0005	0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	0.0011	<0.0010	5	0.0011	0.00062	0.025		0.00086	0	
K-T	mg/L	0.165	0.169	0.193	0.165	0.172	5	0.193	0.173			0.185	0	
S-T	mg/L	3.6	3.4	4.1	3.3	3.1	5	4.1	3.5			3.9	0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100	0.00005	0.0001	0.00001	0	
Na-T	mg/L	8.82	8.91	9.19	7.64	7.15	5	9.19	8.34			9.08	0	
Sr-T	mg/L	0.0397	0.0387	0.0433	0.0393	0.0370	5	0.0433	0.0396			0.0419	0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	
Al-D	mg/L	0.0414	0.0125	0.0087	0.0144	0.0080	5	0.0414	0.0170			0.0306	0	
As-D	mg/L	0.00071	0.00076	0.00083	0.00082	0.00077	5	0.00083	0.00078			0.00083	0	
Ba-D	mg/L	0.0021	0.0021	0.0020	0.0024	0.0020	5	0.0024	0.0021			0.0023	0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	0.000021	<0.000010	5	0.000021	0.0000082	0.000087	0.00017	0.00001	0	
Ca-D	mg/L	10.0	9.66	9.42	9.51	9.31	5	10.0	9.58			9.86	0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Cu-D	mg/L	0.00061	0.00041	0.00046	0.00082	0.00044	5	0.00082	0.00055	*	*	0.00074	*	
Hard-D	mg/L	30.3	29.2	28.6	29.1	28.2	5	30.3	29.1			29.9	0	
DOC	mg/L	1.9	1.9	2.0	2.0	2.3	5	2.3	2.0			2.2	0	
Fe-D	mg/L	0.0544	0.0563	0.0660	0.0747	0.0637	5	0.0747	0.0630		0.35	0.0712	0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Mg-D	mg/L	1.27	1.22	1.22	1.29	1.21	5	1.29	1.24			1.28	0	
Mn-D	mg/L	0.0065	0.0062	0.0071	0.0072	0.0064	5	0.0072	0.0067			0.0072	0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
K-D	mg/L	0.216	0.174	0.178	0.204	0.191	5	0.216	0.193			0.211	0	
S-D	mg/L	4.4	4.7	4.2	3.8	3.1	5	4.7	4.0			4.6	0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0	
Na-D	mg/L	11.1	9.68	8.93	8.70	7.87	5	11.1	9.26			10.53	0	
Sr-D	mg/L	0.0458	0.0414	0.0395	0.0438	0.0415	5	0.0458	0.0424			0.045	0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID	E297231				Water Quality Guidelines							
StnName	Iron River Site 6											
StnCode	IR6											
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23		Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile	Count of results exceeding standard
pH-F	pH Units	7.97	8.15	8.03	Hazardous Conditions	3	8.15	8.05	6.5 - 9.0		8.13	0
Cond-F	uS/cm	169.4	205	198.3		3	205	190.9			203.7	0
SO4-D	mg/L	11	13	13		3	13	12.3	128		13	0
Cl-D	mg/L								150	600		
TSS	mg/L	<1.0	<1.0	<1.0		3	<1.0	0.50	5	25	0.5	0
Alk-T	mg/L	69	71	75		3	75	71.7			74.2	0
Al-T	mg/L	0.0151	0.0146	0.0138		3	0.0151	0.0145	*		0.015	0
As-T	mg/L	0.00962	0.0110	0.0140		3	0.0140	0.01154		0.005	0.0134	3
Ba-T	mg/L	0.0119	0.0128	0.0159		3	0.0159	0.0135	1		0.0153	0
B-T	mg/L	0.052	0.057	0.072		3	0.072	0.060	1.2		0.069	0
Bicarb	mg/L	84	87	92		3	92	87.7			91	0
Cd-T	mg/L	<0.000010	0.000012	0.000012		3	0.000012	0.0000097			0.00001	0
Ca-T	mg/L	22.9	24.2	28.5		3	28.5	25.2			27.6	0
Cr-T	mg/L	<0.0010	<0.0010	<0.0010		3	<0.0010	0.00050			0.0005	0
Co-T	mg/L	<0.00020	<0.00020	<0.00020		3	<0.00020	0.000100	0.004	0.11	0.0001	0
Cu-T	mg/L	<0.00050	<0.00050	0.00052		3	0.00052	0.000340			0.000466	0
Hard-T	mg/L	65.7	69.8	82.4		3	82.4	72.6			79.9	0
Fe-T	mg/L	<0.010	<0.010	<0.010		3	<0.010	0.0050		1	0.005	0
Pb-T	mg/L	<0.00020	<0.00020	<0.00020		3	<0.00020	0.000100	0.0039978	0.01763	0.0001	0
Mg-T	mg/L	2.04	2.25	2.72		3	2.72	2.34			2.63	0
Mn-T	mg/L	0.0010	0.0012	0.0035		3	0.0035	0.0019	0.737	0.8706	0.003	0
Mo-T	mg/L	<0.0010	<0.0010	<0.0010		3	<0.0010	0.00050	1	2	0.0005	0
Ni-T	mg/L	<0.0010	<0.0010	<0.0010		3	<0.0010	0.00050	0.025		0.0005	0
K-T	mg/L	0.304	0.333	0.414		3	0.414	0.350			0.398	0
S-T	mg/L	<3.0	3.6	4.6		3	4.6	3.23			4.4	0
Se-T	mg/L	0.00013	0.00014	0.00017		3	0.00017	0.00015	0.002		0.00016	0
Ag-T	mg/L	<0.000020	<0.000020	<0.000020		3	<0.000020	0.0000100	0.00005	0.0001	0.00001	0
Na-T	mg/L	3.00	3.38	4.34		3	4.34	3.57			4.15	0
Sr-T	mg/L	0.0836	0.0865	0.104		3	0.104	0.0914			0.1005	0
Zn-T	mg/L	<0.0050	<0.0050	<0.0050		3	<0.0050	0.00250	0.0075	0.033	0.0025	0
Al-D	mg/L	0.0179	0.0151	0.0122		3	0.0179	0.0151			0.0173	0
As-D	mg/L	0.0110	0.0130	0.0145		3	0.0145	0.0128			0.0142	0
Ba-D	mg/L	0.0137	0.0147	0.0160		3	0.0160	0.0148			0.0157	0
B-D	mg/L	0.055	0.074	0.073		3	0.074	0.067			0.074	0
Cd-D	mg/L	0.000011	0.000010	0.000011		3	0.000011	0.000011	0.000087	0.00017	0.00001	0
Ca-D	mg/L	26.1	27.5	28.5		3	28.5	27.4			28.3	0
Cr-D	mg/L	<0.0010	<0.0010	<0.0010		3	<0.0010	0.00050			0.0005	0
Co-D	mg/L	<0.00020	<0.00020	<0.00020		3	<0.00020	0.000100			0.0001	0
Cu-D	mg/L	0.00085	0.00038	0.00048		3	0.00085	0.00057	*	*	0.00078	*
Hard-D	mg/L	74.7	78.3	82.4		3	82.4	78.5			81.6	0
DOC	mg/L	1.4	1.3	2.3		3	2.3	1.7			2.1	0
Fe-D	mg/L	0.0054	<0.0050	<0.0050		3	0.0054	0.00347		0.35	0.00482	0
Pb-D	mg/L	<0.00020	<0.00020	<0.00020		3	<0.00020	0.000100			0.0001	0
Mg-D	mg/L	2.31	2.37	2.71		3	2.71	2.46			2.64	0
Mn-D	mg/L	0.0010	0.0011	0.0031		3	0.0031	0.0017			0.0027	0
Mo-D	mg/L	<0.0010	<0.0010	<0.0010		3	<0.0010	0.00050			0.0005	0
Ni-D	mg/L	<0.0010	<0.0010	<0.0010		3	<0.0010	0.00050			0.0005	0
K-D	mg/L	0.352	0.345	0.397		3	0.397	0.365			0.388	0
S-D	mg/L	3.6	4.6	4.6		3	4.6	4.3			4.6	0
Se-D	mg/L	0.00016	0.00015	0.00017		3	0.00017	0.00016			0.00017	0
Na-D	mg/L	3.52	3.73	4.17		3	4.17	3.81			4.08	0
Sr-D	mg/L	0.0943	0.0921	0.106		3	0.106	0.0975			0.1037	0
Zn-D	mg/L	<0.0050	<0.0050	<0.0050		3	<0.0050	0.00250	0.0075	0.033	0.0025	0

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.  
Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID StnName StnCode	E297232 Iron River Site 8 IR8				Sample collected down- stream of original site		Water Quality Guidelines						Count of results exceeding standard	
	Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	31-Jul-23	8-Aug-23	Count	Max	5 in 30 Av	Chronic	Acute		90th Percentile
pH-F	pH Units	8.03	8.02	8.02	7.12	6.68	5	8.03	7.57	6.5 - 9.0			8.03	0
Cond-F	uS/cm	192.5	196.7	213	120.8	131.6	5	213	170.9				206.5	0
SO4-D	mg/L	11	13	13	4.8	5.0	5	13	9.4		128		13	0
Cl-D	mg/L										150	600		
TSS	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	0.50		5	25	0.5	0
Alk-T	mg/L	74	77	83	51	53	5	83	67.6				80.6	0
Al-T	mg/L	0.0167	0.0217	0.0127	0.0065	0.0122	5	0.0217	0.0140		*		0.0197	0
As-T	mg/L	0.0213	0.0239	0.0267	0.00065	0.00072	5	0.0267	0.01465			0.005	0.02558	3
Ba-T	mg/L	0.0124	0.0144	0.0163	0.0081	0.0092	5	0.0163	0.0121		1		0.0155	0
B-T	mg/L	0.080	0.093	0.116	<0.050	<0.050	5	0.116	0.0678		1.2		0.1068	0
Bicarb	mg/L	91	94	100	63	65	5	100	82.6				97.6	0
Cd-T	mg/L	0.000013	0.000010	0.000011	<0.000010	<0.000010	5	0.000013	0.0000088				0.00001	0
Ca-T	mg/L	24.8	27.8	30.3	15.5	17.7	5	30.3	23.2				29.3	0
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050				0.0005	0
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		0.004	0.11	0.0001	0
Cu-T	mg/L	<0.00050	0.00065	0.00082	<0.00050	<0.00050	5	0.00082	0.000444				0.000752	0
Hard-T	mg/L	70.8	80.0	87.5	44.2	51.0	5	87.5	66.7				84.5	0
Fe-T	mg/L	0.014	0.026	0.019	<0.010	0.014	5	0.026	0.0156			1	0.0232	0
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100		0.0039978	0.01763	0.0001	0
Mg-T	mg/L	2.17	2.54	2.86	1.35	1.67	5	2.86	2.12				2.73	0
Mn-T	mg/L	0.0019	0.0024	0.0031	<0.0010	0.0013	5	0.0031	0.00184		0.737	0.8706	0.00282	0
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		1	2	0.0005	0
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050		0.025		0.0005	0
K-T	mg/L	0.354	0.398	0.453	0.241	0.300	5	0.453	0.349				0.431	0
S-T	mg/L	<3.0	3.9	4.3	<3.0	<3.0	5	4.3	2.54				4.14	0
Se-T	mg/L	0.00012	0.00012	0.00013	<0.00010	<0.00010	5	0.00013	0.000094		0.002		0.000126	0
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.0000100		0.00005	0.0001	0.00001	0
Na-T	mg/L	5.78	6.88	8.33	1.80	2.12	5	8.33	4.98				7.75	0
Sr-T	mg/L	0.0921	0.102	0.114	0.0541	0.0624	5	0.114	0.0849				0.1092	0
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		0.0075	0.033	0.0025	0
Al-D	mg/L	0.0191	0.0168	0.0115	0.0060	0.0063	5	0.0191	0.0119				0.0182	0
As-D	mg/L	0.0240	0.0260	0.0275	0.00074	0.00077	5	0.0275	0.01580				0.0269	0
Ba-D	mg/L	0.0141	0.0154	0.0163	0.0101	0.0100	5	0.0163	0.0132				0.0159	0
B-D	mg/L	0.084	0.109	0.110	<0.050	<0.050	5	0.110	0.0706				0.1096	0
Cd-D	mg/L	<0.000010	0.000011	0.000012	0.000011	<0.000010	5	0.000012	0.0000088		0.000087	0.00017	0.00001	0
Ca-D	mg/L	28.3	29.8	31.1	18.6	18.3	5	31.1	25.2				30.6	0
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050				0.0005	0
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100				0.0001	0
Cu-D	mg/L	0.00061	0.00063	0.00076	0.00035	0.00067	5	0.00076	0.00060		*	*	0.00072	*
Hard-D	mg/L	81.1	84.9	89.0	54.0	53.2	5	89.0	72.4				87.4	0
DOC	mg/L	1.4	1.4	2.6	1.3	1.6	5	2.6	1.7				2.2	0
Fe-D	mg/L	0.0154	0.0149	0.0166	<0.0050	0.0057	5	0.0166	0.01102			0.35	0.01612	0
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100				0.0001	0
Mg-D	mg/L	2.51	2.53	2.73	1.83	1.85	5	2.73	2.29				2.65	0
Mn-D	mg/L	0.0023	0.0018	0.0027	<0.0010	<0.0010	5	0.0027	0.00156				0.00254	0
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050				0.0005	0
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050				0.0005	0
K-D	mg/L	0.393	0.400	0.430	0.296	0.325	5	0.430	0.369				0.418	0
S-D	mg/L	<3.0	4.4	4.4	<3.0	<3.0	5	4.4	2.66				4.4	0
Se-D	mg/L	0.00013	0.00014	0.00014	<0.00010	<0.00010	5	0.00014	0.000102				0.00014	0
Na-D	mg/L	6.50	7.63	8.20	2.30	2.26	5	8.20	5.38				7.97	0
Sr-D	mg/L	0.104	0.107	0.118	0.0666	0.0693	5	0.118	0.0930				0.1136	0
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250		0.0075	0.033	0.0025	0

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.

Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 39 Rivers Summer 9 Page(s)

EMS ID	E299256										Water Quality Guidelines			Count of results exceeding standard
StnName	Downstream of the Confluence of the Iron & Quinsam Rivers													
StnCode	IRQR													
Date	Unit	11-Jul-23	17-Jul-23	24-Jul-23	31-Jul-23	8-Aug-23	Count	Max	5 in 30 Av	Chronic	Acute	90th Percentile		
pH-F	pH Units	7.23	6.49	7.32	7.12	6.72	5	7.32	6.98	6.5 - 9.0		7.28	0	
Cond-F	uS/cm	114.4	111.4	103.1	101.0	101.8	5	114.4	106.3			113.2	0	
SO4-D	mg/L	13	12	11	9.9	9.1	5	13	11.0	128		12.6	0	
Cl-D	mg/L									150	600			
TSS	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	0.50	5	25	0.5	0	
Alk-T	mg/L	39	37	36	39	34	5	39	37.0			39	0	
Al-T	mg/L	0.0181	0.0215	0.0164	0.0176	0.0180	5	0.0215	0.0183	*		0.0201	0	
As-T	mg/L	0.00071	0.00075	0.00088	0.00089	0.00089	5	0.00089	0.00082		0.005	0.00089	0	
Ba-T	mg/L	0.0020	0.0022	0.0023	0.0022	0.0024	5	0.0024	0.0022	1		0.0024	0	
B-T	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250	1.2		0.025	0	
Bicarb	mg/L	48	45	44	48	42	5	48	45.4			48	0	
Cd-T	mg/L	<0.000010	<0.000010	<0.000010	0.000012	<0.000010	5	0.000012	0.0000064			0.00001	0	
Ca-T	mg/L	8.69	9.23	10.3	9.07	8.94	5	10.3	9.25			9.87	0	
Cr-T	mg/L	<0.0010	<0.0010	<0.0010	0.0038	<0.0010	5	0.0038	0.00116			0.00248	0	
Co-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.004	0.11	0.0001	0	
Cu-T	mg/L	<0.00050	<0.00050	0.00050	<0.00050	0.00063	5	0.00063	0.000376			0.000578	0	
Hard-T	mg/L	26.4	27.9	31.1	27.1	27.1	5	31.1	27.9			29.8	0	
Fe-T	mg/L	0.089	0.100	0.120	0.121	0.123	5	0.123	0.111		1	0.122	0	
Pb-T	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100	0.0039978	0.01763	0.0001	0	
Mg-T	mg/L	1.13	1.18	1.27	1.07	1.15	5	1.27	1.16			1.23	0	
Mn-T	mg/L	0.0078	0.0093	0.0106	0.0096	0.0100	5	0.0106	0.0095	0.737	0.8706	0.0104	0	
Mo-T	mg/L	<0.0010	<0.0010	<0.0010	0.0040	<0.0010	5	0.0040	0.00120	1	2	0.0026	0	
Ni-T	mg/L	<0.0010	<0.0010	<0.0010	0.0165	<0.0010	5	0.0165	0.00370	0.025		0.0101	0	
K-T	mg/L	0.185	0.184	0.203	0.165	0.189	5	0.203	0.185			0.197	0	
S-T	mg/L	3.5	4.1	4.5	3.1	3.3	5	4.5	3.7			4.3	0	
Se-T	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050	0.002		0.00005	0	
Ag-T	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	5	<0.000020	0.00001	0.00005	0.0001	0.00001	0	
Na-T	mg/L	9.23	9.25	9.43	7.77	7.60	5	9.43	8.66			9.36	0	
Sr-T	mg/L	0.0411	0.0400	0.0444	0.0399	0.0398	5	0.0444	0.0410			0.0431	0	
Zn-T	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	
Al-D	mg/L	0.0096	0.0105	0.0087	0.0090	0.0091	5	0.0105	0.0094			0.0101	0	
As-D	mg/L	0.00071	0.00078	0.00080	0.00084	0.00086	5	0.00086	0.00080			0.00085	0	
Ba-D	mg/L	0.0023	0.0022	0.0022	0.0024	0.0022	5	0.0024	0.0023			0.0024	0	
B-D	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	5	<0.050	0.0250			0.025	0	
Cd-D	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000019	5	0.000019	0.0000078	0.000087	0.00017	0.00001	0	
Ca-D	mg/L	10.1	9.66	9.81	9.83	9.66	5	10.1	9.81			9.99	0	
Cr-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Co-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Cu-D	mg/L	0.00046	0.00041	0.00047	0.00049	0.00050	5	0.00050	0.00047	*	*	0.0005	*	
Hard-D	mg/L	30.5	29.1	29.5	29.9	29.0	5	30.5	29.6			30.3	0	
DOC	mg/L	2.0	2.2	2.0	2.1	2.5	5	2.5	2.2			2.4	0	
Fe-D	mg/L	0.0560	0.0686	0.0656	0.0890	0.0709	5	0.0890	0.0700		0.35	0.0818	0	
Pb-D	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	5	<0.00020	0.000100			0.0001	0	
Mg-D	mg/L	1.26	1.20	1.22	1.29	1.19	5	1.29	1.23			1.28	0	
Mn-D	mg/L	0.0072	0.0073	0.0084	0.0090	0.0082	5	0.0090	0.0080			0.0088	0	
Mo-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
Ni-D	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	5	<0.0010	0.00050			0.0005	0	
K-D	mg/L	0.214	0.181	0.180	0.197	0.197	5	0.214	0.194			0.207	0	
S-D	mg/L	4.5	4.8	3.8	4.0	3.1	5	4.8	4.0			4.7	0	
Se-D	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	5	<0.00010	0.000050			0.00005	0	
Na-D	mg/L	10.5	9.73	8.82	8.79	7.62	5	10.5	9.09			10.19	0	
Sr-D	mg/L	0.0460	0.0424	0.0401	0.0443	0.0421	5	0.0460	0.0430			0.0453	0	
Zn-D	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	5	<0.0050	0.00250	0.0075	0.033	0.0025	0	

Notes: \* Variable, calculated guideline. Refer to Tables 3 and 4.

