

June 30, 2024

Manager of Licensing  
Nunavut Water Board  
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Resource Management Officer, CIRNAC  
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P.O. Box 100  
Iqaluit, NU X0A 0H0

**RE: Water Licence 2AM-MRY1325 Monthly Surveillance Network Program (SNP) Report  
May 2024**

The following is the monthly report for May 2024 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 conducted in May under the Licence at sites with discharge/flowing water conditions, and the details concerning the collected water quality samples including sample dates and laboratory identification numbers. 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 May 2024.

**Monitoring Program Results**

*Water Sampling and Analysis Results*

Table 2 provides the analytical results related to the Sewage Treatment Plant (STP) facilities. There were no exceedances of applicable water quality criteria observed at STP monitoring stations in May 2024. In May, 2024, there was one (1) exceedance of the site-specific grab sample limit of 30 mg/L for Total Suspended Solids (TSS) at SNP surface water monitoring station MP-C-B on May 26, 2024. The exceedance at MP-C-B was the result of warming temperatures resulting in snowmelt runoff containing sediment-laden water entering the receiving watercourse as a result of conditions associated with annual freshet conditions which typically occur from mid-May to June 30. The various inputs to the stream were assessed, and an ESC plan was developed and implemented at locations where increased TSS was entering the channel in accordance with Baffinland's Surface Water and Aquatic Effects Management Plan (SWAEMP), and maintained and adjusted as required. Additional details regarding mitigative measures are presented in the Follow-up Spill Report submitted June 29, 2024. Subsequent samples collected at MP-C-B in June

2024, were compliant with applicable water quality criteria, confirming that the elevated TSS was transient in nature.

On May 10, 2024, an uncontrolled release from the KM105 Surface Water Management Pond (KM105 Pond) to the isolated adjacent tundra occurred due to seepage from upstream of the northwest embankment i. Water quality samples collected from a newly established water quality monitoring station; KM105-SWMP-SEEP-03 showed elevated TSS above the Water Licence criteria of 30 mg/L for TSS concentrations in a grab sample. At the time of the release, the downstream receiving environment was frozen. As a result, the seepage was prevented from migrating to the receiving environment. An existing earthen berm was reinforced to create a collection pond at the seep location and pumps were installed to transfer the water back into the pond.

Between May 10, 2024 and May 20, 2024, increasing inflows and seepage rates prompted the deployment of additional pumps to manage seepage volumes. On May 20, 2024, the seepage rate outpaced the pumping capacity of the eight (8) installed pumps, prompting a controlled discharge from the seepage collection sump at the toe of the KM 105 Surface Water Management Pond dam, consistent with Baffinland's Metal and Diamond Mining Effluent Regulations Emergency Response Plan (MDMER ERP).

All water released from the facility was compliant for all MDMER and Water Licence parameters with the exception of an initial field pH at the upper limit of 9.5, and TSS above the grab sample limit of 30 mg/L. The seepage event was reported to the NT-NU Spill Reporting Line on May 11, 2024 (NT-NU Spill Report #2024- 151), and additional details on mitigative actions have been provided in the follow-up spill report submitted June 10, 2024. More details will be provided in further follow-up reports. Monthly Water Licence samples will continue to be collected at an established representative water quality monitoring station when there is flowing water present, and a representative sample can be collected.

Following the controlled discharge on May 20, 2024 from the seepage collection sump, discharge quantity at MS-11 was estimated through daily flow measurements at the seepage location. Following the onset of consistent warmer temperatures and ice free conditions in June, pressure transducers were installed at the downstream hydrology station for estimating discharge volumes.

#### *Flow and Volume Measurements*

Table 3.1 provides a breakdown of volume measurements for May 2024 as required by Part I, Item 9 of the Licence. There were no exceedances of the source specific daily volume withdrawal limits in May 2024.

