

July 30, 2023

Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, Nunavut X0B 1J0

Resource Management Officer, CIRNAC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0

**RE: Water Licence 2AM-MRY1325 Monthly Surveillance Network Program (SNP) Report
June 2023**

The following is the monthly report for June 2023 as required under Part I, Item 21 of the Type 'A' Water Licence 2AM-MRY1325 (the Licence) which states:

"The Licensee shall submit to the Board, within thirty (30) days following the month being reported, a Monthly Monitoring Report. The Report shall include:

- a) All data and information required by this Part and generated by the Monitoring Program in the tables of Schedule I*
- b) An assessment of data to identify areas of non-compliance with regulated discharge parameters referred to in Part F"*

Monitoring Program

Table 1.1 presents a list of samples/monitoring required under the Licence and the details concerning which water quality samples were collected along with sample dates and laboratory identification numbers, as appropriate. Analytical water quality testing results are presented in Table 2. Table 3.1 presents water volumes consumed for domestic and industrial water purposes as well as select volumes of effluent and waste discharged and/or disposed at the Mary River Mine Site and Milne Port during June 2023.

Monitoring Program Results

Water Sampling and Analysis Results

Table 2 provides the analytical results related to the Sewage Treatment Plant (STP) facilities and SNP sampling requirements. There were no exceedances of applicable water quality criteria observed at STP monitoring stations in June 2023, however there were twenty-five (25) exceedances of the site-specific grab sample limit of 30 mg/L for Total Suspended Solids (TSS) at SNP surface water monitoring stations, as follows:

- At the Milne Port:
 - Surface water monitoring station MP-C-B, TSS was 80.1 on Jun 6, and compliant June 11.
 - Surface water monitoring station MP-Q1-02, TSS was 54.3 on Jun 19, and compliant June 26.
- At the Mine Site:

- Surface water monitoring station MQ-C-B, TSS was 785 mg/L on June 5, 34.0 mg/L on June 12, 63.4 mg/L on June 21, and 421 mg/L on June 25. MQ-C-B was compliant on July 10 at 17.7 mg/L.
- Surface water monitoring station MQ-C-D, TSS was 49.1 mg/L on June 1, and 36.4 mg/L on June 12. MQ-C-D was compliant on June 21 at 6 mg/L
- Surface water monitoring station MS-C-A, TSS was 421 mg/L on June 1, 43.5 mg/L on June 12, and 124 mg/L on June 21. MS-C-A was compliant on June 25 at 17.2 mg/L.
- Surface water monitoring station MS-C-B, TSS was 432 mg/L on June 1, 41.7 mg/L on June 12, and 122 mg/L on June 21. MS-C-B was compliant on June 25 at 24.4 mg/L.
- Surface water monitoring station MS-C-C, TSS was 389 mg/L on June 1, 69.8 mg/L on June 20, and 50.0 mg/L on June 25. MS-C-C was compliant on July 10 at 3.4 mg/L.
- Surface water monitoring station MS-C-D, TSS was 144 mg/L on June 1, and 60.8 mg/L on June 25. MS-C-D was compliant on July 3 at 7.9 mg/L.
- Surface water monitoring station MS-C-E, TSS was 50.0 mg/L on June 1, and 47.2 mg/L on June 25. MS-C-E was compliant on July 3 at 15.3 mg/L.
- Surface water monitoring station MS-C-F, TSS was 540 mg/L on June 1, 82.7 mg/L on June 12, 132 mg/L on June 21, and 187 mg/L on June 25. MS-C-F was compliant for TSS on July 17 at 26.5 mg/L.

In June 2023, there were ten (10) exceedances of the monthly average criteria of 15.0mg/L for TSS:

- At the Milne Port: The stipulated maximum monthly average TSS concentration of 15 mg/L for TSS was also exceeded at MP-C-B and MP-Q1-02.
- At the Mine Site, MQ-C-B, MQ-C-D, MS-C-A, MS-C-B, MS-C-C, MS-C-D, MS-C-E, MS-C-F were 325.85 mg/L, 23.83 mg/L, 151.43 mg/L, 154.28 mg/L, 128.88 mg/L, 61.95 mg/L, 33.96 mg/L, and 235.43 mg/L respectively.

MP-Q1-02 is a monitoring station located within the constructed drainage ditch that collects surface water runoff from the Q1 Quarry and is not located within a natural water body.

The exceedances at MP-C-B and MP-Q1-02 were the result of warming temperatures resulting in snowmelt runoff containing sediment-laden water entering the receiving watercourses as a result of conditions associated with annual freshet conditions which typically occur from mid-May to June 30. In preparation for freshet and in response to sediment concerns and/or exceedances, corrective and mitigative actions were implemented across the Project as necessary in accordance with Baffinland's Surface Water and Aquatic Ecosystem Management Plan. Baffinland continues to employ mitigative and corrective actions as necessary to prevent and address sediment concerns at the Project.

As a corrective action following the initial exceedances, the various inputs to the streams were assessed, and coir logs and spring berms were installed at locations where increased suspended solids were entering the channels in accordance with the Surface Water and Aquatic Ecosystem Management Plan, and were

maintained and adjusted as required. In addition, high TSS water was actively pumped away from runoff areas to prevent ingress of this water into the MP-C-B watercourse.

On June 12, a controlled discharge from the MP-03 bulk fuel storage facility exceeded water license criteria for total lead. Following internal water quality analysis indicating compliant results for TSS and Total Oil and Grease, discharge from the MP-03 bulk fuel storage facility was initiated on June 12. Laboratory results received on June 21 showed total lead concentration of 0.00292mg/L, exceeding water license criteria of 0.0010mg/L. At the time the laboratory results were received, the discharge from the MP-03 bulk fuel storage facility was complete for June. Prior to resumption of discharge from the facility, additional pre-discharge sampling will be conducted to ensure compliance with the full suite of relevant water license criteria.

Exceedances at MQ-C-B, MQ-C-D, MS-C-C, MS-C-D, and MS-C-E were also the result of conditions associated with annual freshet. The elevated levels of TSS in the grab samples contributed to the monthly average exceedances. As previously mentioned, in preparation for freshet and in response to sediment concerns and/or exceedances, corrective and mitigative actions were implemented across the Project as necessary in accordance with Baffinland's Surface Water and Aquatic Ecosystem Management Plan. Following the discovery of the MQ-C-B and MQ-C-D exceedances, corrective actions were discussed with and implemented by Site Services, to enhance ESC controls upstream of the sampling locations, including the installation of rock check dams.

Exceedances at MS-C-A, MS-C-B, and MS-C-F were due to elevated TSS from the KM 105 Pond dam seepage. Mitigative actions including the construction of internal check dams and the installation of turbidity curtains in a reservoir upstream of these locations, have been taken and are ongoing to address this seepage and associated water quality, including the ongoing development of a long-term remediation plan.

In May, 2023, an uncontrolled release from KM105 Surface Water Management Pond (KM105 Pond) occurred due to seepage from the pond floor at the north embankment of the pond. The event resulted in elevated TSS above the water licence criteria of 30 mg/L for TSS concentrations in a grab sample in water quality samples collected from a newly established water quality monitoring station; KM105-SWMP-SEEP-02, at the seepage location. The seepage event was reported to the NT-NU Spill Reporting Line on May 21 (NT-NU Spill Report #2023-208). Monthly water licence samples will continue to be collected at water quality monitoring station KM105-SWMP-SEEP-02 when there is flowing water present and a representative sample can be collected. Discharge volumes prior to June 22 are unknown due to winter stream conditions preventing the installation of a pressure transducer in the downstream hydrology station. A pressure transducer was installed on June 22, 2023, and estimated discharge volumes from this point on are provided in Table 3.1.

Flow and Volume Measurements

Table 3.1 provides a breakdown of volume measurements for June 2023 as required by Part I, Item 9 of the Licence. There were no exceedances of the source-specific volume withdrawal limits in June 2023.

We trust that the information provided in this monthly report is acceptable and should you have any questions regarding this report please contact the undersigned.

Prepared by:

A handwritten signature in black ink that reads "Allison Parker".

Allison Parker

Environmental Specialist

Reviewed by:

A handwritten signature in black ink that reads "Todd Swenson".

Todd Swenson

Environmental Superintendent

cc: Jeremy Fraser, Omer Pasalic, Sean Noble (CIRNAC)
Conor Goddard, Chris Spencer (QIA)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Connor
Devereaux, Katie Babin, Allison Parker (Baffinland)

Attachments

Attachments – Monthly Water Sampling Results: Table 1.1, Table 2, Table 3.1



**Table 1.1: Monitoring Program
Water Sampling Summary**

Location	Location Description	Sample Date	Sample Type	Lab Sample ID
MP-01	Sewage Treatment Facility	2023-06-06	P	WT2315991-001
MP-01B	Sewage Treatment Facility	2023-06-06	P	WT2315995-001
MP-03	Bulk Fuel Storage Facility Stormwater	2023-06-12	FD	WT2317133-002
MP-03	Bulk Fuel Storage Facility Stormwater	2023-06-12	P	WT2317133-001
MP-05	Ore Stockpile Sedimentation Pond (East)	2023-06-12	FD	WT2317137-002
MP-05	Ore Stockpile Sedimentation Pond (East)	2023-06-12	P	WT2317137-001
MP-06	Ore Stockpile Sedimentation Pond (West)	2023-06-12	P	WT2317136-001
MP-06	Ore Stockpile Sedimentation Pond (West)	2023-06-12	TB	WT2317136-002
MP-C-B	Downstream of Construction Area	2023-06-01	P	BF2300058-001
MP-C-B	Downstream of Construction Area	2023-06-04	P	BF2300063-001
MP-C-B	Downstream of Construction Area	2023-06-06	FD	WT2315879-002
MP-C-B	Downstream of Construction Area	2023-06-06	P	WT2315879-001
MP-C-B	Downstream of Construction Area	2023-06-11	P	BF2300072-003
MP-C-B	Downstream of Construction Area	2023-06-19	FB	BF2300085-006