Factor applied to less-than results when calculating statistics: 0.5

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
2SI	4-Jul-23	H2S	mg/L	0.002	0.002	0.082	0.12	37.6	0.68
2SI	4-Jul-23	S2-T	mg/L	0.0018	0.0018	0.077	0.11	35.3	0.70
2SI	4-Jul-23	SO4-D	mg/L	5	5	580	580	0.0	1.00
2SI	5-Sep-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
2SI	5-Sep-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
2SI	5-Sep-23	Al-D	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
2SI	5-Sep-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
2SI	5-Sep-23	Alk-T	mg/L	1	1	350	260	29.5	1.35
2SI	5-Sep-23	Al-T	mg/L	0.003	0.003	0.0041	<0.0030	31.0	1.37
2SI	5-Sep-23	As-D	mg/L	0.0001	0.0001	0.00046	0.00047	2.2	0.98
2SI	5-Sep-23	As-T	mg/L	0.0001	0.0001	0.00056	0.00045	21.8	1.24
2SI	5-Sep-23	Ba-D	mg/L	0.001	0.001	0.0290	0.0291	0.3	1.00
2SI	5-Sep-23	Ba-T	mg/L	0.001	0.001	0.0262	0.0251	4.3	1.04
2SI	5-Sep-23	B-D	mg/L	0.05	0.05	0.640	0.654	2.2	0.98
2SI	5-Sep-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
2SI	5-Sep-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
2SI	5-Sep-23	B-T	mg/L	0.05	0.05	0.583	0.561	3.8	1.04
2SI	5-Sep-23	Ca-D	mg/L	0.05	0.05	211	213	0.9	0.99
2SI	5-Sep-23	Ca-T	mg/L	0.05	0.05	205	200	2.5	1.02
2SI	5-Sep-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
2SI	5-Sep-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
2SI	5-Sep-23	Co-D	mg/L	0.0002	0.0002	0.00034	0.00034	0.0	1.00
2SI	5-Sep-23	Co-T	mg/L	0.0002	0.0002	0.00032	0.00029	9.8	1.10
2SI	5-Sep-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
2SI	5-Sep-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
2SI	5-Sep-23	Cu-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
2SI	5-Sep-23	Cu-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
2SI	5-Sep-23	Fe-D	mg/L	0.005	0.005	0.0485	0.0928	62.7	0.52
2SI	5-Sep-23	Fe-T	mg/L	0.01	0.01	0.297	0.044	148.4	6.75
2SI	5-Sep-23	H2S	mg/L	0.002	0.002	0.14	0.015	161.3	9.33
2SI	5-Sep-23	Hard-D	mg/L	0.5	0.5	596	603	1.2	0.99
2SI	5-Sep-23	Hard-T	mg/L	0.5	0.5	574	559	2.6	1.03
2SI	5-Sep-23	K-D	mg/L	0.05	0.05	1.86	1.91	2.7	0.97
2SI	5-Sep-23	K-T	mg/L	0.05	0.05	1.72	1.67	2.9	1.03
2SI	5-Sep-23	Li-D	mg/L	0.002	0.002	0.0164	0.0172	4.8	0.95
2SI	5-Sep-23	Li-T	mg/L	0.002	0.002	0.0164	0.0148	10.3	1.11
2SI	5-Sep-23	Mg-D	mg/L	0.05	0.05	16.7	17.6	5.2	0.95
2SI	5-Sep-23	Mg-T	mg/L	0.05	0.05	15.1	14.5	4.1	1.04
2SI	5-Sep-23	Mn-D	mg/L	0.001	0.001	0.270	0.266	1.5	1.02
2SI	5-Sep-23	Mn-T	mg/L	0.001	0.001	0.228	0.219	4.0	1.04
2SI	5-Sep-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
2SI	5-Sep-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
2SI	5-Sep-23	Na-D	mg/L	0.05	0.05	107	112	4.6	0.96
2SI	5-Sep-23	Na-T	mg/L	0.05	0.05	100	93.6	6.6	1.07
2SI	5-Sep-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
2SI	5-Sep-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
2SI	5-Sep-23	N-NH3	mg/L	0.015	0.015	<0.015	<0.015	0.0	1.00
2SI	5-Sep-23	N-NO23	mg/L	0.02	0.02	0.051	0.025	68.4	2.04
2SI	5-Sep-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
2SI	5-Sep-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
2SI	5-Sep-23	P-T	mg/L	0.003	0.003	0.0076	0.0036	71.4	2.11
2SI	5-Sep-23	S2-T	mg/L	0.0018	0.0018	0.13	0.015	158.6	8.67
2SI	5-Sep-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
2SI	5-Sep-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
2SI	5-Sep-23	S-D	mg/L	3	3	199	206	3.5	0.97
2SI	5-Sep-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
2SI	5-Sep-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
2SI	5-Sep-23	Si-D	mg/L	0.1	0.1	4.00	4.05	1.2	0.99
2SI	5-Sep-23	Si-T	mg/L	0.1	0.1	3.58	3.55	0.8	1.01
2SI	5-Sep-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	SO4-D	mg/L	5	5	390	560	35.8	0.70
2SI	5-Sep-23	Sr-D	mg/L	0.001	0.001	2.11	2.11	0.0	1.00
2SI	5-Sep-23	Sr-T	mg/L	0.001	0.001	1.89	1.90	0.5	0.99
2SI	5-Sep-23	S-T	mg/L	3	3	191	181	5.4	1.06
2SI	5-Sep-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
2SI	5-Sep-23	Tl-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
2SI	5-Sep-23	Turb	NTU	0.1	0.1	3.0	3.1	3.3	0.97
2SI	5-Sep-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
2SI	5-Sep-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
2SI	5-Sep-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
2SI	5-Sep-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
2SI	5-Sep-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
2SI	18-Sep-23	H2S	mg/L	0.002	0.002	0.034	0.042	21.1	0.81
2SI	18-Sep-23	S2-T	mg/L	0.0018	0.0018	0.032	0.040	22.2	0.80
2SI	18-Sep-23	SO4-D	mg/L	5	5	530	520	1.9	1.02
75QR	31-Jul-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
75QR	31-Jul-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
75QR	31-Jul-23	Al-D	mg/L	0.003	0.003	0.0083	0.0144	53.7	0.58
75QR	31-Jul-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
75QR	31-Jul-23	Alk-T	mg/L	1	1	37	36	2.7	1.03
75QR	31-Jul-23	Al-T	mg/L	0.003	0.003	0.0193	0.0166	15.0	1.16
75QR	31-Jul-23	As-D	mg/L	0.0001	0.0001	0.00078	0.00082	5.0	0.95
75QR	31-Jul-23	As-T	mg/L	0.0001	0.0001	0.00079	0.00083	4.9	0.95
75QR	31-Jul-23	Ba-D	mg/L	0.001	0.001	0.0022	0.0024	8.7	0.92
75QR	31-Jul-23	Ba-T	mg/L	0.001	0.001	0.0020	0.0020	0.0	1.00
75QR	31-Jul-23	B-D	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
75QR	31-Jul-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75QR	31-Jul-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75QR	31-Jul-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
75QR	31-Jul-23	Ca-D	mg/L	0.05	0.05	9.47	9.51	0.4	1.00
75QR	31-Jul-23	Ca-T	mg/L	0.05	0.05	8.83	8.82	0.1	1.00
75QR	31-Jul-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	0.000021	71.0	0.48
75QR	31-Jul-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
75QR	31-Jul-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
75QR	31-Jul-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
75QR	31-Jul-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
75QR	31-Jul-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
75QR	31-Jul-23	Cu-D	mg/L	0.0002	0.0002	0.00050	0.00082	48.5	0.61
75QR	31-Jul-23	Cu-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
75QR	31-Jul-23	DOC	mg/L	0.5	0.5	2.5	2.0	22.2	1.25
75QR	31-Jul-23	Fe-D	mg/L	0.005	0.005	0.0708	0.0747	5.4	0.95
75QR	31-Jul-23	Fe-T	mg/L	0.01	0.01	0.112	0.106	5.5	1.06
75QR	31-Jul-23	Hard-D	mg/L	0.5	0.5	28.9	29.1	0.7	0.99
75QR	31-Jul-23	Hard-T	mg/L	0.5	0.5	26.3	26.6	1.1	0.99
75QR	31-Jul-23	K-D	mg/L	0.05	0.05	0.186	0.204	9.2	0.91
75QR	31-Jul-23	K-T	mg/L	0.05	0.05	0.155	0.165	6.3	0.94
75QR	31-Jul-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
75QR	31-Jul-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
75QR	31-Jul-23	Mg-D	mg/L	0.05	0.05	1.27	1.29	1.6	0.98
75QR	31-Jul-23	Mg-T	mg/L	0.05	0.05	1.04	1.10	5.6	0.95
75QR	31-Jul-23	Mn-D	mg/L	0.001	0.001	0.0069	0.0072	4.3	0.96
75QR	31-Jul-23	Mn-T	mg/L	0.001	0.001	0.0082	0.0081	1.2	1.01
75QR	31-Jul-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
75QR	31-Jul-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
75QR	31-Jul-23	Na-D	mg/L	0.05	0.05	8.58	8.70	1.4	0.99
75QR	31-Jul-23	Na-T	mg/L	0.05	0.05	7.48	7.64	2.1	0.98
75QR	31-Jul-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
75QR	31-Jul-23	Ni-T	mg/L	0.001	0.001	<0.0010	0.0011	9.5	0.91
75QR	31-Jul-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
75QR	31-Jul-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
75QR	31-Jul-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
75QR	31-Jul-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
75QR	31-Jul-23	S-D	mg/L	3	3	3.7	3.8	2.7	0.97
75QR	31-Jul-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75QR	31-Jul-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75QR	31-Jul-23	Si-D	mg/L	0.1	0.1	2.15	2.23	3.7	0.96
75QR	31-Jul-23	Si-T	mg/L	0.1	0.1	1.91	1.91	0.0	1.00
75QR	31-Jul-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	SO4-D	mg/L	1	1	10	9.9	1.0	1.01
75QR	31-Jul-23	Sr-D	mg/L	0.001	0.001	0.0427	0.0438	2.5	0.97
75QR	31-Jul-23	Sr-T	mg/L	0.001	0.001	0.0375	0.0393	4.7	0.95
75QR	31-Jul-23	S-T	mg/L	3	3	3.1	3.3	6.2	0.94
75QR	31-Jul-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
75QR	31-Jul-23	Tl-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
75QR	31-Jul-23	TSS	mg/L	1	1	2.0	<1.0	66.7	2.00
75QR	31-Jul-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75QR	31-Jul-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75QR	31-Jul-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
75QR	31-Jul-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75QR	31-Jul-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
75SD	10-Jul-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
75SD	10-Jul-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
75SD	10-Jul-23	Al-D	mg/L	0.003	0.003	0.0040	0.0041	2.5	0.98

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
7SSD	10-Jul-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
7SSD	10-Jul-23	Alk-T	mg/L	1	1	180	180	0.0	1.00
7SSD	10-Jul-23	Al-T	mg/L	0.003	0.003	0.0055	0.0066	18.2	0.83
7SSD	10-Jul-23	As-D	mg/L	0.0001	0.0001	0.0111	0.0114	2.7	0.97
7SSD	10-Jul-23	As-T	mg/L	0.0001	0.0001	0.0106	0.0117	9.9	0.91
7SSD	10-Jul-23	Ba-D	mg/L	0.001	0.001	0.0070	0.0069	1.4	1.01
7SSD	10-Jul-23	Ba-T	mg/L	0.001	0.001	0.0070	0.0072	2.8	0.97
7SSD	10-Jul-23	B-D	mg/L	0.05	0.05	0.055	0.059	7.0	0.93
7SSD	10-Jul-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
7SSD	10-Jul-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
7SSD	10-Jul-23	B-T	mg/L	0.05	0.05	0.052	0.058	10.9	0.90
7SSD	10-Jul-23	Ca-D	mg/L	0.05	0.05	40.1	40.3	0.5	1.00
7SSD	10-Jul-23	Ca-T	mg/L	0.05	0.05	34.1	37.9	10.6	0.90
7SSD	10-Jul-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
7SSD	10-Jul-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
7SSD	10-Jul-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
7SSD	10-Jul-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
7SSD	10-Jul-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
7SSD	10-Jul-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
7SSD	10-Jul-23	Cu-D	mg/L	0.0002	0.0002	0.00048	0.00049	2.1	0.98
7SSD	10-Jul-23	Cu-T	mg/L	0.0005	0.0005	0.00054	0.00056	3.6	0.96
7SSD	10-Jul-23	DOC	mg/L	0.5	0.5	12	11	8.7	1.09
7SSD	10-Jul-23	Fe-D	mg/L	0.005	0.005	0.326	0.355	8.5	0.92
7SSD	10-Jul-23	Fe-T	mg/L	0.01	0.01	0.778	0.838	7.4	0.93
7SSD	10-Jul-23	Hard-D	mg/L	0.5	0.5	175	175	0.0	1.00
7SSD	10-Jul-23	Hard-T	mg/L	0.5	0.5	148	162	9.0	0.91
7SSD	10-Jul-23	K-D	mg/L	0.05	0.05	2.43	2.50	2.8	0.97
7SSD	10-Jul-23	K-T	mg/L	0.05	0.05	2.20	2.38	7.9	0.92
7SSD	10-Jul-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
7SSD	10-Jul-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
7SSD	10-Jul-23	Mg-D	mg/L	0.05	0.05	18.3	18.1	1.1	1.01
7SSD	10-Jul-23	Mg-T	mg/L	0.05	0.05	15.4	16.4	6.3	0.94
7SSD	10-Jul-23	Mn-D	mg/L	0.001	0.001	0.916	0.908	0.9	1.01
7SSD	10-Jul-23	Mn-T	mg/L	0.001	0.001	0.847	0.922	8.5	0.92
7SSD	10-Jul-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
7SSD	10-Jul-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
7SSD	10-Jul-23	Na-D	mg/L	0.05	0.05	12.9	13.0	0.8	0.99
7SSD	10-Jul-23	Na-T	mg/L	0.05	0.05	11.1	12.1	8.6	0.92
7SSD	10-Jul-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
7SSD	10-Jul-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
7SSD	10-Jul-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
7SSD	10-Jul-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
7SSD	10-Jul-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
7SSD	10-Jul-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
7SSD	10-Jul-23	S-D	mg/L	3	3	3.2	4.3	29.3	0.74
7SSD	10-Jul-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
7SSD	10-Jul-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
7SSD	10-Jul-23	Si-D	mg/L	0.1	0.1	15.4	15.5	0.6	0.99
7SSD	10-Jul-23	Si-T	mg/L	0.1	0.1	12.6	14.0	10.5	0.90
7SSD	10-Jul-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	SO4-D	mg/L	1	1	7.0	6.7	4.4	1.04
7SSD	10-Jul-23	Sr-D	mg/L	0.001	0.001	0.202	0.202	0.0	1.00
7SSD	10-Jul-23	Sr-T	mg/L	0.001	0.001	0.161	0.177	9.5	0.91
7SSD	10-Jul-23	S-T	mg/L	3	3	<3.0	<3.0	0.0	1.00
7SSD	10-Jul-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	Ti-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
7SSD	10-Jul-23	Ti-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
7SSD	10-Jul-23	TSS	mg/L	1	1	4.0	2.8	35.3	1.43
7SSD	10-Jul-23	U-D	mg/L	0.0001	0.0001	0.00013	0.00013	0.0	1.00
7SSD	10-Jul-23	U-T	mg/L	0.0001	0.0001	0.00011	0.00013	16.7	0.85
7SSD	10-Jul-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
7SSD	10-Jul-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
7SSD	10-Jul-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
INF	17-Jul-23	H2S	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
INF	17-Jul-23	S2-T	mg/L	0.0018	0.0018	<0.0018	<0.0018	0.0	1.00
INF	17-Jul-23	SO4-D	mg/L	5	10	620	660	6.2	0.94
INF	21-Aug-23	H2S	mg/L	0.002	0.002	0.0037	0.0041	10.3	0.90
INF	21-Aug-23	S2-T	mg/L	0.0018	0.0018	0.0034	0.0039	13.7	0.87
INF	21-Aug-23	SO4-D	mg/L	5	5	550	580	5.3	0.95
INF	11-Sep-23	H2S	mg/L	0.002	0.002	0.0066	0.0032	69.4	2.06
INF	11-Sep-23	S2-T	mg/L	0.0018	0.0018	0.0062	0.0030	69.6	2.07
INF	11-Sep-23	SO4-D	mg/L	5	5	550	570	3.6	0.96
LLM1	12-Jul-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
LLM1	12-Jul-23	Ag-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	12-Jul-23	Al-D	mg/L	0.003	0.003	0.0106	0.0103	2.9	1.03
LLM1	12-Jul-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
LLM1	12-Jul-23	Alk-T	mg/L	1	1	26	25	3.9	1.04
LLM1	12-Jul-23	Al-T	mg/L	0.003	0.003	0.0110	0.0120	8.7	0.92
LLM1	12-Jul-23	As-D	mg/L	0.0001	0.0001	0.00063	0.00062	1.6	1.02
LLM1	12-Jul-23	As-T	mg/L	0.0001	0.0001	0.00053	0.00055	3.7	0.96
LLM1	12-Jul-23	Ba-D	mg/L	0.001	0.001	0.0047	0.0047	0.0	1.00
LLM1	12-Jul-23	Ba-T	mg/L	0.001	0.001	0.0039	0.0041	5.0	0.95
LLM1	12-Jul-23	B-D	mg/L	0.05	0.05	0.096	<0.050	63.0	1.92
LLM1	12-Jul-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	12-Jul-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	12-Jul-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
LLM1	12-Jul-23	Ca-D	mg/L	0.05	0.05	18.9	18.6	1.6	1.02
LLM1	12-Jul-23	Ca-T	mg/L	0.05	0.05	15.5	16.3	5.0	0.95
LLM1	12-Jul-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	12-Jul-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	12-Jul-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	12-Jul-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	12-Jul-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	12-Jul-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	12-Jul-23	Cu-D	mg/L	0.0002	0.0002	0.00040	0.00039	2.5	1.03
LLM1	12-Jul-23	Cu-T	mg/L	0.0005	0.0005	0.00051	<0.00050	2.0	1.02
LLM1	12-Jul-23	DOC	mg/L	0.5	0.5	3.0	3.3	9.5	0.91
LLM1	12-Jul-23	Fe-D	mg/L	0.005	0.005	0.0345	0.0343	0.6	1.01
LLM1	12-Jul-23	Fe-T	mg/L	0.01	0.01	0.036	0.037	2.7	0.97
LLM1	12-Jul-23	Hard-D	mg/L	0.5	0.5	57.5	57.0	0.9	1.01
LLM1	12-Jul-23	Hard-T	mg/L	0.5	0.5	47.9	50.1	4.5	0.96
LLM1	12-Jul-23	K-D	mg/L	0.05	0.05	0.221	0.219	0.9	1.01
LLM1	12-Jul-23	K-T	mg/L	0.05	0.05	0.199	0.203	2.0	0.98
LLM1	12-Jul-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
LLM1	12-Jul-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
LLM1	12-Jul-23	Mg-D	mg/L	0.05	0.05	2.49	2.54	2.0	0.98
LLM1	12-Jul-23	Mg-T	mg/L	0.05	0.05	2.24	2.32	3.5	0.97
LLM1	12-Jul-23	Mn-D	mg/L	0.001	0.001	0.0088	0.0088	0.0	1.00
LLM1	12-Jul-23	Mn-T	mg/L	0.001	0.001	0.0109	0.0115	5.4	0.95
LLM1	12-Jul-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	12-Jul-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	12-Jul-23	Na-D	mg/L	0.05	0.05	5.04	5.03	0.2	1.00
LLM1	12-Jul-23	Na-T	mg/L	0.05	0.05	4.43	4.65	4.8	0.95
LLM1	12-Jul-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	12-Jul-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	12-Jul-23	N-NO23	mg/L	0.02	0.02	<0.020	<0.020	0.0	1.00
LLM1	12-Jul-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	12-Jul-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	12-Jul-23	P-D	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
LLM1	12-Jul-23	P-T	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
LLM1	12-Jul-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM1	12-Jul-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM1	12-Jul-23	S-D	mg/L	3	3	13.4	13.5	0.7	0.99
LLM1	12-Jul-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	12-Jul-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	12-Jul-23	Si-D	mg/L	0.1	0.1	3.31	3.28	0.9	1.01
LLM1	12-Jul-23	Si-T	mg/L	0.1	0.1	2.61	2.69	3.0	0.97
LLM1	12-Jul-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	SO4-D	mg/L	1	1	41	41	0.0	1.00
LLM1	12-Jul-23	Sr-D	mg/L	0.001	0.001	0.107	0.107	0.0	1.00
LLM1	12-Jul-23	Sr-T	mg/L	0.001	0.001	0.0903	0.0942	4.2	0.96
LLM1	12-Jul-23	S-T	mg/L	3	3	11.7	12.1	3.4	0.97
LLM1	12-Jul-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	12-Jul-23	Tl-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	12-Jul-23	Turb	NTU	0.1	0.1	0.20	0.17	16.2	1.18
LLM1	12-Jul-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	12-Jul-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	12-Jul-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	12-Jul-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	12-Jul-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
LLM1	9-Aug-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
LLM1	9-Aug-23	Al-D	mg/L	0.003	0.003	0.0089	0.0087	2.3	1.02
LLM1	9-Aug-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
LLM1	9-Aug-23	Alk-T	mg/L	1	1	28	28	0.0	1.00