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-Nowdluk (CIRNAC)  
Conor Goddard, Chris Spencer (QIA)  
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Elisabeth Luther, Francois Gaudreau, Martin Beausejour,  
Connor Devereaux, Jerad Nadin, Allison Parker, Dale Kristoff, Katie Babin, (Baffinland)

### Attachments

Attachments – 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	2024-05-14	P	WT2412202-003
MP-01B	Sewage Treatment Facility	2024-05-14	P	WT2412202-004
MP-C-B	Downstream of Construction Area	2024-05-22	FD	BF2400025-002
MP-C-B	Downstream of Construction Area	2024-05-22	P	BF2400025-001
MP-C-B	Downstream of Construction Area	2024-05-26	FD	BF2400037-002
MP-C-B	Downstream of Construction Area	2024-05-26	P	BF2400037-001
MP-C-K	Downstream of Construction Area	2024-05-28	FD	WT2414190-002
MP-C-K	Downstream of Construction Area	2024-05-28	P	WT2414190-001
MS-01	Sewage Treatment Facility	2024-05-14	P	WT2412206-002
MS-01B	Sewage Treatment Facility	2024-05-14	P	WT2412206-004
KM105-SWMP-SEEP-03	KM105 Pond Stormwater	2024-05-20	NP	BF2400021-001
MS-MRY-09	Deposit 1 Surface Water Drainage	2024-05-28	P	BF2400050-001
MS-MRY-13A	Downstream Non-Hazardous Landfill	2024-05-30	P	BF2400052
MS-C-A	Downstream of Construction and Borrow Areas	2024-05-30	P	BF2400052
MS-C-B	Downstream of Construction and Borrow Areas	2024-05-30	P	BF2400052

**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**

MS-C-C	Downstream of Construction and Borrow Areas	2024-05-30	P	BF2400052
MS-C-D	Downstream of Construction and Borrow Areas	2024-05-30	P	BF2400052
MS-C-E	Downstream of Construction and Borrow Areas	2024-05-30	FD	BF2400052
MS-C-E	Downstream of Construction and Borrow Areas	2024-05-30	P	BF2400052
MS-C-G	Downstream of Construction and Borrow Areas	2024-05-30	P	BF2400052
MS-C-H	Downstream of Construction and Borrow Areas	2024-05-30	P	BF2400052
MQ-C-A	Downstream of QMR2 Quarry	2024-05-30	P	BF2400052
MQ-C-B	Downstream of QMR2 Quarry	2024-05-30	FB	BF2400052
MQ-C-B	Downstream of QMR2 Quarry	2024-05-30	P	BF2400052
MQ-C-D	Downstream of QMR2 Quarry	2024-05-29	P	BF2400051-001
MQ-C-D	Downstream of QMR2 Quarry	2024-05-29	TB	BF2400051-002

**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

		Location Name	MP-01
		Field Sample ID	MP-01_2024-05-14
		ALS Laboratory Work Order	WT2412202
		Sample Date	2024-05-14
		Sample Type	P
Analyte	Units	Table 5 Criteria	
pH, Lab	pH units	6.0 - 9.5	7.86
Total Suspended Solids	mg/L	120	3.6
Total Dissolved Solids	mg/L	-	887
Turbidity	NTU	-	1.51
Alkalinity, Total	mg/L	-	79.4
Ammonia, Total (as N)	mg/L	-	0.0588
Total Kjeldahl Nitrogen	mg/L	-	1.09
Fecal Coliforms	CFU/100mL	10000	< 1
BOD	mg/L	100	< 2.0
Oil and Grease, Total	mg/L	-	< 5.0
Phosphorus, Nutrient	mg/L	-	6.45

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  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MP-01B
			MP-01B_2024-05-14
			WT2412202
			2024-05-14
			P
Analyte	Units	Table 5 Criteria	
pH, Lab	pH units	6.0 - 9.5	6.79
Total Suspended Solids	mg/L	120	< 1.0
Total Dissolved Solids	mg/L	-	540
Turbidity	NTU	-	0.19
Alkalinity, Total	mg/L	-	12.2
Ammonia, Total (as N)	mg/L	-	0.0182
Total Kjeldahl Nitrogen	mg/L	-	1.08
Fecal Coliforms	CFU/100mL	10000	4
BOD	mg/L	100	< 2.0
Oil and Grease, Total	mg/L	-	< 5.0
Phosphorus, Nutrient	mg/L	-	6.92

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  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MP-C-B	MP-C-B	MP-C-B	MP-C-B
			MP-C-B_2024-05-22	QD-CC8_2024-05-22	MP-C-B_2024-05-26	QD-CC8_2024-05-26
			BF2400025	BF2400025	BF2400037	BF2400037
			2024-05-22	2024-05-22	2024-05-26	2024-05-26
			P	FD	P	FD
Analyte	Units	Table 9 Criteria				
Conductivity	umhos/cm	-	420	417	-	-
pH, Lab	pH units	6.0 - 9.5	7.79	7.82	7.81	7.87
Total Suspended Solids	mg/L	30	16.9	16.3	-	-
Total Suspended Solids	mg/L	30	-	-	36.5	35.5
Total Dissolved Solids	mg/L	-	278	267	252	253
Turbidity	NTU	-	101	99.5	56.5	52.7
Ammonia, Total (as N)	mg/L	-	0.654	0.684	-	-
Nitrate	mg/L	-	0.668	0.654	-	-
Oil and Grease, Total	mg/L	-	< 5.0	< 5.0	-	-
Visible Sheen	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-

