

May 30, 2024

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
April 2024**

The following is the monthly report for April 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 April 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 April 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 April 2024. Due to frozen winter conditions, no other samples were collected during the month of April.

Flow and Volume Measurements

Table 3.1 provides a breakdown of volume measurements for April 2024 as required by Part I, Item 9 of the Licence. There were no exceedances of the source specific daily volume withdrawal limits in April 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, Francois Gaudreau, Martin Beausejour, Connor Devereaux,
Katie Babin, Dale Kristoff, Elisabeth Luther (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	2024-04-03	P	WT2407619-003
MP-01B	Sewage Treatment Facility	2024-04-03	P	WT2407619-001
MS-01	Sewage Treatment Facility	2024-04-09	P	WT2408384-003
MS-01B	Sewage Treatment Facility	2024-04-09	P	WT2408384-001

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

Location Name			MP-01
Field Sample ID			MP-01_2024-04-03
ALS Laboratory Work Order			WT2407619
Sample Date			2024-04-03
Sample Type			P
Analyte	Units	Table 5 Criteria	
pH, Lab	pH units	6.0 - 9.5	7.84
Total Suspended Solids	mg/L	120	1.7
Total Dissolved Solids	mg/L	-	814
Turbidity	NTU	-	0.58
Alkalinity, Total	mg/L	-	95.5
Ammonia, Total (as N)	mg/L	-	0.0302
Total Kjeldahl Nitrogen	mg/L	-	0.566
Fecal Coliforms	CFU/100mL	10000	< 1
BOD	mg/L	100	< 2.0
Oil and Grease, Total	mg/L	-	< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen
Phosphorus, Nutrient	mg/L	-	6.43

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_2024-04-03
			ALS Laboratory Work Order	WT2407619
			Sample Date	2024-04-03
			Sample Type	P
Analyte	Units	Table 5 Criteria		
pH, Lab	pH units	6.0 - 9.5		7.85
Total Suspended Solids	mg/L	120		< 1.0
Total Dissolved Solids	mg/L	-		691
Turbidity	NTU	-		< 0.10
Alkalinity, Total	mg/L	-		95.1
Ammonia, Total (as N)	mg/L	-		0.0184
Total Kjeldahl Nitrogen	mg/L	-		1.08
Fecal Coliforms	CFU/100mL	10000		48
BOD	mg/L	100		< 2.0
Oil and Grease, Total	mg/L	-		< 5.0
Visible Sheen	-	No Visible Sheen		No Visible Sheen
Phosphorus, Nutrient	mg/L	-		8.10

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 Field Sample ID ALS Laboratory Work Order Sample Date Sample Type			MS-01
			MS-01_2024-04-09
			WT2408384
			2024-04-09
			P
Analyte	Units	Table 4 Criteria	
pH, Lab	pH units	6.0 - 9.5	8.18
Total Suspended Solids	mg/L	35	1.6
Total Dissolved Solids	mg/L	-	2190
Turbidity	NTU	-	0.46
Alkalinity, Total	mg/L	-	172
Ammonia, Total (as N)	mg/L	4.0	0.0697
Total Kjeldahl Nitrogen	mg/L	-	4.98
Fecal Coliforms	CFU/100mL	1000	< 1
BOD	mg/L	30	< 2.0
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
Phosphorus, Nutrient	mg/L	4.0	0.308

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_2024-04-09
			ALS Laboratory Work Order	WT2408384
			Sample Date	2024-04-09
			Sample Type	P
Analyte	Units	Table 4 Criteria		
pH, Lab	pH units	6.0 - 9.5		8.38
Total Suspended Solids	mg/L	35		1.5
Total Dissolved Solids	mg/L	-		816
Turbidity	NTU	-		0.27
Alkalinity, Total	mg/L	-		267
Ammonia, Total (as N)	mg/L	4.0		0.0292
Total Kjeldahl Nitrogen	mg/L	-		0.583
Fecal Coliforms	CFU/100mL	1000		< 1
BOD	mg/L	30		< 2.0
Oil and Grease, Total	mg/L	-		< 5.0
Visible Sheen	-	No Visible Sheen	No Visible Sheen	
Phosphorus, Nutrient	mg/L	4.0		0.0575