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
LLM1	9-Aug-23	Al-T	mg/L	0.003	0.003	0.0099	0.0085	15.2	1.16
LLM1	9-Aug-23	As-D	mg/L	0.0001	0.0001	0.00068	0.00065	4.5	1.05
LLM1	9-Aug-23	As-T	mg/L	0.0001	0.0001	0.00060	0.00059	1.7	1.02
LLM1	9-Aug-23	Ba-D	mg/L	0.001	0.001	0.0049	0.0050	2.0	0.98
LLM1	9-Aug-23	Ba-T	mg/L	0.001	0.001	0.0044	0.0045	2.2	0.98
LLM1	9-Aug-23	B-D	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
LLM1	9-Aug-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
LLM1	9-Aug-23	Ca-D	mg/L	0.05	0.05	20.2	21.3	5.3	0.95
LLM1	9-Aug-23	Ca-T	mg/L	0.05	0.05	17.7	17.9	1.1	0.99
LLM1	9-Aug-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	9-Aug-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	9-Aug-23	Cl-D	mg/L	1	1	<1.0	<1.0	0.0	1.00
LLM1	9-Aug-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	9-Aug-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	9-Aug-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	9-Aug-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	9-Aug-23	Cu-D	mg/L	0.0002	0.0002	0.00031	0.00034	9.2	0.91
LLM1	9-Aug-23	Cu-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM1	9-Aug-23	DOC	mg/L	0.5	0.5	3.8	3.7	2.7	1.03
LLM1	9-Aug-23	Fe-D	mg/L	0.005	0.005	0.0231	0.0223	3.5	1.04
LLM1	9-Aug-23	Fe-T	mg/L	0.01	0.01	0.025	0.025	0.0	1.00
LLM1	9-Aug-23	Hard-D	mg/L	0.5	0.5	62.3	64.5	3.5	0.97
LLM1	9-Aug-23	Hard-T	mg/L	0.5	0.5	54.7	55.3	1.1	0.99
LLM1	9-Aug-23	K-D	mg/L	0.05	0.05	0.246	0.245	0.4	1.00
LLM1	9-Aug-23	K-T	mg/L	0.05	0.05	0.218	0.218	0.0	1.00
LLM1	9-Aug-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
LLM1	9-Aug-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
LLM1	9-Aug-23	Mg-D	mg/L	0.05	0.05	2.88	2.78	3.5	1.04
LLM1	9-Aug-23	Mg-T	mg/L	0.05	0.05	2.55	2.56	0.4	1.00
LLM1	9-Aug-23	Mn-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	9-Aug-23	Mn-T	mg/L	0.001	0.001	0.0035	0.0036	2.8	0.97
LLM1	9-Aug-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	9-Aug-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	9-Aug-23	Na-D	mg/L	0.05	0.05	5.84	5.65	3.3	1.03
LLM1	9-Aug-23	Na-T	mg/L	0.05	0.05	4.96	5.05	1.8	0.98
LLM1	9-Aug-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	9-Aug-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM1	9-Aug-23	N-NO23	mg/L	0.02	0.02	<0.020	0.060	100.0	0.33
LLM1	9-Aug-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	9-Aug-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM1	9-Aug-23	P-D	mg/L	0.003	0.003	0.0039	0.0045	14.3	0.87
LLM1	9-Aug-23	P-T	mg/L	0.003	0.003	0.0039	0.0063	47.1	0.62
LLM1	9-Aug-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM1	9-Aug-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM1	9-Aug-23	S-D	mg/L	3	3	14.6	16.7	13.4	0.87
LLM1	9-Aug-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	Si-D	mg/L	0.1	0.1	3.16	3.44	8.5	0.92
LLM1	9-Aug-23	Si-T	mg/L	0.1	0.1	2.79	2.90	3.9	0.96
LLM1	9-Aug-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	SO4-D	mg/L	1	1	47	47	0.0	1.00
LLM1	9-Aug-23	Sr-D	mg/L	0.001	0.001	0.122	0.121	0.8	1.01
LLM1	9-Aug-23	Sr-T	mg/L	0.001	0.001	0.106	0.109	2.8	0.97
LLM1	9-Aug-23	S-T	mg/L	3	3	14.2	14.5	2.1	0.98
LLM1	9-Aug-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	9-Aug-23	Tl-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM1	9-Aug-23	Turb	NTU	0.1	0.1	0.27	0.27	0.0	1.00
LLM1	9-Aug-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM1	9-Aug-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM1	9-Aug-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
LLM4	18-Jul-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
LLM4	18-Jul-23	Al-D	mg/L	0.003	0.003	0.0112	0.0112	0.0	1.00
LLM4	18-Jul-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
LLM4	18-Jul-23	Alk-T	mg/L	1	1	28	25	11.3	1.12
LLM4	18-Jul-23	Al-T	mg/L	0.003	0.003	0.0108	0.0112	3.6	0.96
LLM4	18-Jul-23	As-D	mg/L	0.0001	0.0001	0.00049	0.00065	28.1	0.75
LLM4	18-Jul-23	As-T	mg/L	0.0001	0.0001	0.00041	0.00051	21.7	0.80

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
LLM4	18-Jul-23	Ba-D	mg/L	0.001	0.001	0.0052	0.0050	3.9	1.04
LLM4	18-Jul-23	Ba-T	mg/L	0.001	0.001	0.0045	0.0039	14.3	1.15
LLM4	18-Jul-23	B-D	mg/L	0.05	0.05	0.053	<0.050	5.8	1.06
LLM4	18-Jul-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
LLM4	18-Jul-23	Ca-D	mg/L	0.05	0.05	21.1	18.9	11.0	1.12
LLM4	18-Jul-23	Ca-T	mg/L	0.05	0.05	18.8	15.6	18.6	1.21
LLM4	18-Jul-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM4	18-Jul-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM4	18-Jul-23	Cl-D	mg/L	1	1	<1.0	<1.0	0.0	1.00
LLM4	18-Jul-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM4	18-Jul-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM4	18-Jul-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM4	18-Jul-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM4	18-Jul-23	Cu-D	mg/L	0.0002	0.0002	0.00031	0.00031	0.0	1.00
LLM4	18-Jul-23	Cu-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM4	18-Jul-23	DOC	mg/L	0.5	0.5	3.2	3.2	0.0	1.00
LLM4	18-Jul-23	Fe-D	mg/L	0.005	0.005	0.0284	0.0303	6.5	0.94
LLM4	18-Jul-23	Fe-T	mg/L	0.01	0.01	0.032	0.032	0.0	1.00
LLM4	18-Jul-23	Hard-D	mg/L	0.5	0.5	64.2	58.4	9.5	1.10
LLM4	18-Jul-23	Hard-T	mg/L	0.5	0.5	57.1	48.0	17.3	1.19
LLM4	18-Jul-23	K-D	mg/L	0.05	0.05	0.249	0.240	3.7	1.04
LLM4	18-Jul-23	K-T	mg/L	0.05	0.05	0.224	0.193	14.9	1.16
LLM4	18-Jul-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
LLM4	18-Jul-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
LLM4	18-Jul-23	Mg-D	mg/L	0.05	0.05	2.80	2.72	2.9	1.03
LLM4	18-Jul-23	Mg-T	mg/L	0.05	0.05	2.46	2.18	12.1	1.13
LLM4	18-Jul-23	Mn-D	mg/L	0.001	0.001	0.0046	0.0027	52.1	1.70
LLM4	18-Jul-23	Mn-T	mg/L	0.001	0.001	0.0105	0.0080	27.0	1.31
LLM4	18-Jul-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM4	18-Jul-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM4	18-Jul-23	Na-D	mg/L	0.05	0.05	6.27	5.65	10.4	1.11
LLM4	18-Jul-23	Na-T	mg/L	0.05	0.05	5.42	4.41	20.5	1.23
LLM4	18-Jul-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM4	18-Jul-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
LLM4	18-Jul-23	N-NO23	mg/L	0.02	0.02	<0.020	<0.020	0.0	1.00
LLM4	18-Jul-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM4	18-Jul-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
LLM4	18-Jul-23	P-D	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
LLM4	18-Jul-23	P-T	mg/L	0.003	0.003	0.0055	<0.0030	58.8	1.83
LLM4	18-Jul-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM4	18-Jul-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
LLM4	18-Jul-23	S-D	mg/L	3	3	17.6	16.2	8.3	1.09
LLM4	18-Jul-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	Si-D	mg/L	0.1	0.1	3.01	3.14	4.2	0.96
LLM4	18-Jul-23	Si-T	mg/L	0.1	0.1	2.90	2.82	2.8	1.03
LLM4	18-Jul-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	SO4-D	mg/L	1	1	53	45	16.3	1.18
LLM4	18-Jul-23	Sr-D	mg/L	0.001	0.001	0.131	0.119	9.6	1.10
LLM4	18-Jul-23	Sr-T	mg/L	0.001	0.001	0.115	0.0917	22.5	1.25
LLM4	18-Jul-23	S-T	mg/L	3	3	15.1	12.3	20.4	1.23
LLM4	18-Jul-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM4	18-Jul-23	Tl-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
LLM4	18-Jul-23	Turb	NTU	0.1	0.1	0.23	0.30	26.4	0.77
LLM4	18-Jul-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
LLM4	18-Jul-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
LLM4	18-Jul-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
MQL1	26-Jul-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
MQL1	26-Jul-23	Al-D	mg/L	0.003	0.003	0.0137	0.0131	4.5	1.05
MQL1	26-Jul-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
MQL1	26-Jul-23	Alk-T	mg/L	1	1	33	32	3.1	1.03
MQL1	26-Jul-23	Al-T	mg/L	0.003	0.003	0.0143	0.0138	3.6	1.04
MQL1	26-Jul-23	As-D	mg/L	0.0001	0.0001	0.00012	0.00012	0.0	1.00
MQL1	26-Jul-23	As-T	mg/L	0.0001	0.0001	0.00017	0.00018	5.7	0.94
MQL1	26-Jul-23	Ba-D	mg/L	0.001	0.001	<0.0010	0.0012	18.2	0.83
MQL1	26-Jul-23	Ba-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	B-D	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
MQL1	26-Jul-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
MQL1	26-Jul-23	Ca-D	mg/L	0.05	0.05	9.17	9.29	1.3	0.99
MQL1	26-Jul-23	Ca-T	mg/L	0.05	0.05	8.18	8.14	0.5	1.00
MQL1	26-Jul-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL1	26-Jul-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL1	26-Jul-23	Cl-D	mg/L	1	1	<1.0	<1.0	0.0	1.00
MQL1	26-Jul-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL1	26-Jul-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL1	26-Jul-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	Cu-D	mg/L	0.0002	0.0002	0.00043	0.00044	2.3	0.98
MQL1	26-Jul-23	Cu-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
MQL1	26-Jul-23	DOC	mg/L	0.5	0.5	2.2	2.2	0.0	1.00
MQL1	26-Jul-23	Fe-D	mg/L	0.005	0.005	0.0209	0.0212	1.4	0.99
MQL1	26-Jul-23	Fe-T	mg/L	0.01	0.01	0.035	0.036	2.8	0.97
MQL1	26-Jul-23	Hard-D	mg/L	0.5	0.5	27.4	27.8	1.4	0.99
MQL1	26-Jul-23	Hard-T	mg/L	0.5	0.5	24.7	24.5	0.8	1.01
MQL1	26-Jul-23	K-D	mg/L	0.05	0.05	0.132	0.134	1.5	0.99
MQL1	26-Jul-23	K-T	mg/L	0.05	0.05	0.116	0.113	2.6	1.03
MQL1	26-Jul-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
MQL1	26-Jul-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
MQL1	26-Jul-23	Mg-D	mg/L	0.05	0.05	1.09	1.11	1.8	0.98
MQL1	26-Jul-23	Mg-T	mg/L	0.05	0.05	1.04	1.01	2.9	1.03
MQL1	26-Jul-23	Mn-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	Mn-T	mg/L	0.001	0.001	0.0090	0.0089	1.1	1.01
MQL1	26-Jul-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	Na-D	mg/L	0.05	0.05	6.68	6.79	1.6	0.98
MQL1	26-Jul-23	Na-T	mg/L	0.05	0.05	6.24	6.12	1.9	1.02
MQL1	26-Jul-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL1	26-Jul-23	N-NO23	mg/L	0.02	0.02	<0.020	<0.020	0.0	1.00
MQL1	26-Jul-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL1	26-Jul-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL1	26-Jul-23	P-D	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
MQL1	26-Jul-23	P-T	mg/L	0.003	0.003	0.0063	0.0034	59.8	1.85
MQL1	26-Jul-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
MQL1	26-Jul-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
MQL1	26-Jul-23	S-D	mg/L	3	3	3.3	<3.0	9.5	1.10
MQL1	26-Jul-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	Si-D	mg/L	0.1	0.1	1.91	1.91	0.0	1.00
MQL1	26-Jul-23	Si-T	mg/L	0.1	0.1	1.66	1.63	1.8	1.02
MQL1	26-Jul-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	SO4-D	mg/L	1	1	9.6	9.5	1.0	1.01
MQL1	26-Jul-23	Sr-D	mg/L	0.001	0.001	0.0357	0.0359	0.6	0.99
MQL1	26-Jul-23	Sr-T	mg/L	0.001	0.001	0.0323	0.0315	2.5	1.03
MQL1	26-Jul-23	S-T	mg/L	3	3	3.1	<3.0	3.3	1.03
MQL1	26-Jul-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL1	26-Jul-23	Tl-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL1	26-Jul-23	Turb	NTU	0.1	0.1	0.36	0.40	10.5	0.90
MQL1	26-Jul-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL1	26-Jul-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL1	26-Jul-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
MQL4	1-Aug-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
MQL4	1-Aug-23	Al-D	mg/L	0.003	0.003	0.0122	0.0131	7.1	0.93
MQL4	1-Aug-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
MQL4	1-Aug-23	Alk-T	mg/L	1	1	32	31	3.2	1.03
MQL4	1-Aug-23	Al-T	mg/L	0.003	0.003	0.0256	0.0127	67.4	2.02
MQL4	1-Aug-23	As-D	mg/L	0.0001	0.0001	0.00016	0.00015	6.5	1.07
MQL4	1-Aug-23	As-T	mg/L	0.0001	0.0001	0.00018	0.00019	5.4	0.95
MQL4	1-Aug-23	Ba-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	Ba-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	B-D	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
MQL4	1-Aug-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
MQL4	1-Aug-23	Ca-D	mg/L	0.05	0.05	8.73	8.97	2.7	0.97
MQL4	1-Aug-23	Ca-T	mg/L	0.05	0.05	7.79	7.79	0.0	1.00
MQL4	1-Aug-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL4	1-Aug-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL4	1-Aug-23	Cl-D	mg/L	1	1	<1.0	<1.0	0.0	1.00
MQL4	1-Aug-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL4	1-Aug-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL4	1-Aug-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	Cu-D	mg/L	0.0002	0.0002	0.00045	0.00058	25.2	0.78
MQL4	1-Aug-23	Cu-T	mg/L	0.0005	0.0005	0.00051	<0.00050	2.0	1.02
MQL4	1-Aug-23	DOC	mg/L	0.5	0.5	2.7	2.5	7.7	1.08
MQL4	1-Aug-23	Fe-D	mg/L	0.005	0.005	0.0210	0.0211	0.5	1.00
MQL4	1-Aug-23	Fe-T	mg/L	0.01	0.01	0.035	0.035	0.0	1.00
MQL4	1-Aug-23	Hard-D	mg/L	0.5	0.5	26.2	26.9	2.6	0.97
MQL4	1-Aug-23	Hard-T	mg/L	0.5	0.5	23.0	23.2	0.9	0.99
MQL4	1-Aug-23	K-D	mg/L	0.05	0.05	0.126	0.132	4.7	0.95
MQL4	1-Aug-23	K-T	mg/L	0.05	0.05	0.098	0.104	5.9	0.94
MQL4	1-Aug-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
MQL4	1-Aug-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
MQL4	1-Aug-23	Mg-D	mg/L	0.05	0.05	1.06	1.08	1.9	0.98
MQL4	1-Aug-23	Mg-T	mg/L	0.05	0.05	0.868	0.903	4.0	0.96
MQL4	1-Aug-23	Mn-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	Mn-T	mg/L	0.001	0.001	0.0086	0.0090	4.5	0.96
MQL4	1-Aug-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	Na-D	mg/L	0.05	0.05	5.90	6.12	3.7	0.96
MQL4	1-Aug-23	Na-T	mg/L	0.05	0.05	5.12	5.26	2.7	0.97
MQL4	1-Aug-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MQL4	1-Aug-23	N-NO23	mg/L	0.02	0.02	<0.020	<0.020	0.0	1.00
MQL4	1-Aug-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL4	1-Aug-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MQL4	1-Aug-23	P-D	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
MQL4	1-Aug-23	P-T	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
MQL4	1-Aug-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
MQL4	1-Aug-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
MQL4	1-Aug-23	S-D	mg/L	3	3	3.1	<3.0	3.3	1.03
MQL4	1-Aug-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	Si-D	mg/L	0.1	0.1	1.79	1.80	0.6	0.99
MQL4	1-Aug-23	Si-T	mg/L	0.1	0.1	1.62	1.57	3.1	1.03
MQL4	1-Aug-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	SO4-D	mg/L	1	1	8.1	8.1	0.0	1.00
MQL4	1-Aug-23	Sr-D	mg/L	0.001	0.001	0.0324	0.0336	3.6	0.96
MQL4	1-Aug-23	Sr-T	mg/L	0.001	0.001	0.0284	0.0290	2.1	0.98
MQL4	1-Aug-23	S-T	mg/L	3	3	<3.0	<3.0	0.0	1.00
MQL4	1-Aug-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL4	1-Aug-23	Tl-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MQL4	1-Aug-23	Turb	NTU	0.1	0.1	0.30	0.30	0.0	1.00
MQL4	1-Aug-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MQL4	1-Aug-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MQL4	1-Aug-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MW004	28-Aug-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
MW004	28-Aug-23	Al-D	mg/L	0.003	0.003	0.0039	0.0034	13.7	1.15
MW004	28-Aug-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
MW004	28-Aug-23	Alk-T	mg/L	1	1	160	160	0.0	1.00
MW004	28-Aug-23	As-D	mg/L	0.0001	0.0001	0.00068	0.00066	3.0	1.03
MW004	28-Aug-23	Ba-D	mg/L	0.001	0.001	0.0369	0.0368	0.3	1.00
MW004	28-Aug-23	B-D	mg/L	0.05	0.05	0.228	0.221	3.1	1.03
MW004	28-Aug-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MW004	28-Aug-23	Br-D	mg/L	0.1	1	<0.10	<1.0	163.6	0.10
MW004	28-Aug-23	Ca-D	mg/L	0.05	0.05	166	162	2.4	1.02
MW004	28-Aug-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MW004	28-Aug-23	Cl-D	mg/L	1	1	<1.0	<1.0	0.0	1.00
MW004	28-Aug-23	Co-D	mg/L	0.0002	0.0002	0.00061	0.00062	1.6	0.98
MW004	28-Aug-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MW004	28-Aug-23	Cu-D	mg/L	0.0002	0.0002	0.00049	0.00063	25.0	0.78
MW004	28-Aug-23	DOC	mg/L	0.5	0.5	1.9	2.0	5.1	0.95
MW004	28-Aug-23	F-D	mg/L	0.05	0.05	0.084	0.083	1.2	1.01