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-K

Location Name  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MP-C-K	MP-C-K
			MP-C-K_2024-05-28	QW-CC1_2024-05-28
			WT2414190	WT2414190
			2024-05-28	2024-05-28
			P	FD
Analyte	Units	Table 9 Criteria		
Conductivity	umhos/cm	-	364	364
pH, Lab	pH units	6.0 - 9.5	8.13	8.08
Total Suspended Solids	mg/L	30	8.8	6.2
Total Dissolved Solids	mg/L	-	207	211
Turbidity	NTU	-	17.6	17.8
Ammonia, Total (as N)	mg/L	-	0.134	0.134
Nitrate	mg/L	-	0.285	0.285
Oil and Grease, Total	mg/L	-	< 5.0	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen	-

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-01

		Location Name	MS-01
		Field Sample ID	MS-01_2024-05-14
		ALS Laboratory Work Order	WT2412206
		Sample Date	2024-05-14
		Sample Type	P
Analyte	Units	Table 4 Criteria	
pH, Lab	pH units	6.0 - 9.5	8.84
Total Suspended Solids	mg/L	35	1.8
Total Dissolved Solids	mg/L	-	1860
Turbidity	NTU	-	0.35
Alkalinity, Total	mg/L	-	673
Ammonia, Total (as N)	mg/L	4.0	0.151
Total Kjeldahl Nitrogen	mg/L	-	4.57
Fecal Coliforms	CFU/100mL	1000	2
BOD	mg/L	30	< 2.0
Oil and Grease, Total	mg/L	-	< 5.0
Phosphorus, Nutrient	mg/L	4.0	1.32

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_2024-05-14
			ALS Laboratory Work Order	WT2412206
			Sample Date	2024-05-14
			Sample Type	P
Analyte		Units	Table 4 Criteria	
pH, Lab	pH units	6.0 - 9.5	8.27	
Total Suspended Solids	mg/L	35	2.1	
Total Dissolved Solids	mg/L	-	814	
Turbidity	NTU	-	0.19	
Alkalinity, Total	mg/L	-	165	
Ammonia, Total (as N)	mg/L	4.0	0.0319	
Total Kjeldahl Nitrogen	mg/L	-	0.421	
Fecal Coliforms	CFU/100mL	1000	90	
BOD	mg/L	30	< 2.0	
Oil and Grease, Total	mg/L	-	< 5.0	
Phosphorus, Nutrient	mg/L	4.0	0.0411	

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  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MS-MRY-09
			MS-MRY-09_2024-
			05-28
			BF2400050
			2024-05-28
P			
Analyte	Units	Table 6 Criteria	
Hardness	mg/L	-	13.5
pH, Lab	pH units	6.0 - 9.5	7.48
Total Suspended Solids	mg/L	15	1.0
Total Dissolved Solids	mg/L	-	30
Turbidity	NTU	-	2.65
Alkalinity, Total	mg/L	-	12.7
Ammonia, Total (as N)	mg/L	-	0.0259
Chloride	mg/L	-	0.88
Fluoride	mg/L	-	< 0.020
Nitrate	mg/L	-	0.068
Total Kjeldahl Nitrogen	mg/L	-	0.140
Sulfate	mg/L	-	0.72
Dissolved Organic Carbon	mg/L	-	2.01
Total Organic Carbon	mg/L	-	2.41
Aluminum - Total	mg/L	-	0.0517
Antimony - Total	mg/L	-	< 0.00010
Arsenic - Total	mg/L	0.50	< 0.00010
Barium - Total	mg/L	-	0.00268
Cadmium - Total	mg/L	-	0.0000078
Calcium - Total	mg/L	-	2.68
Chromium - Total	mg/L	-	< 0.00050
Cobalt - Total	mg/L	-	< 0.00010
Copper - Total	mg/L	0.30	0.00091
Iron - Total	mg/L	-	0.065
Lead - Total	mg/L	0.20	0.000055
Lithium - Total	mg/L	-	< 0.0010
Magnesium - Total	mg/L	-	1.66
Manganese - Total	mg/L	-	0.00336
Mercury - Total	mg/L	-	< 0.0000050
Molybdenum - Total	mg/L	-	0.000136
Nickel - Total	mg/L	0.50	< 0.00050
Phosphorus, Total	mg/L	-	< 0.050
Potassium - Total	mg/L	-	0.729
Selenium - Total	mg/L	-	< 0.000050
Sodium - Total	mg/L	-	0.337
Strontium - Total	mg/L	-	0.00163