Notes:

Sample Types:

P - Permitted Sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

NST - No Sample Taken



**Table 1.1: Monitoring Program
Water Sampling Summary**

Location	Location Description	Sample Date	Sample Type	Lab Sample ID
MP-C-B	Downstream of Construction Area	2023-06-19	P	BF2300085-005
MP-C-B	Downstream of Construction Area	2023-06-26	P	BF2300108-001
MP-C-H	Downstream of Construction Area	2023-06-08	P	BF2300066-001
MP-C-H	Downstream of Construction Area	2023-06-11	P	BF2300072-005
MP-C-H	Downstream of Construction Area	2023-06-19	P	BF2300085-007
MP-C-H	Downstream of Construction Area	2023-06-23	P	BF2300085-008
MP-C-H	Downstream of Construction Area	2023-06-26	P	BF2300108-005
MP-C-J	Downstream of Construction Area	2023-06-13	P	WT2317129-001
MP-C-J	Downstream of Construction Area	2023-06-19	P	BF2300085-002
MP-C-J	Downstream of Construction Area	2023-06-26	P	BF2300108-004
MP-Q1-01	Downstream of Q1 Quarry	2023-06-06	P	WT2315879-004
MP-Q1-01	Downstream of Q1 Quarry	2023-06-11	FD	BF2300072-002
MP-Q1-01	Downstream of Q1 Quarry	2023-06-11	P	BF2300072-001
MP-Q1-01	Downstream of Q1 Quarry	2023-06-19	P	BF2300085-001
MP-Q1-01	Downstream of Q1 Quarry	2023-06-26	P	BF2300108-006
MP-Q1-02	Downstream of Q1 Quarry	2023-06-19	P	BF2300085-004

Notes:

Sample Types:

P - Permitted Sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

NST - No Sample Taken



**Table 1.1: Monitoring Program
Water Sampling Summary**

Location	Location Description	Sample Date	Sample Type	Lab Sample ID
MP-Q1-02	Downstream of Q1 Quarry	2023-06-26	P	BF2300108-007
MS-01B	Sewage Treatment Facility	2023-06-06	P	WT2315986-001
MS-06	Ore Stockpile Pond Stormwater	2023-06-06	P	WT2315880-001
MS-06	Ore Stockpile Pond Stormwater	2023-06-14	P	
MS-07	Run of Mine Ore Stockpile Pond Stormwater	2023-06-13	P	BF2300076-001
MS-MRY-09	Deposit 1 Surface Water Drainage	2023-06-24	P	BF2300103-001
MS-MRY-09	Deposit 1 Surface Water Drainage	2023-06-28	P	BF2300115-001
MS-MRY-13A	Downstream Non-Hazardous Landfill	2023-06-05	FD	BF2300064-012
MS-MRY-13A	Downstream Non-Hazardous Landfill	2023-06-05	P	BF2300064-011
MS-MRY-13A	Downstream Non-Hazardous Landfill	2023-06-12	P	BF2300077-001
MS-MRY-13A	Downstream Non-Hazardous Landfill	2023-06-20	P	BF2300087-005
MS-MRY-13A	Downstream Non-Hazardous Landfill	2023-06-26	P	BF2300105-002
MS-MRY-13B	Downstream Non-Hazardous Landfill	2023-06-26	P	BF2300105-003
MS-C-A	Downstream of Construction and Borrow Areas	2023-06-05	P	BF2300064-004
MS-C-A	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-006

Notes:

Sample Types:

P - Permitted Sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

NST - No Sample Taken



**Table 1.1: Monitoring Program
Water Sampling Summary**

Location	Location Description	Sample Date	Sample Type	Lab Sample ID
MS-C-A	Downstream of Construction and Borrow Areas	2023-06-21	P	BF2300089-001
MS-C-A	Downstream of Construction and Borrow Areas	2023-06-25	P	BF2300101-006
MS-C-B	Downstream of Construction and Borrow Areas	2023-06-05	P	BF2300064-005
MS-C-B	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-007
MS-C-B	Downstream of Construction and Borrow Areas	2023-06-21	P	BF2300089-002
MS-C-B	Downstream of Construction and Borrow Areas	2023-06-25	P	BF2300101-007
MS-C-C	Downstream of Construction and Borrow Areas	2023-06-05	P	BF2300064-006
MS-C-C	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-005
MS-C-C	Downstream of Construction and Borrow Areas	2023-06-20	P	BF2300087-007
MS-C-C	Downstream of Construction and Borrow Areas	2023-06-25	P	BF2300101-011
MS-C-D	Downstream of Construction and Borrow Areas	2023-06-05	P	BF2300064-007

Notes:

Sample Types:

P - Permitted Sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

NST - No Sample Taken



**Table 1.1: Monitoring Program
Water Sampling Summary**

Location	Location Description	Sample Date	Sample Type	Lab Sample ID
MS-C-D	Downstream of Construction and Borrow Areas	2023-06-12	FB	BF2300077-004
MS-C-D	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-003
MS-C-D	Downstream of Construction and Borrow Areas	2023-06-20	P	BF2300087-006
MS-C-D	Downstream of Construction and Borrow Areas	2023-06-25	P	BF2300101-010
MS-C-E	Downstream of Construction and Borrow Areas	2023-06-05	P	BF2300064-008
MS-C-E	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-002
MS-C-E	Downstream of Construction and Borrow Areas	2023-06-20	P	BF2300087-008
MS-C-E	Downstream of Construction and Borrow Areas	2023-06-25	P	BF2300101-009
MS-C-F	Downstream of Construction and Borrow Areas	2023-06-05	P	BF2300064-009
MS-C-F	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-008
MS-C-F	Downstream of Construction and Borrow Areas	2023-06-21	P	BF2300089-003

Notes:

Sample Types:

P - Permitted Sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

NST - No Sample Taken



**Table 1.1: Monitoring Program
Water Sampling Summary**

Location	Location Description	Sample Date	Sample Type	Lab Sample ID
MS-C-F	Downstream of Construction and Borrow Areas	2023-06-25	P	BF2300101-008
MS-C-G	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-009
MS-C-G	Downstream of Construction and Borrow Areas	2023-06-20	P	BF2300087-003
MS-C-G	Downstream of Construction and Borrow Areas	2023-06-20	TB	BF2300087-004
MS-C-H	Downstream of Construction and Borrow Areas	2023-06-05	P	BF2300064-010
MS-C-H	Downstream of Construction and Borrow Areas	2023-06-12	P	BF2300077-010
MS-C-H	Downstream of Construction and Borrow Areas	2023-06-20	FD	BF2300087-002
MS-C-H	Downstream of Construction and Borrow Areas	2023-06-20	P	BF2300087-001
MS-C-H	Downstream of Construction and Borrow Areas	2023-06-26	P	BF2300105-001
MQ-C-A	Downstream of QMR2 Quarry	2023-06-05	P	BF2300064-001
MQ-C-A	Downstream of QMR2 Quarry	2023-06-13	P	BF2300077-013
MQ-C-A	Downstream of QMR2 Quarry	2023-06-21	P	BF2300089-006

Notes:

Sample Types:

P - Permitted Sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

NST - No Sample Taken

**Table 1.1: Monitoring Program
Water Sampling Summary**

Location	Location Description	Sample Date	Sample Type	Lab Sample ID
MQ-C-A	Downstream of QMR2 Quarry	2023-06-25	FD	BF2300101-003
MQ-C-A	Downstream of QMR2 Quarry	2023-06-25	P	BF2300101-002
MQ-C-B	Downstream of QMR2 Quarry	2023-06-05	P	BF2300064-002
MQ-C-B	Downstream of QMR2 Quarry	2023-06-12	P	BF2300077-011
MQ-C-B	Downstream of QMR2 Quarry	2023-06-21	P	BF2300089-004
MQ-C-B	Downstream of QMR2 Quarry	2023-06-25	P	BF2300101-001
MQ-C-D	Downstream of QMR2 Quarry	2023-06-05	P	BF2300064-003
MQ-C-D	Downstream of QMR2 Quarry	2023-06-12	P	BF2300077-012
MQ-C-D	Downstream of QMR2 Quarry	2023-06-21	P	BF2300089-005
MQ-C-D	Downstream of QMR2 Quarry	2023-06-25	FB	BF2300101-005
MQ-C-D	Downstream of QMR2 Quarry	2023-06-25	P	BF2300101-004
KM105-SWMP-SEEP-02	KM105 Pond Stormwater	2023-06-26	P	BF2300106-001

Notes:

Sample Types:

P - Permitted Sample

FB - Field Blank

FD - Field Duplicate

TB - Trip Blank

NST - No Sample Taken



**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-01**

ALS Laboratory Work Order			Location Name	MP-01
			Field Sample ID	MP-01_2023-06-06
			Sample Date	2023-06-06
			Sample Type	P
			Analyte	Units
pH, Lab	pH units	9.5	7.85	
Total Suspended Solids	mg/L	120	2.0	
Total Dissolved Solids	mg/L		1040	
Turbidity	NTU		0.62	
Alkalinity, Total	mg/L		85.6	
Ammonia, Total (as N)	mg/L		0.0796	
Total Kjeldahl Nitrogen	mg/L		5.15	
Fecal Coliforms	CFU/100mL	10000	< 1	
BOD	mg/L	100	< 2.0	
Oil and Grease, Total	mg/L		< 5.0	
Phosphorus, Nutrient	mg/L		13.1	

