November 30, 2020

Manager of Licensing
Nunavut Water Board
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Gjoa Haven, Nunavut X0B 1J0

Water Resources 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 October 2020

The following is the monthly report for October 2020 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

During the month of October 2020, water samples were collected as part of the Water Licence SNP.

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 date/laboratory identification number as appropriate. Analytical water quality testing results received are presented in Tables 2.1 – 2.4. Water volumes consumed for domestic and industrial water purposes and the volumes of effluent discharged at the Mary River Mine Site and Milne Port are presented in Table 3.1.

Monitoring Program Results

Water Sampling and Analysis Results

Tables 2.1 – 2.4 provide the analytical results related to the SNP sampling requirements for October 2020. There were no water quality exceedances of the site specific daily grab or monthly average samples in October.

Flow and Volume Measurements

Table 3.1 provides a breakdown of volume measurements for October 2020 as required by Part I, Item 9 of the Licence. There were no exceedences of the source specific daily volume withdrawal limits in October.

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:

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cc: Justin Hack, Jeremy Fraser (CIRNAC)
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Attachments

Attachments – Monthly Water Sampling Results: Table 1.1, Tables 2.1 – 2.4, Table 3.1

Attachments

Monthly Water Sampling Results

Baffinland

Table 1.1: Monitoring Program Water Sampling Summary for October 2020

Monitoring Program Station	Sampling Date	Lab ID Number	Comment
Milne Port			
MP-01 (Sewage Treatment Facility)	2020-10-13	L2516997-2	Volume reported daily during discharge
MP-01A (Polishing Waste Stabilization Pond)	N/A	N/A	No discharge
MP-01B (Sewage Treatment Facility)	2020-10-13	L2517060-2	Volume reported daily during discharge
MP-MRY-2 (Freshwater Intake at Phillips Creek)	N/A	N/A	No water withdrawal
MP-MRY-3 (Freshwater Intake from Km 32 Lake)	N/A	N/A	Withdrawal volume recorded daily
MP-02 (Milne Port Maintenance Shop)	N/A	N/A	No discharge
MP-03 (Bulk Fuel Storage Facility Stormwater)	N/A	N/A	No discharge
MP-04 (Landfarm Facility & Snow Containment Facility)	N/A	N/A	No discharge
MP-04A (Treated Oily Water from Milne Port Snowdump Facility to Tundra)	N/A	N/A	No discharge
MP-05 Ore Stockpile Sedimentation Pond (East)	N/A	N/A	No discharge
MP-06 Ore Stockpile Sedimentation Pond (West)	N/A	N/A	No discharge
MP-C-A (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-B (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-B01 (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-C (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-D (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-E (Downstream of Construction Area)	N/A	N/A	No flow

Monitoring Program Station	Sampling Date	Lab ID Number	Comment
MP-C-F (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-G (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-H (Downstream of Construction Area)	N/A	N/A	No flow
MP-C-J (Downstream of Construction Area)	N/A	N/A	No flow
MP-Q1-01 (Downstream of Q1 Quarry)	N/A	N/A	No flow
MP-Q1-02 (Downstream of Q1 Quarry)	N/A	N/A	No flow
Mary River Mine Site			
MS-01 (Sewage Treatment Facility)	2020-10-13	L2516989-1	Discharge volume reported daily
MS-01A (Mine Site Polishing Waste Stabilization Pond)	N/A	N/A	No discharge
MS-01B (Sewage Treatment Facility)	2020-10-13	L2517025-1	Discharge volume reported daily
MS-02 (Mine Site Maintenance Shop)	N/A	N/A	No discharge
MS-MRY-1 (Freshwater Intake Camp Lake)	N/A	N/A	Withdrawal volume recorded daily
MS-MRY-04A (Polishing Waste Stabilization Pond)	N/A	N/A	No discharge
MS-MRY-04B (Polishing Waste Stabilization Pond)	N/A	N/A	No discharge
MS-MRY-04C (Polishing Waste Stabilization Pond)	N/A	N/A	No discharge
MS-03 (Mine Site Bulk Fuel Storage Facility Stormwater)	N/A	N/A	No discharge
MS-03B (Mine Site Bulk Fuel Storage Facility Stormwater)	N/A	N/A	No discharge
MS-04 (Mine Site Fuel Unloading Station Stormwater)	N/A	N/A	No discharge
MS-05 (Mine Site Landfarm Facility)	N/A	N/A	Not constructed
MS-06 (Ore Stockpile Pond Stormwater)	N/A	N/A	No discharge

Monitoring Program Station	Sampling Date	Lab ID Number	Comment
MS-07 (Run of Mine Ore Stockpile Pond Stormwater)	N/A	N/A	Not constructed
MS-08 (Mine Waste Rock Stockpile Pond)	N/A	N/A	No discharge
MS-09 (Waste Rock Stockpile East Pond)	N/A	N/A	No discharge
MS-MRY-6 (Exploration Camp Bulk Fuel Storage Facility Stormwater)	N/A	N/A	No discharge
MS-MRY-09 (Deposit 1 Surface Water Drainage)	N/A	N/A	No flow
MS-MRY-10 (Deposit 1 Surface Water Drainage)	N/A	N/A	No flow
MS-MRY-13A (Downstream Non-Hazardous Landfill)	N/A	N/A	No flow
MS-MRY-13B (Downstream Non-Hazardous Landfill)	N/A	N/A	No flow
MS-C-A (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow
MS-C-B (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow
MS-C-C (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow
MS-C-D (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow
MS-C-E (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow
MS-C-F (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow
MS-C-G (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow