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**

Thallium - Total	mg/L	-	< 0.000010
Tin - Total	mg/L	-	< 0.00010
Titanium - Total	mg/L	-	0.00151
Uranium - Total	mg/L	-	0.000093
Vanadium - Total	mg/L	-	< 0.00050
Zinc - Total	mg/L	0.50	< 0.0030
Aluminum - Dissolved	mg/L	-	0.0113
Arsenic - Dissolved	mg/L	-	< 0.00010
Cadmium - Dissolved	mg/L	-	< 0.0000050
Calcium - Dissolved	mg/L	-	2.67
Copper - Dissolved	mg/L	-	0.00083
Iron - Dissolved	mg/L	-	0.011
Lead - Dissolved	mg/L	-	< 0.000050
Magnesium - Dissolved	mg/L	-	1.66
Manganese - Dissolved	mg/L	-	0.00235
Mercury - Dissolved	mg/L	-	0.0000055
Molybdenum - Dissolved	mg/L	-	0.000139
Nickel - Dissolved	mg/L	-	< 0.00050
Potassium - Dissolved	mg/L	-	0.747
Selenium - Dissolved	mg/L	-	< 0.000050
Sodium - Dissolved	mg/L	-	0.352
Thallium - Dissolved	mg/L	-	< 0.000010
Uranium - Dissolved	mg/L	-	0.000085
Zinc - Dissolved	mg/L	-	< 0.0010
Visible Sheen	-	No Visible Sheen	No Visible Sheen
Phenols	ug/L	-	< 1.0
Phosphorus, Nutrient	mg/L	-	0.0053

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
		Field Sample ID	MS-MRY-13A_2024-05-30
		ALS Laboratory Work Order	BF2400052
		Sample Date	2024-05-30
		Sample Type	P
Analyte	Units	Table 10 Criteria	
Conductivity	umhos/cm	-	73.6
pH, Lab	pH units	6.0 - 9.5	7.81
Total Suspended Solids	mg/L	15	1.5
Total Dissolved Solids	mg/L	-	57
Turbidity	NTU	-	26.8
Alkalinity, Total	mg/L	-	29.8
Dissolved Organic Carbon	mg/L	-	2.90
Total Organic Carbon	mg/L	-	2.22
Aluminum - Total	mg/L	-	0.381
Antimony - Total	mg/L	-	0.00014
Arsenic - Total	mg/L	0.50	0.00015
Barium - Total	mg/L	-	0.00752
Cadmium - Total	mg/L	-	0.0000077
Calcium - Total	mg/L	-	6.73
Chromium - Total	mg/L	-	0.00109
Cobalt - Total	mg/L	-	0.00044
Copper - Total	mg/L	0.30	0.00115
Iron - Total	mg/L	-	0.376
Lead - Total	mg/L	0.20	0.000229
Lithium - Total	mg/L	-	0.0027
Magnesium - Total	mg/L	-	4.49
Manganese - Total	mg/L	-	0.00797
Mercury - Total	mg/L	-	< 0.0000050
Molybdenum - Total	mg/L	-	0.000367
Nickel - Total	mg/L	0.50	0.00395
Phosphorus, Total	mg/L	-	< 0.050
Potassium - Total	mg/L	-	1.34
Selenium - Total	mg/L	-	< 0.000050
Sodium - Total	mg/L	-	0.847
Strontium - Total	mg/L	-	0.00633
Thallium - Total	mg/L	-	0.000012
Tin - Total	mg/L	-	< 0.00010
Titanium - Total	mg/L	-	0.0109
Uranium - Total	mg/L	-	0.000125
Vanadium - Total	mg/L	-	0.00063
Zinc - Total	mg/L	0.50	0.0041
Visible Sheen	-	No Visible Sheen	No Visible Sheen
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.  
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
Field Sample ID			MS-C-A_2024-05-30
ALS Laboratory Work Order			BF2400052
Sample Date			2024-05-30
Sample Type			P
Analyte	Units	Table 9 Criteria	
Conductivity	umhos/cm	-	166
pH, Lab	pH units	6.0 - 9.5	7.26
Total Suspended Solids	mg/L	30	6.5
Total Dissolved Solids	mg/L	-	105
Turbidity	NTU	-	23.6
Ammonia, Total (as N)	mg/L	-	0.157
Nitrate	mg/L	-	1.21
Oil and Grease, Total	mg/L	-	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen