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank



Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-01B

Location Name			MP-01B
Field Sample ID			MP-01B_2023-06-06
ALS Laboratory Work Order			WT2315995
Sample Date			2023-06-06
Sample Type			P
Analyte	Units	Table 5 Criteria	
pH, Lab	pH units	9.5	6.64
Total Suspended Solids	mg/L	120	< 1.4
Total Dissolved Solids	mg/L		804
Turbidity	NTU		0.16
Alkalinity, Total	mg/L		26.9
Ammonia, Total (as N)	mg/L		0.0166
Total Kjeldahl Nitrogen	mg/L		1.66
Fecal Coliforms	CFU/100mL	10000	< 1
BOD	mg/L	100	2.2
Oil and Grease, Total	mg/L		< 5.0
Phosphorus, Nutrient	mg/L		13.1

Notes:
Highlight indicate result exceeded applicable criteria.
Half value used in monthly average when value is less than detection limit.
pH criteria is a range;6.0-9.5.
Sample Type:
P-Permitted
FD-Field Duplicate
FB-Field Blank
TB-Trip Blank



**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-03**

Location Name Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MP-03	MP-03
			MP-03_2023-06-12	QP-CC5_2023-06-12
			WT2317133	WT2317133
			2023-06-12	2023-06-12
			P	FD
Analyte	Units	Table 11 Criteria		
pH, Lab	pH units		7.96	8.03
Total Suspended Solids	mg/L		34.4	35.8
Total Dissolved Solids	mg/L		144	150
Turbidity	NTU		51.2	48.8
Ammonia, Total (as N)	mg/L		0.137	0.128
Arsenic - Total	mg/L		< 0.00100	< 0.00100
Copper - Total	mg/L		< 0.00500	< 0.00500
Lead - Total	mg/L	0.0010	0.00292	0.00282
Nickel - Total	mg/L		< 0.00500	< 0.00500
Zinc - Total	mg/L		< 0.0300	< 0.0300
Oil and Grease, Total	mg/L	15	< 5.0	< 5.0
Visible Sheen (100=Yes, 0=No)	None	99	0	-
Benzene	ug/L	370	< 0.50	< 0.50
Ethylbenzene	ug/L	90	< 0.50	< 0.50
Toluene	ug/L	2.0	< 0.50	< 0.50
F1-BTEX	ug/L		< 25	< 25
F1 (C6-C10)	ug/L		< 25	< 25
F2 (C10-C16)	ug/L		280	270
F3 (C16-C34)	ug/L		< 250	< 250
F4 (C34-C50)	ug/L		< 250	< 250
Total Petroleum Hydrocarbons (C6-C50)	ug/L		< 370	< 370
Phosphorus, Nutrient	mg/L		0.0225	0.0216

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-05**

Location Name			MP-05	MP-05
Field Sample ID			MP-05_2023-06-12	QP-CC7_2023-06-12
ALS Laboratory Work Order			WT2317137	WT2317137
Sample Date			2023-06-12	2023-06-12
Sample Type			P	FD
Analyte	Units	Table 6 Criteria		
Hardness	mg/L		225	224
pH, Lab	pH units	9.5	7.97	7.88
Total Suspended Solids	mg/L	15	3.4	2.8
Total Dissolved Solids	mg/L		313	313
Turbidity	NTU		11.6	12.2
Alkalinity, Total	mg/L		80.2	66.6
Ammonia, Total (as N)	mg/L		0.334	0.339
Chloride	mg/L		100	101
Fluoride	mg/L		0.084	0.084
Nitrate	mg/L		1.04	1.05
Total Kjeldahl Nitrogen	mg/L		1.02	1.04
Sulfate	mg/L		84.3	84.4
Dissolved Organic Carbon	mg/L		4.08	4.28
Total Organic Carbon	mg/L		3.65	4.52
Aluminum - Total	mg/L		0.222	0.208
Antimony - Total	mg/L		0.00012	0.00012
Arsenic - Total	mg/L	0.50	0.00025	0.00024
Barium - Total	mg/L		0.0142	0.0140
Cadmium - Total	mg/L		0.0000093	0.0000101
Calcium - Total	mg/L		41.5	41.3
Chromium - Total	mg/L		< 0.00050	< 0.00050
Cobalt - Total	mg/L		0.00086	0.00086
Copper - Total	mg/L	0.30	0.00122	0.00121
Iron - Total	mg/L		0.224	0.218
Lead - Total	mg/L	0.20	0.000368	0.000365
Lithium - Total	mg/L		0.0124	0.0127
Magnesium - Total	mg/L		29.4	29.3
Manganese - Total	mg/L		0.252	0.254
Mercury - Total	mg/L		< 0.0000050	< 0.0000050
Molybdenum - Total	mg/L		0.00301	0.00302
Nickel - Total	mg/L	0.50	0.00123	0.00122
Phosphorus, Total	mg/L		< 0.050	< 0.050
Potassium - Total	mg/L		5.78	5.77
Selenium - Total	mg/L		0.000241	0.000252
Sodium - Total	mg/L		37.0	36.6
Strontium - Total	mg/L		0.163	0.163
Thallium - Total	mg/L		0.000020	0.000020
Tin - Total	mg/L		< 0.00010	< 0.00010
Titanium - Total	mg/L		0.00544	0.00509
Uranium - Total	mg/L		0.0453	0.0447
Vanadium - Total	mg/L		< 0.00050	< 0.00050
Zinc - Total	mg/L	0.50	0.0054	0.0052
Aluminum - Dissolved	mg/L		0.0125	0.0116
Arsenic - Dissolved	mg/L		0.00020	0.00022
Cadmium - Dissolved	mg/L		0.0000066	0.0000082
Calcium - Dissolved	mg/L		38.5	39.5
Copper - Dissolved	mg/L		0.00098	0.00096
Iron - Dissolved	mg/L		< 0.010	< 0.010
Lead - Dissolved	mg/L		< 0.000050	< 0.000050
Magnesium - Dissolved	mg/L		29.8	29.5
Manganese - Dissolved	mg/L		0.227	0.223
Mercury - Dissolved	mg/L		< 0.0000050	< 0.0000050
Molybdenum - Dissolved	mg/L		0.00307	0.00313
Nickel - Dissolved	mg/L		0.00101	0.00102
Potassium - Dissolved	mg/L		5.78	5.78
Selenium - Dissolved	mg/L		0.000264	0.000279
Sodium - Dissolved	mg/L		35.6	35.2
Thallium - Dissolved	mg/L		0.000014	0.000015
Uranium - Dissolved	mg/L		0.0438	0.0444
Zinc - Dissolved	mg/L		0.0046	0.0047
Visible Sheen (100=Yes, 0=No)	None	99	0	-
Phenols	ug/L		1.7	1.6
Phosphorus, Nutrient	mg/L		0.0068	0.0304

Notes:
 Highlight indicate result exceeded applicable criteria.
 Half value used in monthly average when value is less than detection limit.
 pH criteria is a range;6.0-9.5.
 Sample Type:
 P-Permitted
 FD-Field Duplicate
 FB-Field Blank
 TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-06**

Location Name			MP-06	MP-06
Field Sample ID			MP-06_2023-06-12	QP-BT7_2023-06-12
ALS Laboratory Work Order			WT2317136	WT2317136
Sample Date			2023-06-12	2023-06-12
Sample Type			P	TB
Analyte	Units	Table 6 Criteria		
Hardness	mg/L		94.6	1.42
pH, Lab	pH units	9.5	7.70	6.31
Total Suspended Solids	mg/L	15	1.6	< 1.0
Total Dissolved Solids	mg/L		161	< 10
Turbidity	NTU		7.86	< 0.10
Alkalinity, Total	mg/L		39.4	< 2.0
Ammonia, Total (as N)	mg/L		0.134	< 0.0050
Chloride	mg/L		43.3	0.93
Fluoride	mg/L		0.067	< 0.020
Nitrate	mg/L		0.548	< 0.020
Total Kjeldahl Nitrogen	mg/L		0.489	< 0.050
Sulfate	mg/L		36.1	< 0.30
Dissolved Organic Carbon	mg/L		3.25	< 0.50
Total Organic Carbon	mg/L		3.09	< 0.50
Aluminum - Total	mg/L		0.143	< 0.0030
Antimony - Total	mg/L		0.00014	< 0.00010
Arsenic - Total	mg/L	0.50	0.00011	< 0.00010
Barium - Total	mg/L		0.00872	< 0.00010
Cadmium - Total	mg/L		0.0000053	< 0.0000050
Calcium - Total	mg/L		19.9	< 0.050
Chromium - Total	mg/L		< 0.00050	< 0.00050
Cobalt - Total	mg/L		0.00044	< 0.00010
Copper - Total	mg/L	0.30	0.00052	< 0.00050
Iron - Total	mg/L		0.137	< 0.010
Lead - Total	mg/L	0.20	0.000336	< 0.000050
Lithium - Total	mg/L		0.0094	< 0.0010
Magnesium - Total	mg/L		10.9	0.344
Manganese - Total	mg/L		0.0799	< 0.00010
Mercury - Total	mg/L		< 0.0000050	< 0.0000050
Molybdenum - Total	mg/L		0.00249	< 0.000050
Nickel - Total	mg/L	0.50	0.00065	< 0.00050
Phosphorus, Total	mg/L		< 0.050	< 0.050
Potassium - Total	mg/L		2.90	0.084
Selenium - Total	mg/L		0.000129	< 0.000050
Sodium - Total	mg/L		17.1	0.387
Strontium - Total	mg/L		0.0883	< 0.00020
Thallium - Total	mg/L		0.000016	< 0.000010
Tin - Total	mg/L		< 0.00010	< 0.00010
Titanium - Total	mg/L		0.00378	< 0.00030
Uranium - Total	mg/L		0.0132	< 0.000010
Vanadium - Total	mg/L		< 0.00050	< 0.00050
Zinc - Total	mg/L	0.50	< 0.0030	< 0.0030
Aluminum - Dissolved	mg/L		0.0126	< 0.0010
Arsenic - Dissolved	mg/L		< 0.00010	< 0.00010
Cadmium - Dissolved	mg/L		< 0.0000050	< 0.0000050
Calcium - Dissolved	mg/L		20.4	< 0.050
Copper - Dissolved	mg/L		0.00037	< 0.00020
Iron - Dissolved	mg/L		< 0.010	< 0.010
Lead - Dissolved	mg/L		< 0.000050	< 0.000050
Magnesium - Dissolved	mg/L		10.8	0.338
Manganese - Dissolved	mg/L		0.0601	< 0.00010
Mercury - Dissolved	mg/L		< 0.0000050	< 0.0000050
Molybdenum - Dissolved	mg/L		0.00267	< 0.000050
Nickel - Dissolved	mg/L		0.00052	< 0.00050
Potassium - Dissolved	mg/L		2.90	0.080
Selenium - Dissolved	mg/L		0.000148	< 0.000050
Sodium - Dissolved	mg/L		16.5	0.386
Thallium - Dissolved	mg/L		0.000012	< 0.000010
Uranium - Dissolved	mg/L		0.0127	< 0.000010
Zinc - Dissolved	mg/L		0.0016	< 0.0010
Visible Sheen (100=Yes, 0=No)	None	99	0	-
Phenols	ug/L		1.6	1.2
Phosphorus, Nutrient	mg/L		0.0068	< 0.0020

