



November 30, 2013

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 Monitoring Program Report – October 2013**

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The following is the monthly report for October 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 October 2013, samples were collected at MS-MRY-04 and MP-01 as part of the Water Licence Monitoring Program.

Table 1 presents a list of samples/monitoring required under the Water License 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 Monitoring Program sampling requirements for October 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 October 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 October 2013**

Monitoring Program Station	Sampling Date	Lab ID#	Comment
<b>Milne Port</b>			
MP-01 (Sewage Treatment Facility)	October 10, 2013 October 15, 2013 October 22, 2013 October 29, 2013	1064853, 1064855 1065649, 1065652 1067299, 1067547 1069637	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 Farm in process of being decommissioned.
MP-MRY-12 (MRY-12)	N/A	N/A	No flow, frozen conditions.
MP-C-A (Downstream from Construction Area)	N/A	N/A	No flow, frozen conditions.
MP-C-B (Downstream from Quarry Area)	N/A	N/A	No flow, frozen conditions.
MP-C-B01 (Downstream from Quarry Area)	N/A	N/A	No flow, frozen conditions.
MP-C-F (Downstream from Construction Area)	N/A	N/A	No flow, frozen conditions.
MP-Q1-01 (Downstream from Q1 Quarry)	N/A	N/A	No flow, frozen conditions.
MP-Q1-02 (Downstream from Q1 Quarry)	N/A	N/A	No flow, frozen conditions.
<b>Mary River Mine Site</b>			
MS-MRY-1 (Camp Lake Freshwater Supply)	N/A	N/A	Withdrawal volume reported daily
MS-MRY-04 (Exploration Camp RBC)	October 15, 2013 October 22, 2013 October 29, 2013	1065602, 1065622 1067302, 1067551 1069634	Discharge volume reported daily
MS-MRY-0401 (Duplicate for MS-MRY-04)	October 15, 2013	1065603, 1065623	QA/QC sample
MS-MRY-0402 (Field Blank for MS-MRY-04)	October 15, 2013	1065604, 1065624	QA/QC sample
MS-MRY-0403 (Travel Blank for MS-MRY-04)	October 15, 2013	1065605, 1065625	QA/QC sample
MS-MRY-04A (Exploration Camp PWSP)	N/A	N/A	No effluent discharge from this location.
MS-MRY-6 (Oily Water Treatment for Bladder Farm)	N/A	N/A	Frozen Conditions.
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.

Monitoring Program Station	Sampling Date	Lab ID#	Comment
MS-MRY-13A (Near-field location from Non-Hazardous Landfill)	N/A	N/A	No flow, frozen conditions.
MS-MRY-13B (Farther-field location from 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 season.			

**Notes:** During the month of October, 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-4a) during the start-up phase.