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
			Field Sample ID	MS-C-B_2024-05-30
			ALS Laboratory Work Order	BF2400052
			Sample Date	2024-05-30
			Sample Type	P
Analyte	Units	Table 9 Criteria		
Conductivity	umhos/cm	-		168
pH, Lab	pH units	6.0 - 9.5		7.28
Total Suspended Solids	mg/L	30		6.2
Total Dissolved Solids	mg/L	-		95
Turbidity	NTU	-		24.6
Ammonia, Total (as N)	mg/L	-		0.163
Nitrate	mg/L	-		1.24
Oil and Grease, Total	mg/L	-		< 5.0
Visible Sheen	-	No Visible Sheen		No Visible Sheen

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_2024-05-30
			BF2400052
			2024-05-30
			P
Analyte	Units	Table 9 Criteria	
Conductivity	umhos/cm	-	673
pH, Lab	pH units	6.0 - 9.5	7.67
Total Suspended Solids	mg/L	30	24.1
Total Dissolved Solids	mg/L	-	384
Turbidity	NTU	-	41.6
Ammonia, Total (as N)	mg/L	-	4.52
Nitrate	mg/L	-	2.74
Oil and Grease, Total	mg/L	-	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen

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
			Field Sample ID	MS-C-D_2024-05-30
			ALS Laboratory Work Order	BF2400052
			Sample Date	2024-05-30
			Sample Type	P
Analyte	Units	Table 9 Criteria		
Conductivity	umhos/cm	-		444
pH, Lab	pH units	6.0 - 9.5		7.78
Total Suspended Solids	mg/L	30		12.6
Total Dissolved Solids	mg/L	-		260
Turbidity	NTU	-		49.6
Ammonia, Total (as N)	mg/L	-		1.88
Nitrate	mg/L	-		3.87
Oil and Grease, Total	mg/L	-		< 5.0
Visible Sheen	-	No Visible Sheen		No Visible Sheen

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  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MS-C-E	MS-C-E
			MS-C-E_2024-05-30	QD-CC7_2024-05-30
			BF2400052	BF2400052
			2024-05-30	2024-05-30
			P	FD
Analyte	Units	Table 9 Criteria		
Conductivity	umhos/cm	-	164	163
pH, Lab	pH units	6.0 - 9.5	7.59	7.62
Total Suspended Solids	mg/L	30	3.8	3.7
Total Dissolved Solids	mg/L	-	111	104
Turbidity	NTU	-	36.9	37.0
Ammonia, Total (as N)	mg/L	-	0.107	0.102
Nitrate	mg/L	-	0.434	0.429
Oil and Grease, Total	mg/L	-	< 5.0	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen	-

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			MS-C-G
Field Sample ID			MS-C-G_2024-05-30
ALS Laboratory Work Order			BF2400052
Sample Date			2024-05-30
Sample Type			P
Analyte	Units	Table 9 Criteria	
Conductivity	umhos/cm	-	54.4
pH, Lab	pH units	6.0 - 9.5	7.51
Total Suspended Solids	mg/L	30	1.5
Total Dissolved Solids	mg/L	-	46
Turbidity	NTU	-	15.8
Ammonia, Total (as N)	mg/L	-	0.802
Nitrate	mg/L	-	0.842
Oil and Grease, Total	mg/L	-	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen

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
Field Sample ID			MS-C-H_2024-05-30
ALS Laboratory Work Order			BF2400052
Sample Date			2024-05-30
Sample Type			P
Analyte	Units	Table 9 Criteria	
Conductivity	umhos/cm	-	73.9
pH, Lab	pH units	6.0 - 9.5	7.50
Total Suspended Solids	mg/L	30	< 1.0
Total Dissolved Solids	mg/L	-	57
Turbidity	NTU	-	8.45
Ammonia, Total (as N)	mg/L	-	0.686
Nitrate	mg/L	-	1.16
Oil and Grease, Total	mg/L	-	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen