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-C-B**

Location Name			MP-C-B	MP-C-B	MP-C-B	MP-C-B	MP-C-B	MP-C-B	MP-C-B	MP-C-B
Field Sample ID			MP-C-B_2023-06-01	MP-C-B_2023-06-04	MP-C-B_2023-06-06	QP-CC2_2023-06-06	MP-C-B_2023-06-11	MP-C-B_2023-06-19	QP-BF2_2023-06-19	MP-C-B_2023-06-26
ALS Laboratory Work Order			BF2300058	BF2300063	WT2315879	WT2315879	BF2300072	BF2300085	BF2300085	BF2300108
Sample Date			2023-06-01	2023-06-04	2023-06-06	2023-06-06	2023-06-11	2023-06-19	2023-06-19	2023-06-26
Sample Type			P	P	P	FD	P	P	FB	P
Analyte	Units	Table 9 Criteria								
Conductivity	umhos/cm		-	-	296	296	-	-	-	-
pH, Lab	pH units	9.5	7.80	7.88	7.95	7.98	8.04	8.04	6.37	8.00
Total Suspended Solids	mg/L	30	-	-	-	-	7.4	3.7	< 1.0	4.2
Total Suspended Solids	mg/L	30	62.2	134	80.1	79.7	-	-	-	-
Total Dissolved Solids	mg/L		232	239	181	185	224	132	< 21	141
Turbidity	NTU		265	374	151	157	42.5	16.9	0.42	17.6
Ammonia, Total (as N)	mg/L		-	-	0.636	0.623	-	-	-	-
Nitrate	mg/L		-	-	0.718	0.723	-	-	-	-
Oil and Grease, Total	mg/L		-	-	< 5.0	< 5.0	-	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	0	0	0	-	0

Notes:
 Highlight indicate result exceeded applicable criteria.
 Half value used in monthly average when value is less than detection limit.
 pH criteria is a range;6.0-9.5.
 Sample Type:
 P-Permitted
 FD-Field Duplicate
 FB-Field Blank
 TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-C-H**

Location Name			MP-C-H	MP-C-H	MP-C-H	MP-C-H	MP-C-H
Field Sample ID			MP-C-H_2023-06-08	MP-C-H_2023-06-11	MP-C-H_2023-06-19	MP-C-H_2023-06-23	MP-C-H_2023-06-26
ALS Laboratory Work Order			BF2300066	BF2300072	BF2300085	BF2300085	BF2300108
Sample Date			2023-06-08	2023-06-11	2023-06-19	2023-06-23	2023-06-26
Sample Type			P	P	P	P	P
Analyte	Units	Table 9 Criteria					
Conductivity	umhos/cm		476	-	-	-	-
pH, Lab	pH units	9.5	7.51	7.90	7.91	7.72	7.90
Total Suspended Solids	mg/L	30	5.7	4.7	-	< 1.2	< 1.2
Total Suspended Solids	mg/L	30	-	-	38.9	-	-
Total Dissolved Solids	mg/L		314	188	100	62	60
Turbidity	NTU		26.9	23.7	6.22	3.49	1.46
Ammonia, Total (as N)	mg/L		0.0812	-	-	-	-
Nitrate	mg/L		0.201	-	-	-	-
Oil and Grease, Total	mg/L		< 5.0	-	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	0	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-C-J**

Location Name Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MP-C-J	MP-C-J	MP-C-J
			MP-C-J_2023-06-13	MP-C-J_2023-06-19	MP-C-J_2023-06-26
			WT2317129	BF2300085	BF2300108
			2023-06-13	2023-06-19	2023-06-26
			P	P	P
Analyte	Units	Table 9 Criteria			
Conductivity	umhos/cm		261	-	-
pH, Lab	pH units	9.5	8.11	8.02	8.01
Total Suspended Solids	mg/L	30	3.7	< 1.0	< 1.1
Total Dissolved Solids	mg/L		154	155	162
Turbidity	NTU		15.0	4.27	0.83
Ammonia, Total (as N)	mg/L		0.0372	-	-
Nitrate	mg/L		0.047	-	-
Oil and Grease, Total	mg/L		< 5.0	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-Q1-01**

Location Name				MP-Q1-01	MP-Q1-01	MP-Q1-01	MP-Q1-01	MP-Q1-01
Field Sample ID				MP-Q1-01_2023-06-06	MP-Q1-01_2023-06-11	QP-CC2_2023-06-11	MP-Q1-01_2023-06-19	MP-Q1-01_2023-06-26
ALS Laboratory Work Order				WT2315879	BF2300072	BF2300072	BF2300085	BF2300108
Sample Date				2023-06-06	2023-06-11	2023-06-11	2023-06-19	2023-06-26
Sample Type				P	P	FD	P	P
Analyte	Units	Table 9 Criteria	Table 9 Criteria (Quarry)					
Conductivity	umhos/cm			90.8	-	-	-	-
pH, Lab	pH units	9.5	9.5	7.73	7.56	7.61	7.65	7.86
Total Suspended Solids	mg/L	30	30	26.9	5.3	3.2	< 1.3	< 1.1
Total Dissolved Solids	mg/L			63	75	62	63	73
Turbidity	NTU			42.9	7.59	6.89	3.77	7.32
Ammonia, Total (as N)	mg/L			0.0430	-	-	-	-
Nitrate	mg/L			0.175	-	-	-	-
Oil and Grease, Total	mg/L			< 5.0	-	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	99	0	0	-	0	0
Mean Mortality to Daphnia magna	%		50	< 1.0	-	-	-	-
Mean Mortality to Rainbow Trout	%		50	< 1.0	-	-	-	-

Notes:

Highlight indicate result exceeded applicable criteria.
Half value used in monthly average when value is less than detection limit.
pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted
FD-Field Duplicate
FB-Field Blank
TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MP-Q1-02**

Location Name				MP-Q1-02	MP-Q1-02
Field Sample ID				MP-Q1-02_2023-06-19	MP-Q1-02_2023-06-26
ALS Laboratory Work Order				BF2300085	BF2300108
Sample Date				2023-06-19	2023-06-26
Sample Type				P	P
Analyte	Units	Table 9 Criteria	Table 9 Criteria (Quarry)		
Conductivity	umhos/cm			294	-
pH, Lab	pH units	9.5	9.5	8.06	7.84
Total Suspended Solids	mg/L	30	30	-	2.6
Total Suspended Solids	mg/L	30	30	54.3	-
Total Dissolved Solids	mg/L			204	149
Turbidity	NTU			56.8	12.6
Ammonia, Total (as N)	mg/L			4.83	-
Nitrate	mg/L			10.9	-
Oil and Grease, Total	mg/L			< 5.0	-
Visible Sheen (100=Yes, 0=No)	None	99	99	0	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank



**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-01B**

			Location Name	MS-01B
			Field Sample ID	MS-01B_2023-06-06
			ALS Laboratory Work Order	WT2315986
			Sample Date	2023-06-06
			Sample Type	P
Analyte	Units	Table 4 Criteria		
pH, Lab	pH units	9.5		8.29
Total Suspended Solids	mg/L	35		< 1.5
Total Dissolved Solids	mg/L			552
Turbidity	NTU			0.29
Alkalinity, Total	mg/L			293
Ammonia, Total (as N)	mg/L	4.0		0.0396
Total Kjeldahl Nitrogen	mg/L			1.24
Fecal Coliforms	CFU/100mL	1000		3
BOD	mg/L	30		< 2.0
Oil and Grease, Total	mg/L			< 5.0
Phosphorus, Nutrient	mg/L	4.0		1.54