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
MW004	28-Aug-23	Fe-D	mg/L	0.005	0.005	0.0316	0.0339	7.0	0.93
MW004	28-Aug-23	H2S	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
MW004	28-Aug-23	Hard-D	mg/L	0.5	0.5	489	480	1.9	1.02
MW004	28-Aug-23	K-D	mg/L	0.05	0.05	1.63	1.63	0.0	1.00
MW004	28-Aug-23	Li-D	mg/L	0.002	0.002	0.0078	0.0075	3.9	1.04
MW004	28-Aug-23	Mg-D	mg/L	0.05	0.05	18.3	18.5	1.1	0.99
MW004	28-Aug-23	Mn-D	mg/L	0.001	0.001	0.0940	0.0972	3.3	0.97
MW004	28-Aug-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
MW004	28-Aug-23	Na-D	mg/L	0.05	0.05	41.9	41.9	0.0	1.00
MW004	28-Aug-23	N-D	mg/L	0.02	0.02	0.426	0.121	111.5	3.52
MW004	28-Aug-23	Ni-D	mg/L	0.001	0.001	0.0011	0.0012	8.7	0.92
MW004	28-Aug-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
MW004	28-Aug-23	P-D	mg/L	0.003	0.003	0.0031	0.0038	20.3	0.82
MW004	28-Aug-23	S2-T	mg/L	0.0018	0.0018	<0.0018	<0.0018	0.0	1.00
MW004	28-Aug-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
MW004	28-Aug-23	S-D	mg/L	3	3	137	138	0.7	0.99
MW004	28-Aug-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MW004	28-Aug-23	Si-D	mg/L	0.1	0.1	2.81	2.81	0.0	1.00
MW004	28-Aug-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MW004	28-Aug-23	SO4-D	mg/L	5	5	380	380	0.0	1.00
MW004	28-Aug-23	Sr-D	mg/L	0.001	0.001	1.26	1.29	2.4	0.98
MW004	28-Aug-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MW004	28-Aug-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
MW004	28-Aug-23	Turb	NTU	0.1	0.1	1.6	1.3	20.7	1.23
MW004	28-Aug-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
MW004	28-Aug-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
MW004	28-Aug-23	Zn-D	mg/L	0.005	0.005	0.0066	0.0067	1.5	0.99
MW004	28-Aug-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
QU0813A	27-Jul-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
QU0813A	27-Jul-23	Al-D	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
QU0813A	27-Jul-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
QU0813A	27-Jul-23	Alk-T	mg/L	1	1	210	210	0.0	1.00
QU0813A	27-Jul-23	As-D	mg/L	0.0001	0.0001	0.374	0.375	0.3	1.00
QU0813A	27-Jul-23	Ba-D	mg/L	0.001	0.001	0.164	0.164	0.0	1.00
QU0813A	27-Jul-23	B-D	mg/L	0.05	0.05	0.813	0.806	0.9	1.01
QU0813A	27-Jul-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
QU0813A	27-Jul-23	Br-D	mg/L	0.01	0.01	0.027	0.027	0.0	1.00
QU0813A	27-Jul-23	Ca-D	mg/L	0.05	0.05	42.3	42.9	1.4	0.99
QU0813A	27-Jul-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
QU0813A	27-Jul-23	Cl-D	mg/L	1	1	14	14	0.0	1.00
QU0813A	27-Jul-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
QU0813A	27-Jul-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
QU0813A	27-Jul-23	Cu-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
QU0813A	27-Jul-23	DOC	mg/L	0.5	0.5	0.67	0.60	11.0	1.12
QU0813A	27-Jul-23	F-D	mg/L	0.05	0.05	0.73	0.71	2.8	1.03
QU0813A	27-Jul-23	Fe-D	mg/L	0.005	0.005	0.167	0.174	4.1	0.96
QU0813A	27-Jul-23	H2S	mg/L	0.002	0.002	0.23	0.21	9.1	1.10
QU0813A	27-Jul-23	Hard-D	mg/L	0.5	0.5	149	150	0.7	0.99
QU0813A	27-Jul-23	K-D	mg/L	0.05	0.05	2.47	2.43	1.6	1.02
QU0813A	27-Jul-23	Li-D	mg/L	0.002	0.002	0.0524	0.0525	0.2	1.00
QU0813A	27-Jul-23	Mg-D	mg/L	0.05	0.05	10.5	10.4	1.0	1.01
QU0813A	27-Jul-23	Mn-D	mg/L	0.001	0.001	0.0339	0.0337	0.6	1.01
QU0813A	27-Jul-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
QU0813A	27-Jul-23	Na-D	mg/L	0.05	0.05	62.1	62.0	0.2	1.00
QU0813A	27-Jul-23	N-D	mg/L	0.02	0.02	0.243	0.216	11.8	1.12
QU0813A	27-Jul-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
QU0813A	27-Jul-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
QU0813A	27-Jul-23	P-D	mg/L	0.003	0.003	0.12	0.11	8.7	1.09
QU0813A	27-Jul-23	S2-T	mg/L	0.0018	0.0018	0.21	0.19	10.0	1.11
QU0813A	27-Jul-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
QU0813A	27-Jul-23	S-D	mg/L	3	3	20.6	20.7	0.5	1.00
QU0813A	27-Jul-23	Se-D	mg/L	0.0001	0.0001	0.00063	0.00052	19.1	1.21
QU0813A	27-Jul-23	Si-D	mg/L	0.1	0.1	3.77	3.86	2.4	0.98
QU0813A	27-Jul-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU0813A	27-Jul-23	SO4-D	mg/L	1	1	60	61	1.7	0.98
QU0813A	27-Jul-23	Sr-D	mg/L	0.001	0.001	0.600	0.599	0.2	1.00
QU0813A	27-Jul-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU0813A	27-Jul-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
QU0813A	27-Jul-23	Turb	NTU	0.1	0.1	1.9	2.3	19.0	0.83
QU0813A	27-Jul-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
QU0813A	27-Jul-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU0813A	27-Jul-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU0813A	27-Jul-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
QU1009D	14-Aug-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
QU1009D	14-Aug-23	Al-D	mg/L	0.003	0.003	<0.0030	<0.0030	0.0	1.00
QU1009D	14-Aug-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
QU1009D	14-Aug-23	Alk-T	mg/L	1	1	190	180	5.4	1.06
QU1009D	14-Aug-23	As-D	mg/L	0.0001	0.0001	0.116	0.115	0.9	1.01

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
QU1009D	14-Aug-23	Ba-D	mg/L	0.001	0.001	0.126	0.126	0.0	1.00
QU1009D	14-Aug-23	B-D	mg/L	0.05	0.05	0.534	0.507	5.2	1.05
QU1009D	14-Aug-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
QU1009D	14-Aug-23	Br-D	mg/L	0.01	0.01	<0.010	<0.010	0.0	1.00
QU1009D	14-Aug-23	Ca-D	mg/L	0.05	0.05	49.2	49.0	0.4	1.00
QU1009D	14-Aug-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
QU1009D	14-Aug-23	Cl-D	mg/L	1	1	1.3	1.1	16.7	1.18
QU1009D	14-Aug-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
QU1009D	14-Aug-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
QU1009D	14-Aug-23	Cu-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
QU1009D	14-Aug-23	DOC	mg/L	0.5	0.5	1.1	1.1	0.0	1.00
QU1009D	14-Aug-23	F-D	mg/L	0.05	0.05	0.28	0.28	0.0	1.00
QU1009D	14-Aug-23	Fe-D	mg/L	0.005	0.005	0.438	0.448	2.3	0.98
QU1009D	14-Aug-23	H2S	mg/L	0.002	0.002	0.10	0.11	9.5	0.91
QU1009D	14-Aug-23	Hard-D	mg/L	0.5	0.5	163	162	0.6	1.01
QU1009D	14-Aug-23	K-D	mg/L	0.05	0.05	1.67	1.71	2.4	0.98
QU1009D	14-Aug-23	Li-D	mg/L	0.002	0.002	0.0338	0.0333	1.5	1.02
QU1009D	14-Aug-23	Mg-D	mg/L	0.05	0.05	9.81	9.72	0.9	1.01
QU1009D	14-Aug-23	Mn-D	mg/L	0.001	0.001	0.0421	0.0421	0.0	1.00
QU1009D	14-Aug-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
QU1009D	14-Aug-23	Na-D	mg/L	0.05	0.05	38.0	37.6	1.1	1.01
QU1009D	14-Aug-23	N-D	mg/L	0.02	0.02	0.146	0.147	0.7	0.99
QU1009D	14-Aug-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
QU1009D	14-Aug-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
QU1009D	14-Aug-23	P-D	mg/L	0.003	0.003	0.041	0.050	19.8	0.82
QU1009D	14-Aug-23	S2-T	mg/L	0.0018	0.0018	0.097	0.10	3.0	0.97
QU1009D	14-Aug-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
QU1009D	14-Aug-23	S-D	mg/L	3	3	20.5	20.2	1.5	1.01
QU1009D	14-Aug-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
QU1009D	14-Aug-23	Si-D	mg/L	0.1	0.1	9.74	9.66	0.8	1.01
QU1009D	14-Aug-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU1009D	14-Aug-23	SO4-D	mg/L	1	1	63	64	1.6	0.98
QU1009D	14-Aug-23	Sr-D	mg/L	0.001	0.001	0.934	0.930	0.4	1.00
QU1009D	14-Aug-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU1009D	14-Aug-23	Tl-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
QU1009D	14-Aug-23	Turb	NTU	0.1	0.1	4.4	4.5	2.2	0.98
QU1009D	14-Aug-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
QU1009D	14-Aug-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU1009D	14-Aug-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
QU1009D	14-Aug-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
SPCEFF	26-Sep-23	H2S	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
SPCEFF	26-Sep-23	S2-T	mg/L	0.0018	0.0018	<0.0018	<0.0018	0.0	1.00
SPCEFF	26-Sep-23	SO4-D	mg/L	5	5	320	330	3.1	0.97
SPCEFF	26-Sep-23	H2S	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
SPCEFF	26-Sep-23	S2-T	mg/L	0.0018	0.0018	<0.0018	<0.0018	0.0	1.00
SPCEFF	26-Sep-23	SO4-D	mg/L	5	5	320	320	0.0	1.00
WA	11-Jul-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
WA	11-Jul-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
WA	11-Jul-23	Al-D	mg/L	0.003	0.003	0.0146	0.0147	0.7	0.99
WA	11-Jul-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
WA	11-Jul-23	Alk-T	mg/L	1	1	22	22	0.0	1.00
WA	11-Jul-23	Al-T	mg/L	0.003	0.003	0.0174	0.0177	1.7	0.98
WA	11-Jul-23	As-D	mg/L	0.0001	0.0001	0.00012	0.00011	8.7	1.09
WA	11-Jul-23	As-T	mg/L	0.0001	0.0001	0.00011	0.00012	8.7	0.92
WA	11-Jul-23	Ba-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Ba-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	B-D	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
WA	11-Jul-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WA	11-Jul-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WA	11-Jul-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
WA	11-Jul-23	Ca-D	mg/L	0.05	0.05	7.25	7.36	1.5	0.99
WA	11-Jul-23	Ca-T	mg/L	0.05	0.05	6.45	6.61	2.5	0.98
WA	11-Jul-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WA	11-Jul-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WA	11-Jul-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WA	11-Jul-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WA	11-Jul-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Cu-D	mg/L	0.0002	0.0002	0.00049	0.00051	4.0	0.96
WA	11-Jul-23	Cu-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
WA	11-Jul-23	DOC	mg/L	0.5	0.5	1.9	1.9	0.0	1.00
WA	11-Jul-23	Fe-D	mg/L	0.005	0.005	0.0152	0.0145	4.7	1.05
WA	11-Jul-23	Fe-T	mg/L	0.01	0.01	0.019	0.021	10.0	0.90
WA	11-Jul-23	Hard-D	mg/L	0.5	0.5	21.3	21.6	1.4	0.99

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

## Appendix 1 - Tables

### Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
WA	11-Jul-23	Hard-T	mg/L	0.5	0.5	19.0	19.5	2.6	0.97
WA	11-Jul-23	K-D	mg/L	0.05	0.05	0.068	0.068	0.0	1.00
WA	11-Jul-23	K-T	mg/L	0.05	0.05	0.052	0.056	7.4	0.93
WA	11-Jul-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
WA	11-Jul-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
WA	11-Jul-23	Mg-D	mg/L	0.05	0.05	0.772	0.792	2.6	0.97
WA	11-Jul-23	Mg-T	mg/L	0.05	0.05	0.699	0.718	2.7	0.97
WA	11-Jul-23	Mn-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Mn-T	mg/L	0.001	0.001	0.0018	0.0018	0.0	1.00
WA	11-Jul-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Na-D	mg/L	0.05	0.05	0.668	0.684	2.4	0.98
WA	11-Jul-23	Na-T	mg/L	0.05	0.05	0.565	0.576	1.9	0.98
WA	11-Jul-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WA	11-Jul-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WA	11-Jul-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WA	11-Jul-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
WA	11-Jul-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
WA	11-Jul-23	S-D	mg/L	3	3	<3.0	<3.0	0.0	1.00
WA	11-Jul-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WA	11-Jul-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WA	11-Jul-23	Si-D	mg/L	0.1	0.1	1.83	1.83	0.0	1.00
WA	11-Jul-23	Si-T	mg/L	0.1	0.1	1.65	1.69	2.4	0.98
WA	11-Jul-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	SO4-D	mg/L	1	1	1.5	1.6	6.5	0.94
WA	11-Jul-23	Sr-D	mg/L	0.001	0.001	0.0121	0.0123	1.6	0.98
WA	11-Jul-23	Sr-T	mg/L	0.001	0.001	0.0111	0.0111	0.0	1.00
WA	11-Jul-23	S-T	mg/L	3	3	<3.0	<3.0	0.0	1.00
WA	11-Jul-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	Ti-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WA	11-Jul-23	Ti-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WA	11-Jul-23	TSS	mg/L	1	1	<1.0	<1.0	0.0	1.00
WA	11-Jul-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WA	11-Jul-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WA	11-Jul-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WA	11-Jul-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WA	11-Jul-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WB	8-Aug-23	Ag-D	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
WB	8-Aug-23	Ag-T	mg/L	0.00002	0.00002	<0.000020	<0.000020	0.0	1.00
WB	8-Aug-23	Al-D	mg/L	0.003	0.003	0.0120	0.0121	0.8	0.99
WB	8-Aug-23	Alk-PP	mg/L	1	1	<1.0	<1.0	0.0	1.00
WB	8-Aug-23	Alk-T	mg/L	1	1	31	30	3.3	1.03
WB	8-Aug-23	Al-T	mg/L	0.003	0.003	0.0136	0.0132	3.0	1.03
WB	8-Aug-23	As-D	mg/L	0.0001	0.0001	0.00019	0.00018	5.4	1.06
WB	8-Aug-23	As-T	mg/L	0.0001	0.0001	0.00019	0.00018	5.4	1.06
WB	8-Aug-23	Ba-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	Ba-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	B-D	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
WB	8-Aug-23	Be-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WB	8-Aug-23	Be-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 40 Relative Percent Difference 12 Page(s)

Station Code	Date	Param.Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	Rel.% Diff.	Ratio
WB	8-Aug-23	B-T	mg/L	0.05	0.05	<0.050	<0.050	0.0	1.00
WB	8-Aug-23	Ca-D	mg/L	0.05	0.05	9.05	9.07	0.2	1.00
WB	8-Aug-23	Ca-T	mg/L	0.05	0.05	8.05	8.04	0.1	1.00
WB	8-Aug-23	Cd-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WB	8-Aug-23	Cd-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WB	8-Aug-23	Co-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WB	8-Aug-23	Co-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WB	8-Aug-23	Cr-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	Cr-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	Cu-D	mg/L	0.0002	0.0002	0.00044	0.00046	4.4	0.96
WB	8-Aug-23	Cu-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
WB	8-Aug-23	DOC	mg/L	0.5	0.5	2.8	2.5	11.3	1.12
WB	8-Aug-23	Fe-D	mg/L	0.005	0.005	0.0213	0.0256	18.3	0.83
WB	8-Aug-23	Fe-T	mg/L	0.01	0.01	0.033	0.033	0.0	1.00
WB	8-Aug-23	Hard-D	mg/L	0.5	0.5	27.0	27.1	0.4	1.00
WB	8-Aug-23	Hard-T	mg/L	0.5	0.5	24.1	24.0	0.4	1.00
WB	8-Aug-23	K-D	mg/L	0.05	0.05	0.113	0.114	0.9	0.99
WB	8-Aug-23	K-T	mg/L	0.05	0.05	0.109	0.108	0.9	1.01
WB	8-Aug-23	Li-D	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
WB	8-Aug-23	Li-T	mg/L	0.002	0.002	<0.0020	<0.0020	0.0	1.00
WB	8-Aug-23	Mg-D	mg/L	0.05	0.05	1.07	1.08	0.9	0.99
WB	8-Aug-23	Mg-T	mg/L	0.05	0.05	0.963	0.963	0.0	1.00
WB	8-Aug-23	Mn-D	mg/L	0.001	0.001	0.0013	0.0014	7.4	0.93
WB	8-Aug-23	Mn-T	mg/L	0.001	0.001	0.0094	0.0090	4.3	1.04
WB	8-Aug-23	Mo-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	Mo-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	Na-D	mg/L	0.05	0.05	5.65	5.70	0.9	0.99
WB	8-Aug-23	Na-T	mg/L	0.05	0.05	5.22	5.26	0.8	0.99
WB	8-Aug-23	Ni-D	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	Ni-T	mg/L	0.001	0.001	<0.0010	<0.0010	0.0	1.00
WB	8-Aug-23	Pb-D	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WB	8-Aug-23	Pb-T	mg/L	0.0002	0.0002	<0.00020	<0.00020	0.0	1.00
WB	8-Aug-23	Sb-D	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
WB	8-Aug-23	Sb-T	mg/L	0.0005	0.0005	<0.00050	<0.00050	0.0	1.00
WB	8-Aug-23	S-D	mg/L	3	3	<3.0	<3.0	0.0	1.00
WB	8-Aug-23	Se-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WB	8-Aug-23	Se-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WB	8-Aug-23	Si-D	mg/L	0.1	0.1	1.88	1.88	0.0	1.00
WB	8-Aug-23	Si-T	mg/L	0.1	0.1	1.65	1.65	0.0	1.00
WB	8-Aug-23	Sn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	Sn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	SO4-D	mg/L	1	1	7.9	7.9	0.0	1.00
WB	8-Aug-23	Sr-D	mg/L	0.001	0.001	0.0326	0.0324	0.6	1.01
WB	8-Aug-23	Sr-T	mg/L	0.001	0.001	0.0292	0.0294	0.7	0.99
WB	8-Aug-23	S-T	mg/L	3	3	<3.0	<3.0	0.0	1.00
WB	8-Aug-23	Ti-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	Ti-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	Ti-D	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WB	8-Aug-23	Ti-T	mg/L	0.00001	0.00001	<0.000010	<0.000010	0.0	1.00
WB	8-Aug-23	TSS	mg/L	1	1	<1.0	<1.0	0.0	1.00
WB	8-Aug-23	U-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WB	8-Aug-23	U-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WB	8-Aug-23	V-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	V-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	Zn-D	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	Zn-T	mg/L	0.005	0.005	<0.0050	<0.0050	0.0	1.00
WB	8-Aug-23	Zr-D	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00
WB	8-Aug-23	Zr-T	mg/L	0.0001	0.0001	<0.00010	<0.00010	0.0	1.00

Pink - Relevance Percent Difference (RPD) is greater than 20%.