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  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MQ-C-A
			MQ-C-A_2024-05-30
			BF2400052
			2024-05-30
			P
Analyte	Units	Table 9 Criteria (Quarry)	
Conductivity	umhos/cm	-	72.9
pH, Lab	pH units	6.0 - 9.5	7.32
Total Suspended Solids	mg/L	30	< 1.5
Total Dissolved Solids	mg/L	-	53
Turbidity	NTU	-	3.85
Ammonia, Total (as N)	mg/L	-	< 0.0050
Nitrate	mg/L	-	0.028
Oil and Grease, Total	mg/L	-	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen
Mean Mortality to Daphnia magna	-	Not Acutely Toxic	Not Acutely Toxic
Mean Mortality to Rainbow Trout	-	Not Acutely Toxic	Not Acutely Toxic

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  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MQ-C-B	MQ-C-B
			MQ-C-B_2024-05-30	QD-BF7_2024-05-30
			BF2400052	BF2400052
			2024-05-30	2024-05-30
			P	FB
Analyte	Units	Table 9 Criteria (Quarry)		
Conductivity	umhos/cm	-	74.4	1.1
pH, Lab	pH units	6.0 - 9.5	7.35	6.11
Total Suspended Solids	mg/L	30	2.7	< 1.0
Total Dissolved Solids	mg/L	-	53	< 19
Turbidity	NTU	-	14.6	< 0.10
Ammonia, Total (as N)	mg/L	-	0.0069	< 0.0050
Nitrate	mg/L	-	0.031	< 0.020
Oil and Grease, Total	mg/L	-	< 5.0	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen	-

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_2024-05-29	QD-BT7_2024-05-29
			BF2400051	BF2400051
			2024-05-29	2024-05-29
			P	TB
Analyte	Units	Table 9 Criteria (Quarry)		
Conductivity	umhos/cm	-	81.0	1.8
pH, Lab	pH units	6.0 - 9.5	7.45	5.62
Total Suspended Solids	mg/L	30	9.4	< 1.0
Total Dissolved Solids	mg/L	-	68	< 20
Turbidity	NTU	-	51.7	< 0.10
Ammonia, Total (as N)	mg/L	-	0.0242	< 0.0050
Nitrate	mg/L	-	0.064	< 0.020
Oil and Grease, Total	mg/L	-	< 5.0	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen	-

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-03

Location Name  Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			KM105-SWMP-SEEP-03
			KM105-SWMP-SEEP-03a_2024-05-20
			BF2400021
			2024-05-20
			NP
Analyte	Units	Table 6 Criteria	
Hardness	mg/L		120
Conductivity	umhos/cm		322
pH, Lab	pH units	6.0 - 9.5	9.10
Total Suspended Solids	mg/L	15.5	388
Turbidity	NTU		301
Alkalinity, Total	mg/L		36.3
Ammonia, Total (as N)	mg/L		0.984
Chloride	mg/L		22.2
Fluoride	mg/L		0.102
Nitrate	mg/L		6.01
Total Kjeldahl Nitrogen	mg/L		3.77
Sulfate	mg/L		54.0
Dissolved Organic Carbon	mg/L		5.30
Total Organic Carbon	mg/L		8.53
Aluminum - Total	mg/L		16.8
Antimony - Total	mg/L		< 0.00100
Arsenic - Total	mg/L		0.00123
Barium - Total	mg/L		0.0908
Cadmium - Total	mg/L		0.000427
Calcium - Total	mg/L		30.0
Chromium - Total	mg/L		0.0334
Cobalt - Total	mg/L		0.0100
Copper - Total	mg/L		0.0396
Iron - Total	mg/L		23.3
Lead - Total	mg/L		0.0145
Lithium - Total	mg/L		0.0257
Magnesium - Total	mg/L		31.8
Manganese - Total	mg/L		0.367
Mercury - Total	mg/L		< 0.0000050
Molybdenum - Total	mg/L		0.00818
Nickel - Total	mg/L		0.0317
Phosphorus, Total	mg/L		< 0.500
Potassium - Total	mg/L		12.5
Selenium - Total	mg/L		0.000524
Sodium - Total	mg/L		4.07
Strontium - Total	mg/L		0.143
Thallium - Total	mg/L		0.000193
Tin - Total	mg/L		< 0.00100
Titanium - Total	mg/L		0.607
Uranium - Total	mg/L		0.00893
Vanadium - Total	mg/L		0.0263
Zinc - Total	mg/L		0.0667
Aluminum - Dissolved	mg/L		0.0367
Arsenic - Dissolved	mg/L		< 0.00010
Cadmium - Dissolved	mg/L		0.0000102
Calcium - Dissolved	mg/L		26.4
Copper - Dissolved	mg/L		0.00218
Iron - Dissolved	mg/L		0.012
Lead - Dissolved	mg/L		< 0.000050
Magnesium - Dissolved	mg/L		13.1
Manganese - Dissolved	mg/L		0.0117
Mercury - Dissolved	mg/L		< 0.0000050
Molybdenum - Dissolved	mg/L		0.00912
Nickel - Dissolved	mg/L		< 0.00050
Potassium - Dissolved	mg/L		8.92
Selenium - Dissolved	mg/L		0.000395
Sodium - Dissolved	mg/L		3.52
Thallium - Dissolved	mg/L		0.000011
Uranium - Dissolved	mg/L		0.00418
Zinc - Dissolved	mg/L		< 0.0010
Oil and Grease, Total	mg/L		-
Visible Sheen	-	No Visible Sheen	No Visible Sheen
Visible Sheen (100=Yes, 0=No)	None	99	-
Mean Mortality to Daphnia magna	-	Not Acutely Toxic	Not Acutely Toxic
Mean Mortality to Rainbow Trout	-	Not Acutely Toxic	Not Acutely Toxic
Phosphorus, Nutrient	mg/L		0.257