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-06**

		Location Name	MS-06
		Field Sample ID	MS-06_2023-06-06
		ALS Laboratory Work Order	WT2315880
		Sample Date	2023-06-06
		Sample Type	P
Analyte	Units	Table 6 Criteria	
Hardness	mg/L		107
Conductivity	umhos/cm		279
pH, Lab	pH units	9.5	7.39
Total Suspended Solids	mg/L	15	4.3
Total Dissolved Solids	mg/L		173
Turbidity	NTU		16.5
Alkalinity, Total	mg/L		10.8
Ammonia, Total (as N)	mg/L		1.00
Chloride	mg/L		18.2
Fluoride	mg/L		0.059
Nitrate	mg/L		2.06
Total Kjeldahl Nitrogen	mg/L		1.69
Sulfate	mg/L		77.4
Dissolved Organic Carbon	mg/L		4.69
Total Organic Carbon	mg/L		3.70
Aluminum - Total	mg/L		0.0513
Antimony - Total	mg/L		< 0.00010
Arsenic - Total	mg/L	0.50	< 0.00010
Barium - Total	mg/L		0.00621
Cadmium - Total	mg/L		0.000053
Calcium - Total	mg/L		12.3
Chromium - Total	mg/L		< 0.00050
Cobalt - Total	mg/L		0.00291
Copper - Total	mg/L	0.30	< 0.00050
Iron - Total	mg/L		0.150
Lead - Total	mg/L	0.20	< 0.000050
Lithium - Total	mg/L		0.0120
Magnesium - Total	mg/L		19.2
Manganese - Total	mg/L		0.968
Mercury - Total	mg/L		< 0.0000050
Molybdenum - Total	mg/L		0.000497
Nickel - Total	mg/L	0.50	0.00199
Phosphorus, Total	mg/L		< 0.050
Potassium - Total	mg/L		2.16
Selenium - Total	mg/L		0.000568
Sodium - Total	mg/L		5.20
Strontium - Total	mg/L		0.0515
Thallium - Total	mg/L		0.000030
Tin - Total	mg/L		< 0.00010
Titanium - Total	mg/L		0.00060
Uranium - Total	mg/L		0.000084
Vanadium - Total	mg/L		< 0.00050
Zinc - Total	mg/L	0.50	< 0.0030
Aluminum - Dissolved	mg/L		0.0025
Arsenic - Dissolved	mg/L		< 0.00010
Cadmium - Dissolved	mg/L		0.0000062
Calcium - Dissolved	mg/L		12.4
Copper - Dissolved	mg/L		< 0.00020
Iron - Dissolved	mg/L		< 0.010
Lead - Dissolved	mg/L		< 0.000050
Magnesium - Dissolved	mg/L		18.5
Manganese - Dissolved	mg/L		0.960
Mercury - Dissolved	mg/L		< 0.0000050
Molybdenum - Dissolved	mg/L		0.000515
Nickel - Dissolved	mg/L		0.00168
Potassium - Dissolved	mg/L		1.96
Selenium - Dissolved	mg/L		0.000635
Sodium - Dissolved	mg/L		4.88
Thallium - Dissolved	mg/L		0.000028
Uranium - Dissolved	mg/L		0.000048
Zinc - Dissolved	mg/L		0.0014
Visible Sheen (100=Yes, 0=No)	None	99	0
Mean Mortality to Daphnia magna	%	50	< 1.0
Mean Mortality to Rainbow Trout	%	50	< 1.0
Phosphorus, Nutrient	mg/L		< 0.0020

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-07**

		Location Name	MS-07
		Field Sample ID	MS-07_2023-06-13
		ALS Laboratory Work Order	BF2300076
		Sample Date	2023-06-13
		Sample Type	P
Analyte	Units	Table 6 Criteria	
Hardness	mg/L		116
Conductivity	umhos/cm		332
pH, Lab	pH units	9.5	7.01
Total Suspended Solids	mg/L	15	7.0
Total Dissolved Solids	mg/L		206
Turbidity	NTU		24.6
Alkalinity, Total	mg/L		12.5
Ammonia, Total (as N)	mg/L		1.87
Chloride	mg/L		18.8
Fluoride	mg/L		0.058
Nitrate	mg/L		3.26
Total Kjeldahl Nitrogen	mg/L		2.56
Sulfate	mg/L		92.3
Dissolved Organic Carbon	mg/L		7.13
Total Organic Carbon	mg/L		7.24
Aluminum - Total	mg/L		0.162
Antimony - Total	mg/L		< 0.00010
Arsenic - Total	mg/L	0.50	< 0.00010
Barium - Total	mg/L		0.00879
Cadmium - Total	mg/L		0.0000356
Calcium - Total	mg/L		9.69
Chromium - Total	mg/L		< 0.00050
Cobalt - Total	mg/L		0.00380
Copper - Total	mg/L	0.30	0.00182
Iron - Total	mg/L		0.277
Lead - Total	mg/L	0.20	0.000645
Lithium - Total	mg/L		0.0108
Magnesium - Total	mg/L		23.0
Manganese - Total	mg/L		1.44
Mercury - Total	mg/L		< 0.0000050
Molybdenum - Total	mg/L		0.00164
Nickel - Total	mg/L	0.50	0.00301
Phosphorus, Total	mg/L		< 0.050
Potassium - Total	mg/L		3.14
Selenium - Total	mg/L		0.000733
Sodium - Total	mg/L		7.38
Strontium - Total	mg/L		0.0315
Thallium - Total	mg/L		0.000036
Tin - Total	mg/L		< 0.00010
Titanium - Total	mg/L		0.00699
Uranium - Total	mg/L		0.000201
Vanadium - Total	mg/L		< 0.00050
Zinc - Total	mg/L	0.50	< 0.00030
Aluminum - Dissolved	mg/L		0.0015
Arsenic - Dissolved	mg/L		< 0.00010
Cadmium - Dissolved	mg/L		0.0000356
Calcium - Dissolved	mg/L		9.58
Copper - Dissolved	mg/L		0.00048
Iron - Dissolved	mg/L		0.011
Lead - Dissolved	mg/L		< 0.000050
Magnesium - Dissolved	mg/L		22.3
Manganese - Dissolved	mg/L		1.39
Mercury - Dissolved	mg/L		< 0.0000050
Molybdenum - Dissolved	mg/L		0.00195
Nickel - Dissolved	mg/L		0.00218
Potassium - Dissolved	mg/L		2.84
Selenium - Dissolved	mg/L		0.000723
Sodium - Dissolved	mg/L		7.03
Thallium - Dissolved	mg/L		0.000032
Uranium - Dissolved	mg/L		0.000118
Zinc - Dissolved	mg/L		0.0016
Visible Sheen (100=Yes, 0=No)	None	99	0
Mean Mortality to Daphnia magna	%	50	< 1.0
Mean Mortality to Rainbow Trout	%	50	< 1.0
Phosphorus, Nutrient	mg/L		0.0050

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-MRY-09**

		Location Name	MS-MRY-09
		Field Sample ID	MS-MRY-09_2023-06-24
		ALS Laboratory Work Order	BF2300103
		Sample Date	2023-06-24
		Sample Type	P
Analyte	Units	Table 6 Criteria	
Hardness	mg/L		20.8
pH, Lab	pH units	9.5	7.26
Total Suspended Solids	mg/L	15	< 1.2
Total Dissolved Solids	mg/L		42
Turbidity	NTU		1.45
Alkalinity, Total	mg/L		22.8
Ammonia, Total (as N)	mg/L		0.0092
Chloride	mg/L		1.03
Fluoride	mg/L		< 0.020
Nitrate	mg/L		0.041
Total Kjeldahl Nitrogen	mg/L		0.101
Sulfate	mg/L		0.64
Dissolved Organic Carbon	mg/L		1.57
Total Organic Carbon	mg/L		1.95
Aluminum - Total	mg/L		0.0334
Antimony - Total	mg/L		< 0.00010
Arsenic - Total	mg/L	0.50	< 0.00010
Barium - Total	mg/L		0.00362
Cadmium - Total	mg/L		< 0.0000050
Calcium - Total	mg/L		4.03
Chromium - Total	mg/L		< 0.00050
Cobalt - Total	mg/L		< 0.00010
Copper - Total	mg/L	0.30	0.00108
Iron - Total	mg/L		0.044
Lead - Total	mg/L	0.20	< 0.000050
Lithium - Total	mg/L		< 0.0010
Magnesium - Total	mg/L		2.60
Manganese - Total	mg/L		0.00108
Mercury - Total	mg/L		< 0.0000050
Molybdenum - Total	mg/L		0.000183
Nickel - Total	mg/L	0.50	< 0.00050
Phosphorus, Total	mg/L		< 0.050
Potassium - Total	mg/L		0.674
Selenium - Total	mg/L		< 0.000050
Sodium - Total	mg/L		0.254
Strontium - Total	mg/L		0.00219
Thallium - Total	mg/L		< 0.000010
Tin - Total	mg/L		< 0.00010
Titanium - Total	mg/L		0.00117
Uranium - Total	mg/L		0.000131
Vanadium - Total	mg/L		< 0.00050
Zinc - Total	mg/L	0.50	< 0.0030
Aluminum - Dissolved	mg/L		0.0105
Arsenic - Dissolved	mg/L		< 0.00010
Cadmium - Dissolved	mg/L		< 0.0000050
Calcium - Dissolved	mg/L		3.96
Copper - Dissolved	mg/L		0.00103
Iron - Dissolved	mg/L		< 0.010
Lead - Dissolved	mg/L		< 0.000050
Magnesium - Dissolved	mg/L		2.73
Manganese - Dissolved	mg/L		0.00044
Mercury - Dissolved	mg/L		< 0.0000050
Molybdenum - Dissolved	mg/L		0.000153
Nickel - Dissolved	mg/L		< 0.00050
Potassium - Dissolved	mg/L		0.745
Selenium - Dissolved	mg/L		< 0.000050
Sodium - Dissolved	mg/L		0.296
Thallium - Dissolved	mg/L		< 0.000010
Uranium - Dissolved	mg/L		0.000122
Zinc - Dissolved	mg/L		< 0.0010
Visible Sheen (100=Yes, 0=No)	None	99	0
Phenols	ug/L		< 1.0
Phosphorus, Nutrient	mg/L		0.0036