Monitoring Program Station	Sampling Date	Lab ID Number	Comment
MS-C-H (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow
MQ-C-A (Downstream of QMR2 Quarry)	N/A	N/A	No flow
MQ-C-B (Downstream of QMR2 Quarry)	N/A	N/A	No flow
MQ-C-D (Downstream of QMR2 Quarry)	N/A	N/A	No flow
Steensby Port			
Steensby Exploration Camp is presently inactive.	N/A	N/A	N/A

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Table 2.1: Water Quality Results for Water Licence Monitoring Location - MP-01

Analyte	Sample ID			MP-01
	ALS Laboratory Sample ID			L2516997-2
	Sample Date & Time			2020-10-13 13:15
	QA/QC Sample Type			N/A
	Units	LOR	Criteria[1]	
pH	pH units	0.10	6.0 - 9.5	7.46
Total Suspended Solids	mg/L	3.0	120	<3.0
Ammonia, Total (as N)	mg/L	0.010	-	0.086
Total Kjeldahl Nitrogen	mg/L	0.5	-	5.00
Phosphorus, Total	mg/L	0.060	-	12.8
Fecal Coliforms	CFU/100 mL	-	10,000	0
BOD	mg/L	2.0	100	<2.0
Oil and Grease, Total	mg/L	2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen
Toxicity	-	-	Not Acutely Toxic	-

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 5: Effluent Quality Discharge Limits for Sewage Treatment Facilities to the Ocean.

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Table 2.2: Water Quality Results for Water Licence Monitoring Location - MP-01B

Analyte	Sample ID			MP-01B
	ALS Laboratory Sample ID			L2517060-2
	Sample Date & Time			2020-10-13 13:45
	QA/QC Sample Type			N/A
	Units	LOR	Criteria[1]	
pH	pH units	0.10	6.0 - 9.5	7.46
Total Suspended Solids	mg/L	3.0	120	4.8
Ammonia, Total (as N)	mg/L	0.010	-	0.099
Total Kjeldahl Nitrogen	mg/L	0.50	-	2.20
Phosphorus, Total	mg/L	0.030	-	7.93
Fecal Coliforms	CFU/100 mL	-	10,000	10
BOD	mg/L	2.0	100	<2.0
Oil and Grease, Total	mg/L	2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen
Toxicity	-	-	Not Acutely Toxic	-

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 5: Effluent Quality Discharge Limits for Sewage Treatment Facilities to the Ocean.

Baffinland

Table 2.3: Water Quality Results for Water Licence Monitoring Location - MS-01

Analyte	Sample ID			MS-01
	ALS Laboratory Sample ID			L2516989-1
	Sample Date & Time			2020-10-13 15:00
	QA/QC Sample Type			N/A
	Units	LOR	Criteria[1]	
pH	pH units	0.10	6.0 - 9.5	7.59
Total Suspended Solids	mg/L	3.0	35	<3.0
Ammonia, Total (as N)	mg/L	0.010	4.0	0.174
Total Kjeldahl Nitrogen	mg/L	0.050	-	0.810
Phosphorus, Total	mg/L	0.0030	4.0	0.296
Fecal Coliforms	CFU/100 mL	-	1000	0
BOD	mg/L	2.0	30	<2.0
Oil and Grease, Total	mg/L	5.0	-	<5.0
	-	-	No Visible Sheen	No Visible Sheen
Toxicity	-	-	Not Acutely Toxic	-

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4: Effluent Quality Discharge Limits for Sewage Treatment Facilities to Freshwater Receiving Environment.

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Table 2.4: Water Quality Results for Water Licence Monitoring Location - MS-01B

Analyte	Sample ID			MS-01B
	ALS Laboratory Sample ID			L2517025-1
	Sample Date & Time			2020-10-13 15:40
	QA/QC Sample Type			N/A
	Units	LOR	Criteria[1]	
pH	pH units	0.10	6.0 - 9.5	8.27
Total Suspended Solids	mg/L	3.0	35	3.3
Ammonia, Total (as N)	mg/L	0.010	4.0	0.047
Total Kjeldahl Nitrogen	mg/L	0.50	-	3.60
Phosphorus, Total	mg/L	0.0030	4.0	0.261
Fecal Coliforms	CFU/100 mL	-	1000	0
BOD	mg/L	2.0	30	<2.0
Oil and Grease, Total	mg/L	2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen
Toxicity	-	-	Not Acutely Toxic	-

Notes:

Bold highlight indicates result that exceeded the applicable water quality criteria.

1 Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4: Effluent Quality Discharge Limits for Sewage Treatment Facilities to Freshwater Receiving Environment.

