

January 21, 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
December 2023**

The following is the monthly report for December 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 conducted in December 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 December 2023.

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 December 2023. Due to frozen winter conditions, no other samples were collected during the month of December.

Flow and Volume Measurements

Table 3.1 provides a breakdown of volume measurements for December 2023 as required by Part I, Item 9 of the Licence. There were no exceedances of the source specific daily volume withdrawal limits in December 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-Nowdluk (CIRNAC)
Conor Goddard, Chris Spencer (QIA)
Tim Sewell, Megan Lord-Hoyle, Lou Kamermans, Francois Gaudreau, Martin Beausejour, Connor Devereaux,
Katie Babin, Allison Parker, 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	Comment
MP-01	Sewage Treatment Facility	2023-12-05	P	WT2339607-001	Discharge volume recorded daily.
MP-01B	Sewage Treatment Facility	2023-12-06	P	WT2339609-001	Discharge volume recorded daily.
MS-01B	Sewage Treatment Facility	2023-12-05	P	WT2339816-001	Discharge volume recorded daily.

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_2023-10-05
		ALS Laboratory Work Order	WT2339607
		Sample Date	2023-12-05
		Sample Type	P
Analyte	Units	Table 5 Criteria	
pH, Lab	pH units	9.5	7.92
Total Suspended Solids	mg/L	120	1.5
Total Dissolved Solids	mg/L		894
Turbidity	NTU		0.82
Alkalinity, Total	mg/L		111
Ammonia, Total (as N)	mg/L		0.0436
Total Kjeldahl Nitrogen	mg/L		0.413
Fecal Coliforms	CFU/100mL	10000	105
BOD	mg/L	100	< 2.0
Oil and Grease, Total	mg/L		< 5.0
Phosphorus, Nutrient	mg/L		7.67

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_2023-10-05
		ALS Laboratory Work Order	WT2339609
		Sample Date	2023-12-06
		Sample Type	P
Analyte	Units	Table 5 Criteria	
pH, Lab	pH units	9.5	7.60
Total Suspended Solids	mg/L	120	< 1.0
Total Dissolved Solids	mg/L		586
Turbidity	NTU		0.21
Alkalinity, Total	mg/L		56.9
Ammonia, Total (as N)	mg/L		0.0168
Total Kjeldahl Nitrogen	mg/L		0.250
Fecal Coliforms	CFU/100mL	10000	1
BOD	mg/L	100	< 2.0
Oil and Grease, Total	mg/L		< 5.0
Phosphorus, Nutrient	mg/L		7.87

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_2023-12-05
		ALS Laboratory Work Order	WT2339816
		Sample Date	2023-12-05
		Sample Type	P
Analyte	Units	Table 4 Criteria	
pH, Lab	pH units	9.5	8.06
Total Suspended Solids	mg/L	35	< 1.5
Total Dissolved Solids	mg/L		558
Turbidity	NTU		0.61
Alkalinity, Total	mg/L		227
Ammonia, Total (as N)	mg/L	4.0	0.149
Total Kjeldahl Nitrogen	mg/L		1.35
Fecal Coliforms	CFU/100mL	1000	< 1
BOD	mg/L	30	4.4
Oil and Grease, Total	mg/L		< 5.0
Phosphorus, Nutrient	mg/L	4.0	1.02