Blue - Different Lab MDL

Appendix 1 - Tables

Table 41 Relative Percent Difference Greater Than 20% 1 Page(s)

Station Code	Date	Parameter Code	Units	Lab MDL 1	Lab MDL 2	Result 1	Result 2	RDP >20%	Ratio
2SI	5-Sep-23	H2S	mg/L	0.002	0.002	0.14	0.015	161.3	9.33
2SI	5-Sep-23	S2-T	mg/L	0.0018	0.0018	0.13	0.015	158.6	8.67
2SI	5-Sep-23	Fe-T	mg/L	0.01	0.01	0.297	0.044	148.4	6.75
MW004	28-Aug-23	N-D	mg/L	0.02	0.02	0.426	0.121	111.5	3.52
MQL4	1-Aug-23	Al-T	mg/L	0.003	0.003	0.0256	0.0127	67.4	2.02
2SI	5-Sep-23	Fe-D	mg/L	0.005	0.005	0.0485	0.0928	62.7	0.52
2SI	4-Jul-23	H2S	mg/L	0.002	0.002	0.082	0.12	37.6	0.68
2SI	5-Sep-23	SO4-D	mg/L	5	5	390	560	35.8	0.70
2SI	4-Jul-23	S2-T	mg/L	0.0018	0.0018	0.077	0.11	35.3	0.70
2SI	5-Sep-23	Alk-T	mg/L	1	1	350	260	29.5	1.35
LLM4	18-Jul-23	As-D	mg/L	0.0001	0.0001	0.00049	0.00065	28.1	0.75
LLM4	18-Jul-23	Mn-T	mg/L	0.001	0.001	0.0105	0.0080	27.0	1.31
LLM4	18-Jul-23	Sr-T	mg/L	0.001	0.001	0.115	0.0917	22.5	1.25
2SI	18-Sep-23	S2-T	mg/L	0.0018	0.0018	0.032	0.040	22.2	0.80
2SI	5-Sep-23	As-T	mg/L	0.0001	0.0001	0.00056	0.00045	21.8	1.24
LLM4	18-Jul-23	As-T	mg/L	0.0001	0.0001	0.00041	0.00051	21.7	0.80
2SI	18-Sep-23	H2S	mg/L	0.002	0.002	0.034	0.042	21.1	0.81
MW004	28-Aug-23	Turb	NTU	0.1	0.1	1.6	1.3	20.7	1.23
LLM4	18-Jul-23	Na-T	mg/L	0.05	0.05	5.42	4.41	20.5	1.23
LLM4	18-Jul-23	S-T	mg/L	3	3	15.1	12.3	20.4	1.23

True RPD calculation: One or more of the results must be 5 times greater than the Lab Mean Detection Limit (Lab MDL).

Results that are Not Calculated (NC) include unequal Lab MDL's or results that are less than Lab MDL.

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB2	EB2-12JUL23-B	B	12-Jul-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB2	EB2-12JUL23-B	B	12-Jul-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Turb	NTU	0.10	0.11	0.11	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-12JUL23-B	B	12-Jul-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0

Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB2	EB2-18JUL23-B	B	18-Jul-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Turb	NTU	0.10	0.13	0.13	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-18JUL23-B	B	18-Jul-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB2	EB2-26JUL23-B	B	26-Jul-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Na-D	mg/L	0.050	0.050	0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Turb	NTU	0.10	0.13	0.13	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-26JUL23-B	B	26-Jul-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Al-D	mg/L	0.0030	0.0041	0.0041	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB2	EB2-1AUG23-B	B	1-Aug-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Turb	NTU	0.10	<0.10	<0.10	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB2	EB2-1AUG23-B	B	1-Aug-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-1AUG23-B	B	1-Aug-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB2	EB2-9AUG23-B	B	9-Aug-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Turb	NTU	0.10	0.12	0.12	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB2	EB2-9AUG23-B	B	9-Aug-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	K-T	mg/L	0.050	<0.050	<0.050	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB3	EB3-12JUL23-B	B	12-Jul-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Turb	NTU	0.10	0.18	0.18	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-12JUL23-B	B	12-Jul-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Al-T	mg/L	0.0030	0.0521	0.0521	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0

Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB3	EB3-18JUL23-B	B	18-Jul-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Turb	NTU	0.10	<0.10	<0.10	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-18JUL23-B	B	18-Jul-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0

Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB3	EB3-18JUL23-B	B	18-Jul-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ca-D	mg/L	0.050	0.064	0.064	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Na-D	mg/L	0.050	0.057	0.057	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0

Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB3	EB3-26JUL23-B	B	26-Jul-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Turb	NTU	0.10	0.13	0.13	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-26JUL23-B	B	26-Jul-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ca-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB3	EB3-1AUG23-B	B	1-Aug-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Turb	NTU	0.10	<0.10	<0.10	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-1AUG23-B	B	1-Aug-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ag-D	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ag-T	mg/L	0.000020	<0.000020	<0.000020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Al-D	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Alk-PP	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Alk-T	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Al-T	mg/L	0.0030	<0.0030	<0.0030	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	As-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	As-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ba-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ba-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	B-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Be-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Be-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	B-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ca-D	mg/L	0.050	0.079	0.079	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ca-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Cd-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Cd-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Cl-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Co-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Co-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Cr-D	mg/L	0.0010	<0.0010	<0.0010	0.0

## Appendix 1 - Tables

Table 42 Field Blanks (FB), Trip Blanks 13 Page(s)

Field Blanks (FB), Trip Blanks (TB), Equipment Blanks (EB)									
Stn.Code 1	Sample No.	Class	Date	Param.Code	Units	Lab MDL	Result 1	Result 2	Rel.% Diff.
EB3	EB3-9AUG23-B	B	9-Aug-23	Cr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Cu-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Cu-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Fe-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Fe-T	mg/L	0.010	<0.010	<0.010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Hard-D	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Hard-T	mg/L	0.50	<0.50	<0.50	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	K-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	K-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Li-D	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Li-T	mg/L	0.0020	<0.0020	<0.0020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Mg-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Mg-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Mn-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Mn-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Mo-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Mo-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Na-D	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Na-T	mg/L	0.050	<0.050	<0.050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ni-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ni-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	N-NO23	mg/L	0.020	<0.020	<0.020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Pb-D	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Pb-T	mg/L	0.00020	<0.00020	<0.00020	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Sb-D	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Sb-T	mg/L	0.00050	<0.00050	<0.00050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	S-D	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Se-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Se-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Si-D	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Si-T	mg/L	0.10	<0.10	<0.10	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Sn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Sn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	SO4-D	mg/L	1.0	<1.0	<1.0	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Sr-D	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Sr-T	mg/L	0.0010	<0.0010	<0.0010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	S-T	mg/L	3.0	<3.0	<3.0	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ti-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Ti-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Tl-D	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Tl-T	mg/L	0.000010	<0.000010	<0.000010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Turb	NTU	0.10	0.29	0.29	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	U-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	U-T	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	V-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	V-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Zn-D	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Zn-T	mg/L	0.0050	<0.0050	<0.0050	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Zr-D	mg/L	0.00010	<0.00010	<0.00010	0.0
EB3	EB3-9AUG23-B	B	9-Aug-23	Zr-T	mg/L	0.00010	<0.00010	<0.00010	0.0

# APPENDIX II



**Stantec Consulting Ltd.**

500-4730 Kingsway  
Burnaby, BC V5H 0C6

October 4, 2023

123221643

**Attention: Atikin Hehn**  
Bureau Veritas Laboratory  
4606 Canada Way  
Burnaby, BC V5G 1K5

Dear Atikin,

**Reference: Quinsam Lakes Phytoplankton, July 2023 (Sample Reference BUY008-01, Buy007-02, BUY067-01; Job Numbers C354748, C354752)**

## Introduction

Quinsam Coal Ltd. collects water samples from the Quinsam Lakes system during the growing season to meet long-term water quality monitoring requirements as per the effluent discharge permit issued by the Ministry of Environment and Climate Change Strategy. From 1994 through 2013, the permit required sampling at depths of 1 m, 4 m and 9 m in April through September for Long Lake and Middle Quinsam Lake, with No Name Lake added to the program in June 2012 and Lower Quinsam Lake added in 2013. In 2014 the permit was revised, limiting sampling to surface water (1.0 m depth) three times per year (spring, late summer, fall overturn). Attachment A contains the long-term dataset.

Samples are collected by Quinsam Coal and submitted to Stantec Consulting Ltd. for phytoplankton taxonomic analysis, as part of ongoing monitoring requirements. Some months, an additional sample is taken as a field replicate for quality assurance/quality control. This brief report provides information about samples collected in July 2023 from Long Lake and Middle Quinsam Lake, and presents the summary results from May 2023. Attachment B contains the results for July 2023. Attachment C contains copies of the chain of custody forms for July.

## Methods

Sub-samples (27 mL) of preserved lake water were settled and examined at 100 X, 400 X and 1,000 X magnifications using a Zeiss inverted microscope. Counting effort is defined as at least 100 organisms of the predominant species at 400 X, up to 200 fields at 1,000 X, and a half or whole sub-sample at 100 X.

Reference: Quinsam Lakes Phytoplankton, July 2023 (Sample Reference BUY008-01, Buy007-02, BUY067-01; Job Numbers C354748, C354752)

## Results

### Abundance

Total abundance in the May and July samples is shown in Table 1. Total abundance for July ranged from 870 cells/mL (Long Lake) to 1,200 cells/mL (Middle Quinsam Lake). These numbers are in the range reported historically.

**Table 1** Phytoplankton Abundance (cells/mL) in the Quinsam Lake System, 2023

Lake	Date	Abundance (cells/mL) at 1 m depth			
		Total	<5 µm (1,000 X)	5 to 25 µm (400 X)	>25 µm (100 X)
Long	May 3 and May 4	2,800	2,700	170	2.0
Middle Quinsam		1,100	940	120	1.1
No Name		1,900	1,800	160	0.5
Lower Quinsam		1,300	1,100	180	22
Lower Quinsam (replicate)		1,200	1,100	120	7.0
Long	18 July	960	850	120	1.1
Long (replicate)		870	740	130	2.3
Middle Quinsam		1,200	530	710	0.3

### Species Composition

Species composition data for the July 2023 samples are contained in Attachment B. The most abundant phytoplankton in Long Lake were the very small (less than or equal to 5 µm) chrysoflagellates (*Ochromonas* spp. and *Chromulina* spp.). Although these ultra-nanoplankton species were very abundant numerically, they usually contribute little to algal biomass. These were not the most abundant taxa in Middle Quinsam Lake; *Dictyosphaerium pulchellum* was predominant.

In Long Lake, the most abundant of the larger algae were the cryptophytes *Cryptomonas* spp. and *Rhodomonas minuta*, with the chrysophyte *Ochromonas* spp. common. In Middle Quinsam Lake, the colonial chlorophyte *Dictyosphaerium pulchellum* was predominant and small chrysophytes and *Ochromonas* spp. were common.

The July 2023 samples were similar in composition and abundance to samples collected during the summer in recent years.

### Comparison of Replicate Samples

Two replicate samples were collected from 1 m depth in Long Lake. Percent difference in the duplicate samples was calculated. A difference of up to 10% can be expected for a total cell count of 400 organisms, for repeat sampling from the same bottle; higher percent difference can be expected when separate grabs are used for the replicates, as was done here.

Reference: Quinsam Lakes Phytoplankton, July 2023 (Sample Reference BUY008-01, Buy007-02, BUY067-01; Job Numbers C354748, C354752)

In Long Lake, total abundance was 870 cells/mL in one sample and 960 cells/mL in the other sample, with a difference of 5%. The replicate samples differed slightly in abundance of common species such as *Cryptomonas* spp. Abundance was similar in the two samples (with reasonable inter-sample reproducibility, given that the samples were taken from different bottles).

## Closure

We trust this information meets your present requirements. Should you have any questions or require additional information, please contact the undersigned.

Regards,

**Stantec Consulting Ltd.**

**Karen  
Munro**

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Karen Munro  
Date: 2023.10.04  
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**Karen Munro** M.Sc., R.P.Bio.  
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Nelson, Sandra  
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Phone: (778) 311-0217  
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Attachments: Attachment A: Historical Abundance Data: Quinsam Lakes System, 1993–2022  
Attachment B: Species Composition Data: July 2023  
Attachment C: Chain of Custody: July 2023

October 4, 2023  
Attention: Atikin Hehn  
Page A.1

Reference: Quinsam Lakes Phytoplankton, July 2023 (Sample Reference BUY008-01, Buy007-02, BUY067-01; Job Numbers C354748, C354752)

# **Attachment A      Historical Abundance Data: Quinsam Lakes System, 1993–2022**

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-1 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 1993 and 1994**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
1993 October	LLM1	2,300	1,800	530	
	LLM3	3,000	2,400	550	
	LLMB	610	420	190	
1994 May	LL1R	10,000	8,800	1,200	
	LL3R	5,000	3,800	1,200	
	LL9R	4,000	3,200	800	
1994 June	LL0	1,400	1,200	250	
	LL1	1,000	790	220	
	LL4	1,500	1,200	320	
	LL9	2,500	1,900	580	
	LLB	830	440	390	
1994 July	LL1	2,100	1,900	180	
	LL4	1,900	1,700	250	
	LL9	1,500	1,100	400	
1994 August	LL1	1,700	1,400	290	
	LL4	1,000	850	200	
	LL9	900	780	150	
1994 September	LL1	900	620	250	
	LL4	2,300	2,000	260	
	LL9	2,100	1,700	350	

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-2 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 1995**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	3,100	2,700	340	
	LL4	3,300	2,900	350	
	LL9	1,300	1,100	280	
May	LL1	5,400	4,900	570	
	LL4	4,800	4,100	700	
	LL9	1,500	1,000	500	
June	LL1	2,100	1,800	300	
	LL4	2,600	2,100	500	
	LL9	7,400	6,600	850	
July	LL1	2,000	1,700	300	
	LL4	1,900	1,650	350	
	LL9	1,500	1,200	300	
August	LL1	1,100	960	180	
	LL4	1,300	1,100	240	
	LL9	1,900	1,700	210	
September	LL1	2,900	2,800	170	
	LL4	3,400	3,100	330	
	LL9	1,900	1,600	280	

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-3 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 1996**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	4,600	4,200	340	
	LL4	6,000	5,600	380	
	LL9	1,100	960	160	
May	LL1	2,200	1,600	600	31
	LL4	2,200	1,700	540	16
	LL9	1,700	1,400	290	26
June	LL1	2,100	1,600	440	4
	LL4	1,600	1,300	340	2
	LL9	1,600	1,100	500	9
July	LL1	2,400	2,300	140	1
	LL4	3,200	3,000	200	3
	LL9	No sample			
August	LL1	2,100	1,900	160	1
	LL4	2,200	1,800	390	37
	LL9	1,700	1,500	200	10
September	LL1	1,900	1,600	230	82
	LL4	2,200	1,800	300	145
	LL9	2,100	1,800	220	38
April	MQ1	No sample			
	MQ4	No sample			
	MQ9	No sample			
May	MQ1	2,000	1,700	230	11
	MQ4	1,100	930	180	7
	MQ9	2,200	1,800	430	1
June	MQ1	2,700	2,500	150	3
	MQ4	2,600	2,400	210	7
	MQ9	1,200	1,000	190	1
July	MQ1	2,400	2,100	335	24
	MQ4	1,900	1,400	380	130
	MQ9	1,200	860	320	29
August	MQ1	2,800	2,500	280	17
	MQ4	1,800	1,500	310	18
	MQ9	2,300	1,900	390	21
September	MQ1	1,700	1,300	270	5
	MQ4	900	560	350	0.6
	MQ9	1,200	1,100	190	0.7

Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022

July 15, 2023

**Table 1-4 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 1997**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
early May	LL1	3,200	2,800	340	12
	LL4	4,300	4,000	300	32
	LL9	1,700	1,600	140	5
late May <sup>1</sup>	LL1	3,000	2,600	370	61
	LL4	4,900	4,200	620	100
	LL9	4,700	4,000	730	44
June <sup>2</sup>	LL1	1,500	1,100	340	2
	LL4	1,200	1,000	240	1
	LL9	3,900	2,700	1,200	50
July	LL1	2,400	2,300	110	0
	LL4	1,700	1,500	170	0.1
	LL9	480	390	80	2
August	LL1	1,900	1,700	230	0.2
	LL4	880	740	140	0.6
	LL9	1,000	870	93	1.4
September	LL1	1,000	870	140	0.6
	LL4	2,000	1,800	270	0.3
	LL9	700	490	210	0.8
early May	MQ1	1,700	1,400	270	2
	MQ4	1,600	1,400	240	2
	MQ9	2,500	2,300	240	2
late May	MQ1	1,200	1,000	150	0.4
	MQ4	1,600	1,300	280	1
	MQ9	1,200	1,000	190	0.2
June	MQ1	1,900	1,700	140	1
	MQ4	2,500	2,400	130	1
	MQ9	1,400	1,200	200	1
July	MQ1	2,400	2,300	130	0.3
	MQ4	1,500	1,400	110	0.1
	MQ9	890	640	260	0.6
August	MQ1	2,100	1,900	220	0.8
	MQ4	1,500	1,300	190	1.4
	MQ9	1,000	760	240	1.6
September	MQ1	800	640	170	1.3
	MQ4	900	620	280	6.4
	MQ9	650	370	280	1.5

NOTES:

1. Recalculated counting *Synedra radians* at 400X rather than 100X
2. Recalculated counting *Synedra radians* at 400X rather than 100X & *Cyclotella glomerata* at 1,000X rather than 400X