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 - May 2024

DATE	Camp Lake Freshwater for Domestic Use - Daily Water MS-MRY-1 (m³)	Camp Lake Freshwater for Industrial Use - Daily Water MS-MRY-1 (m³)	Treated Sewage Effluent from MS- 01 to Discharge Location #1 (m³)	Treated Sewage Effluent from MS- 01B to Discharge Location #1 (m³)	Sewage Sludge Removed from Mine Site WWTPs to Incinerator or Disposal Offsite by Backhaul (m³)	Sewage Sludge/Off-Spec Effluent Removed from Mine Site WWTPs to PWSP at Mine Site (m³)	Sewage Sludge Removed from Lift Stations to PWSP at Mine Site (m³)	Km 32 Lake Milne Port Camp Daily Water Use for Domestic Purposes MP- MRY-3 (m³)	Km 32 Lake Milne Port Camp Daily Water Use for Industrial Purposes MP- MRY-3 (m³)	Treated Sewage Effluent from MP- 01 to Milne Inlet (m³)	Treated Sewage Effluent from MP- 01B to Milne Inlet (m³)	Sewage Sludge Removed from Milne Port WWTPs to Incinerator or Disposal Offsite by Backhaul (m³)	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)	Effluent Discharge from KM105 Surface Water Management Pond (MS-11) (m³)
1-May-24	122.3	38.1	32.0	119.6	0.9	0.0	0.0	50.4	41.5	24.0	26.0	0.2	0.0	0.0	0.0	0.0
2-May-24	132.3	51.0	18.0	119.8	0.9	0.0	0.0	30.3	37.5	24.0	29.3	0.3	0.0	0.0	0.0	0.0
3-May-24	113.8	95.7	24.0	112.1	0.9	0.0	10.0	52.0	37.5	24.0	28.5	0.2	0.0	0.0	0.0	0.0
4-May-24	137.6	27.6	20.0	111.2	1.4	0.0	0.0	55.9	0.0	24.0	28.1	0.3	0.0	0.0	0.0	0.0
5-May-24	135.6	51.1	31.0	111.8	0.9	0.0	0.0	47.6	10.0	24.0	26.1	0.3	0.0	0.0	0.0	0.0
6-May-24	119.3	36.8	23.0	110.0	3.3	0.0	0.0	70.9	41.0	24.0	28.5	0.3	0.0	0.0	0.0	0.0
7-May-24	149.1	21.9	38.0	108.3	0.4	0.0	0.0	48.4	8.0	27.0	25.6	0.3	0.0	0.0	0.0	0.0
8-May-24	128.4	45.7	48.0	109.9	2.6	0.0	0.0	76.6	17.0	28.0	42.7	0.2	0.0	0.0	0.0	0.0
9-May-24	170.8	29.8	44.0	108.6	2.3	0.0	10.0	53.8	37.5	24.0	36.2	0.2	0.0	0.0	0.0	0.0
10-May-24	142.0	34.4	48.0	107.7	1.4	0.0	0.0	57.2	37.5	25.0	37.0	0.3	0.0	0.0	0.0	0.0