Table 2. Water Chemistry Results - October 2013

Sample Number	Sample ID	Date Sampled	Parameter Name	Result	Units	Lab
<b>Milne Port</b>						
1064853	MP-01	10-Oct-13	Biochemical Oxygen Demand	<1	mg/L	Exova Accutest
1064853	MP-01	10-Oct-13	Chemical Oxygen Demand	46	mg/L	Exova Accutest
1064855	MP-01	10-Oct-13	Faecal Coliforms	10	CFU/100mL	Exova Accutest
1064853	MP-01	10-Oct-13	Total Kjeldahl Nitrogen	1.86	mg/L	Exova Accutest
1064853	MP-01	10-Oct-13	N-NH3 (Ammonia)	0.19	mg/L	Exova Accutest
1064853	MP-01	10-Oct-13	Oil & Grease - Total	2	mg/L	Exova Accutest
1064853	MP-01	10-Oct-13	Total Suspended Solids	3	mg/L	Exova Accutest
1064853	MP-01	10-Oct-13	pH	7.86	pH units	Exova Accutest
1065649	MP-01	15-Oct-13	Biochemical Oxygen Demand	3	mg/L	Exova Accutest
1065649	MP-01	15-Oct-13	Chemical Oxygen Demand	39	mg/L	Exova Accutest
1065652	MP-01	15-Oct-13	Faecal Coliforms	0	CFU/100mL	Exova Accutest
1065649	MP-01	15-Oct-13	Total Kjeldahl Nitrogen	1.93	mg/L	Exova Accutest
1065649	MP-01	15-Oct-13	N-NH3 (Ammonia)	0.2	mg/L	Exova Accutest
1065649	MP-01	15-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1065649	MP-01	15-Oct-13	Total Suspended Solids	<2	mg/L	Exova Accutest
1065649	MP-01	15-Oct-13	pH	7.87	pH units	Exova Accutest
1067299	MP-01	22-Oct-13	Alkalinity as CaCO3	200	mg/L	Exova Accutest
1067299	MP-01	22-Oct-13	Biochemical Oxygen Demand	<1	mg/L	Exova Accutest
1067299	MP-01	22-Oct-13	Chemical Oxygen Demand	35	mg/L	Exova Accutest
1067547	MP-01	22-Oct-13	Faecal Coliforms	0	CFU/100mL	Exova Accutest
1067299	MP-01	22-Oct-13	Total Kjeldahl Nitrogen	1.95	mg/L	Exova Accutest
1067299	MP-01	22-Oct-13	N-NH3 (Ammonia)	0.1	mg/L	Exova Accutest
1067299	MP-01	22-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1067299	MP-01	22-Oct-13	Total Suspended Solids	<2	mg/L	Exova Accutest
1067299	MP-01	22-Oct-13	pH	7.57	pH units	Exova Accutest
1069637	MP-01	29-Oct-13	Alkalinity as CaCO3	215	mg/L	Exova Accutest
1069637	MP-01	29-Oct-13	Biochemical Oxygen Demand	<1	mg/L	Exova Accutest
1069637	MP-01	29-Oct-13	Chemical Oxygen Demand	37	mg/L	Exova Accutest
1069637	MP-01	29-Oct-13	Total Kjeldahl Nitrogen	1.64	mg/L	Exova Accutest
1069637	MP-01	29-Oct-13	N-NH3 (Ammonia)	0.11	mg/L	Exova Accutest
1069637	MP-01	29-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1069637	MP-01	29-Oct-13	Total Suspended Solids	<2	mg/L	Exova Accutest
1069637	MP-01	29-Oct-13	pH	8.12	pH units	Exova Accutest
<b>MARY RIVER MINE SITE</b>						
1065602	MS-MRY-04	15-Oct-13	Biochemical Oxygen Demand	40	mg/L	Exova Accutest
1065602	MS-MRY-04	15-Oct-13	Chemical Oxygen Demand	182	mg/L	Exova Accutest
1065622	MS-MRY-04	15-Oct-13	Faecal Coliforms	1800	CFU/100mL	Exova Accutest
1065602	MS-MRY-04	15-Oct-13	Total Kjeldahl Nitrogen	13.6	mg/L	Exova Accutest
1065602	MS-MRY-04	15-Oct-13	N-NH3 (Ammonia)	9.17	mg/L	Exova Accutest
1065602	MS-MRY-04	15-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1065602	MS-MRY-04	15-Oct-13	Total Phosphorus	5.44	mg/L	Exova Accutest
1065602	MS-MRY-04	15-Oct-13	Total Suspended Solids	163	mg/L	Exova Accutest
1065602	MS-MRY-04	15-Oct-13	pH	7.28	pH units	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	Biochemical Oxygen Demand	39	mg/L	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	Chemical Oxygen Demand	242	mg/L	Exova Accutest
1065623	MS-MRY-0401	15-Oct-13	Faecal Coliforms	1700	CFU/100mL	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	Total Kjeldahl Nitrogen	15.6	mg/L	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	N-NH3 (Ammonia)	9.57	mg/L	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	Total Phosphorus	6.9	mg/L	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	Total Suspended Solids	180	mg/L	Exova Accutest
1065603	MS-MRY-0401	15-Oct-13	pH	7.37	pH units	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	Biochemical Oxygen Demand	<1	mg/L	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	Chemical Oxygen Demand	<5	mg/L	Exova Accutest
1065624	MS-MRY-0402	15-Oct-13	Faecal Coliforms	0	CFU/100mL	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	Total Kjeldahl Nitrogen	<0.10	mg/L	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	N-NH3 (Ammonia)	<0.02	mg/L	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	Total Phosphorus	<0.003	mg/L	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	Total Suspended Solids	<2	mg/L	Exova Accutest
1065604	MS-MRY-0402	15-Oct-13	pH	7.23	pH units	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	Biochemical Oxygen Demand	<1	mg/L	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	Chemical Oxygen Demand	<5	mg/L	Exova Accutest
1065625	MS-MRY-0403	15-Oct-13	Faecal Coliforms	0	CFU/100mL	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	Total Kjeldahl Nitrogen	<0.10	mg/L	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	N-NH3 (Ammonia)	<0.02	mg/L	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	Total Phosphorus	<0.003	mg/L	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	Total Suspended Solids	<2	mg/L	Exova Accutest
1065605	MS-MRY-0403	15-Oct-13	pH	6.84	pH units	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	Alkalinity as CaCO3	194	mg/L	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	Biochemical Oxygen Demand	36	mg/L	Exova Accutest

