

June 30, 2025

Manager of Licensing
Nunavut Water Board
P.O. Box 119
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Resource Management Officer, CIRNAC
Nunavut District, Nunavut Region
P.O. Box 100
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**RE: Water Licence 2AM-MRY2540 Monthly Surveillance Network Program (SNP) Report
May 2025**

The following is the monthly report for May 2025 as required under Part I, Item 19 of the Type 'A' Water Licence 2AM-MRY2540 (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 2025.

Monitoring Program Results

Water Sampling and Analysis Results

Table 2 provides the analytical results related to the monitoring program facilities. In May 2025, there were no exceedances from applicable water licence monitoring stations with the exception of one (1) exceedance of the site-specific grab sample limit of 30 mg/L for Total Suspended Solids (TSS) at the Km 105.

On May 22, 2025, water was observed flowing at the MS-11 discharge location (MS-11), situated downstream of the Km 105 valley water management infrastructure (Km 105 Pond). Water quality samples collected at MS-11 showed slightly elevated TSS (31.2mg/L) above the water licence criteria of 30 mg/L for TSS concentrations in a grab sample. Follow up water quality monitoring was conducted at MS-11 on May 24. Analytical results indicate TSS concentrations immediately returned below 30mg/L, the applicable maximum concentration threshold. The monthly mean TSS result of 22.6 mg/L at MS-11 exceeded the water licence maximum concentration of 15 mg/L. Note the MS-11 monthly mean for May is based off of two (2) samples, the later sample being a non permitted follow up spill sample.

Prior to the observed flow at the MS-11, mitigation measures were actively implemented and maintained in alignment with best management practices. Notably, repairs and preparations to two (2) silt curtains within the MS-C-F settling pond were completed on May 18. In addition, two (2) water management filter berms originally installed in March to bolster settling capacity within the Km 105 Pond continued to effectively reduce TSS prior to the water reaching MS-11. Polymer treatment and dosing systems were also prepared for implementation prior to flow commencement to promote settling of TSS within the KM 105 Pond. In response to the turbid water at the MS-11 discharge point, additional treatment measures were investigated and promptly implemented. This included installation of an additional silt curtain, in conjunction with flocculent blocks, downstream of the Km 105 Pond and upstream of the discharge location, and activation of the polymer dosing system upon observing flows within the Km 105 Pond.

The sediment-laden water was reported to the NT-NU Spill Reporting Line on May 24, 2025 (NT-NU #2025-226), and additional details on mitigative actions have been provided in the follow-up spill report submitted June 23, 2025. Monthly Water Licence samples will continue to be collected at the MS-11 discharge location when there is flowing water present, and a representative sample can be collected.

Following the onset of flow through the proposed MS-11 discharge location, discharge quantity at the Km 105 Pond was estimated through daily flow measurements at MS-11. Pressure transducers were subsequently installed in June at the downstream hydrology station, for estimating discharge volumes, following the onset of consistent warmer temperatures and ice free conditions.

Flow and Volume Measurements

Table 3.1 provides a breakdown of volume measurements for May 2025, as required by Part I, Item 6 of the Licence. There were no exceedances of the source-specific daily volume withdrawal limits in May 2025.

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

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Attachments

Attachments – Table 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	2025-05-06	P	WT2510616-001
MP-01B	Sewage Treatment Facility	2025-05-06	P	WT2510616-003
MS-01B	Sewage Treatment Facility	2025-05-06	P	WT2510613-002
MS-11	KM105 Pond Stormwater	2025-05-22	P	BF2500010-001
MS-11	KM105 Pond Stormwater	2025-05-24	NP	BF2500015-001

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**

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

Location Name		MP-01
Sample Date & Time		2025-05-06 13:10
ALS Laboratory Work Order		WT2510616
Sample Type		P
Analyte	Units	
pH, Lab	pH units	7.6
Total Suspended Solids	mg/L	1.1
Total Dissolved Solids	mg/L	751
Turbidity	NTU	0.31
Alkalinity, Total	mg/L	45.5
Ammonia, Total (as N)	mg/L	0.0314
Total Kjeldahl Nitrogen	mg/L	1.06
Fecal Coliforms	CFU/100mL	< 1
BOD	mg/L	< 2
Oil and Grease, Total	mg/L	< 5
Visible Sheen	-	No Visible Sheen
Phosphorus, Nutrient	mg/L	5.71

Notes:

Highlight indicate result exceeded applicable criteria.