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 - December 2023

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-Dec-23	136.2	0.0	0.0	145.7	0.4	0.0	0.0	53.3	0.0	20.0	29.0	0.0	0.0	0.0
2-Dec-23	169.3	55.9	0.0	76.1	0.9	0.0	0.0	66.5	0.0	20.0	24.8	0.5	0.0	0.0
3-Dec-23	141.8	37.1	0.0	127.5	1.2	0.0	0.0	52.0	0.0	23.0	21.0	0.4	0.0	0.0
4-Dec-23	118.4	26.6	0.0	78.3	1.1	0.0	10.0	52.6	0.0	17.0	30.4	0.7	0.0	0.0
5-Dec-23	155.8	34.7	0.0	125.0	0.7	0.0	0.0	54.5	0.0	18.0	21.5	0.0	0.0	0.0
6-Dec-23	147.8	37.4	0.0	124.7	1.1	0.0	0.0	58.3	0.0	16.0	30.2	0.5	0.0	0.0
7-Dec-23	149.8	7.3	0.0	135.4	1.1	0.0	0.0	42.3	0.0	18.0	19.4	0.0	0.0	0.0
8-Dec-23	117.7	5.3	0.0	115.8	1.1	0.0	0.0	52.9	0.0	18.0	21.1	0.3	0.0	0.0
9-Dec-23	117.8	24.1	0.0	116.4	1.1	0.0	0.0	47.2	0.0	18.0	25.6	0.6	0.0	0.0
10-Dec-23	111.0	27.6	0.0	109.8	1.1	0.0	0.0	42.4	0.0	17.0	18.3	0.0	0.0	0.0
11-Dec-23	118.4	37.2	0.0	113.7	1.1	0.0	0.0	46.0	0.0	18.0	21.7	0.3	0.0	0.0
12-Dec-23	128.9	28.2	0.0	116.4	1.1	0.0	0.0	47.1	0.0	20.0	29.9	0.4	0.0	0.0
13-Dec-23	107.5	31.6	0.0	114.5	0.7	0.0	0.0	37.5	1.0	20.0	20.5	0.3	0.0	0.0
14-Dec-23	147.7	4.8	0.0	85.0	0.9	0.0	0.0	61.5	0.0	15.0	26.3	0.0	0.0	0.0
15-Dec-23	102.0	7.5	0.0	115.5	0.9	0.0	0.0	22.8	0.0	17.0	21.2	0.3	0.0	0.0
16-Dec-23	119.4	5.2	0.0	111.6	0.7	0.0	0.0	49.2	0.0	15.0	27.8	0.4	0.0	0.0
17-Dec-23	103.4	12.7	0.0	63.5	0.5	0.0	0.0	49.6	0.0	17.0	21.3	0.3	0.0	0.0
18-Dec-23	159.6	12.8	0.0	123.4	0.3	0.0	0.0	41.9	0.0	18.0	24.6	0.0	0.0	0.0
19-Dec-23	135.6	11.2	0.0	145.6	1.1	0.0	0.0	54.1	0.0	21.0	24.1	1.4	0.0	0.0
20-Dec-23	156.7	2.1	0.0	154.6	1.3	0.0	0.0	44.7	0.0	19.0	24.2	0.0	0.0	0.0
21-Dec-23	138.5	8.3	0.0	134.8	1.4	0.0	0.0	61.9	0.0	24.0	32.7	0.3	0.0	0.0
22-Dec-23	142.0	10.2	0.0	128.9	1.3	0.0	0.0	48.7	0.0	24.0	18.8	0.0	0.0	0.0
23-Dec-23	122.9	6.8	0.0	133.1	1.0	0.0	0.0	42.7	0.0	16.0	19.1	0.2	0.0	0.0
24-Dec-23	109.9	14.9	0.0	124.3	1.0	0.0	0.0	28.0	0.0	20.0	24.9	0.0	0.0	0.0
25-Dec-23	136.1	3.6	0.0	117.1	1.0	0.0	0.0	56.7	0.0	13.0	23.1	0.0	0.0	0.0
26-Dec-23	133.2	9.6	0.0	139.5	0.9	0.0	0.0	51.7	0.0	19.0	23.1	0.5	0.0	0.0
27-Dec-23	149.8	12.5	0.0	149.8	1.0	0.0	0.0	48.2	0.0	14.0	18.9	0.5	0.0	0.0
28-Dec-23	124.5	29.2	0.0	158.2	0.0	0.0	0.0	33.6	0.0	18.0	21.1	0.9	0.0	0.0
29-Dec-23	123.5	8.1	0.0	164.5	0.6	0.0	0.0	62.5	0.0	9.0	31.4	0.3	0.0	0.0
30-Dec-23	128.2	2.8	0.0	129.9	1.0	0.0	0.0	47.2	0.0	12.0	13.6	0.6	0.0	0.0
31-Dec-23	143.8	13.4	0.0	154.4	0.0	0.0	0.0	49.9	0.0	22.0	18.1	0.6	0.0	0.0
Total	4,097.1	528.8	0.0	3,833.0	27.2	0.0	10.0	1,507.3	1.0	556.0	727.7	10.4	0.0	0.0

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