



January 30, 2014

Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0

Water Resources Officer, AANDC  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0

**RE: Water License 2AM-MRY1325 Monthly SNP Report – December 2013**

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The following is the monthly report for December 2013 as required under Part I, Items 21 Water License 2AM-MRY1325. Part I, Item 21 of the above referenced Water Licence state:

*"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 identified area of non-compliance with regulated discharge parameters referred to in Part F"*

**Monitoring Program**

During the month of December 2013, samples were collected at MS-MRY-04, MP-01 and MS-01 as part of the Water Licence Monitoring Program.

Table 1 presents a list of samples/monitoring required under the Water Licenses and the details concerning which water quality samples have been collected along with sample date/lab identification number as appropriate. Analytical water quality testing results received are presented in Table 2. Volumes consumed for domestic water purposes and the volumes of treated sewage effluent and sewage sludge discharged at Mary River Mine Site and Milne Port Camp are presented in attached Table 3.

**Monitoring Program Results**

**A) Water Sampling and Analysis Results**

Table 2 provides the analytical results related to the Monitoring Program sampling requirements for December 2013.

**B) Flow and Volume Measurements**

Table 3 provides a breakdown of volume measurements as requested in Part I, Item 9 of the water license for December 2013.



We hope that the information provided in this monthly report is acceptable and should you have any questions regarding this report please contact Jim Millard at 902-403-1337(cell) / 647-693-9447(site) or by e-mail at [jim.millard@baffinland.com](mailto:jim.millard@baffinland.com).

Regards,

A handwritten signature in black ink, appearing to read "J. Millard", written in a cursive style.

James Millard, M.Sc., P.Geo.  
Environmental Manager

Attach: Tables 1, 2 and 3

Cc: Justin Hack, Erik Allain (AANDC), Stephen Bathory QIA

**Table 1: Monitoring Program Water Sampling Summary for December 2013**

<b>Monitoring Program Station</b>	<b>Sampling Date</b>	<b>Lab ID#</b>	<b>Comment</b>
<b>Milne Port</b>			
MP-01 (Sewage Treatment Facility)	December 3, 2013 December 10, 2013 December 16, 2013 December 26, 2013	1077051, 1077053 1078416, 1078426 1079394, 1079397 1080506, 1080504	Discharge volume reported daily
MP-MRY-3 (Freshwater Intake from Km 32 Lake - Winter)	N/A	N/A	Withdrawal volume Reported Daily
MP-MRY-04 (RBC at Exploration Camp)	N/A	N/A	RBC shut down for season
MP-MRY-07 (Oily Water Treatment for Bladder Farm)	N/A	N/A	Bladder Fuel Storage Facility is the process of being decommissioned
MP-MRY-12 (MRY-12)	N/A	N/A	No flow, frozen conditions
MP-C-A (Downstream of Construction Area)	N/A	N/A	No flow, frozen conditions
MP-C-B (Downstream of Quarry Area)	N/A	N/A	No flow, frozen conditions
MP-C-F (Downstream of Construction Area)	N/A	N/A	No flow, frozen conditions
MP-Q1-01 (Downstream of Q1 Quarry)	N/A	N/A	No flow, frozen conditions
MP-Q1-02 (Downstream of Q1 Quarry)	N/A	N/A	No flow, frozen conditions
<b>Mary River Mine Site</b>			
MS-01 (Sewage Treatment Facility)	December 3, 2013 December 10, 2013 December 14, 2013 December 26, 2013	1077059, 1077061 1078416, 1078418 1079384, 1079387 1080503, 1080501	Discharge volume reported daily
MS-MRY-1 (Freshwater Intake from Camp Lake)	N/A	N/A	Withdrawal volume reported daily
MS-MRY-04 (Exploration Camp RBC)	December 14, 2013 December 26, 2013	1079382, 1079386 1080500, 1080498	Discharge volume reported daily
MS-MRY-04A (Exploration Camp PWSP)	N/A	N/A	No effluent discharge from this facility
MS-MRY-09 (Bulk Sample Pit)	N/A	N/A	No flow, frozen conditions
MS-MRY-10 (Weathered Ore Bulk Sample Stockpile)	N/A	N/A	No flow, frozen conditions
MS-MRY-11 (Bulk Sample Crusher Stockpile)	N/A	N/A	No flow, frozen conditions
MS-MRY-13A (Downstream Non-Hazardous)	N/A	N/A	No flow, frozen conditions