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-MRY-13A**

Location Name			MS-MRY-13A	MS-MRY-13A	MS-MRY-13A	MS-MRY-13A	MS-MRY-13A
Field Sample ID			MS-MRY-13A_2023-06-05	QD-CC2_2023-06-05	MS-MRY-13A_2023-06-12	MS-MRY-13A_2023-06-20	MS-MRY-13A_2023-06-26
ALS Laboratory Work Order			BF2300064	BF2300064	BF2300077	BF2300087	BF2300105
Sample Date			2023-06-05	2023-06-05	2023-06-12	2023-06-20	2023-06-26
Sample Type			P	FD	P	P	P
Analyte	Units	Table 10 Criteria					
Conductivity	umhos/cm		45.0	44.4	-	-	-
pH, Lab	pH units	9.5	7.24	7.25	7.22	7.44	7.72
Total Suspended Solids	mg/L	15	11.4	13.0	1.8	< 1.0	5.3
Total Dissolved Solids	mg/L		62	67	43	61	107
Turbidity	NTU		116	114	21.3	14.4	3.51
Alkalinity, Total	mg/L		14.6	-	-	-	-
Ammonia, Total (as N)	mg/L		-	0.256	-	-	-
Nitrate	mg/L		-	0.194	-	-	-
Dissolved Organic Carbon	mg/L		3.12	-	-	-	-
Total Organic Carbon	mg/L		3.63	-	-	-	-
Aluminum - Total	mg/L		1.22	-	-	-	-
Antimony - Total	mg/L		0.00108	-	-	-	-
Arsenic - Total	mg/L	0.50	< 0.00100	-	-	-	-
Barium - Total	mg/L		0.0117	-	-	-	-
Cadmium - Total	mg/L		< 0.0000500	-	-	-	-
Calcium - Total	mg/L		4.34	-	-	-	-
Chromium - Total	mg/L		< 0.00500	-	-	-	-
Cobalt - Total	mg/L		0.00224	-	-	-	-
Copper - Total	mg/L	0.30	< 0.00500	-	-	-	-
Iron - Total	mg/L		1.53	-	-	-	-
Lead - Total	mg/L	0.20	0.000939	-	-	-	-
Lithium - Total	mg/L		< 0.0100	-	-	-	-
Magnesium - Total	mg/L		2.37	-	-	-	-
Manganese - Total	mg/L		0.0727	-	-	-	-
Mercury - Total	mg/L		< 0.0000050	-	-	-	-
Molybdenum - Total	mg/L		0.00108	-	-	-	-
Nickel - Total	mg/L	0.50	< 0.00500	-	-	-	-
Phosphorus, Total	mg/L		< 0.500	-	-	-	-
Potassium - Total	mg/L		1.53	-	-	-	-
Selenium - Total	mg/L		< 0.000500	-	-	-	-
Sodium - Total	mg/L		0.927	-	-	-	-
Strontium - Total	mg/L		0.00807	-	-	-	-
Thallium - Total	mg/L		< 0.000100	-	-	-	-
Tin - Total	mg/L		< 0.00100	-	-	-	-
Titanium - Total	mg/L		0.0364	-	-	-	-
Uranium - Total	mg/L		0.000550	-	-	-	-
Vanadium - Total	mg/L		< 0.00500	-	-	-	-
Zinc - Total	mg/L	0.50	< 0.0300	-	-	-	-
Oil and Grease, Total	mg/L		< 5.0	< 5.0	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	-	0	0	0
Phenols	ug/L		< 1.0	-	-	-	-
F1 (C6-C10)	ug/L		< 25	-	-	-	-
F2 (C10-C16)	ug/L		< 100	-	-	-	-
F3 (C16-C34)	ug/L		< 250	-	-	-	-
F4 (C34-C50)	ug/L		< 250	-	-	-	-
Total Petroleum Hydrocarbons (C6-C50)	ug/L		< 370	-	-	-	-

Notes:
 Highlight indicate result exceeded applicable criteria.
 pH value used in monthly average when value is less than detection limit.
 pH criteria is a range;6.0-9.5.
 Sample Type:
 P-Permitted
 FD-Field Duplicate
 FB-Field Blank
 TB-Trip Blank



**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-MRY-13B**

Location Name		MS-MRY-13B
Field Sample ID		MS-MRY-13B_2023-06-26
ALS Laboratory Work Order		BF2300105
Sample Date		2023-06-26
Sample Type		P
Analyte	Table 10 Criteria	
Conductivity		407
pH, Lab	9.5	7.95
Total Suspended Solids	15	1.9
Total Dissolved Solids		222
Turbidity		1.88
Alkalinity, Total		106
Dissolved Organic Carbon		3.79
Total Organic Carbon		4.67
Aluminum - Total		0.0470
Antimony - Total		0.00011
Arsenic - Total	0.50	0.00014
Barium - Total		0.0221
Cadmium - Total		0.0000067
Calcium - Total		38.6
Chromium - Total		< 0.00050
Cobalt - Total		0.00015
Copper - Total	0.30	0.00117
Iron - Total		0.102
Lead - Total	0.20	< 0.000050
Lithium - Total		0.0308
Magnesium - Total		20.3
Manganese - Total		0.00291
Mercury - Total		< 0.0000050
Molybdenum - Total		0.000390
Nickel - Total	0.50	0.00847
Phosphorus, Total		< 0.050
Potassium - Total		2.32
Selenium - Total		< 0.000050
Sodium - Total		9.94
Strontium - Total		0.0482
Thallium - Total		0.000011
Tin - Total		< 0.00010
Titanium - Total		0.00338
Uranium - Total		0.00278
Vanadium - Total		< 0.00050
Zinc - Total	0.50	< 0.0030
Oil and Grease, Total		< 5.0
Visible Sheen (100=Yes, 0=No)	99	0
Phenols		1.1
F1 (C6-C10)		< 25
F2 (C10-C16)		< 100
F3 (C16-C34)		< 250
F4 (C34-C50)		< 250
Total Petroleum Hydrocarbons (C6-C50)		< 370

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-A**

Location Name			MS-C-A	MS-C-A	MS-C-A	MS-C-A
Field Sample ID			MS-C-A_2023-06-05	MS-C-A_2023-06-12	MS-C-A_2023-06-21	MS-C-A_2023-06-25
ALS Laboratory Work Order			BF2300064	BF2300077	BF2300089	BF2300101
Sample Date			2023-06-05	2023-06-12	2023-06-21	2023-06-25
Sample Type			P	P	P	P
Analyte	Units	Table 9 Criteria				
Conductivity	umhos/cm		75.5	-	-	-
pH, Lab	pH units	9.5	7.45	7.49	7.57	7.38
Total Suspended Solids	mg/L	30	-	-	-	17.2
Total Suspended Solids	mg/L	30	421	43.5	124	-
Total Dissolved Solids	mg/L		175	113	178	110
Turbidity	NTU		968	181	397	119
Ammonia, Total (as N)	mg/L		0.0617	-	-	-
Nitrate	mg/L		0.258	-	-	-
Oil and Grease, Total	mg/L		< 5.0	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-B**

			Location Name	MS-C-B	MS-C-B	MS-C-B	MS-C-B
			Field Sample ID	MS-C-B_2023-06-05	MS-C-B_2023-06-12	MS-C-B_2023-06-21	MS-C-B_2023-06-25
			ALS Laboratory Work Order	BF2300064	BF2300077	BF2300089	BF2300101
			Sample Date	2023-06-05	2023-06-12	2023-06-21	2023-06-25
			Sample Type	P	P	P	P
Analyte	Units	Table 9 Criteria					
Conductivity	umhos/cm		75.4	-	-	-	-
pH, Lab	pH units	9.5	7.41	7.45	7.56	7.45	
Total Suspended Solids	mg/L	30	-	-	-	21.4	
Total Suspended Solids	mg/L	30	432	41.7	122	-	
Total Dissolved Solids	mg/L		171	112	186	111	
Turbidity	NTU		962	187	403	276	
Ammonia, Total (as N)	mg/L		0.0625	-	-	-	
Nitrate	mg/L		0.260	-	-	-	
Oil and Grease, Total	mg/L		< 5.0	-	-	-	
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	0	

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-C**

Location Name Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MS-C-C	MS-C-C	MS-C-C	MS-C-C
			MS-C-C_2023-06-05	MS-C-C_2023-06-12	MS-C-C_2023-06-20	MS-C-C_2023-06-25
			BF2300064	BF2300077	BF2300087	BF2300101
			2023-06-05	2023-06-12	2023-06-20	2023-06-25
			P	P	P	P
Analyte	Units	Table 9 Criteria				
Conductivity	umhos/cm		-	584	-	-
pH, Lab	pH units	9.5	7.72	7.66	7.87	7.91
Total Suspended Solids	mg/L	30	-	6.7	-	-
Total Suspended Solids	mg/L	30	389	-	69.8	50.0
Total Dissolved Solids	mg/L		285	348	343	480
Turbidity	NTU		982	18.4	240	128
Ammonia, Total (as N)	mg/L		-	0.816	-	-
Nitrate	mg/L		-	3.14	-	-
Oil and Grease, Total	mg/L		-	< 5.0	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-D**