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-5 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 1998**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	2,800	2,600	210	12
	LL4	4,100	3,700	390	12
	LL9	1,600	1,100	500	10
May <sup>1</sup>	LL1	2,000	1,500	430	76
	LL4	1,600	1,100	480	85
	LL9	2,100	1,500	630	20
June	LL1	5,700	5,600	140	0.3
	LL4	7,100	6,900	210	0.3
	LL9	3,300	1,700	1,600	4
July	LL1	1,200	1,100	130	10
	LL4	740	560	170	8
	LL9	760	130	630	5
August	LL1	1,900	1,700	190	2
	LL4	2,200	2,000	230	2
	LL9	1,900	1,600	220	5
September	LL1	5,000	4,900	130	2
	LL4	3,500	3,300	150	2
	LL9	2,200	2,000	220	5
April	MQ1	2,200	1,900	250	3
	MQ4	1,900	1,600	260	3
	MQ9	3,100	2,700	460	2
May	MQ1	2,500	2,300	210	1
	MQ4	2,600	2,400	180	2
	MQ9	2,100	1,700	480	0.4
June	MQ1	1,900	1,700	180	1
	MQ4	1,600	1,400	200	1
	MQ9	1,300	1,000	310	0.4
July	MQ1	1,500	1,400	120	19
	MQ4	1,800	1,600	150	35
	MQ9	1,300	1,100	190	25
August	MQ1	1,900	1,700	250	12
	MQ4	1,300	950	350	10
	MQ9	1,400	890	490	12
September	MQ1	2,000	1,800	200	11
	MQ4	2,700	2,500	220	7
	MQ9	2,100	1,900	230	10

NOTE:  
1. Recalculated for counting *Synedra radians* at 400X rather than 100X

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

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**Table 1-6 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 1999**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	3,800	3,500	310	9
	LL4	6,800	6,200	560	17
	LL9	3,000	2,600	410	10
May	LL1	No sample			
	LL4	No sample			
	LL9	No sample			
early July	LL1	1,100	910	150	2
	LL4	1,400	1,200	150	1
	LL9	1,300	1,200	100	1
late July	LL1	1,100	870	200	1
	LL4	2,000	1,800	280	1
	LL9	1,000	860	130	1
August	LL1	2,700	2,500	180	2
	LL4	2,800	2,600	170	6
	LL9	3,000	2,800	170	4
September	LL1	3,700	3,500	230	12
	LL4	5,000	4,700	290	17
	LL9	4,000	3,700	290	3
April	MQ1	2,300	1,600	220	430
	MQ4	2,200	1,800	200	230
	MQ9	2,700	1,900	600	190
May	MQ1	No sample			
	MQ4	No sample			
	MQ9	No sample			
early July	MQ1	790	700	90	0.4
	MQ4	770	620	150	0.5
	MQ9	1,100	1,000	130	0.3
late July	MQ1	2,700	2,600	110	0.2
	MQ4	2,100	1,900	220	0.8
	MQ9	620	420	190	0.3
August	MQ1	2,100	2,000	140	6
	MQ4	1,100	980	110	4
	MQ9	1,100	1,000	120	9
September	MQ1	1,300	1,100	190	14
	MQ4	1,500	1,300	190	9
	MQ9	760	540	210	10

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

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**Table 1-7 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2000**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	2,100	1,600	450	33
	LL4	2,500	1,800	700	68
	LL9	1,300	590	740	6.8
May	LL1	3,300	2,800	530	17
	LL4	3,000	2,600	320	15
	LL9	2,000	1,500	490	15
June	LL1	2,900	2,500	390	9.1
	LL4	2,900	2,400	400	19
	LL9	6,400	5,700	730	19
July	LL1	1,600	1,400	130	2.1
	LL4	1,400	1,200	250	1.6
	LL9	1,200	990	250	3.6
August	LL1	1,800	1,600	170	12
	LL4	1,100	940	190	8.2
	LL9	1,500	1,400	130	1.9
September	LL1	2,200	1,900	360	11
	LL4	2,000	1,800	200	9.2
	LL9	1,300	1,100	200	7.2
April	MQ1	1,800	1,300	450	5.9
	MQ4	1,700	1,300	420	1.6
	MQ9	1,500	1,200	280	1.7
May	MQ1	1,800	1,500	290	3
	MQ4	1,600	1,300	290	4.4
	MQ9	1,900	1,600	270	7.6
June	MQ1	2,100	1,900	250	1.4
	MQ4	2,400	2,200	200	2.1
	MQ9	1,800	1,500	380	1.1
July	MQ1	1,300	1,100	210	7.4
	MQ4	2,100	1,800	250	9.6
	MQ9	2,100	1,300	800	22
August	MQ1	1,500	1,200	290	5.8
	MQ4	2,200	1,900	310	7.2
	MQ9	2,400	1,900	500	7.5
September	MQ1	1,800	1,600	200	14
	MQ4	2,100	1,900	250	14
	MQ9	2,000	1,700	220	28

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**Table 1-8 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2001**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	3,300	2,600	670	19
	LL4	4,400	3,900	830	13
	LL9	1,400	860	490	5
May	LL1	7,700	6,200	1,100	310
	LL4	11,000	10,000	980	100
	LL9	4,600	3,600	670	22
June	LL1	7,800	6,600	1,000	170
	LL4	6,800	5,100	1,500	210
	LL9	3,000	2,400	680	25
July	LL1	3,300	3,100	170	1
	LL4	3,200	3,000	180	1
	LL9	1,600	1,400	160	2
August	LL1	1,300	1,100	180	1
	LL4	1,700	1,500	200	2
	LL9	720	540	170	1
September	LL1	8,200	8,000	270	13
	LL4	8,800	8,600	260	13
	LL9	4,800	4,600	190	1
April	MQ1	3,600	3,200	400	10
	MQ4	3,500	3,200	310	11
	MQ9	5,700	4,900	830	24
May	MQ1	1,900	1,500	360	17
	MQ4	1,800	1,400	370	14
	MQ9	3,800	3,200	600	13
June	MQ1	2,200	1,900	240	2
	MQ4	3,700	3,400	310	2
	MQ9	4,000	3,600	390	4
July	MQ1	2,500	2,300	230	8
	MQ4	2,700	2,400	260	6
	MQ9	1,500	1,200	240	8
August	MQ1	1,800	1,600	190	17
	MQ4	1,900	1,700	180	15
	MQ9	1,800	1,600	160	16
September	MQ1	1,900	1,700	180	24
	MQ4	3,200	2,900	230	37
	MQ9	1,800	1,600	190	43

Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022

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**Table 1-9 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2002**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	5,600	5,100	460	57
	LL4	5,600	5,100	490	40
	LL9	1,300	1,100	220	12
May	LL1	2,600	1,900	710	29
	LL4	2,700	2,000	690	41
	LL9	1,800	1,300	460	37
June	LL1	5,800	5,300	340	140
	LL4	9,200	8,600	450	96
	LL9	3,700	3,000	620	27
July	LL1	2,900	2,700	180	0.3
	LL4	2,400	2,200	160	0.6
	LL9	3,900	3,300	560	41.2
August	LL1	2,900	2,800	140	7.2
	LL4	2,300	2,200	150	3.2
	LL9	1,500	1,400	130	0.6
September	LL1	3,900	3,700	220	27
	LL4	3,500	3,200	260	31
	LL9	2,500	2,300	210	2.2
April	MQ1	2,000	1,700	360	8.2
	MQ4	1,900	1,600	300	3.6
	MQ9	1,500	1,200	260	4
May	MQ1	1,400	1,100	270	1.1
	MQ4	1,400	1,200	230	1.7
	MQ9	1,400	1,100	330	1.4
June	MQ1	1,000	940	110	1
	MQ4	800	680	120	0.3
	MQ9	60	50	7	0
July	MQ1	1,700	1,300	330	50
	MQ4	1,500	1,100	360	34
	MQ9	940	700	240	5.5
August*	MQ1	1,400	1,200	140	42
	MQ4	1,200	940	180	76
	MQ9	2,600	200	300	275
September	MQ1	1,400	1,200	160	33
	MQ4	2,100	1,900	220	28
	MQ9	1,100	920	160	28

NOTE:  
\* Recalculated for counting *Cyclotella bodanica* at 400X rather than 100X

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

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**Table 1-10 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2003**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	4,800	4,200	560	36
	LL4	3,600	2,900	640	8.6
	LL9	640	450	190	6.9
May	LL1	4,200	3,500	620	25
	LL4	4,600	3,800	800	23
	LL9	1,400	1,100	280	16
June	LL1	2,300	1,600	630	37
	LL4	6,800	6,100	600	43
	LL9	4,500	3,800	680	42
July	LL1	1,600	1,400	240	1
	LL4	2,400	2,100	270	0.5
	LL9	2,900	2,700	250	9.8
August	LL1	2,000	1,800	240	0.8
	LL4	2,200	1,900	250	0.5
	LL9	1,900	1,600	260	0.6
September	LL1	2,600	2,400	290	0.2
	LL4	3,700	3,400	340	1.8
	LL9	1,900	1,600	250	1.9
April	MQ1	3,500	2,900	570	28
	MQ4	3,000	2,400	510	17
	MQ9	2,000	1,600	310	17
May	MQ1	2,900	2,400	350	99
	MQ4	3,000	2,400	480	43
	MQ9	3,000	2,500	560	16
June	MQ1	1,300	1,100	180	6
	MQ4	1,900	1,500	420	21
	MQ9	3,000	2,700	350	16
July	MQ1	2,700	2,600	170	0.5
	MQ4	2,000	1,600	380	1.5
	MQ9	1,400	1,100	240	79
August	MQ1	1,300	1,000	280	43
	MQ4	1,500	1,200	240	44
	MQ9	3,500	2,500	620	338
September	MQ1	2,100	1,900	260	6.5
	MQ4	2,300	2,000	290	23
	MQ9	Not available			

Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022

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**Table 1-11 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2004**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	5,300	4,100	1,200	20
	LL4	3,500	2,600	860	13
	LL9	3,300	2,600	730	9.1
May	LL1	8,000	7,100	860	34
	LL4	6,600	5,300	1,200	36
	LL9	2,800	2,000	770	22
June	LL1	2,900	2,600	270	3.1
	LL4	2,900	2,600	310	5
	LL9	4,900	4,100	730	39
July	LL1	1,600	1,300	280	2.7
	LL4	1,200	1,100	170	2.2
	LL9	1,700	1,400	270	1
August	LL1	1,300	960	350	18
	LL4	1,400	1,000	300	38
	LL9	1,700	1,600	110	27
September	LL1	3,800	3,400	370	27
	LL4	4,300	3,900	350	25
	LL4 - duplicate	3,100	2,800	320	19
	LL9	3,000	2,700	280	12
April	MQ1	1,500	1,120	400	2.2
	MQ4	1,400	1,030	370	5.2
	MQ9	1,500	1,200	340	4.2
May	MQ1	2,300	2,000	310	2.4
	MQ4	1,500	1,200	300	3.6
	MQ9	2,600	2,100	470	2.4
June	MQ1	1,900	1,700	190	34
	MQ4	3,000	2,700	250	48
	MQ9	2,200	1,900	210	123
July*	MQ1	1,200	960	260	6.2
	MQ4	1,700	1,400	260	9.9
	MQ9	1,300	840	340	82
August**	MQ1	2,900	2,600	260	53
	MQ4	3,800	3,500	250	51
	MQ4 - duplicate	2,500	2,200	210	53
September	MQ9	3,900	3,600	260	44
	MQ1	2,300	1,700	550	25
	MQ4	2,100	1,600	420	26
	MQ9	2,500	2,000	520	19

NOTES:  
 \* MQ9 recalculated for counting *Cyclotella bodanica* at 400X rather than 100X  
 \*\* MQ1, MQ4, MQ9 recalculated for counting *Elakatothrix gelatinosa* colonies at 400X rather than

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

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**Table 1-12 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2005**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	2,700	2,100	550	24
	LL4	3,500	2,800	610	29
	LL9	670	460	200	8.5
May	LL1	7,200	6,600	670	55
	LL4	5,700	4,900	850	20
	LL9	1,300	850	440	20
June	LL1	2,700	2,400	300	2.4*
	LL4	2,800	2,500	330	8.3*
	LL9	990	850	130	8.9
July	LL1	1,200	800	400	44*
	LL4	1,700	1,200	460	33*
	LL9	692	540	150	3.5*
August	LL1	1,400	1,100	290	26
	LL4	1,100	810	220	64
	LL9	2,400	1,900	360	73
September	LL1	1,400	1,100	170	170
	LL4	2,300	1,900	220	170
	LL9	1,800	1,200	590	31*
April	MQ1	1,400	1,100	370	8.8
	MQ4	1,900	1,500	400	3.6
	MQ9	1,700	1,300	400	6.6
May	MQ1	1,300	1,000	300	3.4
	MQ4	1,500	1,200	330	3.2
	MQ9	1,300	1,000	340	3.7
June	MQ1	1,700	1,600	150	4.6
	MQ4	1,000	710	270	2.1
	MQ9	1,100	900	200	1.1
July <sup>1</sup>	MQ1	1,100	860	220	14.6
	MQ4	1,100	920	200	11.2
	MQ9	1,400	700	170	489
August <sup>2</sup>	MQ1	1,100	950	170	0.5
	MQ4	1,900	1,600	250	7.1
	MQ9	2,100	1,700	330	89*
September	MQ1	870	710	140	10.7
	MQ4	1,200	1,100	170	20.2
	MQ9	1,400	1,100	180	146

NOTE:  
\* = *Cyclotella bodanica* counted at 400X rather than 100X

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

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**Table 1-13 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2006**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	> 25 mm (100X)
April	LL1	1,800	1,100	610	1.9*
	LL4	3,200	2,700	520	14.7
	LL9	690	550	135	2.2
May	LL1	2,600	2,000	620	19.7
	LL4	4,900	4,200	640	12.9
	LL9	540	380	160	4.8
June	LL1	860	610	200	39.5
	LL4	2,000	1,800	190	22.2
	LL4 (rep)	1,100	940	190	23.2
	LL9	1,700	1,400	220	17.7
July	LL1	1,300	1,100	160	54.8
	LL4	2,700	2,200	370	165
	LL9	1,700	1,300	350	19.1
August	LL1	2,700	2,500	200	14.3
	LL4	2,600	2,300	220	34.6
	LL9	2,800	2,300	470	23.8
September	LL1	3,800	3,600	160	0.4
	LL4	1,300	1,200	120	2
	LL9	1,800	1,700	130	3.6
April	MQ1	2,200	16,00	240	9.4
	MQ4	2,400	1,900	550	8.6
	MQ9	1,600	1,400	180	8.2
May	MQ1	1,700	1,500	240	10.8
	MQ4	1,700	1,400	320	7.4
	MQ4 (rep)	2,100	1,800	310	11.8
	MQ9	1,900	1,600	280	4.1
June	MQ1	1,900	1,800	130	0.9
	MQ4	1,400	1,200	200	4.4
	MQ9	950	840	110	0.6
July	MQ1	1,100	870	220	42.8
	MQ4	2,000	1,700	260	16.6
	MQ9	2,300	2,100	180	18.8*
August	MQ1	1,500	1,200	280	6.5
	MQ4	2,100	1,800	290	13.3
	MQ9	1,300	880	400	17.0*
September	MQ1	2,500	2,300	200	1.9
	MQ4	2,100	1,800	260	11.8
	MQ9	3,400	2,400	970	1.8*

NOTE:  
\* *Cyclotella bodanica* (diatom) counted at 400X rather than 100X

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

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**Table 1-14 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2007**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)
April	LL1	3,100	2,800	240
	LL4	3,000	2,200	620
	LL9	1,200	910	240
May	LL1	2,600	2,000	540
	LL4	3,300	2,600	670
	LL9	1,300	890	430
June	LL1	2,100	1,600	420
	LL4	2,500	2,000	520
	LL9	1,100	750	300
July	LL1	2,300	2,000	240
	LL4	2,400	2,100	270
	LL9	3,100	3,000	180
August	LL1	1,100	900	240
	LL4	2,300	2,100	150
	LL4 (rep)	2,600	2,400	150
	LL9	570	480	90
September	LL1	2,500	2,200	280
	LL4	1,700	1,400	240
	LL9	420	350	68
April	MQ1	1,700	1,500	230
	MQ4	1,900	1,602	300
	MQ9	1,100	900	200
May	MQ1	1,500	1,300	250
	MQ4	1,800	1,500	320
	MQ9	2,600	2,300	310
June	MQ1	1,500	1,200	300
	MQ4	1,800	1,600	200
	MQ9	1,500	1,200	290
July	MQ1	1,500	1,100	220
	MQ4	1,900	1,500	440*
	MQ9	1,000	860	150
	MQ9 (rep)	1,600	1,400	150
August	MQ1	2,300	2,100	200
	MQ4	1,100	970	160
	MQ9	710	590	120
September	MQ1	1,400	1,100	270
	MQ4	1,500	1,200	290
	MQ9	1,000	690	300

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Table 1-15 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2008

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 mm (400X)	>25 mm (100X)	> 25 µm (100X)
April	LL1	2,500	2,070	360	13	30
	LL4	3,100	2,500	540	22	50
	LL9	1,300	1,030	240	6.4	20
May	LL1	3,100	2,840	220	36	20
	LL4	5,300	4,820	430	37	25
	LL9	1,300	1,030	260	11	20
June	LL1	1,000	880	110	40	1
	LL4	960	730	220		8
	LL9 (rep)	1,500	1,060	380*	40	16*
	LL9	1,200	780	380*	10	7*
July	LL1	1,000	970	80	2.1	1
	LL4	1,400	1,300	110	7.8	17
	LL9	2,000	1,500	370	4.2	110
August	LL1	1,100	1,000	50	5.6	1
	LL4	1,400	1,300	50	5.8	11
	LL9	1,100	1,060	40	2.8	9
September	LL1	2,100	1,730	420**	16	2**
	LL4	2,300	1,780	490**	13	3**
	LL9	2,900	2,250	690**	4.4	6**
April	MQ1	2,100	1,850	200	2.8	1
	MQ4	1,700	1,530	200	5.8	3
	MQ9	2,800	2410	400	5	4
May	MQ1	1,000	870	130	2.1	1
	MQ4	1,700	1460	230	1.2	2
	MQ9	1,200	1,000	180	2.7	2
June	MQ1	840	700	140	2.9	0.4
	MQ4	1,300	1,040	240	2.1	1
	MQ9	870	580	280	5.8	0.5
July	MQ1	620	520	90	180	8
	MQ4	500	370	130	7.4	8
	MQ9	870	680	180	3.3	0.5
	MQ9 (rep)	1,000	760	260	0.8	9
August	MQ1	750	660	100	5.8	1
	MQ4	980	860	110	14	6
	MQ9	1,300	990	290		5
September	MQ1	1,500	1,310	160		14
	MQ4	1,100	980	150		3
	MQ9	2,800	2,680	130		10

NOTES:  
 \* *Synedra radians* (diatom) counted at 400X rather than 100X, due to high numbers  
 \*\* *Asterionella formosa* (diatom) counted at 400X rather than 100X, due to high numbers

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-16 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2009**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
April	LL1	780	480	300	6
	LL4	1,600	1,220	340	4
	LL9	90	60	30	1
May	LL1	6,000	5,150	820	19
	LL4	4,900	4,100	760	10
	LL9	430	290	140	5
June	LL1	1,700	1,370	370	5
	LL4	1,400	1,030	360	12
	LL9	680	340	330	6
July	LL1	2,100	1,900	270	3
	LL4	2,700	2,400	330	4
	LL9	700	340	350	4
August	LL1	3,100	2,900	170	3
	LL4	2,400	2,200	190	15
	LL9	1,700	1,300	370	10
September	LL1	3,700	3,500	220	5
	LL4	2,300	2,100	180	3
	LL9	1,100	950	170	1
April	MQ1	1,400	1,130	250	33
	MQ4	1,300	1,170	160	12
	MQ9	2,300	2,730	520	13
May	MQ1	1,700	1,440	260	3
	MQ4	2,100	1,750	340	5
	MQ9	3,800	3,060	720	18
June	MQ1	1,500	1,360	160	0.1
	MQ4	1,100	990	150	0.2
	MQ9	1,100	940	200	0.8
July	MQ1	1,000	790	190	4
	MQ4	1,300	1,100	220	8
	MQ9	1,200	940	240	5
August	MQ1	610	450	160	0.3
	MQ4	1,300	1,170	170	3
	MQ9	1,600	1,200	390	0.4
September	MQ1	830	670	160	5
	MQ4	1,200	970	170	6
	MQ9	1,400	1,200	240	1