Monitoring Program Station	Sampling Date	Lab ID#	Comment
Landfill)			
MS-MRY-13B (Downstream Non-Hazardous Landfill)	N/A	N/A	No flow, frozen conditions
MS-C-A (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow, frozen conditions
MS-C-B (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow, frozen conditions
MS-C-C (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow, frozen conditions
MS-C-D (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow, frozen conditions
MS-C-E (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow, frozen conditions
MS-C-F (Downstream of Construction and Borrow Areas)	N/A	N/A	No flow, frozen conditions
MQ-C-B (Downstream of QMR2 Quarry)	N/A	N/A	No flow, frozen conditions
MQ-C-D (Downstream of QMR2 Quarry)	N/A	N/A	No flow, frozen conditions
<b>Steensby Port</b>			
Steensby Exploration Camp closed for the season			

**Notes:** During the month of December, the new waste water treatment facility (MS-01) at Mary River Mine Site was operated in a start-up mode and was in the process of being commissioned. During start-up of MS-01, the facility is receiving sewage feed from the existing RBC and construction wash car facilities. MS-01 treated effluent from this location is discharged to the exploration camp PWSPs (MS-MRY-04a) during the start-up phase.

Table 2. Water Chemistry Results - December 2013

Sample Number	Sample ID	Date Sampled	Parameter Name	Result	Units	Lab
<b>Milne Port</b>						
1077051	MP-01	3-Dec-13	Biochemical Oxygen Demand	2	mg/L	Exova
1077053	MP-01	3-Dec-13	Faecal Coliforms	1	ct/100mL	Exova
1077051	MP-01	3-Dec-13	Total Kjeldahl Nitrogen	1.29	mg/L	Exova
1077051	MP-01	3-Dec-13	N-NH3 (Ammonia)	0.34	mg/L	Exova
1077051	MP-01	3-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1077051	MP-01	3-Dec-13	Total Suspended Solids	3	mg/L	Exova
1077051	MP-01	3-Dec-13	pH	7.88	pH units	Exova
1078423	MP-01	10-Dec-13	Biochemical Oxygen Demand	1	mg/L	Exova
1078426	MP-01	10-Dec-13	Faecal Coliforms	0	ct/100mL	Exova
1078423	MP-01	10-Dec-13	Total Kjeldahl Nitrogen	2.03	mg/L	Exova
1078423	MP-01	10-Dec-13	N-NH3 (Ammonia)	0.42	mg/L	Exova
1078423	MP-01	10-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1078423	MP-01	10-Dec-13	Total Suspended Solids	<2	mg/L	Exova
1078423	MP-01	10-Dec-13	pH	7.92	pH units	Exova
1079394	MP-01	16-Dec-13	Biochemical Oxygen Demand	<1	mg/L	Exova
1079397	MP-01	16-Dec-13	Faecal Coliforms	0	ct/100mL	Exova
1079394	MP-01	16-Dec-13	Total Kjeldahl Nitrogen	0.65	mg/L	Exova
1079394	MP-01	16-Dec-13	N-NH3 (Ammonia)	0.4	mg/L	Exova
1079394	MP-01	16-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1079394	MP-01	16-Dec-13	Total Suspended Solids	<2	mg/L	Exova
1079394	MP-01	16-Dec-13	pH	7.85	pH units	Exova
1080504	MP-01	26-Dec-13	Biochemical Oxygen Demand	3	mg/L	Exova
1080506	MP-01	26-Dec-13	Faecal Coliforms	0	ct/100mL	Exova
1080504	MP-01	26-Dec-13	Total Kjeldahl Nitrogen	1.63	mg/L	Exova
1080504	MP-01	26-Dec-13	N-NH3 (Ammonia)	0.42	mg/L	Exova
1080504	MP-01	26-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1080504	MP-01	26-Dec-13	Total Suspended Solids	3	mg/L	Exova
1080504	MP-01	26-Dec-13	pH	7.84	pH units	Exova
<b>MARY RIVER MINE SITE</b>						
1079382	MS-MRY-04	14-Dec-13	Biochemical Oxygen Demand	17	mg/L	Exova
1079386	MS-MRY-04	14-Dec-13	Faecal Coliforms	48	ct/100mL	Exova
1079382	MS-MRY-04	14-Dec-13	Total Kjeldahl Nitrogen	34.7	mg/L	Exova
1079382	MS-MRY-04	14-Dec-13	N-NH3 (Ammonia)	34.7	mg/L	Exova