Location Name			MS-C-D	MS-C-D	MS-C-D	MS-C-D	MS-C-D
Field Sample ID			MS-C-D_2023-06-05	MS-C-D_2023-06-12	QD-BF2_2023-06-12	MS-C-D_2023-06-20	MS-C-D_2023-06-25
ALS Laboratory Work Order			BF2300064	BF2300077	BF2300077	BF2300087	BF2300101
Sample Date			2023-06-05	2023-06-12	2023-06-12	2023-06-20	2023-06-25
Sample Type			P	P	FB	P	P
Analyte	Units	Table 9 Criteria					
Conductivity	umhos/cm		-	422	1.0	-	-
pH, Lab	pH units	9.5	7.71	7.86	7.04	7.85	8.18
Total Suspended Solids	mg/L	30	-	22.0	< 1.0	21.0	-
Total Suspended Solids	mg/L	30	144	-	-	-	60.8
Total Dissolved Solids	mg/L		183	250	20	264	428
Turbidity	NTU		401	91.0	0.14	103	119
Ammonia, Total (as N)	mg/L		-	0.384	< 0.0050	-	-
Nitrate	mg/L		-	1.39	< 0.020	-	-
Oil and Grease, Total	mg/L		-	< 5.0	< 5.0	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	-	0	0

Notes:
 Highlight indicate result exceeded applicable criteria.
 Half value used in monthly average when value is less than detection limit.
 pH criteria is a range;6.0-9.5.
Sample Type:
 P-Permitted
 FD-Field Duplicate
 FB-Field Blank
 TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-E**

			Location Name	MS-C-E	MS-C-E	MS-C-E	MS-C-E
			Field Sample ID	MS-C-E_2023-06-05	MS-C-E_2023-06-12	MS-C-E_2023-06-20	MS-C-E_2023-06-25
			ALS Laboratory Work Order	BF2300064	BF2300077	BF2300087	BF2300101
			Sample Date	2023-06-05	2023-06-12	2023-06-20	2023-06-25
			Sample Type	P	P	P	P
Analyte	Units	Table 9 Criteria					
Conductivity	umhos/cm		129	-	-	-	-
pH, Lab	pH units	9.5	7.32	7.63	7.93	8.05	
Total Suspended Solids	mg/L	30	-	25.3	13.4	-	
Total Suspended Solids	mg/L	30	50.0	-	-	47.2	
Total Dissolved Solids	mg/L		100	115	205	302	
Turbidity	NTU		245	75.5	94.6	59.9	
Ammonia, Total (as N)	mg/L		0.121	-	-	-	
Nitrate	mg/L		0.284	-	-	-	
Oil and Grease, Total	mg/L		< 5.0	-	-	-	
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	0	

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank



**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-F**

Location Name			MS-C-F	MS-C-F	MS-C-F	MS-C-F
Field Sample ID			MS-C-F_2023-06-05	MS-C-F_2023-06-12	MS-C-F_2023-06-21	MS-C-F_2023-06-25
ALS Laboratory Work Order			BF2300064	BF2300077	BF2300089	BF2300101
Sample Date			2023-06-05	2023-06-12	2023-06-21	2023-06-25
Sample Type			P	P	P	P
Analyte	Units	Table 9 Criteria				
Conductivity	umhos/cm		83.5	-	-	-
pH, Lab	pH units	9.5	7.51	7.37	7.54	7.40
Total Suspended Solids	mg/L	30	540	82.7	132	187
Total Dissolved Solids	mg/L		142	116	200	122
Turbidity	NTU		1090	265	450	276
Ammonia, Total (as N)	mg/L		0.0869	-	-	-
Nitrate	mg/L		0.356	-	-	-
Oil and Grease, Total	mg/L		< 5.0	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-G**

Location Name Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MS-C-G	MS-C-G	MS-C-G
			MS-C-G_2023-06-12	MS-C-G_2023-06-20	QD-BT2_2023-06-20
			BF2300077	BF2300087	BF2300087
			2023-06-12	2023-06-20	2023-06-20
			P	P	TB
Analyte	Units	Table 9 Criteria			
Conductivity	umhos/cm		112	-	-
pH, Lab	pH units	9.5	7.42	7.63	6.22
Total Suspended Solids	mg/L	30	2.2	< 1.0	< 1.0
Total Dissolved Solids	mg/L		71	55	< 19
Turbidity	NTU		21.9	13.3	0.11
Ammonia, Total (as N)	mg/L		0.295	-	-
Nitrate	mg/L		0.251	-	-
Oil and Grease, Total	mg/L		< 5.0	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	-

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MS-C-H**

Location Name			MS-C-H	MS-C-H	MS-C-H	MS-C-H	MS-C-H
Field Sample ID			MS-C-H_2023-06-05	MS-C-H_2023-06-12	MS-C-H_2023-06-20	QD-CC2_2023-06-20	MS-C-H_2023-06-26
ALS Laboratory Work Order			BF2300064	BF2300077	BF2300087	BF2300087	BF2300105
Sample Date			2023-06-05	2023-06-12	2023-06-20	2023-06-20	2023-06-26
Sample Type			P	P	P	FD	P
Analyte	Units	Table 9 Criteria					
Conductivity	umhos/cm		80.0	-	-	-	-
pH, Lab	pH units	9.5	7.34	7.36	7.88	7.90	8.00
Total Suspended Solids	mg/L	30	5.3	2.2	< 1.0	< 1.3	< 1.1
Total Dissolved Solids	mg/L		70	48	120	113	124
Turbidity	NTU		30.7	15.8	7.25	7.12	4.17
Ammonia, Total (as N)	mg/L		0.230	-	-	-	-
Nitrate	mg/L		2.24	-	-	-	-
Oil and Grease, Total	mg/L		< 5.0	-	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	0	0	0	-	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MQ-C-A**

Location Name				MQ-C-A	MQ-C-A	MQ-C-A	MQ-C-A	MQ-C-A
Field Sample ID				MQ-C-A_2023-06-05	MQ-C-A_2023-06-13	MQ-C-A_2023-06-21	MQ-C-A_2023-06-25	QD-CC2_2023-06-25
ALS Laboratory Work Order				BF2300064	BF2300077	BF2300089	BF2300101	BF2300101
Sample Date				2023-06-05	2023-06-13	2023-06-21	2023-06-25	2023-06-25
Sample Type				P	P	P	P	FD
Analyte	Units	Table 9 Criteria	Table 9 Criteria (Quarry)					
Conductivity	umhos/cm			53.1	-	-	-	-
pH, Lab	pH units	9.5	9.5	7.27	7.61	7.75	7.77	7.77
Total Suspended Solids	mg/L	30	30	8.0	1.1	< 1.0	< 1.4	< 1.2
Total Dissolved Solids	mg/L			44	63	62	65	75
Turbidity	NTU			28.8	5.53	3.50	1.17	0.70
Ammonia, Total (as N)	mg/L			0.0365	-	-	-	-
Nitrate	mg/L			0.048	-	-	-	-
Oil and Grease, Total	mg/L			< 5.0	-	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	99	0	0	0	0	-

Notes:

Highlight indicate result exceeded applicable criteria.
Half value used in monthly average when value is less than detection limit.
pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted
FD-Field Duplicate
FB-Field Blank
TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MQ-C-B**

Location Name				MQ-C-B	MQ-C-B	MQ-C-B	MQ-C-B
Field Sample ID				MQ-C-B_2023-06-05	MQ-C-B_2023-06-12	MQ-C-B_2023-06-21	MQ-C-B_2023-06-25
ALS Laboratory Work Order				BF2300064	BF2300077	BF2300089	BF2300101
Sample Date				2023-06-05	2023-06-12	2023-06-21	2023-06-25
Sample Type				P	P	P	P
Analyte	Units	Table 9 Criteria	Table 9 Criteria (Quarry)				
Conductivity	umhos/cm			82.2	-	-	-
pH, Lab	pH units	9.5	9.5	8.08	7.42	7.87	7.71
Total Suspended Solids	mg/L	30	30	785	34.0	63.4	421
Total Dissolved Solids	mg/L			193	54	178	188
Turbidity	NTU			1120	66.9	213	373
Ammonia, Total (as N)	mg/L			0.0648	-	-	-
Nitrate	mg/L			0.378	-	-	-
Oil and Grease, Total	mg/L			< 5.0	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	99	0	0	0	0
Mean Mortality to <i>Daphnia magna</i>	%		50	3.3	-	-	-
Mean Mortality to Rainbow Trout	%		50	< 1.0	-	-	-

Notes:
 Highlight indicate result exceeded applicable criteria.
 Half value used in monthly average when value is less than detection limit.
 pH criteria is a range; 6.0-9.5.
Sample Type:
 P-Permitted
 FD-Field Duplicate
 FB-Field Blank
 TB-Trip Blank

**Table 2 : Water Quality Results for Water Licence
Monitoring Location - MQ-C-D**

Location Name Field Sample ID ALS Laboratory Work Order Sample Date Sample Type				MQ-C-D	MQ-C-D	MQ-C-D	MQ-C-D	MQ-C-D
				MQ-C-D_2023-06-05	MQ-C-D_2023-06-12	MQ-C-D_2023-06-21	MQ-C-D_2023-06-25	QD-BF2_2023-06-25
				BF2300064	BF2300077	BF2300089	BF2300101	BF2300101
				2023-06-05	2023-06-12	2023-06-21	2023-06-25	2023-06-25
				P	P	P	P	FB
Analyte	Units	Table 9 Criteria	Table 9 Criteria (Quarry)					
Conductivity	umhos/cm			204	-	-	-	-
pH, Lab	pH units	9.5	9.5	7.57	7.47	7.82	7.77	6.24
Total Suspended Solids	mg/L	30	30	-	-	6.0	3.8	< 1.1
Total Suspended Solids	mg/L	30	30	49.1	36.4	-	-	-
Total Dissolved Solids	mg/L			111	138	114	100	< 20
Turbidity	NTU			119	79.5	42.9	27.2	0.24
Ammonia, Total (as N)	mg/L			0.0255	-	-	-	-
Nitrate	mg/L			0.358	-	-	-	-
Oil and Grease, Total	mg/L			< 5.0	-	-	-	-
Visible Sheen (100=Yes, 0=No)	None	99	99	0	0	0	0	-