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 - April 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)
1-Apr-24	140.2	53.0	43.0	67.3	0.4	24.0	36.0	51.9	0.0	21.0	17.2	0.0	0.0	0.0
2-Apr-24	159.4	38.6	55.0	79.8	0.5	0.0	48.0	60.6	0.0	22.0	19.3	0.1	0.0	0.0
3-Apr-24	140.7	29.9	54.0	129.4	0.5	0.0	0.0	47.2	0.0	25.0	29.2	0.0	0.0	0.0
4-Apr-24	164.4	28.1	33.0	110.7	0.0	0.0	0.0	52.8	0.0	24.0	32.9	0.2	0.0	0.0
5-Apr-24	136.8	39.7	32.0	114.2	0.7	10.0	0.0	57.2	0.0	24.0	30.0	0.3	0.0	0.0
6-Apr-24	119.4	30.7	13.0	100.4	0.7	0.0	0.0	58.0	0.0	21.0	29.4	0.3	0.0	0.0
7-Apr-24	148.3	30.0	24.0	122.5	1.1	10.0	0.0	49.3	37.5	23.0	12.2	0.1	0.0	0.0
8-Apr-24	139.1	57.8	20.0	115.4	1.2	0.0	0.0	42.4	37.5	20.0	33.9	0.2	0.0	0.0
9-Apr-24	127.3	39.3	26.0	121.2	0.0	0.0	0.0	53.5	0.0	19.0	25.2	0.1	0.0	0.0
10-Apr-24	144.9	70.1	30.0	122.2	0.6	0.0	0.0	49.3	37.5	21.0	25.7	0.2	0.0	1.0
11-Apr-24	111.9	74.3	31.0	117.1	0.5	0.0	0.0	61.9	56.3	19.0	25.5	0.1	0.0	0.0
12-Apr-24	120.5	75.8	27.0	108.6	1.6	0.0	0.0	48.0	26.0	24.0	27.3	0.3	0.0	0.0
13-Apr-24	115.7	54.6	25.0	106.7	1.1	0.0	0.0	44.9	37.5	20.0	29.0	0.0	0.0	0.0
14-Apr-24	120.3	55.2	21.0	107.7	1.1	0.0	0.0	48.6	38.5	18.0	26.4	0.3	0.0	0.0
15-Apr-24	127.2	58.7	26.0	113.5	0.5	0.0	0.0	41.5	25.0	19.0	31.5	0.1	0.0	0.0
16-Apr-24	129.5	62.4	28.0	120.6	2.3	0.0	0.0	45.7	38.5	23.0	18.0	0.3	0.0	0.0
17-Apr-24	125.6	20.9	27.0	119.9	1.3	0.0	0.0	43.9	0.0	23.0	31.9	0.0	0.0	0.0
18-Apr-24	150.3	43.9	25.0	117.0	0.9	7.0	0.0	51.9	25.0	17.0	25.5	0.3	0.0	0.0
19-Apr-24	109.1	51.5	25.0	112.7	1.5	0.0	0.0	57.1	0.0	12.0	34.9	0.0	0.0	0.0
20-Apr-24	133.2	43.4	29.0	112.0	0.0	0.0	0.0	42.6	50.0	20.0	31.5	0.3	0.0	0.0
21-Apr-24	144.6	51.4	25.0	117.1	1.0	0.0	0.0	49.5	0.0	13.0	26.7	0.0	0.0	0.0
22-Apr-24	123.1	60.3	26.0	122.1	0.9	0.0	0.0	57.2	0.0	23.0	31.9	0.3	0.0	0.0
23-Apr-24	138.3	61.0	31.0	120.8	0.5	0.0	0.0	113.2	51.0	22.0	29.1	0.0	0.0	0.0
24-Apr-24	154.2	50.2	32.0	125.5	0.7	0.0	0.0	78.6	0.0	19.0	37.6	0.2	0.0	0.0
25-Apr-24	146.0	44.8	32.0	126.2	2.1	0.0	0.0	84.8	25.0	30.0	31.2	0.2	0.0	0.0
26-Apr-24	129.8	70.4	26.0	120.4	2.1	0.0	0.0	61.9	25.0	27.0	25.5	0.2	0.0	0.0
27-Apr-24	112.5	40.1	25.0	120.6	2.1	0.0	0.0	69.2	25.0	24.0	26.3	0.3	0.0	0.0
28-Apr-24	139.2	45.1	35.0	117.4	2.2	0.0	0.0	61.8	0.0	25.0	27.6	0.2	0.0	0.0
29-Apr-24	125.8	40.3	29.0	117.6	0.7	0.0	0.0	61.0	0.0	25.0	26.5	0.2	0.0	0.0
30-Apr-24	133.4	42.1	25.0	119.2	1.1	0.0	0.0	42.5	25.0	25.0	33.8	0.2	0.0	0.0
Total	4,010.6	1,463.9	880.0	3,425.8	30.0	51.0	84.0	1,688.2	560.3	648.0	832.6	4.9	0.0	1.0

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