Baffinland

Table 3.1: Flow and Volume Measurements-Part I Item 11 - October 2020

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-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)	Km 32 Lake Milne Port Camp Daily Water Use for Domestic Purposes MP-MRY-3 (m^3)	Km 32 Lake Milne Port Camp Fresh Water Use for Industrial Purposes MP-MRY-3 (m^3)	Treated Sewage Effluent from MP-01 to Milne Port (m^3)	Treated Sewage Effluent from MP-01B to Milne Port (m^3)	Sewage Sludge Removed from Milne Port WWTP to Incinerator or Disposal Offsite by Backhaul (m^3)	Sewage Sludge Removed from Milne Port WWTPs to PWSP at Milne Port (m^3)
1-Oct-20	169.1	0.0	47.0	129.6	1.1	62.3	0.0	18.0	18.5	0.0	0.0
2-Oct-20	187.8	0.0	44.0	127.7	1.2	68.9	0.0	25.0	42.3	0.2	0.0
3-Oct-20	193.6	0.0	55.0	129.6	0.9	43.4	0.0	25.0	18.6	0.0	0.0
4-Oct-20	143.7	0.0	25.0	120.4	1.2	54.8	0.0	25.0	39.5	0.2	0.0
5-Oct-20	133.7	7.7	42.0	128.3	1.2	67.9	0.0	25.0	34.0	0.0	0.0
6-Oct-20	136.2	7.7	44.0	99.6	1.2	90.4	0.0	25.0	37.9	1.0	1.0
7-Oct-20	131.8	12.0	46.0	70.1	1.2	62.9	0.0	25.0	38.0	0.0	0.0
8-Oct-20	146.8	4.3	44.0	74.2	0.8	50.9	0.0	23.0	48.3	1.2	0.0
9-Oct-20	121.6	16.1	45.0	71.6	0.8	76.7	0.0	24.0	58.2	0.0	0.0
10-Oct-20	167.9	15.7	44.0	85.6	1.2	49.9	0.0	22.0	22.6	0.2	0.0
11-Oct-20	132.4	22.7	47.0	92.4	1.2	66.5	0.0	25.0	39.5	0.0	0.0
12-Oct-20	148.1	4.3	33.0	106.9	1.2	52.4	0.0	25.0	28.9	0.2	0.0
13-Oct-20	88.2	8.6	31.0	107.4	1.2	62.4	0.0	23.0	40.7	0.2	0.0
14-Oct-20	52.0	1.7	34.0	78.3	1.2	63.9	0.0	23.0	34.9	0.0	0.0
15-Oct-20	168.4	0.0	39.0	96.5	1.6	59.7	0.0	25.0	29.8	0.0	0.0
16-Oct-20	161.8	4.3	31.0	96.0	1.7	61.9	0.0	25.0	26.4	0.5	0.0
17-Oct-20	124.3	0.0	17.0	103.3	1.0	57.2	0.0	23.0	25.7	0.3	0.0
18-Oct-20	127.0	0.0	20.0	96.0	1.5	50.5	3.0	25.0	19.4	1.0	0.0
19-Oct-20	119.5	0.0	26.0	96.0	1.3	62.1	0.0	23.0	27.5	1.6	0.0
20-Oct-20	121.8	9.5	25.0	97.1	1.5	53.4	0.0	20.0	35.1	1.5	0.0
21-Oct-20	133.7	0.0	22.0	96.0	1.0	49.0	0.0	19.0	30.1	1.3	0.0
22-Oct-20	114.3	5.2	34.0	66.3	1.4	62.3	0.0	23.0	32.7	0.0	0.0
23-Oct-20	106.6	17.8	19.0	67.4	1.2	52.5	0.0	24.0	27.1	0.3	0.0
24-Oct-20	120.4	22.0	24.0	108.4	1.3	52.1	0.0	18.0	28.8	0.0	0.0
25-Oct-20	137.6	1.7	14.0	96.0	1.5	46.2	3.0	27.0	32.2	0.3	0.0
26-Oct-20	124.3	19.8	12.0	116.1	1.2	57.4	0.0	9.0	25.4	1.0	0.0
27-Oct-20	117.8	0.0	20.0	101.2	1.1	39.4	0.0	20.0	29.3	0.2	0.0
28-Oct-20	128.3	10.8	20.0	89.6	0.9	95.9	0.0	25.0	27.6	0.0	0.0
29-Oct-20	126.6	0.0	28.0	76.5	1.3	76.3	0.0	26.0	23.2	0.0	0.0
30-Oct-20	105.5	0.0	35.0	73.5	1.4	42.9	0.0	25.0	20.2	0.2	0.0
31-Oct-20	122.9	0.0	36.0	76.1	1.2	100.5	0.0	25.0	23.5	0.0	0.0
Total	**4,113.7**	**191.9**	**1,003.0**	**2,973.5**	**37.5**	**1,892.8**	**6.0**	**715.0**	**965.9**	**11.4**	**1.0**

Notes:

WWTP - Waste Water Treatment Plant

PWSP - Polishing Waste Stabilization Pond