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**

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

Location Name		MP-01B
Sample Date & Time		2025-05-06 13:30
ALS Laboratory Work Order		WT2510616
Sample Type		P
Analyte	Units	
pH, Lab	pH units	7.98
Total Suspended Solids	mg/L	2.6
Total Dissolved Solids	mg/L	551
Turbidity	NTU	0.38
Alkalinity, Total	mg/L	94.9
Ammonia, Total (as N)	mg/L	0.0214
Total Kjeldahl Nitrogen	mg/L	1.27
Fecal Coliforms	CFU/100mL	35
BOD	mg/L	< 2
Oil and Grease, Total	mg/L	< 5
Visible Sheen	-	No Visible Sheen
Phosphorus, Nutrient	mg/L	4.8

Notes:

Highlight indicate result exceeded applicable criteria.

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**

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

Location Name			MS-01B
Sample Date & Time			2025-05-06 14:05
ALS Laboratory Work Order			WT2510613-002
Sample Type			P
Analyte	Units	Criteria	
pH, Lab	pH units	6.0-9.5	8.43
Total Suspended Solids	mg/L	30	1.4
Total Dissolved Solids	mg/L	-	854
Turbidity	NTU	-	0.26
Alkalinity, Total	mg/L	-	209
Ammonia, Total (as N)	mg/L	4	0.0133
Total Kjeldahl Nitrogen	mg/L	-	1.03
Fecal Coliforms	CFU/100mL	1000	< 1
BOD	mg/L	30	4.1
Oil and Grease, Total	mg/L	-	< 5
Visible Sheen	-	No Visible Sheen	No Visible Sheen
Phosphorus, Nutrient	mg/L	4	0.243

Notes:

Highlight indicate result exceeded applicable criteria.

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-11

Table 2 : Water Quality Results for Water Licence Monitoring Location - MS-11

Location Name			MS-11	MS-11
Sample Date & Time			2025-05-22 12:30	2025-05-24 23:55
ALS Laboratory Work Order			BF2500010-001	BF2500015-001
Sample Type			P	NP
Analyte	Units	Criteria		
pH, Field	pH units	-	7.83	7.47
Specific Conductivity, Field	us/cm	-	185.7	117.7
Temperature, Field	deg C	-	0.3	0
Turbidity, Field	NTU	-	118.87	75.12
Hardness	mg/L	-	69.7	-
Conductivity	umhos/cm	-	161	-
pH, Lab	pH units	6.0 - 9.5	7.41	7.4
Total Suspended Solids	mg/L	30 ¹	31.2	14
Total Dissolved Solids	mg/L	-	131	91
Turbidity	NTU	-	98.8	81.7
Alkalinity, Total	mg/L	-	33.7	-
Ammonia, Total (as N)	mg/L	-	0.196	-
Chloride	mg/L	-	6.69	-
Fluoride	mg/L	-	0.093	-
Nitrate	mg/L	-	2.16	-
Total Kjeldahl Nitrogen	mg/L	-	1.43	-
Sulfate	mg/L	-	33.3	-
Dissolved Organic Carbon	mg/L	-	5.84	-
Total Organic Carbon	mg/L	-	6.52	-
Aluminum - Total	mg/L	-	2.52	-
Antimony - Total	mg/L	-	< 0.0005	-
Arsenic - Total	mg/L	0.6 ¹	< 0.0005	-
Barium - Total	mg/L	-	0.0247	-
Cadmium - Total	mg/L	-	0.000107	-
Calcium - Total	mg/L	-	12.5	-
Chromium - Total	mg/L	-	0.00565	-
Cobalt - Total	mg/L	-	0.002	-
Copper - Total	mg/L	0.6 ¹	0.00714	-
Iron - Total	mg/L	-	3.71	-
Lead - Total	mg/L	0.2 ¹	0.00246	-
Lithium - Total	mg/L	-	0.0076	-
Magnesium - Total	mg/L	-	12.1	-
Manganese - Total	mg/L	-	0.0989	-
Mercury - Total	mg/L	-	< 0.000005	-
Molybdenum - Total	mg/L	-	0.00524	-
Nickel - Total	mg/L	1 ¹	0.00639	-
Phosphorus, Total	mg/L	-	< 0.25	-
Potassium - Total	mg/L	-	6.08	-
Selenium - Total	mg/L	-	0.000434	-
Sodium - Total	mg/L	-	3.02	-
Strontium - Total	mg/L	-	0.0371	-
Thallium - Total	mg/L	-	0.000051	-
Tin - Total	mg/L	-	< 0.0005	-
Titanium - Total	mg/L	-	0.0958	-
Uranium - Total	mg/L	-	0.00206	-
Vanadium - Total	mg/L	-	0.00375	-
Zinc - Total	mg/L	1 ¹	< 0.015	-
Aluminum - Dissolved	mg/L	-	0.023	-
Arsenic - Dissolved	mg/L	-	< 0.0005	-
Cadmium - Dissolved	mg/L	-	0.0000426	-
Calcium - Dissolved	mg/L	-	12.1	-
Copper - Dissolved	mg/L	-	0.00219	-
Iron - Dissolved	mg/L	-	< 0.05	-
Lead - Dissolved	mg/L	-	< 0.00025	-
Magnesium - Dissolved	mg/L	-	9.6	-
Manganese - Dissolved	mg/L	-	0.025	-
Mercury - Dissolved	mg/L	-	< 0.000005	-
Molybdenum - Dissolved	mg/L	-	0.00596	-
Nickel - Dissolved	mg/L	-	< 0.0025	-
Potassium - Dissolved	mg/L	-	5.3	-
Selenium - Dissolved	mg/L	-	0.000389	-
Sodium - Dissolved	mg/L	-	2.92	-
Thallium - Dissolved	mg/L	-	< 0.00005	-
Uranium - Dissolved	mg/L	-	0.0014	-
Zinc - Dissolved	mg/L	-	< 0.005	-
Phosphorus, Nutrient	mg/L	-	0.0414	-
Visible Sheen	-	No Visible Sheen	No Visible Sheen	No Visible Sheen
Mean Mortality - Daphnia magna	-	Not Acutely Toxic	Not Acutely Toxic	-
Mean Mortality - Rainbow Trout	-	Not Acutely Toxic	Not Acutely Toxic	-