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-17 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2010**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
April	LL1	630	490	140	1.6
	LL4	1,900	1,500	390	3
	LL9	170	100	70	0.4
May	LL1	1,200	940	270	13.4
	LL4	4,500	3,800	650	17
	LL9	530	390	140	0.9
June	LL1	2,400	1,900	500	5.2
	LL4	3,600	3,000	610	11
	LL9	1,500	1,100	400	10.6
July	LL1	2,100	1,900	170	8.7
	LL1 (rep)	1,900	1,700	180	5
	LL4	3,000	2,800	250	2
	LL9	1,900	1,700	210*	0
August	LL1	1,200	990	180	1.5
	LL4	1,600	1,400	190	1
	LL4 (rep)	1,600	1,400	180	2
	LL9	1,800	1,600	170	0
September	LL1	2,100	1,800	260	15.1
	LL4	4,400	4,200	200	5
	LL9	1,200	1,100	130	0.4
April	MQ1	1,700	1,600	100	0.4
	MQ4	1,200	1,100	120	1
	MQ9	800	710	90	2.4
May	MQ1	1,100	990	120	0.9
	MQ4	1,100	960	150	1
	MQ9	1,600	1,330	240	2.9
June	MQ1	2,000	1,700	270	0.9
	MQ4	1,400	1,100	240	1
	MQ9	1,000	850	200	1.1
July	MQ1	1,800	1,500	250	8.7
	MQ1 (rep)	1,400	1,300	170	6
	MQ4	1,500	1,300	180	10
	MQ9	1,600	1,400	180	4
August	MQ1	1,400	1,200	140	7.2
	MQ4	1,000	870	160	5
	MQ4 (rep)	1,100	900	150	5
	MQ9	1,200	1,000	150	8
September	MQ1	1,300	1,000	260	1.3
	MQ4	1,300	1,040	220	3
	MQ9	1,100	900	190	1.7

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-18 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2011**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
April	LL1	1,700	1,400	220	52
	LL4	3,900	3,260	540	80
	LL9	2,200	1,820	340	9
May	LL1	3,600	2,880	720	6
	LL1 (rep)	3,500	2,790	690	6
	LL4	4,900	4,160	700	6
June	LL9	1,300	900	350	5
	LL1	2,100	1,750	330	36
	LL4	2,300	2,050	290	3
July	LL9	1,500	1,060	450	4
	LL1	1,400	1,150	270	3
	LL4	1,800	1,440	350	1
August	LL4 (rep)	1,900	1,600	300	0.1
	LL9	1,900	1,550	320	2
	LL1	2,900	2,500	360	15
September	LL4	1,800	1,400	320	27
	LL9	1,500	1,200	280	0.9
	LL1	1,300	940	380	2.2
April	LL4	1,800	1,500	380	0.4
	LL9	960	770	190	0.3
	MQ1	1,600	1,370	270	7
May	MQ4	1,400	1,160	270	6
	MQ9	1,900	1,400	490	3
	MQ1	1,200	1,050	190	2
June	MQ1 (rep)	1,200	1,040	170	3
	MQ4	1,800	1,370	410	4
	MQ9	1,600	670	920	4
July	MQ1	2,000	1,840	150	1
	MQ4	1,500	1,300	200	1
	MQ9	1,700	1,200	520	10
August	MQ1	2,200	2,100	110	0.4
	MQ4	1,600	1,330	230	3
	MQ9	1,000	770	200	1
September	MQ9(rep)	1,100	860	200	1
	MQ1	1,400	1,200	210	4
	MQ4	3,300	3,000	280	0.6
September	MQ9	1,200	1,000	200	0.1
	MQ1	2,300	2,100	190	17.2
	MQ4	2,600	2,400	190	0.2
	MQ9	1,600	1,400	240	9.6

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-19 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2012**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
April	LL1	2,300	1,980	330	5
	LL4	3,200	2,570	590	6
	LL9	1,000	800	190	6
May	LL1	3,000	2,470	470	15
	LL4	2,200	1,640	600	7
	LL9	2,300	2,050	280	7
June	LL1	1,400	1,080	310	3
	LL4	1,700	1,400	320	2
	LL9	980	810	170	2
	LL9 (rep)	1,200	1,020	140	1
July	LL1	1,600	1,390	170	3
	LL4	Sample lost in transit (broken bottle)			
	LL9	880	730	150	2
August	LL1	970	740	210	19
	LL1 (rep)	940	760	170	14
	LL4	1,300	990	250	35
	LL9	380	250	130	0.5
September	LL1	Sample unpreserved – no analysis done			
	LL4	2,800	2,350	480	1
	LL9	Sample unpreserved – no analysis done			
April	MQ1	2,200	2,010	200	3
	MQ4	1,700	1,440	220	3
	MQ9	1,600	1,420	180	5
May	MQ1	1,100	990	140	1
	MQ4	830	680	140	0
	MQ9	1,200	1,000	150	0.2
June	MQ1	2,100	1,920	170	0.4
	MQ4	890	740	150	0.3
	MQ9	1,100	910	200	0.4
	MQ9 (rep)	1,100	920	200	0.5
July	MQ1	1,300	1,210	100	0.4
	MQ4	1,100	1,010	90	10
	MQ9	740	640	100	1
August	MQ1	1,030	860	180	0.8
	MQ1 (rep)	920	720	200	0.2
	MQ4	810	660	140	10
	MQ9	430	340	90	1.6
September	MQ1	900	730	170	0.5
	MQ4	760	650	115	2
	MQ9	580	430	160	0.5
June	NNL1	1,600	1,240	320	0.5
	NNL4	1,000	670	370	0.2
	NNL9	840	700	140	1
	NNL9 (rep)	880	730	160	0.8

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-19 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2012**

Date	Sampling Site	Total Abundance	< 5mm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
July	NNL1	1,300	1,000	260	1.2
	NNL4	1,700	1,390	310	1
	NNL9	820	540	280	0.2
August	NNL1	810	660	150	1.6
	NNL1 (rep)	790	590	200	1
	NNL4	1,800	1,350	440	0.8
	NNL9	730	530	195	0.04
September	NNL1	1,530	1,170	360	1.2
	NNL4	1,260	970	290	2
	NNL9	1,740	1530	220	0.2

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-20 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2013**

Sampling Site	Date	Depth	< 5mm (1,000X)	< 5 µm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
Long Lake	April	0.5 m	2,300	1,750	530	10
		1 m	3,000	2,470	570	15
	August	0.5 m	1,300	880	455	2
		1.0 m	1,700	1,170	470	15
	October	0.5 m	1,500	1,150	340	12
		1.0 m	1,900	1,440	400	14
Middle Quinsam Lake	April	0.5 m	1,350	1,080	270	2
		1.0 m	1,400	1,150	250	2
	August	0.5 m	1,300	1,045	235	7
		1.0 m	1,300	1,010	325	6
		1.0 m (rep)	1,200	990	230	9
	October	0.5 m	1,800	1,440	350	2
		1.0 m	1,900	1,570	290	2
		1.0 m (rep)	1,600	1,310	300	3
	No Name Lake	April	0.5 m	1,300	900	370
1.0 m			1,600	1,150	380	36
August		0.5 m	1,200	880	440	5
		1.0 m	1,500	1,060	455	6
		1.0 m (rep)	1,700	1,315	470	8
October		0.5 m	1,800	1,310	460	1
		1.0 m	1,600	1,060	540	1
Lower Quinsam Lake	April	0.5 m	1,800	1,420	406	2
		1 m	950	700	245	2
	August	0.5 m	960	810	150	2
		1.0 m	620	460	160	3
	October	0.5 m	1,300	1,040	200	12
		1.0 m	1,300	1,060	230	4

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-21 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2014**

Sampling Site	Date	Depth	< 5mm (1,000X)	< 5 µm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
Long Lake	April	1 m	3100	2665	330	86.6
	July	1 m	1700	1170	490	0.9
	October	1 m	1500	1200	290	18.6
Middle Quinsam Lake	April	1 m	1000	840	155	11.4
		1 m replicate	590	480	100	11.7
	July	1 m	3200	2950	240	0.5
	October	1 m	1700	1400	310	3.2
No Name Lake	April	1 m	1600	1260	290	83
	July	1 m	1300	970	310	2.5
		1 m replicate	1200	830	250	3.1
	October	1 m	1600	1400	200	1.7
		1 m replicate	1500	1200	230	2.2
Lower Quinsam Lake	April	1 m	1600	1400	225	7.6
	July	1 m	1200	1010	210	1.8
	October	1 m	2400	2000	350	66

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-22 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2015**

Lake	Month	Depth (m)	< 5mm (1,000X)	< 5 µm (1,000X)	5 to 25 µm (400X)	> 25 µm (100X)
Long	April	1	3700	3300	400	15
	July	1	1300	1030	260	6.6
	October	1	2100	1800	230	14.6
Middle Quinsam	April	1	1600	1300	300	2.4
	July	1	2900	1060	1850	2.8
	October	1	1150	920	230	0.3
No Name	April	1	1200	870	350	1.1
	July	1	880	610	260	6.6
	October	1	1350	1000	300	4.3
	October replicate	1	1200	920	280	4.5
Lower Quinsam	April	1	2200	1800	350	28
	April replicate	1	2300	1800	520	18
	July	1	3200	580	2630	3.3
	October	1	1500	1100	330	71

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-23 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2016**

Lake	Month	Abundance (cells/mL) at 1 m depth			
		Total	< 5 µm (1,000 X)	5 to 25 µm (400 X)	> 25 µm (100 X)
Long	April	1,500	1,300	240	5.5
Middle Quinsam		1,100	882	240	2.8
No Name		1,100	864	240	1.8
No Name (replicate)		970	792	180	1.8
Lower Quinsam		1,500	1,200	260	5.4
Long	August	1,200	990	140	22
Middle Quinsam		930	810	116	1.5
No Name		1,800	1,200	500	42
No Name (replicate)		1,900	1,280	595	46
Lower Quinsam		2,400	1,850	578	1.4
Long	November	780	640	140	0.5
Middle Quinsam		610	520	90	3
No Name		650	600	50	0.4
Lower Quinsam		300	250	50	0

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-24 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2017**

Lake	Month	Abundance (cells/mL) at 1 m depth			
		Total	< 5 µm (1,000 X)	5 to 25 µm (400 X)	> 25 µm (100 X)
Long	May	2,700	2,400	340	16.2
Middle Quinsam		1,900	1,500	370	15.4
No Name		1,300	1,000	320	7.9
Lower Quinsam		1,700	1,300	390	1.2
Long	Sept.	1,100	940	200	1.5
Middle Quinsam		980	760	220	0.9
No Name		1,400	860	480	29.8
No Name Replicate		1,500	1,000	450	28.1
Lower Quinsam		1,700	990	600	86.6
Long	Oct.	2,000	1,800	190	0.4
Middle Quinsam		860	770	80	7.5
No Name		1,600	1,370	260	1
No Name Replicate		1,800	1,400	390	4.2
Lower Quinsam		1,300	770	530	14.8

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-25 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2018**

Lake	Month	Abundance (cells/mL) at 1 m depth			
		Total	<5 µm (1,000 X)	5 to 25 µm (400 X)	>25 µm (100 X)
Long	May	1,500	1,300	150	3.4
Long—duplicate		1,300	1,100	140	4.8
Middle Quinsam		1,000	920	110	0.4
No Name		1,800	1,500	250	0.1
Lower Quinsam		2,700	2,400	320	0.5
Long	August	1,200	1,100	110	1.7
Middle Quinsam		1,600	1,500	180	0.2
No Name		1,400	1,200	270	2
Lower Quinsam		2,300	680	1,600	13
Lower Quinsam—replicate		3,400	1,100	2,300	6.6
Long	November	9,200	2,500	210	6,500
Middle Quinsam		2,100	1,700	360	0.04
No Name		1,600	1,300	300	0.7
Lower Quinsam		1,800	1,500	230	96

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-26 Phytoplankton Abundance (cells/mL) in the Quinsam Lakes System, 2019**

Lake	Month	Abundance (cells/mL) at 1 m depth			
		Total	<5 µm (1,000 X)	5 to 25 µm (400 X)	>25 µm (100 X)
Long	1-May	2,400	1,900	430	1
Long (duplicate)		2,100	1,700	420	1.7
Middle Quinsam	2-May	320	260	60	1.2
No Name	1-May	740	440	300	0.1
Lower Quinsam	2-May	600	500	99	1.2
Long	8-May	2,000	1,700	300	0.5
Middle Quinsam		1,000	920	80	0.4
No Name		2,700	2,100	570	0.03
Lower Quinsam		2,100	1,800	310	11.9
Long	30-Jul	2,600	2,300	220	1.3
Middle Quinsam		1,800	1,600	220	0.7
No Name		2,400	2,100	350	4.9
No Name (duplicate)		2,200	1,800	370	9
Lower Quinsam		1,900	1,500	320	1
Long	Oct. 24	2,400	1,900	450	0.7
Middle Quinsam		1,300	1,100	210	0.04

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-27 Phytoplankton Abundance (cells/mL) in the Quinsam Lake System, 2020**

Lake	Date	Abundance (cells/mL) at 1 m depth			
		Total	<5 µm (1,000 X)	5 to 25 µm (400 X)	>25 µm (100 X)
Long	12-May	3,400	2,800	330	275
Middle Quinsam		1,200	1,150	65	4.2
No Name <sup>1</sup>		4,100	1,600	2,500	0.4
Lower Quinsam	13-May	4,000	3,500	360	95
Long	5-Aug	2,600	2,400	160	13
Middle Quinsam		1,500	1,300	190	0.4
Middle Quinsam replicate		1,400	1,200	200	0.5
Long	7-Oct	3,200	3,000	200	2.6
Long replicate		3,000	2,800	200	1.6
Middle Quinsam		3,000	2,700	250	2.2

NOTE:  
<sup>1</sup> *Dinobryon* spp. counted at 400X rather than 100X due to high abundance

**Attachment 1 Historical Abundance Data: Quinsam Lakes System, 1993–2022**

July 15, 2023

**Table 1-28 Phytoplankton Abundance (cells/mL) in the Quinsam Lake System, 2021**

Lake	Date	Abundance (cells/mL) at 1 m depth			
		Total	<5 µm (1,000 X)	5 to 25 µm (400 X)	>25 µm (100 X)
Long	4-May	1,000	920	120	1.7
Long (replicate)		1,200	1,100	120	0.7
Middle Quinsam		2,200	2,100	120	0.1
No Name <sup>1</sup>		1,200	990	220	0.2
Lower Quinsam		1,300	1,100	180	1.8
Long	12-Jul	1,000	830	190	0.9
Long (replicate)		1,000	810	190	0.4
Middle Quinsam		1,400	1000	390	0.2
Long	6-Oct	2,100	1,900	190	0.4
Middle Quinsam		2,200	2,000	200	12.6
Middle Quinsam replicate)		2,200	2,000	230	11.4

NOTE:  
<sup>1</sup>. *Dinobryon* spp. counted at 400X rather than 100X due to high abundance

**Table 1-29** **Phytoplankton Abundance (cells/mL) in the Quinsam Lake System, 2022**

Lake	Date	Abundance (cells/mL) at 1 m depth			
		Total	<5 µm (1,000 X)	5 to 25 µm (400 X)	>25 µm (100 X)
Long	April 6/7	1,400	1,300	83	2.4
Middle Quinsam		1,800	1,700	70	0.5
Middle Quinsam (replicate)		1,800	1,700	65	0.5
No Name		1,500	1,400	88	7.8
No Name (replicate)		1,800	1,700	100	4.4
Lower Quinsam		1,600	1,500	54	0.6
Long	May 3/4	1,700	1,500	170	0.9
Middle Quinsam		1,700	1,600	100	0.4
No Name		1,400	1,300	160	0.3
Lower Quinsam		1,700	1,600	180	1.6
Long	20-Jul	1,300	1,100	200	0.4
Middle Quinsam		1,400	1,200	250	1.3
Middle Quinsam (replicate)		1,200	1,000	200	0.2
Long (SEE NOTE)	12-Oct	1,700	1,500	170	2
Long (replicate) (SEE NOTE)		1,500	1,300	180	0.1
Middle Quinsam		1,000	900	120	2

NOTE:  
 It is possible that results for the two October Long Lake samples were affected by an issue with the laboratory. Subsamples of the preserved sample had been removed for chemical analysis, and it is not known whether the sample mixing methods prior to subsampling were the same as are followed for the phytoplankton samples.