1067302	MS-MRY-04	22-Oct-13	Chemical Oxygen Demand	190	mg/L	Exova Accutest
1067551	MS-MRY-04	22-Oct-13	Faecal Coliforms	1400	CFU/100mL	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	Total Kjeldahl Nitrogen	21.8	mg/L	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	N-NH3 (Ammonia)	15.9	mg/L	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	Total Phosphorus	6.38	mg/L	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	Total Suspended Solids	131	mg/L	Exova Accutest
1067302	MS-MRY-04	22-Oct-13	pH	7.56	pH units	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	Alkalinity as CaCO3	112	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	Biochemical Oxygen Demand	18	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	Chemical Oxygen Demand	141	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	Total Kjeldahl Nitrogen	6.74	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	N-NH3 (Ammonia)	3.26	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	Oil & Grease - Total	<1	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	Total Phosphorus	3.45	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	Total Suspended Solids	87	mg/L	Exova Accutest
1069634	MS-MRY-04	29-Oct-13	pH	7.72	pH units	Exova Accutest

Non-compliances to the Water Licence are indicated by yellow shading. Sample Station MS-MRY-04 (Mine Site RBC) showed non-compliance for several parameters during October. The discharge from the RBC 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-1). The RBC is currently being phased out and is soon to be replaced shortly with the above referenced plant..

**Note:** MS-MRY-401 is a field duplicate of MS-MRY-4. MS-MRY-402 is a field blank for MS-MRY-4. MS-MRY-403 is a travel blank for MS-MRY-403.