Notes:

Highlight indicate result exceeded applicable criteria.

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 2025

DATE	Camp Lake Freshwater for Domestic Use - Daily Water MS-MRY-1 (m ³) ¹	Camp Lake Freshwater for Industrial Use - Daily Water MS-MRY-1 (m ³) ^{1,2}	Treated Sewage Effluent from MS-01 to Discharge Location #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)	Sewage Sludge/Off- Spec Effluent Removed from Mine Site WWTPs to PWSP at Mine Site (m ³)	Sewage Sludge Removed from Lift Stations to PWSP at Mine Site (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)	Sewage Sludge Removed from Lift Stations to PWSP at Milne Port (m ³)	Sludge Removed from Milne Port WWTPs/WTPs to PWSP at Milne Port (m ³)	Effluent from KM105 Surface Water Management Pond (MS-11) (m ³) ^{1,2}
1-May-25	94.8	12.5	0.0	114.4	0.0	0.0	0.0	43.8	2.0	17.0	17.6	0.0	0.0	11.0	0.0
2-May-25	87.8	17.0	0.0	90.9	0.0	8.0	0.0	34.7	0.0	15.0	7.0	0.1	0.0	0.0	0.0
3-May-25	83.0	39.1	0.0	82.7	0.9	0.0	0.0	40.7	0.0	14.0	23.3	0.1	0.0	0.0	0.0
4-May-25	95.1	11.6	0.0	79.6	1.3	0.0	0.0	50.1	3.0	25.0	17.4	0.1	0.0	0.0	0.0
5-May-25	104.2	13.5	0.0	106.7	0.9	0.0	0.0	39.6	0.0	24.0	13.7	0.1	0.0	0.0	0.0
6-May-25	109.4	24.6	0.0	100.9	1.9	0.0	0.0	50.7	0.0	24.0	22.5	0.0	0.0	0.0	0.0
7-May-25	106.4	47.1	0.0	115.0	1.4	0.0	0.0	43.6	0.0	17.0	22.9	0.1	0.0	0.0	0.0
8-May-25	112.4	15.8	0.0	127.9	0.9	0.0	0.0	42.7	0.0	20.0	11.6	0.1	0.0	0.0	0.0
9-May-25	100.4	4.5	0.0	116.9	0.6	0.0	0.0	26.0	0.0	20.0	17.1	0.1	0.0	0.0	0.0
10-May-25	89.7	35.7	0.0	91.9	0.9	0.0	0.0	50.0	0.0	15.0	26.5	0.1	0.0	2.0	0.0
11-May-25	88.5	34.5	0.0	110.1	0.9	0.0	0.0	39.2	0.0	17.0	17.2	0.1	0.0	0.0	0.0
12-May-25	89.0	15.7	0.0	86.2	1.1	0.0	0.0	42.1	0.0	20.0	25.8	0.1	0.0	0.0	0.0
13-May-25	94.1	10.1	0.0	86.9	0.4	0.0	0.0	60.9	0.0	24.0	11.6	0.1	0.0	0.0	0.0
14-May-25	102.0	17.5	0.0	111.2	0.7	0.0	0.0	42.4	0.0	24.0	20.0	0.0	0.0	0.0	0.0
15-May-25	110.5	14.1	0.0	115.8	0.9	0.0	0.0	42.3	0.0	22.0	15.0	0.0	0.0	0.0	0.0