1079382	MS-MRY-04	14-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1079382	MS-MRY-04	14-Dec-13	Total Phosphorus	3.91	mg/L	Exova
1079382	MS-MRY-04	14-Dec-13	Total Suspended Solids	13	mg/L	Exova
1079382	MS-MRY-04	14-Dec-13	pH	7.61	pH units	Exova
1080498	MS-MRY-04	26-Dec-13	Biochemical Oxygen Demand	20	mg/L	Exova
1080500	MS-MRY-04	26-Dec-13	Faecal Coliforms	170	ct/100mL	Exova
1080498	MS-MRY-04	26-Dec-13	Total Kjeldahl Nitrogen	5.51	mg/L	Exova
1080498	MS-MRY-04	26-Dec-13	N-NH3 (Ammonia)	3.47	mg/L	Exova
1080498	MS-MRY-04	26-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1080498	MS-MRY-04	26-Dec-13	Total Phosphorus	3.03	mg/L	Exova
1080498	MS-MRY-04	26-Dec-13	Total Suspended Solids	21	mg/L	Exova
1080498	MS-MRY-04	26-Dec-13	pH	7.58	pH units	Exova
1077059	MS-01	3-Dec-13	Biochemical Oxygen Demand	2	mg/L	Exova
1077061	MS-01	3-Dec-13	Faecal Coliforms	0	ct/100mL	Exova
1077059	MS-01	3-Dec-13	Total Kjeldahl Nitrogen	1.32	mg/L	Exova
1077059	MS-01	3-Dec-13	N-NH3 (Ammonia)	0.16	mg/L	Exova
1077059	MS-01	3-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1077059	MS-01	3-Dec-13	Total Phosphorus	16.3	mg/L	Exova
1077059	MS-01	3-Dec-13	Total Suspended Solids	<2	mg/L	Exova
1077059	MS-01	3-Dec-13	pH	7.63	pH units	Exova
1078416	MS-01	10-Dec-13	Biochemical Oxygen Demand	3	mg/L	Exova
1078418	MS-01	10-Dec-13	Faecal Coliforms	1	ct/100mL	Exova
1078416	MS-01	10-Dec-13	Total Kjeldahl Nitrogen	6.74	mg/L	Exova
1078416	MS-01	10-Dec-13	N-NH3 (Ammonia)	4.7	mg/L	Exova
1078416	MS-01	10-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1078416	MS-01	10-Dec-13	Total Phosphorus	25.6	mg/L	Exova
1078416	MS-01	10-Dec-13	Total Suspended Solids	3	mg/L	Exova
1078416	MS-01	10-Dec-13	pH	6.31	pH units	Exova
1079384	MS-01	14-Dec-13	Biochemical Oxygen Demand	10	mg/L	Exova
1079387	MS-01	14-Dec-13	Faecal Coliforms	490	ct/100mL	Exova
1079384	MS-01	14-Dec-13	Total Kjeldahl Nitrogen	18.8	mg/L	Exova
1079384	MS-01	14-Dec-13	N-NH3 (Ammonia)	15	mg/L	Exova
1079384	MS-01	14-Dec-13	Oil & Grease - Total	4	mg/L	Exova
1079384	MS-01	14-Dec-13	Total Phosphorus	30.3	mg/L	Exova
1079384	MS-01	14-Dec-13	Total Suspended Solids	14	mg/L	Exova
1079384	MS-01	14-Dec-13	pH	5.68	pH units	Exova
1080501	MS-01	26-Dec-13	Biochemical Oxygen Demand	8	mg/L	Exova
1080503	MS-01	26-Dec-13	Faecal Coliforms	280	ct/100mL	Exova
1080501	MS-01	26-Dec-13	Total Kjeldahl Nitrogen	2.16	mg/L	Exova
1080501	MS-01	26-Dec-13	N-NH3 (Ammonia)	1.29	mg/L	Exova
1080501	MS-01	26-Dec-13	Oil & Grease - Total	<1	mg/L	Exova
1080501	MS-01	26-Dec-13	Total Phosphorus	34.4	mg/L	Exova
1080501	MS-01	26-Dec-13	Total Suspended Solids	10	mg/L	Exova
1080501	MS-01	26-Dec-13	pH	7.51	pH units	Exova

Non-compliances to the Water Licence are indicated by yellow shading. Sample Stations MS -MRY-04 (Mine Site RBC) and MS-01 (Mine Site MBR) showed non-compliance for several parameters during November. The discharge from the WWTPs was not to the receiving environment, but was to the PWSP, a lined and engineered containment pond. In the spring, after melt, the effluent will be resampled and re-treated if necessary prior to discharge to the receiving environment. The RBC was in an upset condition due in part to the fluctuating loadings received during the commissioning of the new sewage treatment plant (MS -01). The RBC is currently being phased out and is soon to be replaced shortly with the above referenced plant..