October 4, 2023  
Attention: Atikin Hehn  
Page B.1

Reference: Quinsam Lakes Phytoplankton, July 2023 (Sample Reference BUY008-01, Buy007-02, BUY067-01; Job Numbers C354748, C354752)

## **Attachment B      Species Composition Data: July 2023**

Quinsam Lake Phytoplankton - 18 July 2023  
 Long Lake 1 m (BUY008-02, Job C354748)  
 27 ml sample settled

Total Cells Counted 348  
 Total Cells Per mL 960

	Number Counted	Cells per mL
<b>1000X magnification - 50 fields</b>		
CHRYSOPHYCEAE		
Ochromonas/Chromulina spp. (2-A13 um)	25	450
Ochromonas/Chromulina spp. (4-5 um)	15	270
Ochromonas/Chromulina spp. (6-7 um)	3	54
Pseudokephyrion sp.	1	18
CHLOROPHYCEAE		
Oocystis sp. (5 um x 3 um)	3	54
<b>TOTAL</b>	<b>47</b>	<b>846</b>
<b>400X magnification - 4 strips</b>		
CHRYSOPHYCEAE		
Dinobryon sp.	1	0.4
Mallomonas spp.	3	1
Ochromonas spp. (8-10 um)	56	24
BACILLARIOPHYCEAE		
Cyclotella cf. stelligera/ocellata	11	5
Melosira italica (fil)	8	3
CHLOROPHYCEAE		
Coelastrum sp. (col)	1	0.4
Dictyosphaerium pulchellum (cols)	10	4
Gloeocystis sp. (cells + cols)	3	1
Nephrocytium sp. (cells)	15	6
Oocystis sp. (cells + cols)	5	2
Schroederia setigera	2	1
DINOPHYCEAE		
Gymnodinium sp.	1	0.4
CRYPTOPHYCEAE		
Cryptomonas spp.	95	40
Rhodomonas minuta	61	26
CYANOPHYCEAE		
Dactylococcopsis acicularis (cols)	1	0.4
<b>TOTAL</b>	<b>273</b>	<b>116</b>
<b>100X magnification - whole sample</b>		
CHRYSOPHYCEAE		
Dinobryon bavaricum (cells)	1	0.04
Dinobryon cylindricum (cells)	14	0.56
BACILLARIOPHYCEAE		
Navicula sp. (75 um)	1	0.04
Synedra radians	5	0.2
CHLOROPHYCEAE		
Elakatothrix gelatinosa (cols)	3	0.1
CYANOPHYCEAE		
Anabaena flos-aquae (4 fil, 80 cells)	4	0.2
<b>TOTAL</b>	<b>28</b>	<b>1.1</b>

Quinsam Lake Phytoplankton - 18 July 2023  
 Long Lake 1 m Replicate (BUY008-01, Job C354748)  
 27 ml sample settled

Total Cells Counted 408  
 Total Cells Per mL 870

	Number Counted	Cells per mL
<b>1000X magnification - 50 fields</b>		
CHRYSOPHYCEAE		
Ochromonas/Chromulina spp. (2-A13 um)	21	378
Ochromonas/Chromulina spp. (4-5 um)	16	288
Ochromonas/Chromulina spp. (6-7 um)	1	18
Pseudokephyrion sp.	1	18
Chrysochromulina parva	1	18
CHLOROPHYCEAE		
Oocystis sp. (5 um x 3 um)	1	18
<b>TOTAL</b>	<b>41</b>	<b>738</b>
<b>400X magnification - 4 strips</b>		
CHRYSOPHYCEAE		
Dinobryon sp.	3	1.3
Mallomonas spp.	6	3
Ochromonas spp. (8-10 um)	62	26
BACILLARIOPHYCEAE		
Cyclotella cf. stelligera/ocellata	10	4
Melosira italica (fil)	5	2
CHLOROPHYCEAE		
Coelastrum sp. (col)	2	0.9
Dictyosphaerium pulchellum (cols)	13	6
Gloeocystis sp. (cells + cols)	16	7
Nephrocytium sp. (cells)	26	11
Oocystis sp. (cells + cols)	7	3
Scenedesmus sp. (cols)	3	1
Schroederia setigera	3	1
DINOPHYCEAE		
Peridinium sp.	1	0.4
CRYPTOPHYCEAE		
Cryptomonas spp.	63	27
Rhodomonas minuta	81	34
CYANOPHYCEAE		
Dactylococcopsis acicularis (cols)	7	3.0
<b>TOTAL</b>	<b>308</b>	<b>131</b>
<b>100X magnification - whole sample</b>		
CHRYSOPHYCEAE		
Dinobryon bavaricum (cells)	1	0.04
Dinobryon cylindricum (cells)	32	1.3
BACILLARIOPHYCEAE		
Synedra radians	4	0.2
CHLOROPHYCEAE		
Elakatothrix gelatinosa (cols)	7	0.3
Mougeotia sp. (1 fil, 2 cells)	2	
CYANOPHYCEAE		
Anabaena flos-aquae (12 fil, 250 cells)	12	0.5
Oscillatoria sp. (1 fil, 1000 um long)	1	0.04
<b>TOTAL</b>	<b>59</b>	<b>2.3</b>

Quinsam Lake Phytoplankton - 3 May 2023  
 Middle Quinsam Lake 1 m (BUY067-01, Job C354752)  
 27 ml sample settled

Total Cells Counted 486  
 Total Cells Per mL 1,200

	Number Counted	Cells per mL
<b>1000X magnification - 100 fields</b>		
CHRYSOPHYCEAE		
Ochromonas/Chromulina spp. (2-3 um)	18	162
Ochromonas/Chromulina spp. (4-5 um)	16	144
Ochromonas/Chromulina spp. (6-7 um)	6	54
Chrysochromulina parva	1	9
CHLOROPHYCEAE		
Oocystis sp. (5 um x 3 um)	18	162
<b>TOTAL</b>	<b>59</b>	<b>531</b>
<b>400X magnification - 1 strip</b>		
CHRYSOPHYCEAE		
Ochromonas spp. (8-10 um)	43	73
CHLOROPHYCEAE		
Dictyosphaerium pulchellum (cols)	335	570
Oocystis sp. (cells)	4	7
Scenedesmus sp. (col)	1	2
Schroederia setigara	1	2
DINOPHYCEAE		
Gymnodinium sp.	1	2
Peeridinium sp.	1	2
CRYPTOPHYCEAE		
Cryptomonas spp.	22	37
Rhodomonas minuta	12	20
CYANOPHYCEAE		
Dactylococcopsis acicularis (cols)	4	7
Rhabdoderma sp. (2 col)	2	3
<b>TOTAL</b>	<b>420</b>	<b>714</b>
<b>100X magnification - whole sample</b>		
BACILLARIOPHYCEAE		
Navicula sp. (100 um)	1	0.04
Synedra radians	2	0.1
CHLOROPHYCEAE		
Botryococcopsis (col)	1	0.04
Euastrum sp.	1	0.04
Quadrigula chodatii (1 col, 4 cells)	1	0.04
CYANOPHYCEAE		
Anabaena flos-aquae (1 fil, 20 cells)	1	0.04
<b>TOTAL</b>	<b>7</b>	<b>0.3</b>

October 4, 2023  
Attention: Atikin Hehn  
Page C.1

Reference: Quinsam Lakes Phytoplankton, July 2023 (Sample Reference BUY008-01, Buy007-02, BUY067-01; Job Numbers C354748, C354752)

## **Attachment C      Chain of Custody: July 2023**





# APPENDIX III

September 6<sup>th</sup>, 2023  
Ministry of Environment and Climate Change Strategy  
Environmental Protection Division

Dear Neil Bailey,

As a follow up to the monitoring reductions meeting for PE:7008, held on August 17, 2023, the below includes a request for a temporary reduction in monitoring while in “Care and Maintenance” at the Quinsam Mine Site.

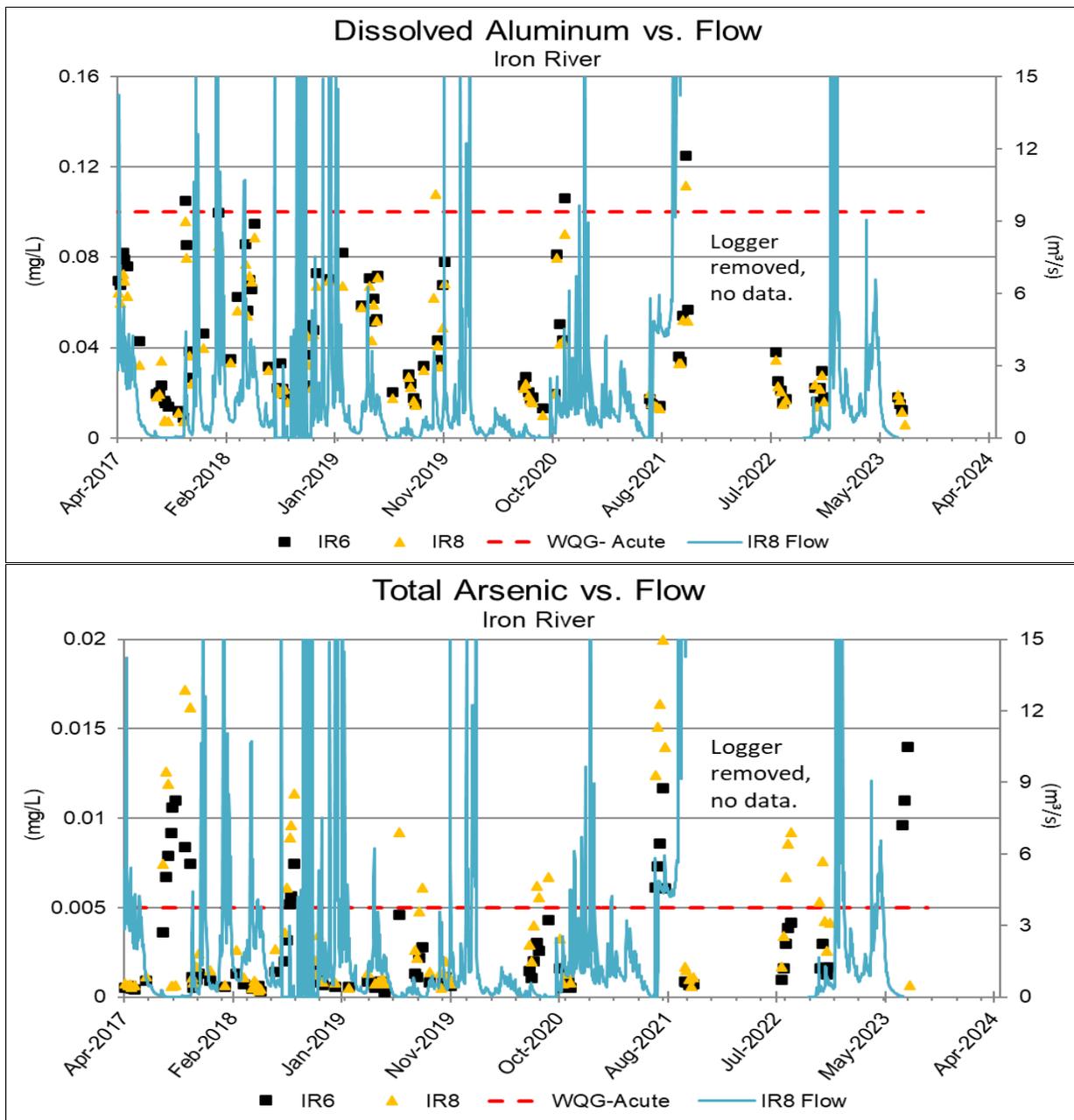
The sites that the Permittee would like to temporarily reduce monitoring at includes the following locations:

- E29723, Iron River upstream of 7SA5 (IR6)
- E297232, Iron River downstream of 7SA5 and 242 inputs (IR8)

**Rational:**

Rational for requesting a temporary reduction in monitoring on the Iron River until flooding is initiated in 7-South Area 5. Currently there is no mining impact on the Iron River locations, with seasonal trends well established. The Permittee is requesting these sites be reduced temporarily, until flooding of 7-South Area 5, (7SA5) commences. The mine is being dewatered with no impact on the Iron River from the mining area (Figure 2). Once the pumps are removed and flooding is initiated for 7SA5, the original permit conditions (PE:7008) would apply to the two locations on the Iron River (E29723 and E297232), (five samples in thirty days (5 in 30), three times per year)) and additional sampling would be initiated at the tributary IRT6.

The monitoring program has captured trends for parameters of concern (dissolved aluminum and total arsenic) compared to British Columbia, Water Quality Guidelines – Fresh Water Aquatic Life. Trends included elevated aluminum observed during high flow and elevated arsenic observed during low flow (Figure 1). Elevated arsenic is a result of the host rock formations within the areas monitored, considered baseline conditions.

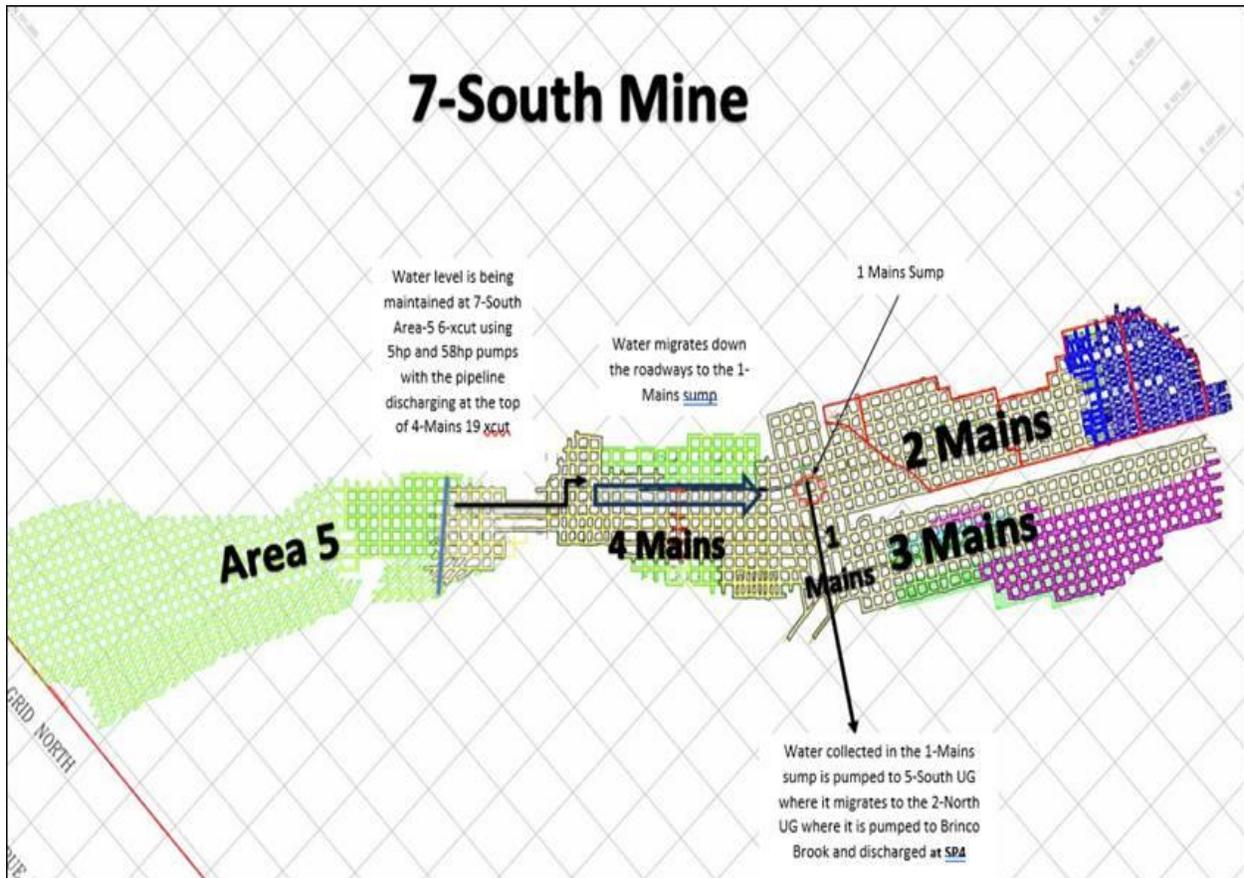


**Figure 1: Dissolved Aluminum and Total Arsenic versus Flow, Iron River**

Monitoring locations for the Quinsam River (WA, WB, QRDS1, 7SQR and IRQR) capture incremental loading from mine inputs on the Quinsam River. These sites are used as indicators for changes in water quality, where potential seepage could be occurring for parameters of concern (arsenic, copper, iron, nickel, sulphate and zinc). Parameters closely monitored in the receiving environment and are signatures of mine influence include conductivity and sulphate. Other parameters of potential concern include arsenic and iron.

During the past two monitoring seasons (fall and summer) on the Iron River (IR6 and IR8), there have been hornet nests resulting in serious stings and dangerous conditions. Monitor of these locations was discontinued during the last two weeks of the summer monitoring program due to hazardous conditions and

stings resulting in bodily harm. The hornet's nests are extremely hostile and there are several nests at each location. Unfortunately, the summer and fall is their active time.



**Figure 2: 7-South Mine Area**

When groundwater levels increase in 7SA5 and before flooded conditions are met, monitoring on surface will be initiated at receiving environment locations that may be influenced. These include the Iron River upstream of the influence from 7SA5 at location IR6, the tributary (IRT6) and downstream on the Iron River at location (IR8). Refer to Figure 3.

In summary, the Iron River locations are not a priority as there is no active mine discharge, seepage or mining currently occurring as displayed in Figures 2 and 3.

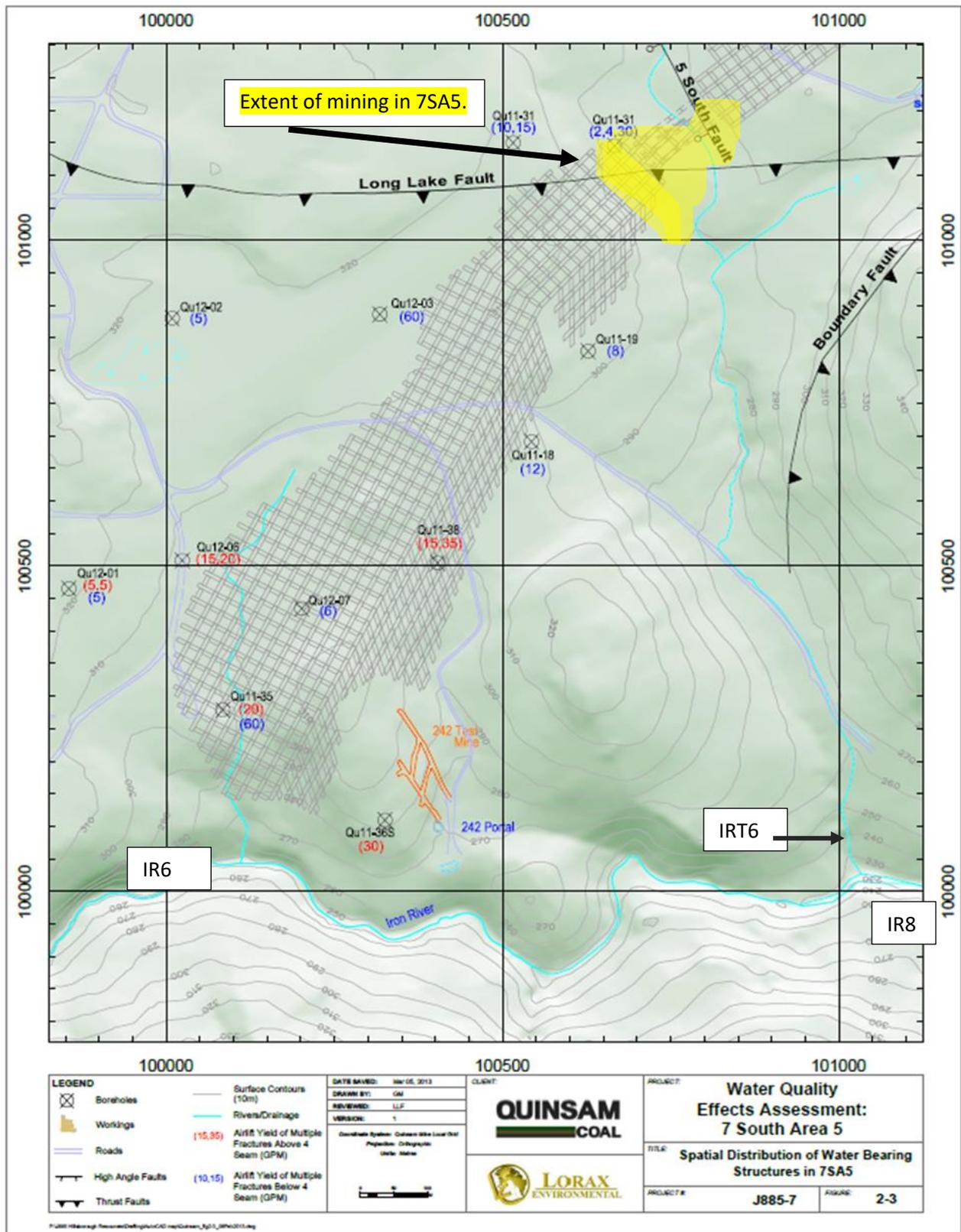


Figure 3: 7-South Area 5

Acknowledging that the PE:7008 requires a full amendment as the Mine transitions into Closure and that an amendment of this nature would take a significance amount of time and resources, Quinsam is requesting a temporary amendment for the Iron River sites, while in Care and Maintenance and until the pumps are removed in 7SA5 allowing the mine to flood.

In addition to the above requests, the Permittee is also requesting that the reporting deadlines be amended to better suit the monitoring schedule. The current reporting schedule conflicts with the spring, summer and fall requirements of five weeks of sampling within thirty days, making it difficult to meet reporting deadlines and obtain all the analytical data from the laboratory.

The reporting deadlines and suggested submission dates are listed below:

- Annual Report due on June 30<sup>th</sup> (no change, may be able to complete sooner if the other reporting deadlines are adjusted).
- Q1 report due on July 30<sup>th</sup> changed to August 30<sup>th</sup>.
- Q2 report due on October 30<sup>th</sup> changed to November 30<sup>th</sup>.
- Q3 report due on January 30<sup>th</sup> (no change)
- Q4 report due on April 30<sup>th</sup> removed completely as this is submitted with the Annual Report.

Thank you for taking the time to consider these requests, if there is additional information required, please let me know.

Kind regards,

**Kathleen Russell BSc.**  
Environmental Coordinator



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