11-May-24	164.6	49.1	48.0	105.6	1.8	0.0	0.0	47.9	25.0	26.0	27.8	0.3	0.0	0.0	0.0	0.0
12-May-24	141.8	11.6	45.0	105.7	0.9	0.0	10.0	47.8	25.0	25.0	29.1	0.2	2.8	0.0	0.0	0.0
13-May-24	130.4	34.9	42.0	104.1	0.0	0.0	20.0	57.1	0.0	24.0	31.8	0.3	0.0	0.0	0.0	0.0
14-May-24	136.8	30.2	45.0	104.0	0.0	0.0	0.0	46.3	8.0	18.0	33.8	0.2	0.0	0.0	0.0	0.0
15-May-24	157.1	33.0	45.0	99.7	0.9	0.0	0.0	50.9	0.0	24.0	35.0	0.3	0.0	0.0	0.0	0.0
16-May-24	159.6	18.1	46.0	103.9	1.5	0.0	20.0	53.4	0.0	27.0	34.1	0.2	0.0	0.0	0.0	0.0
17-May-24	147.0	5.6	38.0	104.5	1.5	0.0	10.0	49.6	0.0	25.0	31.9	0.3	0.0	0.0	0.0	0.0
18-May-24	138.8	39.6	41.0	103.3	0.0	0.0	10.0	51.5	0.0	19.0	25.9	0.2	0.0	0.0	0.0	0.0
19-May-24	129.5	23.8	38.0	73.6	0.4	12.0	36.0	46.9	0.0	24.0	38.9	0.3	0.0	0.0	0.0	0.0
20-May-24	147.7	31.4	28.0	90.1	0.5	0.0	8.0	59.3	0.0	24.0	25.8	0.2	0.0	0.0	0.0	13,737.6
21-May-24	140.4	29.7	27.0	61.7	1.5	0.0	0.0	50.8	4.0	22.0	30.6	0.2	0.0	0.0	0.0	19,353.6
22-May-24	165.3	16.0	34.0	121.0	0.0	0.0	10.0	43.0	16.0	21.0	33.2	0.3	0.0	0.0	0.0	17,366.4
23-May-24	158.1	37.3	35.0	124.3	1.1	0.0	20.0	53.2	8.0	24.0	31.6	0.2	0.0	0.0	0.0	20,044.8
24-May-24	151.2	28.5	43.0	114.0	0.0	0.0	0.0	39.3	0.0	24.0	26.2	0.2	2.8	0.0	0.0	6,912.0
25-May-24	136.7	33.7	34.0	114.4	1.0	0.0	0.0	39.2	0.0	24.0	42.9	0.3	0.0	0.0	0.0	2,160.0
26-May-24	129.2	31.7	29.0	43.9	0.0	12.0	28.0	42.5	0.0	20.0	36.1	0.1	0.0	0.0	0.0	2,764.8
27-May-24	148.3	64.5	32.0	129.5	0.5	0.0	0.0	65.2	0.0	24.0	29.7	0.2	0.0	0.0	0.0	5,097.6
28-May-24	173.5	24.2	36.0	160.4	0.5	0.0	0.0	46.4	0.0	24.0	28.3	0.1	0.0	0.0	0.0	5,270.4
29-May-24	158.2	30.1	35.0	173.7	0.9	0.0	0.0	56.5	0.0	24.0	43.3	0.2	0.0	0.0	121.1	0.0
30-May-24	125.1	56.3	35.0	173.7	0.0	0.0	0.0	51.7	0.0	19.0	44.9	0.3	0.0	0.0	333.1	5,702.4
31-May-24	138.9	42.8	36.0	126.0	1.0	0.0	0.0	62.1	4.0	20.0	37.6	0.3	0.0	0.0	363.4	777.6
Total	4,429.5	1,104.4	1,118.0	3,456.1	28.6	24.0	192.0	1,603.9	357.5	730.0	1,006.8	7.8	5.7	0.0	817.6	99,187.2

Notes:  
WWTP - Waste Water Treatment Plant  
PWSP - Polishing Waste Stabilization Pond