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

DATE	Camp Lake Freshwater Use (Mary River Camp) - Daily Potable Water (m <sup>3</sup> ) - MRY-1	Camp Lake Daily Freshwater Use for Other Purposes - (m <sup>3</sup> ) - MRY-1	Camp Lake Daily Freshwater to Milne Inlet Camp - (m <sup>3</sup> ) - MRY-1	Km 32 Lake Milne Inlet Camp Daily Potable Water (m <sup>3</sup> ) MRY-3	Km 32 Lake Milne Inlet Camp Fresh Water Use for Other Purposes (m <sup>3</sup> ) MRY-3	Treated Sewage Effluent (m <sup>3</sup> ) from WWTF to PWSP at Mary River Camp - MRY-4	Sewage Sludge Removed (m <sup>3</sup> ) from Mary River WWTP	Treated Sewage Effluent (m <sup>3</sup> ) from MP-01 to PWSP at Milne Inlet (MP-01a)	Treated Sewage Effluent (m <sup>3</sup> ) from Milne Port WWTP to Milne Inlet (MP-1)	Sewage Sludge Removed (m <sup>3</sup> ) from Milne Inlet WWTP
1-Oct	25.0	0.0	0.0	15.1	0.0	25.0	0.0	15.1	0.0	0.0
2-Oct	15.1	0.0	0.0	30.3	0.0	15.1	0.0	30.3	0.0	0.0
3-Oct	18.9	0.0	0.0	30.3	0.0	18.9	0.0	30.3	0.0	0.0
4-Oct	17.0	0.0	0.0	30.3	0.0	17.0	0.0	30.3	0.0	0.0
5-Oct	18.5	0.0	0.0	30.3	0.0	18.5	0.0	30.3	0.0	0.0
6-Oct	16.3	0.0	0.0	45.4	0.0	16.3	0.0	45.4	0.0	0.0
7-Oct	16.7	0.0	0.0	45.4	0.0	16.7	0.0	45.4	0.0	0.0
8-Oct	15.5	37.9	0.0	30.3	0.0	15.5	0.0	30.3	0.0	0.0
9-Oct	33.3	0.0	0.0	45.4	0.0	33.3	0.0	45.4	0.0	0.0
10-Oct	17.0	0.0	0.0	30.3	0.0	17.0	0.0	0.0	30.3	0.0
11-Oct	15.5	0.0	0.0	30.3	0.0	15.5	0.0	0.0	30.3	0.0
12-Oct	17.0	0.0	0.0	45.4	0.0	17.0	0.0	0.0	45.4	0.0
13-Oct	21.2	0.0	0.0	45.4	0.0	21.2	0.0	0.0	45.4	0.0
14-Oct	18.9	0.0	0.0	45.4	0.0	18.9	0.0	0.0	45.4	0.0
15-Oct	20.1	0.0	0.0	45.4	0.0	20.1	0.0	0.0	45.4	0.0
16-Oct	18.5	0.0	0.0	60.6	0.0	18.5	0.0	0.0	60.6	0.0
17-Oct	22.3	0.0	0.0	45.4	0.0	22.3	0.0	0.0	45.4	0.0
18-Oct	21.6	0.0	0.0	45.4	0.0	21.6	0.0	0.0	45.4	0.0
19-Oct	20.4	0.0	0.0	45.4	0.0	20.4	0.0	0.0	45.4	0.0
20-Oct	8.3	0.0	0.0	45.4	0.0	8.3	0.0	0.0	45.4	0.0
21-Oct	24.6	7.9	0.0	30.3	0.0	24.6	0.0	0.0	30.3	0.0
22-Oct	20.8	0.0	0.0	45.4	0.0	20.8	0.0	0.0	45.4	0.0
23-Oct	22.7	0.0	0.0	45.4	0.0	22.7	0.0	0.0	45.4	0.0
24-Oct	19.3	0.0	0.0	45.4	0.0	19.3	0.0	0.0	45.4	0.0
25-Oct	19.3	0.0	0.0	81.0	0.0	19.3	0.0	0.0	81.0	0.0
26-Oct	18.2	0.0	0.0	45.4	0.0	18.2	0.0	0.0	45.4	0.0
27-Oct	24.3	0.0	0.0	60.6	0.0	24.3	0.0	0.0	60.6	0.0
28-Oct	17.5	0.0	0.0	60.6	0.0	17.5	0.0	0.0	60.6	0.0
29-Oct	24.1	0.0	0.0	45.4	0.0	24.1	0.0	0.0	45.4	0.0
30-Oct	24.0	0.0	0.0	45.4	0.0	24.0	0.0	0.0	45.4	0.0
31-Oct	21.2	0.0	13.2	45.4	0.0	21.2	0.0	0.0	45.4	0.0
<b>Total</b>	<b>613.4</b>	<b>45.8</b>	<b>13.2</b>	<b>1337.8</b>	<b>0.0</b>	<b>613.4</b>	<b>0.0</b>	<b>302.8</b>	<b>1034.9</b>	<b>0.0</b>

Notes: Yellow shading denotes exceedance of Water Liicence water use limit at Milne Port. The October 25 exceedance occurred due to excess demand during commissioning of the new potable water treatment system.  
WWTP - Waste Water Treatment Plant  
PWSP - Polishing Waste Stabilization Pond