Notes:

Highlight indicate result exceeded applicable criteria.
Half value used in monthly average when value is less than detection limit.
pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted
FD-Field Duplicate
FB-Field Blank
TB-Trip Blank



**Table 2 : Water Quality Results for Water Licence
Monitoring Location - KM105-SWMP-SEEP-02**

Location Name Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			KM105-SWMP-SEEP-02
			KM105-SWMP-SEEP-02_2023-06-26
			BF2300106
			2023-06-26
			P
Analyte	Units	Table 6 Criteria	
Conductivity	umhos/cm		139
pH, Lab	pH units	9.5	7.62
Total Suspended Solids	mg/L	15	299
Total Dissolved Solids	mg/L		105
Turbidity	NTU		276
Ammonia, Total (as N)	mg/L		0.0355
Nitrate	mg/L		0.514
Oil and Grease, Total	mg/L		< 5.0
Visible Sheen (100=Yes, 0=No)	None	99	0

Notes:

Highlight indicate result exceeded applicable criteria.

Half value used in monthly average when value is less than detection limit.

pH criteria is a range;6.0-9.5.

Sample Type:

P-Permitted

FD-Field Duplicate

FB-Field Blank

TB-Trip Blank



Table 3.1: Flow and Volume Measurements - Part I Item 11 - June 2023

DATE	Camp Lake Freshwater for Domestic Use - Daily Water MS-MRY-1 (m ³)	Camp Lake Freshwater for Industrial Use - Daily Water MS-MRY-1 (m ³)	Treated Sewage Effluent from MS- 01B to Discharge Location #1 (m ³)	Sewage Sludge Removed from Mine Site WWTPs to Incinerator or Disposal Offsite by Backhaul (m ³)	Km 32 Lake Milne Port Camp Daily Water Use for Domestic Purposes MP- MRY-3 (m ³)	Km 32 Lake Milne Port Camp Daily Water Use for Industrial Purposes MP- MRY-3 (m ³)	Treated Sewage Effluent from MP- 01 to Milne Inlet (m ³)	Treated Sewage Effluent from MP- 01B to Milne Inlet (m ³)	Sewage Sludge Removed from Milne Port WWTPs to Incinerator or Disposal Offsite by Backhaul (m ³)
1-Jun-23	108.3	8.3	95.0	0.9	47.5	0.0	19.0	24.0	0.4
2-Jun-23	121.0	7.2	113.1	0.9	41.5	3.0	20.0	26.1	0.5
3-Jun-23	120.6	28.1	112.5	1.7	24.3	11.0	17.0	21.9	0.7
4-Jun-23	127.8	15.5	118.6	1.3	64.7	1.0	19.0	23.1	0.0
5-Jun-23	115.9	20.8	113.8	1.3	39.4	0.0	21.0	20.3	0.0
6-Jun-23	132.9	10.3	123.9	1.3	28.4	0.0	19.0	20.2	0.4
7-Jun-23	115.2	4.5	104.7	0.9	54.5	0.0	22.0	22.5	0.0
8-Jun-23	113.7	31.4	105.4	1.5	52.9	0.0	22.0	29.6	0.0
9-Jun-23	133.0	8.9	120.7	1.5	50.9	0.0	19.0	26.4	0.4
10-Jun-23	121.4	24.9	106.5	0.9	26.0	0.0	20.0	23.3	0.0
11-Jun-23	112.7	39.3	95.7	0.9	46.5	6.0	22.0	27.4	0.0
12-Jun-23	135.1	19.1	73.8	1.7	49.5	3.0	24.0	22.9	0.3
13-Jun-23	132.7	10.0	120.3	0.9	53.2	0.0	18.0	28.6	0.0
14-Jun-23	130.3	10.2	115.3	0.0	55.5	0.0	24.0	20.1	0.0
15-Jun-23	131.3	21.2	100.0	1.7	41.6	0.0	24.0	28.8	0.5
16-Jun-23	122.2	6.0	125.3	0.9	51.4	3.0	23.0	32.2	0.5
17-Jun-23	131.1	4.3	116.0	0.7	59.7	0.0	18.0	23.4	0.8
18-Jun-23	114.0	14.8	83.8	1.9	60.4	0.0	23.0	24.6	0.5
19-Jun-23	134.8	20.5	106.3	1.5	39.4	0.0	24.0	21.1	0.8
20-Jun-23	98.6	22.7	110.7	1.5	62.7	0.0	24.0	34.2	0.5
21-Jun-23	120.9	6.9	107.5	1.5	74.7	0.0	20.0	23.7	0.5
22-Jun-23	106.9	25.0	116.0	1.6	56.2	3.0	21.0	25.2	0.8
23-Jun-23	135.0	9.4	110.6	2.1	51.9	0.0	14.0	23.4	0.8
24-Jun-23	88.9	17.0	108.4	2.1	65.4	0.0	19.0	24.2	0.9
25-Jun-23	137.1	12.9	121.1	1.8	34.6	3.0	15.0	17.1	0.7
26-Jun-23	123.2	9.4	114.1	2.1	58.9	0.0	19.0	23.9	0.7
27-Jun-23	114.8	5.5	112.8	1.9	59.3	0.0	22.0	25.7	0.8
28-Jun-23	116.5	13.9	108.0	2.1	60.1	0.0	27.0	27.2	0.8
29-Jun-23	100.7	11.8	111.6	1.7	46.8	0.0	22.0	22.8	0.8
30-Jun-23	126.3	15.0	126.4	1.7	25.0	0.0	22.0	21.7	0.8
-	-	-	-	-	-	-	-	-	-
Total	3,622.8	454.8	3,297.9	42.2	1,482.8	33.0	623.0	735.5	13.9

Notes:
WWTP - Waste Water Treatment Plant
PWSP - Polishing Waste Stabilization Pond
MS-11 Volume Estimated from Hydrology Station at MS-C-A/B (Installed June 22)

Table 3.1: Flow and Volume Measurements - Part I Item 11 - June 2023

DATE	Sewage Sludge Removed from Lift Stations to PWSP at Milne Port (m³)	Sludge Removed from Milne Port WWTPs/WTPs to PWSP at Milne Port (m³)	Water Use for Dust Suppression from Authorized Sources (m³) ¹	Effluent Discharge from Mine Site Crusher Pad Sedimentation Pond (MS-06) (m³)	Effluent Discharge from Mine Site Run of Mine Ore Stockpile Pond Stormwater (MS-07) (m³)	Effluent Discharge from KM105 Surface Water Management Pond (MS-11) (m³)	Effluent Discharge from Milne Port Ore Stockpile Sedimentation Pond (East) to Milne Inlet (MP-05) (m³)	Effluent Discharge from Milne Port Ore Stockpile Sedimentation Pond (West) to Milne Inlet (MP-06) (m³)	Effluent Discharge from Milne Port Bulk Fuel Tank Farm Facility to Milne Inlet (MP-03) (m³)
1-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3-Jun-23	0.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Jun-23	0.0	0.0	0.0	96.3	0.0	0.0	0.0	0.0	0.0
7-Jun-23	0.0	0.0	0.0	110.9	0.0	0.0	0.0	0.0	0.0
8-Jun-23	0.0	0.0	0.0	317.1	0.0	0.0	0.0	0.0	0.0
9-Jun-23	0.0	0.0	0.0	51.0	0.0	0.0	0.0	0.0	0.0
10-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	389.6	76.1	212.5
13-Jun-23	0.0	0.0	0.0	0.0	1259.2	0.0	505.2	1252.2	695.3
14-Jun-23	0.0	0.0	0.0	180.6	1021.7	0.0	254.9	717.3	229.4
15-Jun-23	0.0	0.0	0.0	16.7	271.0	0.0	146.8	396.5	19.6
16-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.5
17-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Jun-23	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jun-23	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jun-23	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Jun-23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Jun-23	0.0	0.0	0.0	223.6	0.0	3,353.9	0.0	0.0	0.0
23-Jun-23	0.0	0.0	0.0	0.0	0.0	9,530.0	0.0	0.0	0.0
24-Jun-23	0.0	0.0	0.0	0.0	0.0	9,827.0	0.0	0.0	0.0
25-Jun-23	0.0	0.0	0.0	0.0	0.0	8,357.9	0.0	0.0	0.0
26-Jun-23	0.0	0.0	0.0	0.0	0.0	8,039.3	0.0	0.0	0.0
27-Jun-23	0.0	0.0	0.0	0.0	0.0	5,186.9	0.0	0.0	0.0
28-Jun-23	0.0	0.0	0.0	0.0	0.0	7,876.4	0.0	0.0	0.0
29-Jun-23	0.0	0.0	0.0	0.0	0.0	10,451.9	0.0	0.0	0.0
30-Jun-23	0.0	0.0	393.6	0.0	0.0	11,522.9	412.3	0.0	0.0
-	-	-	-	-	-	-	-	-	-
Total	6.2	4.6	393.6	996.2	2,551.9	74,146.4	1,708.8	2,442.1	1,185.3

Notes:
WWTP - Waste Water Treatment Plant
PWSP - Polishing Waste Stabilization Pond
MS-11 Volume Estimated from Hydrology Station at MS-C-A/B (Installed June 22)