16-May-25	91.2	31.8	0.0	113.9	0.9	0.0	0.0	41.0	3.0	17.0	16.7	0.1	0.0	0.0	0.0
17-May-25	92.2	16.0	0.0	112.2	0.6	0.0	0.0	40.0	0.0	22.0	18.5	0.1	0.0	2.0	0.0
18-May-25	96.6	14.0	0.0	90.0	0.6	0.0	0.0	42.6	6.0	6.0	16.2	0.1	0.0	0.0	0.0
19-May-25	102.4	20.7	0.0	95.9	0.9	0.0	0.0	41.0	2.0	20.0	15.5	0.0	0.0	0.0	0.0
20-May-25	128.5	1.6	0.0	101.3	0.9	0.0	5.0	41.2	0.0	24.0	18.0	0.1	0.0	0.0	0.0
21-May-25	113.3	30.3	0.0	117.1	0.9	0.0	0.0	42.4	0.0	24.0	19.3	0.0	0.0	0.0	0.0
22-May-25	109.6	21.7	0.0	114.0	0.9	0.0	0.0	40.3	6.0	21.0	16.1	0.1	0.0	0.0	0.0
23-May-25	120.6	32.1	0.0	126.3	0.9	0.0	0.0	46.0	0.0	19.0	19.7	0.1	0.0	0.0	11,380.2
24-May-25	99.9	45.6	0.0	132.9	0.6	0.0	0.0	41.4	1.0	19.0	24.0	0.0	2.5	2.0	11,797.1
25-May-25	107.9	20.9	0.0	107.7	0.6	0.0	0.0	35.5	7.0	17.0	15.2	0.1	0.0	0.0	4,609.9
26-May-25	101.8	60.9	0.0	101.6	0.6	0.0	0.0	46.6	2.0	18.0	23.0	0.0	0.0	0.0	4,136.0
27-May-25	106.6	57.1	0.0	87.3	0.9	0.0	0.0	56.2	0.0	18.0	18.5	0.1	0.0	0.0	4,206.3
28-May-25	116.5	22.9	0.0	108.9	0.9	20.0	0.0	66.2	0.0	21.0	30.1	0.1	0.0	0.0	2,866.3
29-May-25	97.4	35.8	0.0	112.9	0.9	0.0	0.0	69.5	0.0	19.0	18.2	0.1	0.0	0.0	7,544.0
30-May-25	109.0	16.0	0.0	99.8	0.9	0.0	0.0	51.2	2.0	21.0	20.6	0.0	0.0	0.0	14,256.0
31-May-25	117.0	35.5	0.0	114.3	0.9	0.0	0.0	53.0	19.0	17.0	22.8	0.1	0.0	3.5	32,196.1
Total	3,177.6	776.1	0.0	3,273.2	25.1	28.0	5.0	1,402.8	53.0	601.0	581.7	1.6	2.5	20.5	92,991.8

Notes:

WWTP - Waste Water Treatment Plant

PWSP - Polishing Waste Stabilization Pond

¹ Tracking may be influenced by reported data to the Pi data system; variances between reported domestic and industrial values have potential to occur. However, total daily withdrawal is not influenced by the tracking methodology.

² Discharge quantity at MS-11 estimated through daily flow measurements at the proposed discharge location in May (consistent ice free conditions were not present for installation of pressure transducers at downstream hydrology station in May).