Table 3: Flow and Volume Measurements-Part I Item 11 - December 2013

DATE	Camp Lake Freshwater Use (Mary River Camp) - Daily Potable Water (m³) - MRY-1	Camp Lake Daily Freshwater Use for Other Purposes - (m³) - MRY-1	Camp Lake Daily Freshwater to Milne Inlet Camp - (m³) - MRY-1	Km 32 Lake Milne Inlet Camp Daily Potable Water (m³) MRY-3	Km 32 Lake Milne Inlet Camp Fresh Water Use for Other Purposes (m³) MRY-3	Treated Sewage Effluent (m³) from WWTF to PWSP at Mary River Camp - MRY-4	Sewage Sludge Removed (m³) from Mary River WWTP	Treated Sewage Effluent (m³) from MP-01 to PWSP at Milne Inlet (MP-01a)	Sewage Sludge Removed (m³) from Milne Inlet WWTP
1-Dec	23.8	0.0	0.0	30.3	0.0	23.8	0.0	30.3	0.0
2-Dec	51.9	0.0	0.0	30.3	0.0	51.9	0.0	30.3	0.0
3-Dec	25.4	0.0	0.0	30.3	0.0	25.4	0.0	30.3	0.0
4-Dec	44.3	0.0	0.0	30.3	0.0	44.3	0.0	30.3	0.0
5-Dec	25.0	0.0	0.0	30.3	0.0	25.0	0.0	30.3	0.0
6-Dec	26.5	0.0	0.0	30.3	0.0	26.5	0.0	30.3	0.0
7-Dec	25.0	0.0	0.0	30.3	0.0	25.0	0.0	30.3	0.0
8-Dec	26.5	0.0	0.0	30.3	0.0	26.5	0.0	30.3	0.0
9-Dec	24.6	0.0	0.0	30.3	0.0	24.6	0.0	30.3	0.0
10-Dec	26.9	0.0	0.0	22.7	0.0	26.9	0.0	22.7	0.0
11-Dec	32.2	0.0	0.0	45.4	0.0	32.2	0.0	45.4	0.0
12-Dec	26.1	0.0	0.0	30.3	0.0	26.1	0.0	30.3	0.0
13-Dec	24.6	0.0	0.0	30.3	0.0	24.6	0.0	30.3	0.0
14-Dec	24.2	0.0	0.0	30.3	0.0	24.2	0.0	30.3	0.0
15-Dec	25.7	0.0	0.0	30.3	0.0	25.7	0.0	30.3	0.0
16-Dec	27.3	0.0	0.0	0.0	0.0	27.3	0.0	0.0	0.0
17-Dec	43.2	0.0	0.0	0.0	0.0	43.2	0.0	0.0	0.0
18-Dec	22.7	0.0	0.0	15.1	0.0	22.7	0.0	15.1	0.0
19-Dec	19.7	0.0	0.0	15.1	0.0	19.7	0.0	15.1	0.0
20-Dec	17.4	0.0	0.0	30.3	0.0	17.4	0.0	30.3	0.0
21-Dec	19.3	0.0	0.0	15.1	0.0	19.3	0.0	15.1	0.0
22-Dec	22.7	0.0	0.0	15.1	0.0	22.7	0.0	15.1	0.0
23-Dec	18.5	0.0	0.0	0.0	0.0	18.5	0.0	0.0	0.0
24-Dec	20.1	0.0	0.0	0.0	0.0	20.1	0.0	0.0	0.0
25-Dec	35.6	0.0	0.0	0.0	0.0	35.6	0.0	0.0	0.0
26-Dec	14.8	0.0	0.0	15.1	0.0	14.8	0.0	15.1	0.0
27-Dec	21.2	0.0	0.0	15.1	0.0	21.2	0.0	15.1	0.0
28-Dec	20.4	0.0	0.0	30.3	0.0	20.4	0.0	30.3	0.0
29-Dec	15.5	0.0	0.0	30.3	0.0	15.5	0.0	30.3	0.0
30-Dec	17.0	0.0	0.0	30.3	0.0	17.0	0.0	30.3	0.0
31-Dec	11.4	0.0	0.0	15.1	0.0	11.4	0.0	15.1	0.0
<b>Total</b>	<b>779.4</b>	<b>0.0</b>	<b>0.0</b>	<b>688.9</b>	<b>0.0</b>	<b>779.4</b>	<b>0.0</b>	<b>688.9</b>	<b>0.0</b>

Notes:

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